Neighbourhood Bikeways Project

Victoria Avenue Corridor

City of
Saskatoon
Transportation

Contents

Table of Figures

Table of Tables

1.0 Introduction

The City of Saskatoon (City) is committed to promoting active transportation and providing transportation choices that are safe and comfortable for people of all ages and abilities year-round. As part of the City's 2016 Active Transportation Plan (AT Plan), the City has committed to the following action item under the theme of connectivity: "Develop a complete and connected bicycle network for all ages and abilities."

To help work towards achieving this action item, the City undertook the Neighbourhood Bikeways Project to develop conceptual designs for active transportation facilities on the following five corridors:

- 3rd Avenue North from 25th Street East to 2nd Avenue North;
- 29th Street West or 31st Street West from the Circle Drive underpasses to Idylwyld Drive North;
- 14th Street East from Saskatchewan Crescent East to Cumberland Avenue South;
- Dudley Street from Dawes Avenue to Spadina Crescent West; and
- Victoria Avenue from 8th Street East to Taylor Street East.

These corridors were selected for review because they provide important connections to existing or future walking and cycling facilities or were identified in the AT Plan. Further, these corridors align with the opportunity to coordinate infrastructure improvements with other work scheduled in the next one to three years.

While these corridors vary in context, location and length, they all share the possibility of encouraging cycling by improving the connectivity between residential areas, the established cycling routes on the Meewasin Valley Trail network, and destination areas in the vicinity of Idylwyld Drive and the Downtown. The corridors are intended to be designed as all ages and abilities (AAA) cycling facilities to ensure they are comfortable for all users, regardless of age or ability.

The Neighbourhood Bikeways Project will help identify measures to provide more travel choices and improve safety, accessibility, and connectivity for each of these corridors, including the evaluation and design of walking and cycling facility improvements for each corridor.

This report summarizes the existing conditions and recommended concept for the Victoria Avenue corridor.

1.1 Project Goals

1. To improve pedestrian and cycling connections between residential areas along the proposed routes and their neighbouring areas;
2. To improve safety and mobility for all road users by making the corridors more bicycle and pedestrian friendly;
3. To connect to existing pathways, and future cycling corridors effectively; and
4. To coordinate improvements with upcoming infrastructure projects scheduled along the proposed corridors.

1.2 Study Process

The study was developed through five phases, with two opportunities for public input. Between February and December 2020:

- **February 2020** - Existing Conditions Review
- **March 2020** - Phase 1 Open Houses – Public Concerns and Considerations
- **Spring 2020** - Develop Corridor Designs
- **December 2020** - Phase 2 Meeting – Victoria Avenue
- **Spring 2021** - Final Report – Victoria Avenue

1.3 Report Overview

This report summarizes the overall study process and recommendations for the Victoria Avenue corridor and includes the following sections:

- **Section 1 – Introduction** provides an overview of the project, including project goals, study process, and report overview.
- **Section 2 – Corridor Review** summarizes existing conditions along the corridor, including the route context, policy context, road network characteristics, pedestrian facilities, bicycle facilities, transit services and facilities, collisions, and the results of a Multi-Modal Level of Service (MMLOS) analysis.
- **Section 3 – Phase 1 Engagement Summary** provides an overview of the Phase 1 Engagement process and input received.
- **Section 4 – Design** summarizes the key features of the alternative conceptual designs.
- **Section 5 – Phase 2 Engagement Summary** provides an overview of the Phase 2 Engagement process and input received.
- **Section 6 – Closing and Next Steps** provides a summary of the report and next steps for the City to advance this project to detailed design and construction.

2.0 Corridor Review

This section summarizes existing conditions for the Victoria Avenue corridor, including the following characteristics:

- Route context, including a general description of the corridor and neighbourhood context, adjacent land uses, connections to existing cycling routes, and nearby infrastructure and destinations.
- Policy context, including background information from the AT Plan as well as applicable Local Area Plans (LAPs), Neighbourhood Traffic Reviews (NTRs), and the Saskatoon Cycling Guide.
- Road network characteristics, including the existing roadway cross-section, road network classification, traffic volumes and speeds, and parking supply and utilization.
- Pedestrian facilities, including existing sidewalks, crossing treatments, and other pedestrian amenities such as curb ramps.
- Bicycle facilities, including existing on-street and off-street bicycle routes.
- Transit services and facilities, including existing bus routes and bus stops.
- Collisions, including a review of collision data between 2015 and 2019.

2.1 Route Context

2.1.1 Route Description and Neighbourhood Context

The Victoria Avenue corridor extends eight blocks for approximately 0.8 kilometers between 8th Street East in the north and Taylor Street East in the south. The Victoria Avenue corridor passes through the neighbourhood of Buena Vista. The north end of the corridor links to the existing raised cycle track along Victoria Avenue between 8th Street East and the Traffic Bridge, further expanding the active transportation network. The north end of the corridor is near the Broadway shopping district, and connects to the Meewasin Valley Trails, and the Downtown. The south end of the corridor links to the Queen Elizabeth neighbourhood.

2.1.2 Adjacent Land Uses

The Victoria Avenue corridor passes through the neighbourhood of Buena Vista. The corridor largely features single family residential development and Buena Vista Park. Figure 1 shows the adjacent land uses to the Victoria Avenue corridor.

Figure 1: Victoria Avenue - Adjacent Land Uses

2.1.3 Nearby Infrastructure and Destinations

The northern end of the study corridor connects to the AAA raised cycle track along Victoria Avenue which features single family residential, higher density residential, and commercial land uses. Victoria Avenue also connects to the Traffic Bridge to provide easy access to the Downtown and the Meewasin Valley Trail system which runs along the South Saskatchewan river valley. The northern section of the corridor is also near the Broadway Avenue shopping district. The southern end of the corridor connects to single family residential housing in the Queen Elizabeth neighbourhood.

2.2 Background Information

2.2.1 Active Transportation Plan

The AT Plan contains the following information relevant to the Victoria Avenue corridor:

- The Victoria Avenue corridor was identified as a proposed AAA facility between the Traffic Bridge and Adelaide Street.
- The AT Plan does not identify any required improvements to the sidewalk network.
- The route is labeled as high priority for investments in cycling infrastructure.

As part of the AT Plan, a city-wide Level of Traffic Stress (LTS) analysis was conducted. LTS is a Geographic Information System (GIS) analysis that assesses the appropriateness and comfort of road infrastructure based on a cyclist's level of stress. LTS classifies road segments based on four levels of traffic stress. LTS 1 is the most comfortable where children can play, LTS 2 is tolerated by the adult population, LTS 3 is tolerated by cyclists who are 'enthused and confident' and LTS 4 is tolerated only by those in the 'strong and fearless' cyclist category.

The AT Plan identified the Victoria Avenue corridor as having a Level of Traffic Stress (LTS) of 4 between 8th Street East and Taylor Street East. This value indicates that the route is tolerated only by those in the "strong and fearless" cyclist category.

2.2.2 Local Area Plans

A Local Area Plan has not been completed for the Buena Vista Neighbourhood.

2.2.3 Neighbourhood Traffic Review

During the Buena Vista NTR, residents expressed concerns with pedestrian safety at the intersection of Victoria Avenue and 6th Street East. To address these concerns, the NTR recommended to:

- Install a curb extension at Victoria Avenue and 6th Street East.

2.2.4 Saskatoon Cycling Guide

Saskatoon's cycling guide identifies this corridor as a shared use on-road cycling lane suitable for intermediate riders. The guide shows the route connecting to the cycle track along Victoria Avenue north of 8th Street, which is part of Saskatoon's AAA cycling network.

2.3 Road Network Characteristics

2.3.1 Roadway Cross-Section

Figure 2, Figure 3, and Figure 4 show the existing cross-sections along Victoria Avenue.
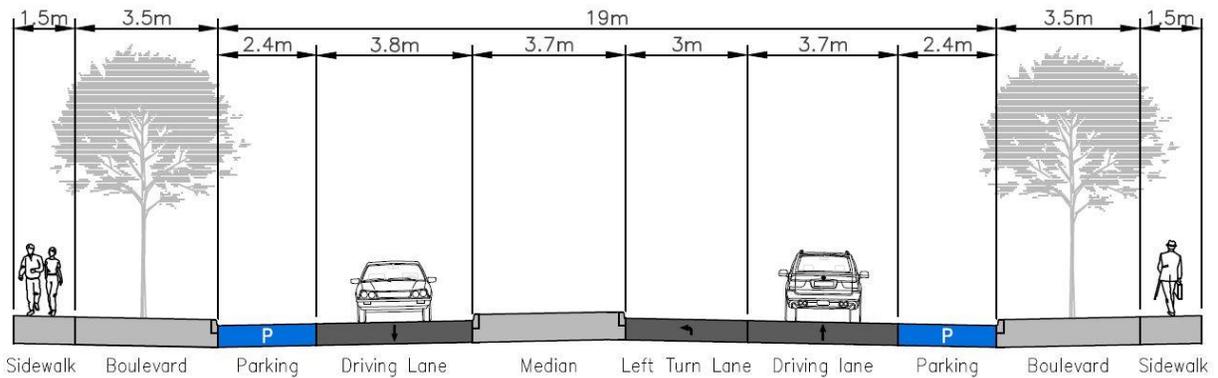
Figure 2: Victoria Avenue - Existing Cross-Section at 8th Street East
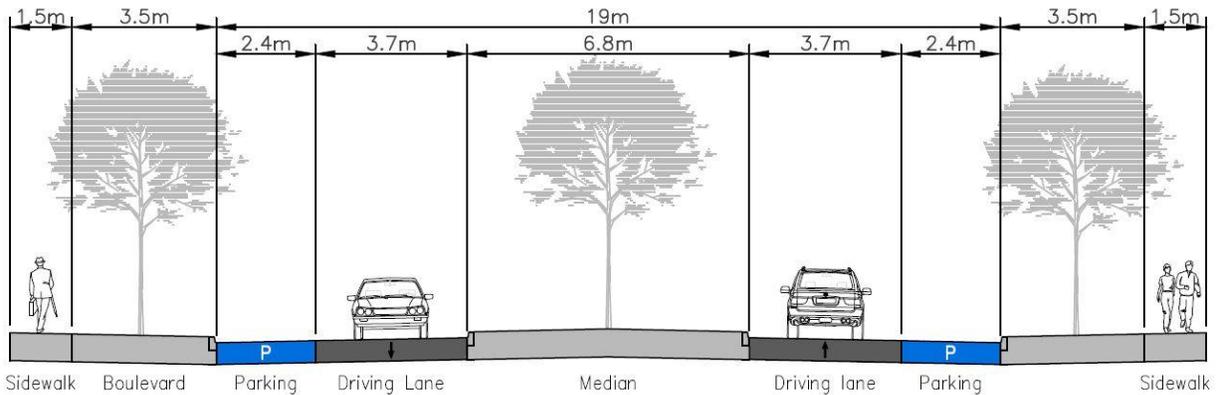
Figure 3: Victoria Avenue - Existing Cross-Section between 7th Street East and 6th Street East

6
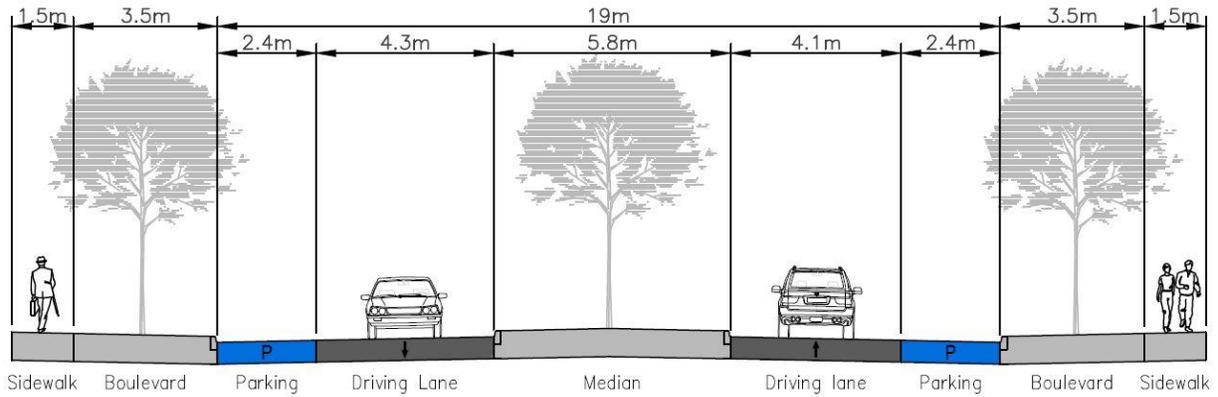
Figure 4: Victoria Avenue - Existing Cross-Section between 6th Street East and Taylor Street East

2.3.2 Road Network Classification and Intersection Controls

Victoria Avenue is classified as a collector street, as shown in Figure 5. There are signalized intersections at the north end of the corridor at 8th Street East and south end of the corridor at Taylor Street East. The side streets are stop controlled along the corridor, assigning right-of-way to Victoria Avenue drivers.
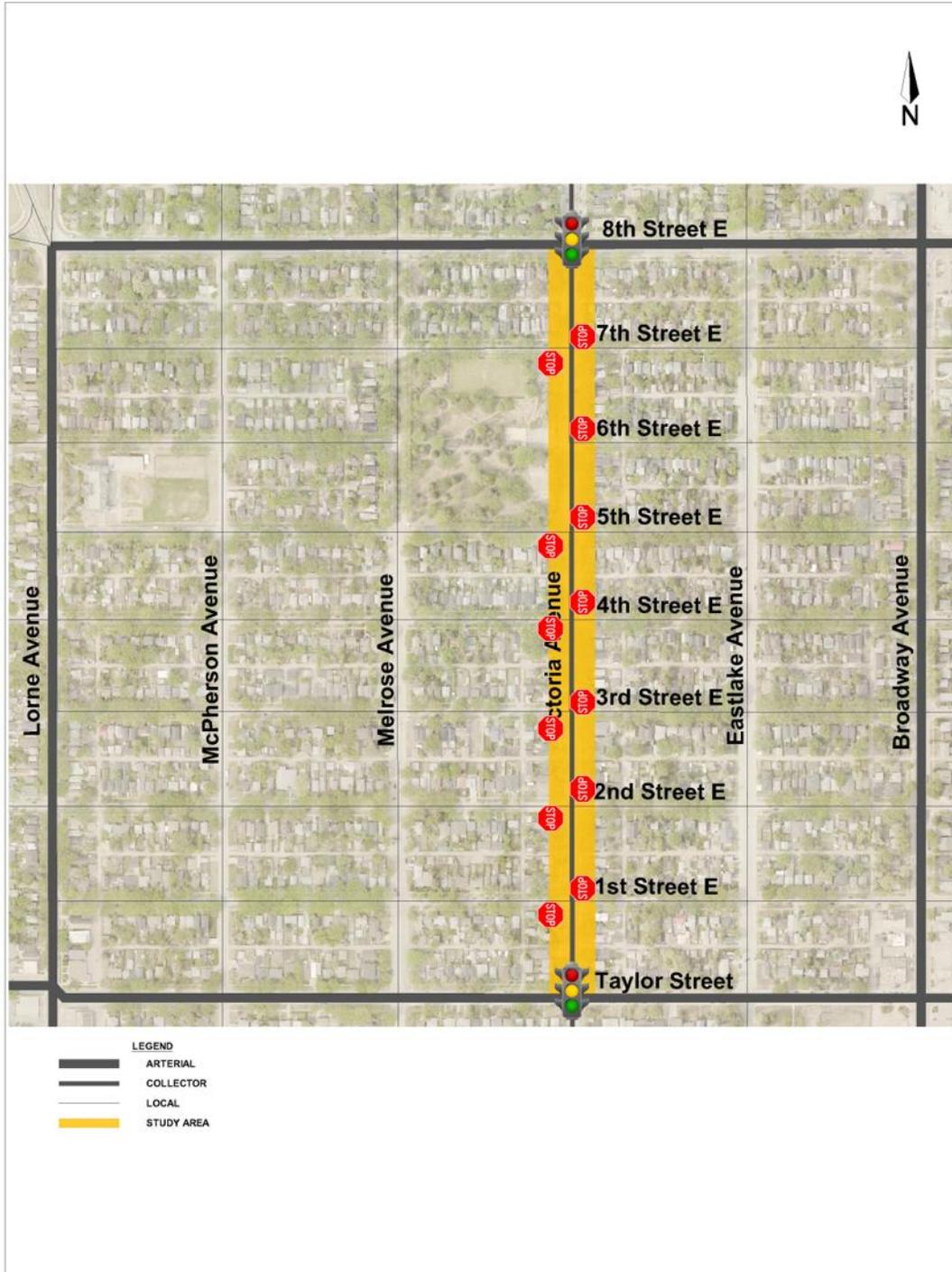
Figure 5: Victoria Avenue - Roadway Classification and Intersection Controls

2.3.3 Pavement Condition
Roadway preservation work along Victoria Avenue took place in 2020. Pavement resurfacing was completed on the west side of Victoria Avenue and as a result the pavement condition along the corridor for southbound travel is expected to be

good. The pavement condition for the east side of Victoria Avenue is poor, and resurfacing work is scheduled for 2021.

2.3.4 Traffic Volumes and Speeds

Table 1 summarizes the average annual daily traffic (AADT) and 85th percentile speeds along Victoria Avenue between 8th Street East and Taylor Street East.

Table 1: Victoria Avenue - Average Annual Daily Traffic and 85th Percentile Speeds

Corridor	From	To	Average Annual Daily Traffic	85th Percentile Speed
Victoria Avenue	5th Street East	6th Street East	4,000 vehicles per day	50 km/h

2.3.5 Parking

A parking study was completed to determine the utilization of parking along Victoria Avenue. There are 64 parking spots present on the west side of Victoria Avenue, and 70 parking spots present on the east side of Victoria Avenue. The parking study was completed at 4:30 p.m. to determine parking utilization during the afternoon, and at 6:30 a.m. to determine overnight utilization. The results of the parking study are summarized in

Table 2.

Table 2: Victoria Avenue - Parking Utilization

Block	Side of Street	Parking Utilization		
		PM Utilization	AM Utilization	Average Utilization
8th Street East to 7th Street East	East Side	33%	33%	33%
	West Side	0%	14%	7%
7th Street East to 6th Street East	East Side	27%	55%	41%
	West Side	0%	0%	0%
6th Street East to 5th Street East	East Side	30%	60%	45%
	West Side	0%	0%	0%
5th Street East to 4th Street East	East Side	29%	57%	43%
	West Side	14%	14%	14%
4th Street East to 3rd Street East	East Side	13%	25%	19%
	West Side	25%	38%	32%
3rd Street East to 2nd Street East	East Side	25%	63%	44%
	West Side	50%	50%	50%
2nd Street East to 1st Street East	East Side	0%	13%	7%
	West Side	25%	63%	44%
1st Street East to Taylor Street East	East Side	11%	22%	17%
	West Side	0%	38%	19%

Legend

0%-25%	26%-50%	51%-75%	76%-100%

2.4 Pedestrian Facilities

Sidewalks are present on both sides of the Victoria Avenue between 8th Street East and Taylor Street East. Curb ramps are in place throughout the corridor. Temporary curb extensions are currently in place at Victoria Avenue and 6th Street East to improve the visibility of pedestrians wanting to cross Victoria Avenue. There are pedestrian push buttons and walk lights at the traffic signals at 8th Street East and at Taylor Street East.

2.5 Bicycle Facilities

Victoria Avenue is considered a shared use road; 'Share the Road - Side by Side' signs are in place, as shown in Figure 6.

Figure 6: Share the Road - Side by Side

The traffic signals at 8th Street East and at Taylor Street East do not have detection available for cyclists, and people riding their bike on Victoria Avenue must wait for a vehicle to trigger the signal to change.

2.6 Transit Service and Facilities

There is no transit service along Victoria Avenue. There are transit stops on 8th Street East at Victoria Avenue for the Number 1 and Number 6 routes. There are transit stops on Taylor Street East at Victoria Avenue for the Number 1 route.

2.7 Collisions

Collision Data for Victoria Avenue was analyzed for the years 2015 – 2019 The data is summarized below in

Table 3.

- There were 47 collisions on the Victoria Avenue corridor for the five-year period. Of those collisions, 6 resulted in an injury and 41 were property damage only.
- The most common collision type was a right-angle collision, which accounted for 11 collisions.
- The intersection with the most collisions was Victoria Avenue and 8th Street East, which had 25 collisions.
- There were 0 collisions involving a cyclist.
- There was 1 collision involving a pedestrian at Victoria Avenue and 8th Street East.
- There was 1 collision involving a pedestrian at Victoria Avenue and 5th Street East.

Table 3: Victoria Avenue - Collision History

Year	Property Damage Only	Injury	Total
2015	3	3	6
2016	12	0	12
2017	9	0	9
2018	4	1	5
2019	13	2	15
Total	41	6	47

2.8 Multi-Modal Level of Service

Based on the existing conditions review in the previous section, a Multi-Modal Level of Service (MMLOS) was completed. MMLOS is defined as a set of discrete quantitative measures used to describe the convenience and comfort experienced by all roadway users over a particular roadway segment or at a particular intersection. MMLOS builds on the premise that in the past municipalities focused on vehicular traffic delay in evaluating the level of service (LOS) on streets. MMLOS was developed to provide a similar tool to assess convenience and comfort for all road users.

The MMLOS includes Bicycle Level of Service and Pedestrian Level of Service for the length of the corridor. A letter grade was given to each segment for the corridor. An overall score for each corridor was then developed by taking an average of each segment score. Further details on the MMLOS methodology are provided in Appendix A.

The results of the MMLOS analysis for the Victoria Avenue corridor are presented in Table 4, Figure 7, Figure 8, and Figure 9.

Table 4: Victoria Avenue - Overall MMLOS Results

	Bicycle Score		Pedestrian Score
	PM Peak	AM Peak	
Victoria Avenue	C	C	A
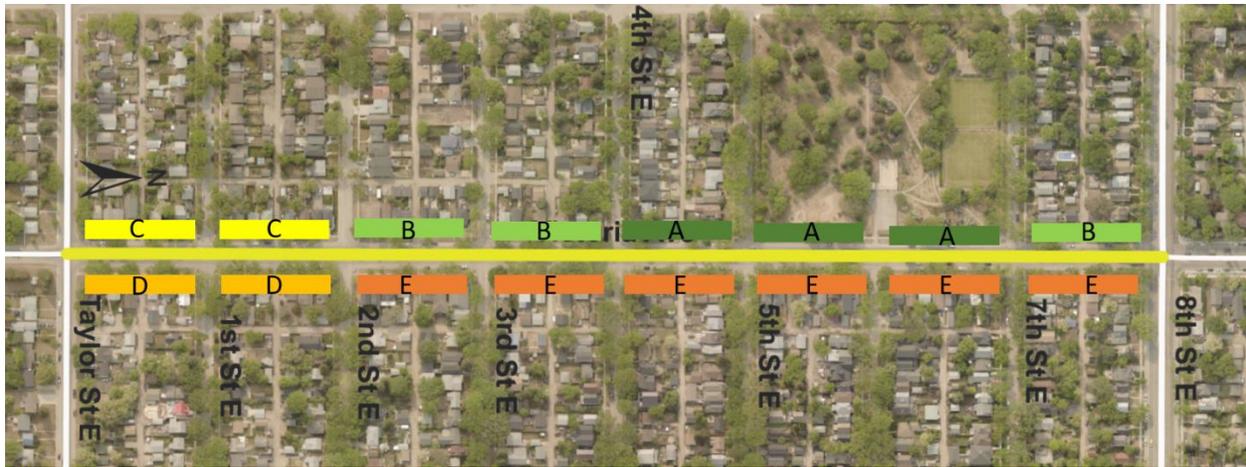
Figure 7: Victoria Avenue - Bicycle Level of Service AM Peak
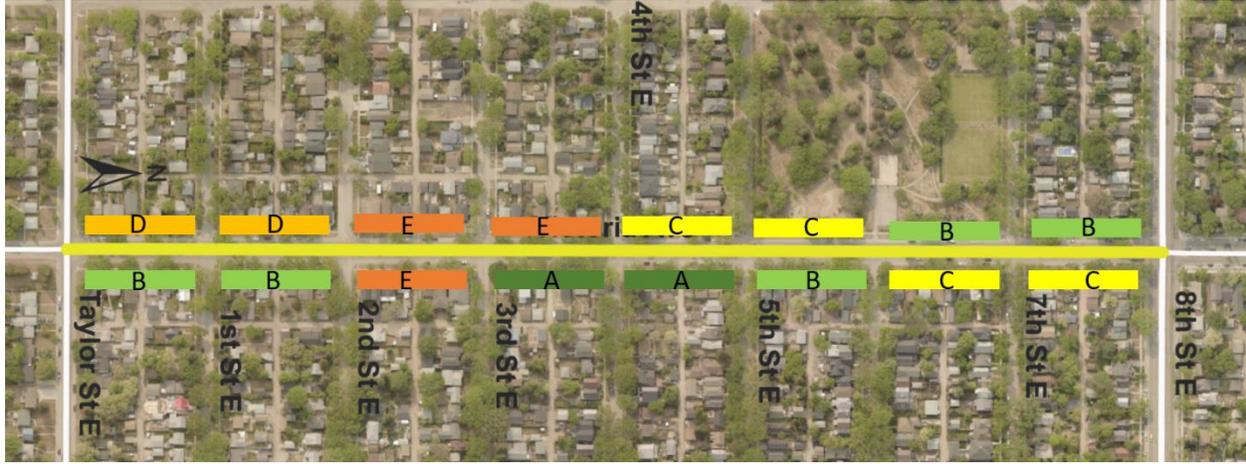
Figure 8: Victoria Avenue - Bicycle Level of Service PM Peak

Figure 9: Victoria Avenue - Pedestrian Level of Service

3.0 Phase 1 Neighbourhood Bikeway Engagement Summary

The first phase of public engagement was conducted in March 2020. A range of opportunities was available to provide input during this phase of engagement, including a series of five open houses, an online survey, social media, emails, and phone calls. This section summarizes the promotion and advertising that was conducted, objectives of the engagement, and engagement opportunities.

The first phase of public engagement was promoted and advertised through a range of channels to ensure that interested community members and stakeholders were aware of the engagement opportunities. Promotion and advertising included:

- Delivering flyers to all residences and businesses with 150 metres on each side of the study corridors;
- Sending flyers to key stakeholders inviting them to submit comments directly to the City, to attend the open houses, and/or to forward the invitations to other members of their stakeholder group;
- Contacting Community Consultants to request they pass information along to the relevant community associations;
- Contacting City Councillors in the affected wards;
- Placing portable billboards or changeable message boards along each study corridor to advertise the open houses; and
- Posting information about the public engagement opportunities on the City of Saskatoon Engage webpage and the City's social media pages.

3.1 Engagement Objectives

The purpose of the first phase of engagement was to obtain input on existing conditions, and opportunities and challenges for each corridor. Specific engagement objectives were to:

- Present general information to the public regarding active transportation and all ages and abilities cycling facilities, including neighbourhood bikeways;
- Discuss existing conditions, issues, and opportunities for each corridor;
- Discuss considerations and possible improvements for all modes of transportation, with a focus on active transportation, for each corridor; and
- Help inform design elements for each corridor's transportation needs.

3.2 Engagement Opportunities

The public was invited to attend and provide input at a series of five open houses held between March 4 and March 12, 2020. Each of the open houses was focused primarily on one of the study corridors and was held at a venue near the subject corridor. Although each open house focused primarily on the subject corridor, project information for all corridors was available at all open houses. An open house was held for the Victoria Avenue bikeway project in conjunction with the other open houses for the Neighbourhood Bikeways Project. The open house for Victoria Avenue was led by City

of Saskatoon staff, while the other project corridor open houses were led by Urban Systems.

The open houses for all five corridors provided background information and an opportunity to provide input on each of the study corridors. A large format roll plot was provided for the public to provide feedback on the corridor of focus at each event.

Residents were invited to share their input by:

- Sharing feedback at www.saskatoon.ca/engage;
- Speaking with project team members;
- Adding sticky note comments to any of the engagement materials;
- Using social media; and/or
- Filling out a comment form.

The following two key questions were asked about each of the corridors.

1. What would you like to see stay the same?

2. What would you like to see improved?

Nearly 100 community members participated in the open house events for the first phase of engagement, including 22 community members for the Victoria Avenue corridor, as shown in Table 5.

An online survey was also available for feedback between March 5 and March 25, 2020 on the City of Saskatoon Engage webpage. Community members were also able to comment directly on the City of Saskatoon Engage webpage. Over 60 survey responses were received.

The public was also invited to provide comments by email, telephone, or through social media channels. The City received emails from 16 residents, 5 phone calls, and one person commented on a social media post for all corridors.

Table 5: Engagement Round 1 Attendance

Event	Location	Date	Number of Attendees
14th Street East Corridor Open House	Emmanuel Anglican Church	7-9 pm March 4, 2020	25
Dudley Avenue Corridor Open House	Saskatoon French School	7-9 pm March 5, 2020	11
3rd Avenue South Corridor Open House	Frances Morrison Public Library	7-9 pm March 9, 2020	19
Victoria Avenue Corridor Open House	Queen Elizabeth School	7-9 pm March 11, 2020	22
29th Street West / 31st Street West Corridor Open House	Howard Coad Elementary School	7-9 pm March 12, 2020	16

3.3 Summary of Public Input

A number of suggestions and issues were identified by members of the public that attended the open houses and completed the online survey. Figure 10 below summarizes the input received on the roll plot during the Victoria Avenue open house. A detailed summary of input received through engagement can be found in Appendix B.

Figure 10: Victoria Avenue - Open House Feedback Summary

1. The transition at 8th Street East from the raised cycle track to cycling on road is difficult.
2. Continue the raised cycle track south of 8th Street East.
3. There are not that many houses fronting Victoria Avenue from 8th Street East to 5th Street East.
4. Fear of doors and vehicles when biking during the morning rush.
5. Challenging intersection to cross as a pedestrian, people don't stop.
6. Parking near Buena Vista park is busy during the summer.
7. Parking is something I wouldn't want to lose in front of my house. Suggest narrowing the median to make room for the bike lanes.
8. Just south of the back lane the sidewalk is uneven.
9. Illegal median crossing from alley to alley needs to be mitigated.
10. Patchy grass along the median due to lack of maintenance.

General Comments:

- Narrow the median to make room for bike lanes and to maintain parking.
- The mature boulevard trees are more important than the younger median trees.
- Install missing curb ramps.

Additional input received on the open house display boards indicated that users are very happy with the raised cycle track along Victoria Avenue between 8th Street East and the Traffic Bridge and would like to see it continued south through the study corridor. Many attendees suggested narrowing the centre median to make room for a protected facility and to maintain parking along the corridor. There were suggestions to add cyclist detection to the traffic signals at the intersections of 8th Street East and Victoria Avenue, and Taylor Street East and Victoria Avenue to improve the level of service for cyclists. There were comments that some of the sidewalks along the corridor are uneven and in need of maintenance. Attendees also wanted to see more education for both drivers and cyclists in Saskatoon on things such as passing and that cyclists are vehicles. Attendees also wanted to see more promotion of Saskatoon's Cycling

Guide. There was also a suggestion to use Melrose Avenue or Eastlake Avenue as the AAA cycling route instead of Victoria Avenue.

Feedback received through the online survey highlighted similar views to what was heard at the open house. Several respondents commented that trees along the corridor are very important and wish to see them maintained. Several respondents also commented that they appreciate the existing cycling infrastructure along Victoria Avenue north of 8th Street East; however, some more experienced cyclists found the constant ramping up and down at the side streets to be uncomfortable. There were many requests to see a protected cycling facility continued along Victoria Avenue to the south of 8th Street East, and some wish to see it continued south past Taylor Street East. Some respondents wished to see traffic calming along the corridor.

A summary of improvement opportunities identified for Victoria Avenue during the open house includes:

- Narrow the centre median to make space for both a parking lane and a bike lane or raised cycle track.
- It is more important to keep the mature boulevard trees than the younger median trees.
- Improvements are needed to the intersection of 8th Street East and Victoria Avenue so that cyclists can be detected and have a smoother transition between cycling facilities.

3.4 Summary of Opportunities and Challenges

Based on the technical analysis and public input, a number of key themes have been identified that present either challenges or opportunities along this section of Victoria Avenue. These themes were used to develop concept designs to create safe and comfortable cycling facilities that meet the project goals. The key themes for Victoria include:

- The trees along the corridor are very important, especially the mature boulevard trees.
- On-street parking is very important along the corridor.
- Users are very happy with the raised cycle track along Victoria Avenue north of the study corridor, and there is a desire to see a similar facility extended to the south.

4.0 Design

4.1 Design Alternatives

To create an all ages and abilities cycling facility on Victoria Avenue five design alternatives have been developed based on technical analysis and public feedback. The existing traffic volumes and speeds along Victoria Avenue are above the 1,500 vehicle per day, and 30 km/h thresholds for a neighbourhood bikeway. Physical separation between people riding bikes and vehicles is required to be safe and comfortable for

cyclists of all ages and abilities. To improve active transportation on Victoria Avenue, a separate protected cycling facility, such as protected bike lanes or cycle tracks is recommended. The five designs options presented would all create a AAA cycling facility and are viable solutions. A "Do Nothing" option that does not include a AAA cycling facility on Victoria Avenue was included to compare the impacts of each design option to the existing conditions of the corridor.

4.1.1 Option 1 – Bidirectional Bike Lane (West Side)

Option 1 features a street-level bidirectional bike lane on the west side of Victoria Avenue. For bidirectional facilities, the bicycle lanes run in both directions on the same side of a street. This option would be adjacent to the single-family homes and Buena Vista Park on the west side of the corridor and would require the removal all parking on the west side of Victoria Avenue. All boulevard and median trees are preserved with this option. The centre median would be narrowed slightly on the west side. Cyclists would be required to make a two-stage crossing at the intersections of 8th Street East and Victoria Avenue, and Taylor Street East and Victoria Avenue to access the facility. Cyclist detection would be provided at both signalized intersections. Figure 11shows the cross section for Option 1 – Bidirectional Bike Lane (West Side).
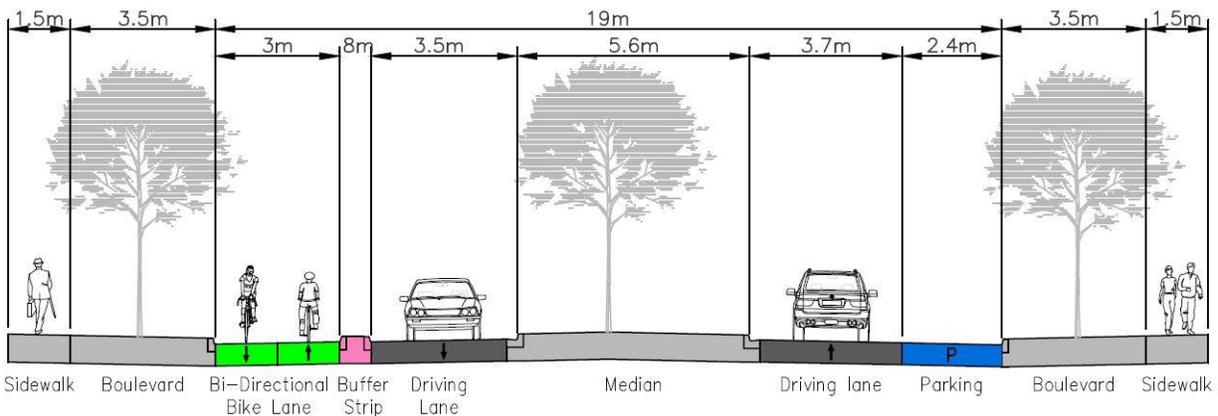
Figure 11: Victoria Avenue - Option 1 - Bidirectional Bike Lane (West Side)

4.1.2 Option 2 – Protected Street-Level Bike Lanes without Parking

Option 2 features protected street-level bike lanes on both sides of Victoria Avenue. This option removes all parking on both sides of Victoria Avenue. All boulevard and median trees are preserved with this option. All existing curbs remain the same with this option. Cyclist crossings at the signalized intersections of 8th Street East and Victoria Avenue, and Taylor Street East and Victoria Avenue are simple: the cyclists proceed across the intersection with traffic. Cyclist detection would be provided at both signalized intersections. Figure 12 shows the cross-section for Option 2 – Protected Street-Level Bike Lanes without Parking.
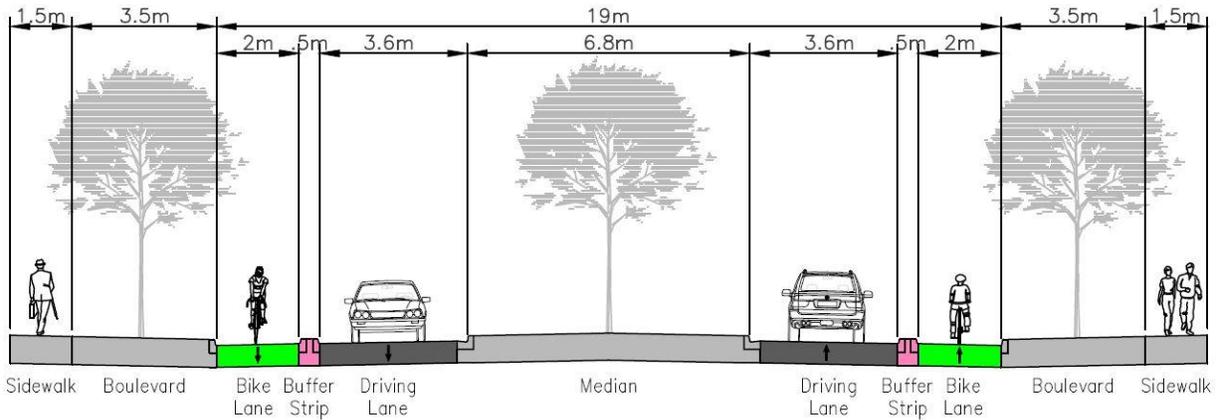
Figure 12: Victoria Avenue - Option 2 - Protected Street-Level Bike Lanes without Parking

4.1.3 Option 3 – Raised Bike Lanes without Parking

Option 3 features raised bike lanes on both sides of Victoria Avenue. This option removes all parking on both sides of Victoria Avenue. All boulevard and median trees are preserved with this option. The existing median curbs remain the same with this option. Cyclist crossings at the signalized intersections of 8th Street East and Victoria Avenue, and Taylor Street East and Victoria Avenue are simple: the cyclists proceed across the intersection with traffic. Cyclist detection would be provided at both signalized intersections. The raised facility is similar to the raised cycle track facility north of 8th Street East. Cyclists would be required to ramp up and down to street-level frequently to accommodate access to side streets, back lanes, and driveways. The option requires a full roadway reconstruction to allow for changes to the roadway drainage. Figure 13 shows the cross-section for Option 3 – Raised Bike Lanes without Parking.
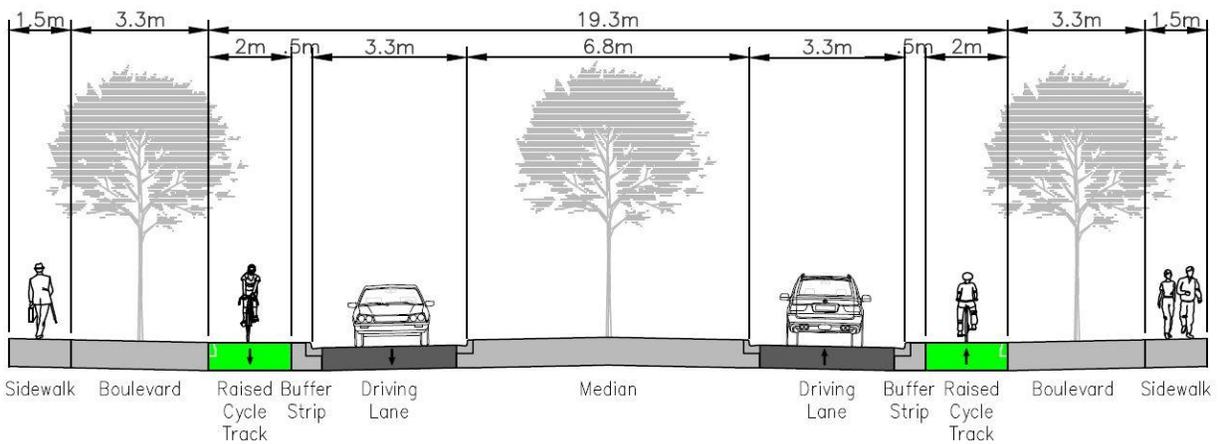
Figure 13: Victoria Avenue - Option 3 - Raised Bike Lanes without Parking

4.1.4 Option 4 – Protected Street-Level Bike Lanes with Parking

Option 4 features protected street-level bike lanes on both sides of Victoria Avenue. To maintain parking on both sides of the street between 7th Street East and Taylor Street East, this option requires the centre median along Victoria Avenue to be narrowed, and all trees located in the median to be removed. Although this option would maintain parking for the majority of the corridor, parking would need to be removed between 8th Street East and 7th Street East. Cyclist crossings at the signalized intersections of 8th Street East and Victoria Avenue, and Taylor Street East and Victoria Avenue are simple: the cyclists proceed across the intersection with traffic. Cyclist detection would be provided at both signalized intersections. The option requires a full roadway reconstruction to allow for changes to the roadway drainage. Figure 14 and Figure 15 show the cross-sections for Option 4 – Protected Street-Level Bike Lanes with Parking.
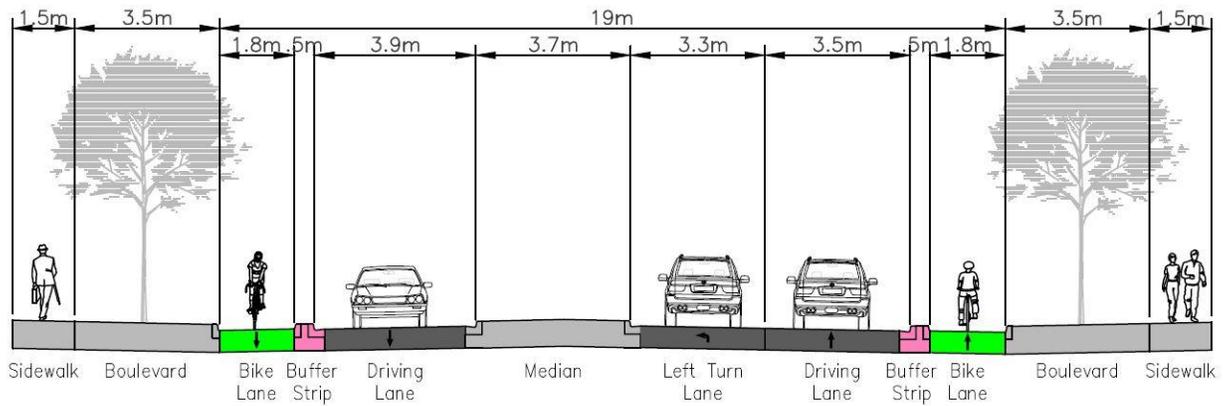
Figure 14: Victoria Avenue - Option 4 - Protected Street-Level Bike Lanes with Parking (8th Street East to 7th Street East)
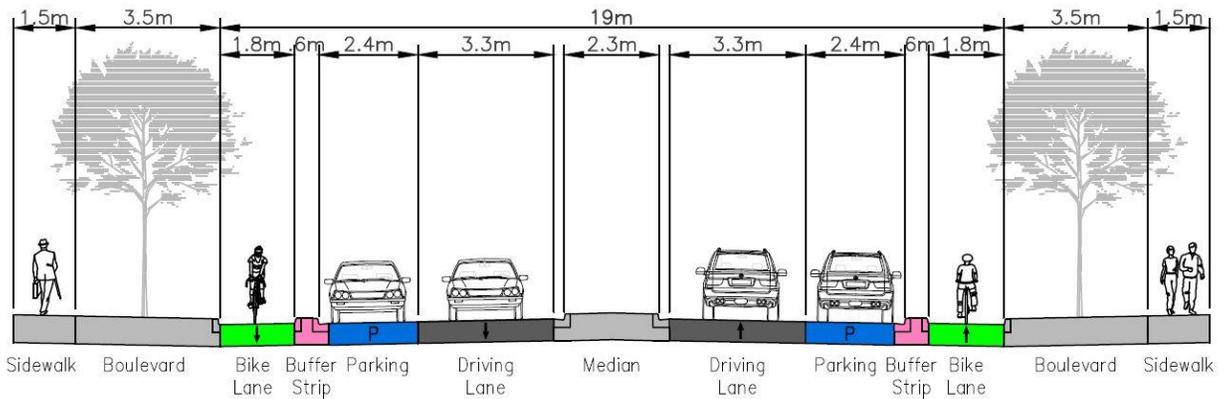
Figure 15: Victoria Avenue - Option 4 - Protected Street-Level Bike Lanes with Parking (7th Street East to Taylor Street East)

4.1.5 Option 5 – Raised Bike Lanes with Parking

Option 5 features raised bike lanes on both sides of Victoria Avenue. To maintain parking on both sides of the street between 7th Street East and Taylor Street East, this option requires the centre median along Victoria Avenue to be narrowed, and all trees located in the median to be removed. Although this option would maintain parking for the majority of the corridor, parking would need to be removed between 8th Street East and 7th Street East. Cyclist crossings at the signalized intersections of 8th Street East and Victoria Avenue, and Taylor Street East and Victoria Avenue are simple: the cyclists proceed across the intersection with traffic. Cyclist detection would be provided at both signalized intersections. The raised facility is similar to the raised cycle track facility north of 8th Street East. Cyclists would be required to ramp up and down to street-level frequently to accommodate access to side streets, back lanes, and driveways. The option requires a full roadway reconstruction to allow for changes to the roadway drainage. Figure 16 and Figure 17 show the cross-sections for Option 5 – Raised Bike Lanes with Parking.
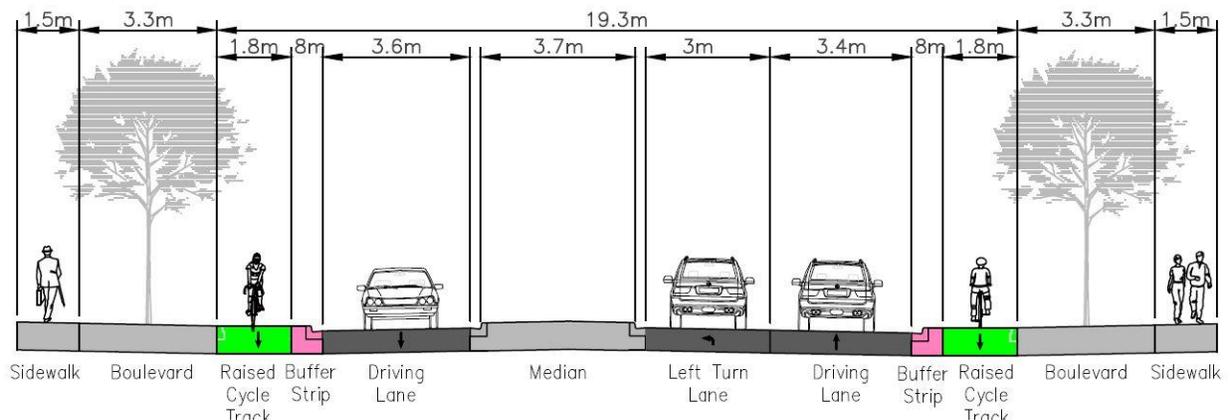
*Figure 16: Victoria Avenue - Option 5 Raised Bike Lanes with Parking (8th Street East to Taylor Street East)*
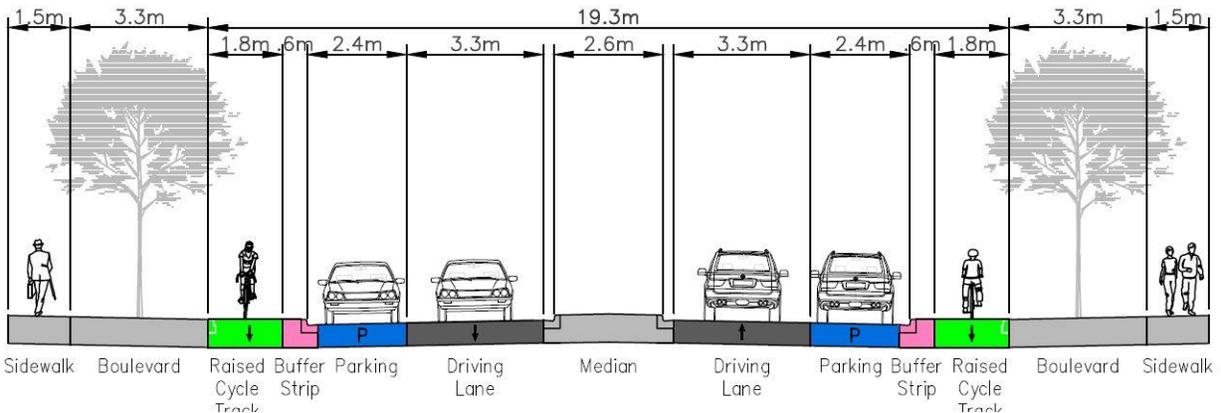
Figure 17: Victoria Avenue - Option 5 Raised Bike Lanes with Parking (7th Street East to Taylor Street East)

Figure 18 shows all five design options for a AAA cycling facility along Victoria Avenue.
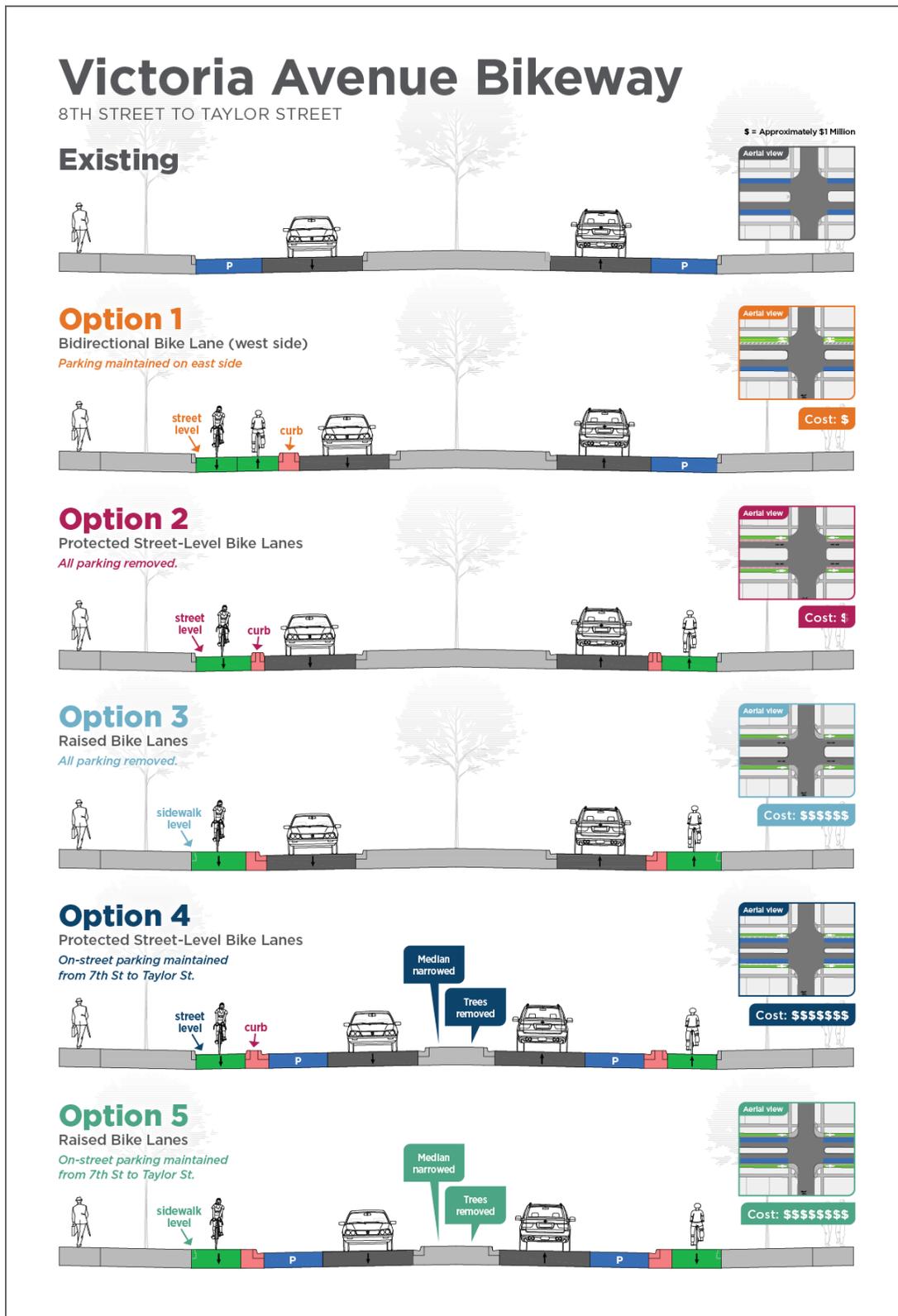
Figure 18: Victoria Avenue - Bikeway Design Options

4.1.6 Option 6 – Do Nothing

Option 6 recommends no improvements for cyclists on Victoria Avenue. People riding bikes would still be permitted to ride in mixed traffic on the street; however, a AAA cycling facility is not provided.

4.2 Traffic Calming Measures at 6th Street East

The Buena Vista NTR recommended that a curb extension be installed at Victoria Avenue and 6th Street East to improve pedestrian safety for those crossing Victoria Avenue.

4.2.1 Raised Crosswalk

The recommendations for bike lanes to be installed with Options 1 to 5 does not allow for horizontal traffic calming, such as curb extensions, to be installed along Victoria Avenue. The bike lanes will narrow the roadway width and reduce the need for additional horizontal deflections. To meet the Buena Vista NTR recommendations for Victoria Avenue, Options 1 to 5 include a raised crosswalk at Victoria Avenue and 6th Street East. Figure 19 shows the raised crosswalk with Option 2 – Protected Street-Level Bike Lanes.

Figure 19: Victoria Avenue - Raised Crosswalk at 6th Street East

4.2.2 Curb Extension

Option 6 does not include the installation of a cycling facility along Victoria Avenue, and as a result horizontal traffic calming can be provided along Victoria Avenue. As such, the temporary curb extension would be installed permanently as part of the NTR permanent implementation once funding is approved.

4.3 Cost Estimates

Cost estimates were prepared based on typical unit costs in the City of Saskatoon. Cost estimates include a 30% contingency distributed throughout. Table 6 shows the estimated cost for each design alternative.

Table 6: Victoria Avenue: Cost Estimates

	Alternatives					
	Option 1 Bidirectional Bike Lane (West Side)	Option 2 Protected Street-Level Bike Lanes without Parking	Option 3 Raised Bike Lanes without Parking	Option 4 Protected Street-Level Bike Lanes with Parking	Option 5 Raised Bike Lanes with Parking	Option 6 Do Nothing
Signage and Pavement Markings	$110,214	$73,515	$73,515	$73,515	$73,515	-
Traffic Signal Upgrades	$32,500	$32,500	$32,500	$32,500	$32,500	-
Protected Cycling Facility	$192,649	$295,151	$4,915,862	$474,271	$1,868,499	-
Median Work	$325,783	-	-	$5,116,620	$4,749,038	-
Traffic Calming	$28,158	$28,158	$28,158	$28,158	$28,158	$45,000
Engineering (10%)	$68,930	$42,932	$505,004	$572,506	$675,171	$4,500
Total	$758,234	$472,257	$5,555,039	$6,297,570	$7,426,880	$ 49,500

4.4 Design Evaluation

A technical analysis was completed to evaluate the five design alternatives. Consideration was given to the following key elements:

- Transportation Network;
- Cyclist Accommodation;
- Safety;
- Traffic Operation;
- Parking Impacts; and
- Vegetation Impacts.

Table 7 shows the scoring used to evaluate the design options. The full evaluation can be seen in Table 8.

Table 7: Evaluation Table Scores

Very Poor	Poor	Fair	Good	Excellent
○	◔	◑	◕	●

Table 8: Victoria Avenue - Design Options Evaluation Table

Criteria	Measures	Alternatives					
		Option 1 Bidirectional Bike Lane (West Side)	Option 2 Protected Street-Level Bike Lane without Parking	Option 3 Raised Bike Lanes without Parking	Option 4 Protected Street-Level Bike Lane with Parking	Option 5 Raised Bike Lane with Parking	Option 6 Do Nothing
Transportation Network	Network Continuity	Continues AAA cycling network south of 8th Street. ●	Continues AAA cycling network south of 8th Street. ●	Continues AAA cycling network south of 8th Street. ●	Continues AAA cycling network south of 8th Street. ●	Continues AAA cycling network south of 8th Street. ●	AAA cycling route along Victoria Avenue does not continue south of 8th Steet. Cyclists can continue to share lane with traffic. ◔
	Connections to destinations	Connects to residences and Buena Vista Park on west side of Victoria Avenue. ●	Connects to residences and provides easy access to Buena Vista park for southbound cyclists. ◕	Connects to residences and provides easy access to Buena Vista park for southbound cyclists. ◕	Connects to residences and provides easy access to Buena Vista park for southbound cyclists. ◕	Connects to residences and provides easy access to Buena Vista park for southbound cyclists. ◕	Similar to existing conditions. Cyclists comfortable riding on street can still access destinations. ◑
Cyclist Accommodation	Comfort	Protected bidirectional bike lanes have sufficient space for cyclists with adequate separation from vehicular traffic to provide an AAA facility. ◕	Protected unidirectional bike lanes allow for wide bike lanes and adequate separation from vehicular traffic to provide a comfortable AAA facility. ●	Raised cycle track has sufficient space for cyclist and comfortable separation from vehicular traffic. Cyclist will have to ramp up and down at driveways and side streets. An AAA facility is provided. ◑	Protected unidirectional bike lanes have sufficient space for cyclists and adequate separation from vehicular traffic to provide an AAA facility. ◕	Raised cycle track has sufficient space for cyclist and comfortable separation from vehicular traffic. Cyclist will have to ramp up and down at driveways and side streets. An AAA facility is provided. ◑	The speeds and traffic volumes on Victoria Avenue are too high to provide an AAA facility. It is uncomfortable for cyclists that are not confident riding in the travel lane. ◔
	Convenience	Cyclists need to cross the major crossings in both directions to access the bidirectional facility. Cyclist detection (i.e.	Cyclists need to cross the major crossings in one direction only resulting in less delay. Cyclist detection (i.e. push	Cyclists need to cross the major crossings in one direction only resulting in less delay. Cyclist detection (i.e. push	Cyclists need to cross the major crossings in one direction only resulting in less delay. Cyclist detection (i.e. push	Cyclists need to cross the major crossings in one direction only resulting in less delay. Cyclist detection (i.e. push	Lack of dedicated cycling facility results in delays for cyclists at the major crossings.

Criteria	Measures	Alternatives					
		Option 1 Bidirectional Bike Lane (West Side)	Option 2 Protected Street-Level Bike Lane without Parking	Option 3 Raised Bike Lanes without Parking	Option 4 Protected Street-Level Bike Lane with Parking	Option 5 Raised Bike Lane with Parking	Option 6 Do Nothing
		push button) provided in the design.	button) provided in the design.	button) provided in the design.	button) provided in the design.	button) provided in the design.	
Safety	Conflict points – West Side	9 driveway crossings 6 minor intersection crossings	9 driveway crossings 6 minor intersection crossings	9 driveway crossings 6 minor intersection crossings	9 driveway crossings 6 minor intersection crossings	9 driveway crossings 6 minor intersection crossings	9 driveway crossings 6 minor intersection crossings
	Conflict points – East Side	0 Driveway Crossings 0 minor intersection crossings	8 Driveway crossings 7 minor intersection crossings	8 Driveway crossings 7 minor intersection crossings	8 driveway crossigns 7 minor intersection crossings	8 Driveway crossings 7 minor intersection crossings	8 Driveway Crossings 7 minor intersection crossings
	Transitions at 8th Street East and Taylor Street East	Transitions at 8th Street East and Taylor Street East increase exposure for cyclists. Cyclists may need to cross the intersections in both directions to access the bidirectional facility.	Transitions at 8th Street East and Taylor Street East require cyclists to cross the intersections in one direction only, reducing potential conflicts with vehicular traffic.	Transitions at 8th Street East and Taylor Street East require cyclists to cross the intersections in one direction only, reducing potential conflicts with vehicular traffic.	Transitions at 8th Street East and Taylor Street East require cyclists to cross the intersections in one direction only, reducing potential conflicts with vehicular traffic.	Transitions at 8th Street East and Taylor Street East require cyclists to cross the intersections in one direction only, reducing potential conflicts with vehicular traffic.	Concerns for cyclists transitioning from raised cycle track to shared lane at 8th Street East.
Traffic Operations	Addition of bike signals at 8th Street East and Taylor Street East	Minor impact. Cyclist detection (i.e. push button) on Victoria Avenue could result in minor delays for 8th Street East and Taylor Street East traffic.	Minor impact. Cyclist detection (i.e. push button) on Victoria Avenue could result in minor delays for 8th East Street and Taylor Street East traffic.	Minor impact. Cyclist detection (i.e. push button) on Victoria Avenue could result in minor delays for 8th Street East and Taylor Street East traffic.	Minor impact. Cyclist detection (i.e. push button) on Victoria Avenue could result in minor delays for 8th Street East and Taylor Street East traffic.	Minor impact. Cyclist detection (i.e. push button) on Victoria Avenue could result in minor delays for 8th Street East and Taylor Street East traffic.	No change.
	Traffic Calming	Narrow travel lanes for southbound motorist may reduce speed. Raised crosswalk may reduce speed for both directions.	Narrow travel lanes and raised crosswalk may reduce travel speed.	Narrow travel lanes and raised crosswalk may reduce travel speed.	Narrow travel lanes and raised crosswalk may reduce travel speed.	Narrow travel lanes and raised crosswalk may reduce travel speed.	No change. NTR recommendation for curb extension at 6th Street East.

Criteria	Measures	Alternatives					
		Option 1 Bidirectional Bike Lane (West Side)	Option 2 Protected Street-Level Bike Lane without Parking	Option 3 Raised Bike Lanes without Parking	Option 4 Protected Street-Level Bike Lane with Parking	Option 5 Raised Bike Lane with Parking	Option 6 Do Nothing
Parking impacts	Parking spots removed	64 parking spots removed on west side.	64 parking spots removed on west side. 70 parking spots removed on east side.	64 parking spots removed on west side. 70 parking spots removed on east side.	Approximately 16 parking spots removed between 8th Street East and 7th Street East.	Approximately 16 parking spots removed between 8th Street East and 7th Street East.	No change. 0 parking spots affected.
Vegetation impacts	Number of trees removed	No impact, 0 trees removed	No impact, 0 trees removed	No impact, 0 trees removed	Most trees on median will be removed	Most trees on median will be removed	No impact, 0 trees removed
Cost	Capital cost	$758,234	$472,257	$5,555,039	$6,297,570	$7,426,880	$ 49,500
Total Score (before cost)		8.25	8.25	7.75	8	7.75	6

The final ranking of design alternatives based on the technical criteria are as follows:

1. Option 2 – Protected Bike Lanes without Parking
2. Option 1 – Bidirectional Bike Lane (West Side)
3. Option 4 – Protected Bike Lane with Parking
4. Option 3 – Raised Cycle Track without Parking
5. Option 5 – Raised Cycle Track with Parking

5.0   Phase 2 Engagement Summary

The second phase of public engagement for the Neighbourhood Bikeways Project was completed in the second half of 2020. The second public meeting for the Victoria Avenue corridor was conducted in December 9, 2020. A range of opportunities were available to provide input during this phase of engagement for Victoria Avenue, including an online meeting, online survey, emails, and phone calls. This section summarizes the promotion and advertising that was conducted, the objectives of the engagement, and the engagement opportunities.

The second phase of public engagement was promoted and advertised through a range of channels to ensure that interested community members and stakeholders were aware of the engagement opportunities. Promotion and advertising included:

- Delivering flyers to all residences and businesses with 150 metres on each side of the study corridor;
- Sending flyers to key stakeholders inviting them to submit comments directly to the City, attend the online meetings, and/or forward the invitations to other members of their stakeholder group;
- Contacting Community Consultants to request that they pass information along to the relevant community associations;
- Notifying City Councillors in the affected wards;
- Placing portable billboards along the study corridor to advertise the online meeting;
- Posting information about the public engagement opportunities on the City of Saskatoon Engage; and
- Sending an email update to the email subscriber list for the project.

5.1 Engagement Objectives

The purpose of the second phase of engagement was to obtain input on the recommended designs for each corridor. Specific engagement objectives were to:

- Present the design alternatives for Victoria Avenue;
- Communicate how previous public input informed the designs;
- Collect public feedback on the design alternatives; and
- Summarize public feedback on the design alternatives for the final report to Standing Policy Committee on Transportation and City Council.

5.2 Engagement Opportunities

The public was invited to attend an online meeting on December 9, 2020 using Microsoft Teams Live. The online meeting presented an overview of the study process, existing conditions, and the five design alternatives for an AAA cycling facility on Victoria Avenue. The meeting started with a presentation and provided an opportunity for questions and answers following the presentation. The online public meetings were recorded and were posted to the City of Saskatoon Engage webpage.

In addition to the online public meetings, the five design options were posted to the City of Saskatoon Engage webpage to provide information in advance of the online public meeting. An online survey was also posted to the Engage webpage so that residents could share their thoughts on the design options and indicate their preferred design.

Residents were invited to share their input by:

- Sharing feedback at www.saskatoon.ca/engage;
- Asking questions during the online public meeting;
- Completing the online survey; and/or
- Emailing or phoning the City.

Twenty community members participated in the online public meeting for Victoria Avenue. The City received 48 responses from residents by email or phone call, and 215 survey responses for the Victoria Avenue corridor.

5.3 Summary of Public Input

A detailed summary of input received through engagement can be found in Appendix B.

5.3.1 Online Meeting

There were several questions raised during the online meeting, including:

- Why Victoria Avenue was chosen for this project instead of Eastlake Avenue or Melrose Avenue, which have lower traffic volumes;
- Why construction of a cycling facility along Victoria Avenue did not occur with the asset preservation work that was completed in 2020;
- Why the two raised cycle track options scored so low on the evaluation table;
- How Option 1 – Bidirectional bike lanes (west side) would integrate with the existing facility along Victoria Avenue north of 8th Street East; and
- What are the next steps for this project?

During the online meeting, several residents expressed concerns over the potential loss of on-street parking along Victoria Avenue.

5.3.2 Online Survey

The online public survey was available on the projects Engage Page from December 9, 2020 to January 11, 2021 and received 215 responses.

The five AAA cycling design options were provided, and respondents were asked to indicate if they strongly support, moderately support, mildly support, or do not support each option. The results are shown in Table 9 below.

Table 9: Level of Support for Victoria Avenue Design Options

	Strongly Support		Moderately Support		Mildly Support		Do Not Support		Total
	#	%	#	%	#	%	#	%	#
Option 1	47	23	48	9	24	12	116	57	205
Option 2	45	22	22	11	15	7	123	60	205
Option 3	22	11	24	12	34	17	124	61	204
Option 4	27	13	35	17	25	12	117	57	204
Option 5	74	36	19	9	40	19	73	35	206

Respondents were also asked if they had a favourite option among the five design options. Responses are presented in Table 10 below in descending order of preference among respondents.

Table 10: Favourite Design Option for Victoria Avenue

	#	%
Option 5	67	32
Option 1	46	22
Option 2	33	16
No Favourite	30	14
Option 4	22	10
Option 3	13	6
Total	211	100

Option 5 had the strongest level of support among the five options with 36% indicating they strongly support that option. Option 5 was also the only option in which fewer than half (35%) of respondents indicated they do not support the option. Respondents were also asked if they had a favourite option among the five design options. Option 5 was selected as the favourite (32%) most often compared to the other options.

Respondents were also asked to provide their comments. Below are the most common themes provided.

- Opposition to the loss of any on-street parking;
    - Infill in the area has increased demand for on-street parking;
    - On-street parking is the only available option for some;
    - Accessibility concerns for those with disabilities over the loss of parking;
    - On-street parking is needed for visitors, deliveries, taxies, contractors, etc.;

- o Concerns of the impact to property resale values;
- Opposition to the removal of trees;
- Suggestions for alternative bikeways routes such as Eastlake Avenue, Melrose Avenue, or McPherson Avenue;
- The project is too costly, and should not be a priority;
- Victoria Avenue is an important AAA cycling network connection; and
- Communications for engagement events could be improved.

5.3.3 Emails and Phone Calls

Residents contacted the city via email and phone call to submit questions and comments including the following:

- 30 residents expressed concerns over the loss of on-street parking on Victoria Avenue, 8 of those residents also felt that demand for on-street parking has increased due to infill development in the neighbourhood;
- 11 residents were concerned that this project, specifically with the loss of on-street parking, would negatively affect their property values;
- 16 residents requested that an alternate route, such as Eastlake Avenue or Melrose Avenue, be used instead of Victoria Avenue;
- 6 residents had questions about how the public was notified about this project, and felt the City could have done more to notify residents in the area;
- 5 residents had questions about the demand for a cycling facility in the area;
- 2 residents expressed concerns about pedestrian safety at 8th Street East and Victoria Avenue;
- 4 residents had questions about why this project was not completed in the summer of 2020 to align with the asset preservation work on Victoria Avenue;
- 6 residents supported having a protected cycling facility on Victoria Avenue; and
- 3 residents stated that they would be okay with reduced parking on Victoria Avenue.

Residents were very concerned about the potential loss of on-street parking on Victoria Avenue with some of the design options. Their concerns include:

- Residents and visitors with limited mobility would be negatively affected by not being able to park on Victoria Avenue near their homes. Disabled parking spots would no longer be available on Victoria Avenue, and would need to be accommodated on the side streets.
- The back alleys are not cleared of snow in the winter which could create issues for access in the winter, particularly during a snow event.

- o Delivery vehicles, taxis, contractors, etc., would not be able to park along Victoria Avenue.
- o There is already high demand for parking on the side streets along Victoria Avenue between 8th Street East and Taylor Street East.
- o Residents that must park on side streets would not be able to plug their car in during the winter.

6.0 Closing

This report summarizes the existing conditions, opportunities, and challenges for the Victoria Avenue corridor along with five AAA cycling facility design options and cost estimates. This report also summarizes the engagement process and results based on two phases of public engagement. Options 1 to 5 are all feasible options to provide a AAA facility on Victoria Avenue. Option 4 – Protected Street-Level Bike Lanes with Parking is recommended to provide an AAA cycling facility on Victoria Avenue because it strikes a balance between the transportation benefits and impacts to parking and vegetation, and can be seen in Appendix C.

Appendix A: Multi-Modal Level of Service

A multi-modal level of service (MMLOS) was developed for the corridor and included considerations for Bicycle Level of Service (BLOS) and Pedestrian Level of Service (PLOS). BLOS and PLOS were calculated by following the Highway Capacity Manual's MMLOS methodology. Table A. 1 shows the considerations for BLOS. Table A. 2 shows the considerations for PLOS

Table A. 1: BLOS Factors

Factors	Effect on Level of Service (LOS)
Parking Occupancy	Increased parking decreased the LOS
Vehicle speed	Increased speed decreases the LOS
Midsegment vehicle flow rate (vehicles/hour)	Increased vehicle volumes decreased the LOS
Number of through lanes in direction of travel	Multiple through lanes increases the LOS
Lane width	Wider travel lanes have a higher LOS
Parking lane width	Wider parking lanes can have a higher LOS
Presence of curbs	When curbs are present the LOS decreases
% heavy vehicles	Increased volumes of heavy vehicles decreases the LOS
Pavement condition rating	Poor pavement condition decreases the LOS
Street divided	When the street is divided the LOS decreases

Table A. 2: PLOS Factors

Factors	Effect on Level of Service (LOS)
Vehicle speed	Increased speed decreases the LOS
Midsegment vehicle flow rate (vehicles/hour)	Increased vehicle volumes decreased the LOS
Number of through lanes in direction of travel	Multiple through lanes increases the LOS
Lane width	Wider travel lanes have a higher LOS
Parking lane width	Wider parking lanes can have a higher LOS
Parking Occupancy	Increased parking decreased the LOS
% heavy vehicles	Increased volumes of heavy vehicles decreases the LOS
Buffer Width between roadway and sidewalk	increased buffer width increases the LOS
Presence of a barrier in the buffer	Having trees, bollards, etc. increases the LOS
Sidewalk width	wider sidewalks increase LOS

The grading for BLOS and PLOS can be seen in Table A. 3.

Table A. 3: Level of Service Grading

Grade	Score
A	x <2.00
B	2.00 < x < 2.75
C	2.75 < x < 3.50
D	3.50 < x < 4.25
E	4.25 < x < 5.00
F	x > 5.00

Appendix B: Engagement Summary

Victoria Avenue Bikeway

What We Heard
March 15, 2021

Executive Summary

The City of Saskatoon is committed to promoting active transportation and providing transportation choices that are safe and comfortable for people of all ages and abilities year round.

Saskatoon's Active Transportation Plan (2016) identified Victoria Avenue as a future all ages and abilities (AAA) cycling route. Victoria Avenue provides an important connection to existing and future walking and cycling facilities.

Two phases of public engagement were conducted as part of the evaluation and design process for cycling facilities on Victoria Avenue between 8th Street East and Taylor Street.

Phase 1

The objectives of the first phase of engagement, conducted in March 2020, were:

- present general information to the public regarding active transportation and neighbourhood bikeways;
- provide participants an opportunity to discuss concerns, considerations and possible improvements regarding all forms of transportation in their area; and
- to help inform the neighbourhood bikeway designs that will be specifically tailored for each corridor's transportation needs.

An open house was held in the evening of March 11 at the Queen Elizabeth School and had 22 attendees. An online public survey was open for responses from March 5 through March 23 and received 87 responses.

Participants in both the survey and open house were asked what they would like to see the same and what they would want to see improved for Victoria Avenue between 8th Street East and Taylor Street.

Common themes from the open house comments included:

- Narrow the centre median to make space for both a parking lane and a bike lane or raised cycle track;
- It is more important to keep the mature boulevard trees than the younger median trees; and
- Improvements are needed to the intersection of 8th Street East and Victoria Avenue so that cyclists can be detected and have a smoother transition between cycling facilities.

Common themes from the survey responses included:

- interest in maintaining the trees and boulevard;
- appreciation for the existing cycling facilities on Victoria Avenue between 8th Street East and the river, though some had suggestions for improvements to the infrastructure;
- some wanted to see the cycling facilities continue further south than Taylor Street; and
- some wish to see traffic calming measures put in place.

This public input helped inform the five neighbourhood bikeway design options presented in Phase 2.

Phase 2

Due to public health orders related to the COVID-19 pandemic, all public engagement was conducted virtually.

In Phase 2, five design options for a neighbourhood bikeway on Victoria Avenue between 8th Street East and Taylor Street were presented, including the following implications:

- estimated cost;
- location of bike lanes in relation to sidewalks, curbs, and driving lanes;
- raised or protected street-level bike lanes;
- wider bidirectional lane or separate unidirectional lanes;
- impacts to on-street parking;
- impacts to the median and trees.

The objective of this phase of engagement was to gauge public support for these design options from local residents, as well as other key stakeholders.

An online meeting held through Microsoft Teams on the evening of December 9, 2020 and had 20 live viewers. As of February 11, 2021, there have been an additional 118 viewers of the meeting recording that was uploaded to YouTube. An online public survey received responses from December 9, 2020 to January 11, 2021 and received 215 responses. In addition, 48 emails were received by Administration to provide feedback.

Respondents to the survey were presented the five design options and asked to indicate if they strongly support, moderately support, mildly support, or do not support each option. Option 5 had the strongest level of support among the five options with 36% indicating they strongly support that option. Option 5 was also the only option in which fewer than half (35%) of respondents indicated they do not support the option. Respondents were also asked if they had a favourite option among the five design options. Option 5 was selected as the favourite (32%) most often compared to the other options.

Respondents were also asked to provide their comments. Below are the most common themes provided.

opposition to any loss of on-street parking

The most common reason provided for opposing a bikeway on Victoria Avenue were concerns with loss of on-street parking. The following are more specific sub-themes of comments on parking: Infill in the area has already made parking more congested on Victoria Avenue and side streets; on-street parking is the only available parking for some; accessibility concerns for those with disabilities; back alley parking is not feasible / safe for all residents; on-street parking is needed for visitors, deliveries, emergency vehicles, contractors, etc.; concerns of impacts to resell value; taxpayers should not have their on-street parking removed.

City of
Saskatoon

ENGAGE

opposition to the removal of trees

Unlike with concerns regarding on-street parking, which were most often expressed by local residents who also oppose a bikeway on Victoria Avenue, those who expressed concerns with tree removal came from both supporters and non-supporters of a bikeway.

alternative bikeway routes suggested

There were several suggestions for nearby roadways to be considered for a bikeway instead of Victoria Avenue, such as Eastlake Avenue, Melrose Avenue, and McPherson Avenue. Rationale for considering these instead include these streets being wider corridors to work with, as well as lower vehicle traffic to contend with.

too costly / should not be a priority / not an issue

Several respondents expressed frustration with the City spending money on and prioritizing bike lanes. Some also expressed frustration that 2020 road construction that occurred on Victoria Avenue will be ripped up for this project. Others feel that cycling on Victoria Avenue is not a concern so this project is unnecessary.

Victoria Avenue an important connection in the AAA cycling network

Some comments expressed support for a continuation of the cycling network that currently stops at Victoria Avenue and 8th Street to continue on Victoria Avenue.

various preferences among those who support a bikeway

Those who support a bikeway on Victoria Avenue provided a variety of preferences for the infrastructure (e.g., raised bike lanes vs street-level; one bi-directional lane vs two uni-directional bike lanes.

improve communication on engagements

Several respondents indicated they want the City to do a better job providing information to those residents and homeowners who would be impacted, as well as providing notice for engagement opportunities.

City of Saskatoon

ENGAGE

Contents

ENGAGE

List of Tables

ENGAGE

1   Background

The City of Saskatoon is committed to promoting active transportation and providing transportation choices that are safe and comfortable for people of all ages and abilities year round.

Saskatoon's Active Transportation Plan (2016) identified Victoria Avenue as a future all ages and abilities (AAA) cycling route. Victoria Avenue provides an important connection to existing and future walking and cycling facilities.

2   Stakeholder Groups

Two stakeholders were identified with potential to be impacted by the construction of a neighbourhood bikeway on Victora Avenue.hese groups include:

2.1.1   Local Residents / Homeowners

- Those who live or own property on or near Victoria Avenue between 8ᵗʰ Street East and Taylor Street.

2.1.2   Cyclists

- Those who have shown interest in a AAA Cycling Network in Saskatoon.

3   Engagement Activities

Individual stakeholder meetings and two online surveys – one for industry members and one for the general public - were used to collect feedback to inform the development of the PACE Financing Draft Program Options.

The general public were able to provide input through the City of Saskatoon Engage page forum, or contact the Project Manager directly via email, mail, or telephone.

Table 1: Summary of Engagement Activities

Stakeholder	Level of Influence	Objective	Engagement Goal	Engagement Activity
All stakeholders	Consult	Gain input.	Phase 1: Receive input on what people want to see stay the same and what people want to see improved re: cycling, walking and driving on Victoria Avenue.	Public open house Online survey
All stakeholders	Consult	Obtain feedback.	Phase 2: Present five potential options for adding AAA cycling facilities to Victoria Avenue, including implications of each. Determine a preference among options.	Online public meeting Online survey

City of **Saskatoon**

ENGAGE

4   Data Limitations

Phase 1 of public engagement occurred in March 2020, around the same time as the first case of COVID-19 was detected in Saskatchewan. This may have impacted the amount of attention and participation Saskatoon residents were giving to public engagement on City projects.

Due to the public health orders related to the COVID-19 pandemic, all Phase 2 engagement activities were conducted virtually. Multiple avenues were available to the public for providing input to help mitigate potential issues of inclusivity due to the inability to conduct in-person activities, including an online meeting, and online survey, and a chat forum on the project's Engage page. However, engagement practises and procedures were limited due to the pandemic, especially in conducting physical meetings with individual stakeholders.

5   What We Heard

5.1   Phase 1: Public Open House

5.1.1   Purpose
The purpose of the Phase 1: Public Open House was to:

- present general information to the public regarding active transportation and neighbourhood bikeways;
- discuss existing conditions, issues, and opportunities for each corridor (including Victoria Avenue) included in the Neighbourhood Bikeways Project;
- discuss considerations and possible improvements for all modes of transportation for each corridor; and
- help inform design elements for each corridor's transportation needs.

The display boards at the open house included the following specific questions for each corridor:

- What would you like to see stay the same?
- What would you like to see improved?

5.1.2   Marketing Techniques
Stakeholders were informed of the public house and online survey.

Techniques included:

- Flyers were delivered to all residences and businesses with 150 metres on each side of the study corridor.
- The Buena Vista Community Association was informed of the open house.
- Information on the open house was posted on the project's Engage page.
- A portable billboard was placed along the study corridor advertising the open house.
- The open house was promoted on City of Saskatoon social media pages.
- Nearby schools were informed

- Other key stakeholders were contacted to inform them of the open houses and were also provided contact information for the City Project Lead to submit comments. Key stakeholders were also encouraged to share this information to their group memberships. These stakeholder groups included:
    - Saskatoon Cycles
    - Walking Saskatoon
    - Tourism Saskatoon
    - Saskatoon Council on Aging
    - Bus Riders of Saskatoon
    - Saskatoon Health Authority

5.1.3 Input Received

There were 22 attendees at the open house for Victoria Avenue.

Input received at the open house included suggestions to narrow the centre median along Victoria Avenue to make room for a protected bike lane and to maintain parking along the corridor. Residents felt that the mature trees along the boulevard were more important than the younger trees in the centre median. Residents noted that they were very happy with the raised cycle track along Victoria Avenue north of 8th Street.

Residents were asked to respond to two questions:

1. What would you like to see stay the same?
    - Keep the trees.

2. What would you like to see improved?
    - Continuation of raised cycle track.
    - Drainage and ponding along the median.
    - Better lighting.
    - Narrow centre median to make room for a protected facility.
    - Uneven sidewalks.
    - Potholes/pavement quality
    - Curb extensions are difficult to navigate as a cyclist.
    - 40km/h speed limit.
    - Cycle track through the centre median.
    - At the intersection of Victoria Avenue and 8th Street East vehicles cut across the curb extensions when making right turns.
    - More permeable surfaces.
    - Consider using Eastlake Avenue instead of Victoria Avenue.
    - Install cyclist detection at Victoria Avenue and 8th Street East, and Victoria Avenue and Taylor Street East.
    - More cyclist and driver education such as passing rules, and that bikes are vehicles.
    - Promote cycling guide.

City of **Saskatoon**

ENGAGE

5.2 Phase 1: Online Survey

5.2.1 Purpose

The purpose of the online survey was to give interested members of the public an opportunity to provide their concerns, considerations and possible improvements regarding all forms of transportation on the corridors under consideration in the Neighbourhood Bikeways Project (including Victoria Avenue). Input was being collected to help inform neighbourhood bikeway designs specifically tailored for each corridor's transportation needs.

Respondents were asked how often they utilize each corridor being considered for the study (often, sometimes, rarely, or never). Like in the open house, respondents were asked the following specific questions for each corridor:

- What would you like to see stay the same?
- What would you like to see improved?

5.2.2 Marketing Techniques

A link to the online survey was provided in all flyers and City of Saskatoon social media pages. The link was also available on the project's Engage page.

5.2.3 Input Received

The survey was open for responses from March 5 through March 23 and received 87 responses.

Of those 87 respondents, 37 often utilize Victoria Avenue between 8th Street East and Taylor Street, 32 sometimes utilize this corridor, 15 rarely utilize this corridor, and 2 never utilize this corridor (1 respondent skipped this question).

Common themes from the survey responses related to Victoria Avenue included:

- interest in maintaining the trees and boulevard;
- appreciation for the existing cycling facilities on Victoria Avenue between 8th Street East and the river, though some had suggestions for improvements to the infrastructure;
- some wanted to see the cycling facilities continue further south than Taylor Street; and
- some wish to see traffic calming measures put in place.

5.3 Phase 2: Five Design Options

Five design options for adding all ages and abilities (AAA) cycling facilities to Victoria Avenue between 8th Street East and Taylor Street were developed based on community input received in Phase 1. The graphic below presents the five options and was used to help communicate the implications of each option to local residences and businesses, and other stakeholders.

Implications presented in the graphic include:

- estimated cost;
- location of bike lanes in relation to sidewalks, curbs, and driving lanes;
- raised or protected street-level bike lanes;

- wider bidirectional lane or separate unidirectional lanes;
- impacts to on-street parking;
- impacts to the median and trees.

The objective of this phase of engagement was to gauge preferences and support for these five design options from local residents, as well as other key stakeholders.

Victoria Avenue Bikeway
8TH STREET TO TAYLOR STREET

Existing

$ = Approximately $1 Million
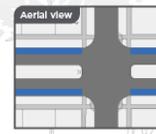
Option 1
Bidirectional Bike Lane (west side)
Parking maintained on east side
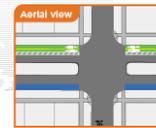
Cost: $

Option 2
Protected Street-Level Bike Lanes
All parking removed.

Cost: $

Option 3
Raised Bike Lanes
All parking removed.

Cost: $$$$$$

Option 4
Protected Street-Level Bike Lanes
On-street parking maintained from 7th St to Taylor St.

Median narrowed

Trees removed

Cost: $$$$$$$
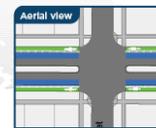
Option 5
Raised Bike Lanes
On-street parking maintained from 7th St to Taylor St.

Median narrowed

Trees removed

Cost: $$$$$$$

ENGAGE

5.4 Phase 2: Online Public Meeting

5.4.1 Purpose

The online public meeting was held on the evening of December 9, 2020 and was hosted on Microsoft Teams Live.

The meeting included an opening presentation by the project team that included background information on the Neighbourhood Bikeways Project, an overview of Victoria Avenue, and information on the five design options.

Following the presentation, the project team responded to questions and comments submitted by attendees through the meeting's chat function.

5.4.2 Marketing Techniques

Stakeholders were informed of the public house and online survey.

Techniques included:

- Flyers were delivered to all residences and businesses with 150 metres on each side of the study corridor.
- The Buena Vista Community Association was informed of the open house.
- Information on the open house was posted on the project's Engage page.
- A portable billboard was placed along the study corridor advertising the open house.
- Nearby schools were informed

Other key stakeholders were contacted to inform them of the open houses and were also provided contact information for the City Project Lead to submit comments. Key stakeholders were also encouraged to share this information to their group memberships. These stakeholder groups included:

- Saskatoon Cycles
- Walking Saskatoon
- Tourism Saskatoon
- Saskatoon Council on Aging
- Bus Riders of Saskatoon
- Saskatoon Health Authority

5.4.3 Input Received

The online public meeting had 20 live viewers. As of February 11, 2021, there have been an additional 118 views of the [meeting recording](#) that was uploaded to YouTube.

There were several questions raised during the online meeting, including:

- Why Victoria Avenue was chosen for this project instead of Eastlake Avenue or Melrose Avenue, which have lower traffic volumes;

City of Saskatoon

ENGAGE

- Why construction of a cycling facility along Victoria Avenue did not occur with the asset preservation work that was completed in 2020;
- Why the two raised cycle track options scored so low on the evaluation table;
- How Option 1 – Bidirectional bike lanes (west side) would integrate with the existing facility along Victoria Avenue north of 8th Street East; and
- What are the next steps for this project?

During the online meeting, several residents expressed concerns over the potential loss of on-street parking along Victoria Avenue.

5.5 Phase 2: Online Survey

5.5.1 Purpose

Respondents were presented the graphic displaying the impacts of each of the five design options for adding all ages and abilities (AAA) cycling facilities to Victoria Avenue between 8th Street East and Taylor Street.

Respondents were asked to indicate their level of support for each option (strongly support, moderately support, mildly support, do not support, or not sure/no opinion). Respondents were also asked if they had a favourite among the five options. Respondents also had opportunity to provide comments on the options, about a bikeway on Victoria Avenue in general, and evaluations of the virtual engagement process.

5.5.2 Marketing Techniques

The link to the online survey was available on the project's Engage page. Participants at the online meeting were also encouraged to fill out the survey.

5.5.3 Input Received

The online public survey received responses from December 9, 2020 to January 11, 2021 and received 215 responses.

Respondents to the survey were presented the five design options and asked to indicate if they strongly support, moderately support, mildly support, or do not support each option.

Table 2: Level of Support

	Strongly support		Moderately support		Mildly support		Do not support		Total
	#	%	#	%	#	%	#	%	#
Option 1	47	23	18	9	24	12	116	57	205
Option 2	45	22	22	11	15	7	123	60	205
Option 3	22	11	24	12	34	17	124	61	204
Option 4	27	13	35	17	25	12	117	57	204
Option 5	74	36	19	9	40	19	73	35	206

City of Saskatoon

ENGAGE

Option 5 had the strongest level of support among the five options with 36% indicating they strongly support that option. Option 5 was also the only option in which fewer than half (35%) of respondents indicated they do not support the option.

Respondents were also asked if they had a favourite option among the five design options. Responses are presented below in descending order of preference among respondents.

Table 3: Favourite Among Design Options

	#	%
Option 5	67	32
Option 1	46	22
Option 2	33	16
No favourite	30	14
Option 4	22	10
Option 3	13	6
Total	211	100

Respondents were also asked to provide their comments. Below are the most common themes provided.

opposition to any loss of on-street parking
The most common reason provided for opposing a bikeway on Victoria Avenue were concerns with loss of on-street parking. The following are more specific sub-themes of comments on parking: Infill in the area has already made parking more congested on Victoria Avenue and side streets; on-street parking is the only available parking for some; accessibility concerns for those with disabilities; back alley parking is not feasible / safe for all residents; on-street parking is needed for visitors, deliveries, emergency vehicles, contractors, etc.; concerns of impacts to resell value; taxpayers should not have their on-street parking removed.

opposition to the removal of trees
Unlike with concerns regarding on-street parking, which were most often expressed by local residents who also oppose a bikeway on Victoria Avenue, those who expressed concerns with tree removal came from both supporters and non-supporters of a bikeway.

alternative bikeway routes suggested
There were several suggestions for nearby roadways to be considered for a bikeway instead of Victoria Avenue, such as Eastlake Avenue, Melrose Avenue, and McPherson Avenue. Rationale for considering these instead include these streets being wider corridors to work with, as well as lower vehicle traffic to contend with.

too costly / should not be a priority / not an issue
Several respondents expressed frustration with the City spending money on and prioritizing bike lanes. Some also expressed frustration that 2020 road construction that occurred on Victoria Avenue will be ripped up for this project. Others feel that cycling on Victoria Avenue is not a concern so this project is unnecessary.

City of **Saskatoon**

ENGAGE

Victoria Avenue an important connection in the AAA cycling network
Some comments expressed support for a continuation of the cycling network that currently stops at Victoria Avenue and 8th Street to continue on Victoria Avenue.

various preferences among those who support a bikeway
Those who support a bikeway on Victoria Avenue provided a variety of preferences for the infrastructure (e.g., raised bike lanes vs street-level; one bi-directional lane vs two uni-directional bike lanes.

improve communication on engagements
Several respondents indicated they want the City to do a better job providing information to those residents and homeowners who would be impacted, as well as providing notice for engagement opportunities.

5.6 Phase 2: Emails and Phone Calls Received
Administrations received emails and phone calls from 48 residents to provide feedback on the potential for a bikeway on Victoria Avenue.

5.6.1 Input Received
The most common themes heard through emails and phone calls are provided below.

opposition to any loss of on-street parking
The most common reason provided for opposing a bikeway on Victoria Avenue were concerns with loss of on-street parking. The following are more specific sub-themes of comments on parking: Infill in the area has already made parking more congested on Victoria Avenue and side streets; on-street parking is the only available parking for some; accessibility concerns for those with disabilities; back alley parking is not feasible / safe for all residents; on-street parking is needed for visitors, deliveries, emergency vehicles, contractors, etc.; concerns of impacts to resell value; taxpayers should not have their on-street parking removed.

alternative bikeway routes suggested
There were several suggestions for nearby roadways to be considered for a bikeway instead of Victoria Avenue, such as Eastlake Avenue, Melrose Avenue, and McPherson Avenue. Rationale for considering these instead include these streets being wider corridors to work with, as well as lower vehicle traffic to contend with.

Victoria Avenue an important connection in the AAA cycling network
Some comments expressed support for a continuation of the cycling network that currently stops at Victoria Avenue and 8th Street to continue on Victoria Avenue.

too costly / should not be a priority / not an issue
Several respondents expressed frustration with the City spending money on and prioritizing bike lanes. Some also expressed frustration that 2020 road construction that occurred on Victoria Avenue will be ripped up for this project. Others feel that cycling on Victoria Avenue is not a concern so this project is unnecessary.

City of **Saskatoon**

ENGAGE

improve communication on engagements
Several respondents indicated they want the City to do a better job providing information to those residents and homeowners who would be impacted, as well as providing notice for engagement opportunities.

Appendix C: Victoria Avenue Recommended Design

Buena Vista Park

Taylor Street

1st Street

2nd Street

3rd Street

4th Street

5th Street

6th Street

7th Street

8th Street

Victoria Avenue

2.4m PARKING
3.3m LANE
3.3m LANE
2.4m PARKING

2.4m PARKING
3.3m LANE
3.3m LANE
2.4m PARKING

2.4m PARKING
3.3m LANE
3.3m LANE
2.4m PARKING

2.4m PARKING
3.3m LANE
3.3m LANE
2.4m PARKING

2.4m PARKING
3.3m LANE
3.3m LANE
2.4m PARKING

2.4m PARKING
3.3m LANE
3.3m LANE
2.4m PARKING

3.3m LANE
3.3m LANE