



ADMINISTRATIVE REPORT

Report Date: October 31, 2017
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Meeting Date: November 15, 2017

TO: Standing Committee on City Finance and Services
FROM: General Manager of Engineering Services
SUBJECT: 2017 Active Transportation Planning Updates

RECOMMENDATIONS

- A. THAT Council receive for information an update on the development of a Pedestrian Spot Improvement Program.
- B. THAT Council receive for information the updated 5-year Cycling Network Additions and Upgrades Map for 2018-2022.

REPORT SUMMARY

The Transportation 2040 Plan calls for improvement of the pedestrian network to make it safe, accessible, comfortable and delightful for all people. In doing so, the plan identified Action W1.1.4 to implement an ongoing spot improvement to address emerging issues of safety and comfort related to walking.

Transportation 2040 Action C 1.2.2 calls for the City to develop, implement, and regularly update a short-term cycling network strategy to address gaps, safety, and other deficiencies in the network. This work is conducted in coordination with key stakeholders to provide a 5-year outlook of where cycling facilities will be constructed. Since the 2016-2020 Cycling Upgrades and Additions Map was issued in 2015, the City has delivered approximately 35 km of new and upgraded cycling infrastructure.

This report provides Council with the following, for information only:

- an update on the development of a Pedestrian Spot Improvement Program, which includes an overview of current programs and services to improve the safety, accessibility, and comfort of walking infrastructure in the City; and
- an update of the 5-year Cycling Network Additions and Upgrades Map from the 2016-2020 version.

COUNCIL AUTHORITY/PREVIOUS DECISIONS

In May 2012, Council received for information the Pedestrian Safety Study & Action Plan. The study identified where, when and how pedestrian-involved collisions were occurring, who they involved, and actions that could be undertaken to improve safety for people walking. All of the priority actions identified through the study have now been completed.

In October 2012, Council approved the Transportation 2040 plan. The plan includes specific direction to prioritize sustainable transportation modes, improve accessibility and safety for all with a focus on vulnerable road users, and to regularly update a short-term cycling network strategy. In November 2015, an updated 2016-2020 5-Year Cycling Network Additions and Upgrades Map was presented to Council for information.

GENERAL MANAGER'S COMMENTS

The new Pedestrian Spot Improvement Program will advance the City's goals to improve walking infrastructure to make it safe, convenient, and accessible for all people. The program has the potential to address gaps in the way the City plans and implements walking infrastructure.

The 2018-2022 Cycling Upgrades and Additions Map represents the next 5-year priorities for new and upgraded cycling routes across the City. By addressing routes with high existing and potential demand, critical gaps in the network, high collision areas and key destinations, the City will continue working toward a high-quality cycling network.

Both of these active transportation planning initiatives reflect the City's commitment to meet the Transportation 2040 goals and targets by making walking and cycling safe, convenient, comfortable, and fun for people of all ages and abilities.

REPORT

Background/Context

The City's Transportation 2040 plan is a long-term vision that helps guide transportation and land use decisions and related public investments. The plan sets ambitious mode share targets such that over two-thirds of all trips in the city will be made on foot, bike, or transit by 2040. The plan also sets a goal to eliminate all traffic-related fatalities from our transportation system.

In 2016, for the second year in a row, Vancouver residents made half of their trips by foot, bike, or transit. By 2040, the total number of trips made by sustainable modes will grow significantly, and improving walking and cycling infrastructure for safety, accessibility, and comfort is one of the essential components required to achieve this goal.

One traffic-related fatality is too many, and the City is committed to work toward the target of zero. People walking and cycling are among the most vulnerable road users on our streets. Staff will continue enhancing walking and cycling infrastructure and working with partners to improve safety and reach the target.

Pedestrian Spot Improvement Program

One of the key action items of the Transportation 2040 plan related to walking is the implementation of an ongoing spot improvement program to address emerging issues of safety and comfort related to walking. The Pedestrian Spot Improvement Program is a new initiative being developed to ensure that City staff are able to effectively respond to any immediate and long-term walking needs throughout the City.

Current Walking-Related Programs and Services

The City has numerous programs and services already in place to assess and improve walking safety and accessibility. Although most of these are implemented through Engineering Services, many are conducted in partnership with other agencies, including the Vancouver Police Department, the Vancouver School Board, ICBC, and TransLink. The new Pedestrian Spot Improvement Program will coordinate with current programs and implement priorities that do not distinctly fall within these existing services.

Since the adoption of the Pedestrian Safety Study and Action Plan, the City has implemented a number of measures to directly improve walking safety, including the installation of new traffic signals, countdown timers, left turn bays/arrows, LED intersection lighting, and increased pedestrian crossing times. As part of ongoing programs and capital projects, staff have implemented various other improvements, including new sidewalks and curb ramps, curb extensions, raised crosswalks, rectangular rapid flashing beacons, benches, and separation of shared walking and cycling paths.

The effectiveness of implemented pedestrian safety measures will continue to be monitored on an annual basis in order to guide future infrastructure efforts to continue improving safety for people walking.

Current programs and services that support walking include:

Program	Summary	Status
Moving Toward Zero Fatalities	Reduction of traffic-related fatalities through the improvement of data collection and quality, the identification of priority locations and the development of an engineering action plan.	Active
School Active Travel Planning	Encourage and promote walking and cycling to school through infrastructure improvements around schools and increasing education and awareness.	Active
Sidewalk and Curb Ramp Program	Install new sidewalks and curb ramps where missing, prioritized based on proximity to schools, community centres, hospitals, transit, and others.	Active
Sidewalk Hazard Inspection Program	Annually review existing sidewalks, pathways, and crosswalks for tripping hazards and repair defects.	Active
Sidewalk Rehabilitation	Rehabilitate existing sidewalks based on condition assessments.	Active
Pedestrian Studies and Traffic Signal Program	Conduct detailed studies to prioritize locations for the installation of new pedestrian/cyclist activated signals. The program also coordinates rehabilitation, maintenance, and upgrades of existing signals.	Active
Transit-Related Improvements	Transit-related improvements that provide additional passenger user benefits and accessibility upgrades, as well as enhanced public realm.	Active

Program	Summary	Status
Development-Related Improvements	Sidewalks, curb ramps, public realm space and other pedestrian-related infrastructure are provided through new development.	Active
Pedestrian Volume and Opinion Survey	The City survey is carried out every 5 years and provides pedestrian volume and survey results on the City's commercial sidewalks.	Active
Pedestrian Safety Study and Action Plan	Completed program that addressed safety related infrastructure issues as identified through the 2012 Pedestrian Safety Study, including review of ICBC Collision Data and VPD pedestrian collision records.	Complete

Strategic Analysis

The new Pedestrian Spot Improvement Program would better address emerging issues of safety, accessibility and comfort related to walking. In particular, the program will help people arrive at their destinations more efficiently by improving safety at key locations, improve accessibility for people with mobility or visual challenges, and provide a more comfortable walking experience for people of all ages and abilities.

This program will complement current programs by providing better coordination of walking-related projects. Additionally, the program will prioritize and facilitate engineering improvements received via feedback from the public and staff. Following the Transportation 2040 Plan, the Pedestrian Spot Improvement Program aims to promote walking as an attractive, safe and inclusive transportation mode through engineering improvements. The objectives for this program are threefold:

1. Identify locations where improvements to support walking are required;
2. Prioritize locations and seek opportunities to coordinate with existing pedestrian programs and capital projects; and
3. Develop a strategy to secure and/or increase funding sources and implement emerging priorities efficiently.

The program will operate similarly to the existing Cycling Spot Improvement Program. On an ongoing basis, staff will review the walking network with resident and user feedback to identify locations that are in need of potential spot improvements. Staff will implement a variety of improvements, primarily infrastructure based, in coordination with current programs and services.

Updated 5 Year Cycling Network Additions and Upgrades Map 2018-2022

Consistent with Transportation 2040 direction to improve cycling for people of all ages and abilities, the City is working to make cycling safe, convenient, comfortable and fun. To achieve this, the Plan calls for the development of a short-term (5 year) implementation plan that focuses on building a complete cycling network, with recurring updates as improvements are completed.

Regularly updating the 5 year cycling map is particularly relevant for businesses who expressed a strong desire for more advance notice of proposed cycling facilities. While each corridor will include future engagement processes, the 5 year cycling map helps to inform businesses and residents of corridors to be explored as new or upgraded cycling routes at the earliest possible opportunity.

Priority and focus are given to routes with the following:

- Safety concerns (e.g., severe and/or high number of collisions)
- High potential demand or increase in ridership
- Opportunities to fill critical gaps in the network
- Connectivity to major destinations such as schools, community centres, transit stations and commercial high streets

Changes and additions generally reflect the priorities noted above, emerging coordination opportunities, input from staff, ATPC, various stakeholder groups, and feedback received at public events such as pop-up engagement sessions.

Update on 2016-2020 Cycling Upgrades and Additions Map

City staff have been designing and constructing the planned cycling facilities identified on the 2016-2020 Cycling Upgrades and Additions Map. The following table summarizes the total length of new and upgraded routes identified on the 2016-2020 map, along with the quantity of work that has been completed to date or is currently under construction.

Table 1. 2016-2020 Cycling Upgrades and Additions

Route Type	Planned (km)	Completed or Under Construction (km)	Percent of routes completed by end of 2017
New	15	1	33%
Upgrade	48	20	
Total	63	21	

Approximately 63 km of routes were planned to be improved or added to the network between 2016 and 2020. Of this, approximately 21 km of facilities have been built, which accounts for 33% of the plan. This confirms that the delivery of improved cycling facilities is well underway in the first two years of the five-year plan. In addition to this, approximately 14 km of bike infrastructure and associated connections have been constructed that were not identified in the 2016-2020 map. Most of this can be attributed to the Arbutus Greenway.

The following sections provide further details regarding the progress of the 2016-2020 Plan.

Complete Routes as per 2016-2020 Cycling Upgrades and Additions Map

The following routes from the 2016-2020 5-year cycling map have been completed as of late 2017:

- *Beatty Street (upgrade):*

The upgrade of the Beatty bike lanes was coordinated with the implementation of public bike share stations and repaving of the street. Unidirectional protected bike lanes were implemented with a combination of concrete curbs and painted buffered lanes that include planters. Intersections were treated with green paint, and flexible bollards were installed at key locations for safety.

- *Burrard Bridge (upgrade):*

Improvements to these facilities include the normalization of the intersection of Burrard Street and Pacific Street, and bike connection improvements for one block in

all directions. Upgrades also include the re-introduction of walking on the east sidewalk of the bridge and enhanced sidewalk lighting as part of the railing reconstruction. Bridge upgrades were coordinated with required seismic/structural improvements.

- *Stanley Park Causeway (upgrade):*

Upgrades were led by the Province of BC in coordination with the Park Board, local First Nations, the City of Vancouver and other stakeholders. Improvements include safety fencing and a wider pathway with separate spaces for walking and cycling.

- *SW Marine Drive (upgrade):*

Cycling facilities along the corridor were upgraded to incorporate painted buffered bike lanes between Cornish Street and Camosun Street. These route upgrades improved safety for people cycling along the corridor by providing separation from motor vehicles at key locations.

- *South False Creek Seaside Greenway (upgrade):*

The portion of the South False Creek Seaside Greenway between the Cambie and Burrard Bridges was upgraded by widening the space and separating people walking and people cycling. Surface treatments were also improved to address accessibility and comfort. Work is still underway in some areas and will be completed in Spring 2018.

- *Cambie Street (new route):*

A unidirectional protected bike lane was installed in the northbound direction, connecting the Dunsmuir Street protected bike lanes to Water Street. This was identified as part of the 2016 Downtown bike network expansion.

- *Burnaby Street (new route):*

Burnaby Street, from Burrard Street to Cardero Street, was formalized as a local street bikeway. A 30-km/hr speed limit was implemented along the corridor together with signage, wayfinding, and traffic control changes to prioritize cycling movements. This new local street bikeway was expanded further northwest than initially identified in the West End plan to allow for better access within the neighbourhood.

Partially Complete Routes as per 2016-2020 Cycling Upgrades and Additions Map

- *Union-Adanac (upgrade):*

Several locations along the corridor were upgraded with the aim to reduce motor vehicle volumes and speeds. Upgrades currently underway include a car-free portion at Vernon Drive and new traffic diverters at Victoria Drive and Nanaimo Street. Further improvements east of Slocan Street are still being reviewed and are included as part of the next 5-year map.

- *W 7th Avenue (upgrade):*

Several key locations along W 7th Avenue were upgraded, including at Oak, Burrard and Arbutus Streets. Cul-de-sac and public space improvements at Oak Street and W 7th Avenue have been implemented to eliminate east-west through motor vehicle traffic,

and to improve safety and comfort for people cycling and walking. Crossings of Oak Street have been shortened for people walking and cycling. Upgrades at both Burrard Street and Arbutus Street along W 7th Avenue were implemented as part of coordination project opportunities to reduce vehicular volumes through the use of diverters and/or conversions to one-way traffic.

- *Cypress Street (upgrade):*

Upgrades along the corridor include conversion to one-way traffic and separation of bicycles from vehicular traffic at key locations along the corridor. Further improvements north of W 2nd Avenue are currently underway and are included in the next 5-year map.

- *Smithe & Nelson Streets (new routes):*

Protected cycling facilities were constructed along Smithe and Nelson Streets to provide safer connections to the Cambie Bridge. Facilities along both streets extend from the bridge to Richards Street. Further improvements at intersections where the cycling facility requires cyclists to mix with motor vehicle traffic will be considered.

- *Great Northern Way (upgrade):*

A raised protected cycling facility has been constructed along this route to connect E 1st Avenue to Great Northern Way. This facility was achieved through the redevelopment of the parcels adjacent to Thornton Street (Great Northern Way Campus). Improvements to the east of Fraser Street are still required and are expected to be achieved with further development opportunities.

Completed New Routes and Upgrades not identified in the 2016-2020 Map

As new cycling priorities and demands emerged over time, some routes have been implemented that were not identified on the 2016-2020 5-year cycling map. The following provides a description of these facilities.

- *Arbutus Greenway Temporary Path (new route):*

A new route was added as part of the Arbutus Greenway project. While the future Arbutus Greenway is being planned and designed, a temporary path has been constructed to enable people to experience and become familiar with the corridor on foot and bicycle.

- *W 67th Avenue Local Street Bikeway (new route):*

As part of the Arbutus Greenway project, connections to the Canada Line cycling bridge were considered, including the formalization of the W 67th Avenue local street bikeway from the Greenway to Heather Street. This bike route was also identified in the Marpole Community Plan. The route has been established solely with signage. Further improvements will be considered at a later date.

- *Alder Street and W 14th Avenue Local Street Bikeways (partial):*

During public consultation for the W 10th Avenue bikeway project, W 14th Avenue, including a new connection on Alder Street was identified as a key alternative to

bypass the busy Hospital precinct. W 14th Avenue will also connect to other bikeways such as Heather Street and W 7th Avenue.

- *Rupert Street (extension):*

Cycling facilities along Rupert Street were extended northward from E 14th Avenue to connect to the Central Valley Greenway. These upgrades were implemented as part of a pavement rehabilitation project. Upgrades include the extension of existing corner bulges to increase visibility and pedestrian space along Rupert Street.

2018-2022 Cycling Upgrades and Additions Map

City staff reviewed the 2016-2020 plan and identified new routes to be added and upgraded to develop the 2018-2022 version. This review included an analysis of the current cycling route gaps, AAA network, stakeholder input (including consultation with the Active Transportation Policy Council and HUB Cycling) and carrying forward routes not yet completed from the 2016-2020 plan. The following describe new additions and upgrades identified for the 2018-2022 5-year cycling map (see Appendix A).

Route Additions for 2018-2022

Proposed routes added to the previous (2016-2020) plan include the following (numbers assigned to these routes as per the map in Appendix A):

(14) 14th Avenue

14th Avenue is planned as a local street bikeway connecting Arbutus Greenway to Woodland Drive. It provides an important east-west cycling connector and fills a gap between the 10th Avenue and 29th Avenue/Nanton bikeways within the existing service area for our public bike share system. This project will require the review of existing traffic controls and signage along the corridor in order to formalize it as a bikeway.

(15) St. George Rainway

In coordination with community efforts toward realizing green infrastructure opportunities along the corridor, a future bikeway along St. George Street will follow the Green Infrastructure team's lead in achieving this "Rainway" project. This is planned as a local street bikeway to connect Central Valley Greenway to the north and Prince Edward bikeway to the south. This route fills a current gap in the network for north-south routes between Ontario Street and Windsor Street. It also provides for the extension of the Prince Edward bikeway north of E 31st Avenue (see #20).

(16) Duchess/Wales Streets

The Duchess/Wales bikeway would provide a comfortable and quiet local street alternative route to the Earles Street shared-use lane, which is not considered comfortable for people of all ages and abilities. It connects E 45th Avenue, one of our major east-west connectors, to BC Parkway. Based on its current conditions, this route could be achieved with signage, traffic controls and minimal infrastructure changes. Coordination with the Park Board will be required in the section along the park.

(17) Helmcken Greenway

The Helmcken Greenway would complete the network within this section of Downtown by providing a connection from the Comox Greenway at Hornby Street to Pacific Boulevard. It is also identified as part of the Central Valley Greenway extension into Downtown in the 1995 Greenways plan for the City. The completion of this route will require consultation and is subject to approval with the Park Board as well as with private property owners to achieve the necessary right-of-way for the Greenway; however, work can progress in segments of the corridor over the next 5-year period.

(18) W King Edward Avenue

Protected bike lanes are planned for W King Edward Avenue from Heather Street to Yukon Street to improve connections to the Canada Line Station and future Cambie Street protected bike lanes. This improvement was identified as part of the Cambie Corridor Phase 3 plan and is linked to redevelopment occurring along this section of W King Edward Avenue. At this stage, all of the lands have gone through rezoning applications and have been approved for contributions towards W King Edward Avenue road improvements.

(19) Pandora Street / Semlin Street

The extension of the Powell Street bikeway was considered to connect from the overpass to the east into Hastings Park and Wall Street. This represents an important east-west connection as there is a significant gap in the east-west network between Wall Street and the Adanac bikeway. In addition, this provides for a direct connection between Downtown and Hastings Park, which are two major destinations within the City.

(20) Prince Edward Street

The existing Prince Edward bikeway south of E 31st Avenue will be extended north to connect to St. George Street. This connection would fill a current gap in the network and will be connected to St. George Rainway (15) to complete a north-south route.

(21) Quebec Street

The Quebec Street bike lanes would be extended south of E 1st Avenue to provide unidirectional protected bike lanes. This new route is expected to be implemented via redevelopment opportunities along the corridor to provide better access to the Mount Pleasant neighbourhood and the future Digital District.

(22) Cambie Street

Cycling facilities would be extended north from W 29th Avenue to W King Edward Avenue as identified in the Cambie Corridor Phase 3 - Complete Street Concept. The extension of this route will incorporate protected raised cycling facilities and protected intersections where feasible. This new route on Cambie Street would be integrated with King Edward Avenue to the north to provide for connections to the Cambie Bridge and Seawall via the Heather and Yukon bikeways.

(23) Stainsbury Avenue

The section of Stainsbury Avenue connecting the Dumfries bikeway to Gladstone Street will be formalized as a local street bikeway as it provides for connections to the existing off-street path along Vaness Avenue and into the BC Parkway. Further improvements to the west of Dumfries will likely be considered in a future update.

Route Upgrades for 2018-2022

Proposed upgrades to routes which have been added to the previous (2016 - 2020) plan include the following:

(L) Cambie Street

The existing painted bike lanes are planned to be upgraded to protected bike lanes in both directions between W King Edward Avenue and SW Marine Drive. Cambie Corridor is categorized as a complete street design project to improve and integrate all modes of transportation along the corridor, in particular near Canada Line Stations. This project is linked to the Cambie Corridor Plan, currently in Phase 3.

(M) Georgia Street

As part of the opportunities for redevelopment in the area, protected bike lanes are planned to be implemented along W Georgia Street to connect the Stanley Park Causeway to Nicola Street. This is part of the complete street design proposal for this part of Georgia Street, which will incorporate better walking, cycling and transit facilities. Area planning and public consultation have recently started for this project.

(N) 1st Avenue

Upgrades to the current facilities along 1st Avenue in the Olympic Village community include unidirectional protected bike lanes between Cambie Bridge and Main Street. The planning and design for this project incorporates a complete street concept to accommodate walking, cycling and a future streetcar alignment.

(O) Kent Avenue

Key locations along Kent Avenue will be reviewed for upgrades to improve safety and comfort for cycling. The current Kent Avenue Bikeway incorporates a range of facility types along its length, from painted bike lanes to off-street pathways shared with people on foot. Much of the route requires people on bicycles to mix with high motor vehicle volumes, including many large trucks that will continue to serve the industrial lands along this corridor. As such, improvements will be in the form of spot interventions to improve safety, noting that there is need for a larger comprehensive Fraser River Trail Plan incorporating significant improvements for walking and cycling along or near the river.

Considerations

It is important to highlight that the routes identified are not necessarily approved for construction. Alignments, designs, and timing are subject to change based upon detailed evaluation for each corridor, further stakeholder and public input, evolving circumstances, and, for major changes, Council approval. Staff will consider potential impacts to all street users, businesses, and residents when advancing specific projects.

The routes in this map do not include facilities that are planned to be implemented as part of other area plan studies and major development sites such as the North East False Creek/ Viaducts project, the False Creek Flats Plan, Arbutus Greenway, East Fraser Lands and others. As the active transportation planning for these projects evolves, new routes and upgrades will be included in future versions of the map.

A future 5-year cycling map update is expected in 2019 and will include a similar evaluation and proposal for future additions and upgrades.

Implications/Related Issues/Risk

Financial

The recommended 2018 program for Pedestrian Spot Improvements will be brought forward as part of the 2018 Capital Budget for the Active Transportation Corridor Program subject to Council approval in December 2017.

Similarly, the recommended program for bike infrastructure will also be subject to the Council approval of the 2018 Capital Budget for the Active Transportation Corridor Program or will be considered as part of the 2019-2022 capital plan. This 5-year cycling map provides an outlook for cycling infrastructure and the delivery of each route will depend on further design work and implementation priorities.

CONCLUSION

This report provides a brief update on existing programs that support walking in the City, and introduces the Pedestrian Spot Improvement Program. This initiative was identified as part of Transportation 2040 to foster continued growth in active transportation and to address gaps in our walking network.

The update of the 5-year Cycling Upgrades and Additions Map, which forms the 2018-2022 plan, identifies the upcoming set of route priorities for cycling infrastructure across the City. The total amount of cycling infrastructure contemplated for the 2018-2022 plan is approximately 69 km, which is a slight increase from the 63 km identified in the 2016-2020 map. Based on the implementation rate of new and upgraded cycling infrastructure since 2015, staff anticipate that the amount of infrastructure proposed for implementation can be achieved within the next 5 years. Updates to the map are expected to be conducted every two or three years to address emerging trends and changing cycling priorities, and overall growth.

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5-Year Cycling Network: Additions & Upgrades 2018-2022

Planned Routes	
1	Park Lane*
2	Bute
3	Drake
4	Smithe
5	Nelson
6	West Waterfront Road**
7	Water-Alexander-Powell
8	Granville Bridge
9	Gore
10	Hudson
11	Kent
12	Commercial
13	Blanca
14	14th Ave
15	St. George Rainway
16	Duchess-Wales*
17	Helmcken
18	King Edward
19	Pandora-Semlin
20	Prince Edward
21	Quebec
22	Cambie
23	Stainsbury
Planned Upgrades	
A	Smithe
B	Nelson
C	Cambie Bridge
D	Highbury
E	Cypress
F	5th Ave
G	Ontario
H	Adanac
I	BC Parkway
J	10th Ave
K	Richards
L	Cambie
M	Georgia
N	1st Ave
O	Kent

* Park Board jurisdiction
** Port Authority jurisdiction
Number/Letter sequence does not imply priority

-  Planned Route
-  Planned Upgrade
-  AAA Network
-  Protected Bike Lane
-  Local Street Bikeway
-  Painted Bike Lane
-  Shared Use Lane

