

5. Approve designating the Dallas Road Project, between Lewis Street and Clover Point, as a temporary multi-use pathway for up to 18 months;
6. Direct staff to incorporate construction and other costs for the 2020 projects referenced in this report into the 2021 Financial Planning process for consideration by Council;
7. Direct staff to organize a workshop with Council prior to the 2021 Financial Planning process to assess changes to the scope and sequencing of remaining corridors in the network while considering the current budgetary, social and environmental outlooks.

EXECUTIVE SUMMARY

GO Victoria, the City's Sustainable Mobility Strategy, identifies a vision of *clean, seamless transportation for everyone*. Key initiatives such as achieving zero traffic fatalities and investing in infrastructure to increase the number of people walking, cycling and taking public transit, support this vision. The All Ages and Abilities (AAA) Cycling Network is a strategic priority of Council and directly aligns with the goals, policies and targets in GO Victoria.

Since 2016, the City has completed 4.5 kilometers of AAA cycling facilities in the downtown core. An additional 9 kilometers is either under construction or approved for construction in 2020. This report contains recommendations to complete the next 8 kilometers of infrastructure through a combination of protected bike lanes, off-street pathways and shared use neighbourhood bikeways. When this phase of construction is complete, 67% of the priority AAA network will be achieved.

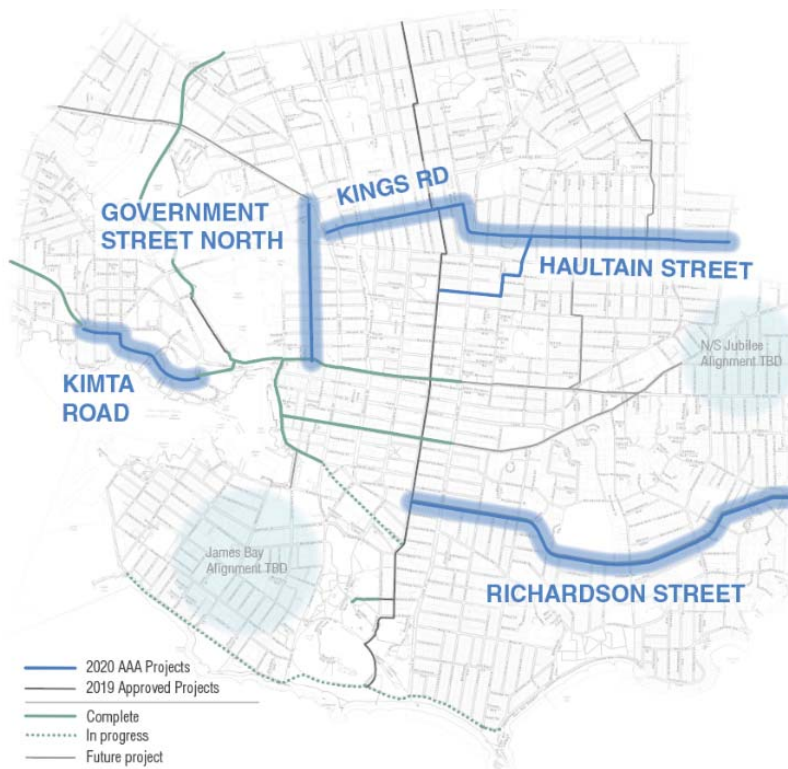
Victoria is not alone as it faces new pressures and uncertainties associated with COVID-19. In circumstances where public transit and shared mobility are impacted and health restrictions limit typical sport and recreational opportunities, active transportation networks contribute to the City's overall resiliency. Public health recommendations act as a new driver for the re-allocation of road space and now, more than ever, our streets are supporting mobility, recreation, commerce, and community vitality. Safe cycling infrastructure connecting parks, schools and employment areas can help to encourage those who want to and are able to cycle, to do so more often.

The principle of being nimble and quick to respond to short term needs, however, does not replace the need for permanent and comprehensive changes. The City's "complete street" approach encompasses comprehensive and inclusive design, engagement, and construction. All projects seek a careful balance of trade-offs within the limited right-of-way including safety, traffic performance, parking, utility and asset renewal needs. Public input, achieved through meaningful stakeholder engagement, is an important factor in reaching the best design solutions.

The 2020 Financial Plan identifies four capital projects that support network implementation within this timeline:

- The **Kings-Haultain Street project** is 2.9 km and extends from Douglas Street to Richmond Road. Appendix A provides a detailed overview of the recommended design.
- The **Kimta Road / E&N Connection project** is 1.2 km from the Johnson Street Bridge to the current E&N terminus at Esquimalt Road. Appendix B provides a detailed overview of the recommended design.
- The **Government Street North project** is 1.1 km from Pandora Avenue to Gorge Road. Appendix C provides a detailed overview of the recommended design.

- The **Richardson Street project** is 2.8 km from Vancouver Street to Foul Bay Road. Appendix D provides a detailed overview of the recommended design.



Each project is intended to integrate asset renewal, add to the urban forest, improve accessibility of the built environment and contribute to maintaining a balanced transportation network for all road users. Collaboration and concept refinement with stakeholders, emergency service providers, the City’s Active Transportation Advisory Committee, neighboring municipalities, and agency partners such as the Capital Regional District, ICBC and BC Transit, have influenced the outcomes.

The **Dallas Road project** is 2.9 km and extends from Ogden Point to Clover Point. While still under construction, the segment from Lewis Street to Clover Point has been functioning as a multi-use pathway for several months. In order to support increased physical distancing and provide maximum benefits to the highest number of people, staff are recommending to designate the planned off-street cycling facility to a temporary multi-use pathway for up to eighteen months.

The collective recommendations in this report are intended to advance AAA network completion and address road safety objectives while balancing several City priorities and considering current uncertainties with COVID-19.

PURPOSE

The purpose of this report is to present recommended designs for the 2020 Bicycle Master Plan projects and seek Council’s endorsement on temporary changes to Dallas Road.

BACKGROUND

Council approved the All Ages and Abilities (AAA) bicycle network in May 2016. This included planned investments on Government Street North, the Kings-Haultain corridor, and Richardson Street. As a part of the network update in February 2017, Council approved an expansion to the

network to include the Kimta Road / E&N Connector.

In February 2019 Council affirmed its direction to complete the 32km network by the end of 2022 and directed staff to continue implementation through a streamlined design, consultation and construction approach. When complete, 95% of the municipality will be within 500m of an AAA cycling route, providing safe and convenient access to village centres, parks, recreation centres and schools.

GO Victoria, which was approved by Council in November 2019, identifies several mobility policies that support integrated transportation and land use, emissions reduction, and a multi-modal level of service approach to infrastructure design. The AAA priority network is one of several strategies that the City is implementing to achieve its target of 80% mode share by transit, cycling and walking by 2030.

As Victoria grapples with climate change and road safety challenges, the implementation of the AAA cycling network becomes increasingly important as a part of our local response to global issues. Expanded active transportation networks have also emerged as an effective tool in the fight against COVID-19, supporting physical distancing requirements while encouraging regular physical activity.

The demand for more physical space compels the City to build active transportation networks that address long-standing gaps, and support our broader health, environmental, affordability and equity priorities. Investing in infrastructure can help to stimulate economic activity in the short- to medium-term and provides a foundation for safer, connected neighbourhoods in the long-term.

AAA Infrastructure Design Types

All Ages and Abilities cycling infrastructure is designed to reduce both the risk and severity of collisions involving vulnerable road users. It is generally classified into three infrastructure types:

- **Protected bike lanes** introduce physical barriers between cyclists and vehicle traffic. These facilities are generally suitable in urban environments with higher traffic volumes and speeds. Protected bike lanes often include intersection treatments to provide separate, or dedicated, signal phases to allow pedestrians and cyclists to move through the intersection without conflict with motor vehicles.
- **Shared use neighbourhood bikeways** feature traffic calming elements and traffic diversion to achieve target vehicle volumes and speeds for a shared road experience. This type of infrastructure creates a more pleasant street for pedestrians, offers opportunities for new public spaces, adds to the on-street parking supply and often reduces urban noise levels. In December 2018 Council directed shared road AAA facilities to be based on target volumes of 500 – 1000 vehicles per day and speeds of 30km/hr or less.
- **Off-street pathways** provide a comfortable cycling experience, largely removed from conflicts with automobiles. Off street pathways can be multi-use where cyclists, pedestrians and other forms of non-motorized users share the same space, or separated.

AAA Network Update

The development of the AAA network has been instrumental in supporting the City's leadership position on sustainable transportation mode-share and contributes to transportation equity and affordability. Investments contribute to the region's competitiveness at a number of scales — from

the macro economic impacts of construction to the community benefits of improved accessibility and transportation affordability.

Recent data confirms that bicycling, walking and transit are the primary modes of transportation amongst women, young people, and households with lower incomes in Victoria. One in three Victoria residents are interested but concerned about cycling safety, with safety cited as a higher issue impacting mode choice among older adults, women, lower income households and those who had not cycled at all in the past year. Further, 60% of Victoria residents would like to travel by bicycle more than they do now (Impacts of Bicycle Infrastructure in Mid-Sized Cities Study, Simon Fraser University, 2019).

AAA cycling facilities have been built on Pandora Avenue, the Johnson Street Bridge, Fort Street, Beacon Hill Park, Wharf Street, and Humboldt Street. Overall network performance is still encouraging with the average number of daily trips over the past four weeks on Harbour Road at 2595, 1891 on the Johnson Street Bridge, 1111 on Pandora Avenue, 620 on Fort Street, and 1881 on Wharf Street.

Like several other City initiatives, COVID-19 has had an impact on the progress of bicycle network completion. Construction tenders were delayed due to disruptions in professional services and market uncertainties. Public engagement on 2021 project designs as well as route alignment consultation for Jubilee and James Bay neighbourhoods were deferred in March and April. The adoption of 2020 project designs are approximately 4 months behind schedule as staff efforts were re-focused on mobility-oriented pandemic response and community recovery initiatives, including the temporary pedestrian-priority changes to Government Street. Because of these circumstances, recommendations in this report include hosting a workshop with Council prior to the 2021 financial planning process to assess changes to the scope and sequencing of remaining corridors in the network while considering budgetary, social and environmental outlooks.

The Vancouver Street, Graham-Jackson, and Harbour Road corridors are currently out for tender, including associated road network improvements on Cook and Quadra streets. The industry has signaled some pressures due to COVID-19 including material and workforce availability, however, there has been notable interest from local construction companies in the project. Assuming a favorable procurement process, construction is expected to start this summer and be completed by January 2021. The City just recently received positive news of a successful grant from the Province of BC towards the Harbour Road Project of \$401,250.

The new projects referred to in this report represent the next 8km of planned AAA infrastructure. Once constructed, these investments will contribute to a milestone of 67% network completion. The City must continue to manage time, quality, and cost risk, however, and will continue to provide quarterly updates to Council as a part of the City's overall capital delivery program.

Project Design and Engagement Process

As per Council's direction, City staff undertook coordinated design development and associated consultation for all four capital projects at the same time. Substantial efforts are required through the early design development phases in order to ensure functional road safety requirements are met while maintaining a comprehensive and meaningful process for public input. Spending time at the front end of the process ensures that the best possible designs are achieved which minimize risks in later phases of project delivery.

These transportation projects are also coordinated with other capital investments, such as underground asset renewal, road re-paving, sidewalk restoration, accessibility upgrades and other surface improvements which add to project complexity, schedule, and budget for each individual

project. This “complete street” design approach was previously directed by Council and demonstrates the City’s commitment to maximizing the benefit of each investment for all road users and minimizing future re-work and disruption to the community.

A two-stage engagement approach enabled staff to gather valuable insights into preferences and priorities for road safety improvements on these corridors. Opportunities for input were promoted using a blend of traditional and contemporary methods including print advertisements in newspapers, corridor signs, email notifications, social media advertisements and direct letters to businesses.

Early engagement activities in October and November 2019 provided members of the public, neighbourhood associations and agency partners with a chance to provide initial feedback and preferences for the projects. This input was used to inform the development of full-length corridor designs which were presented in a second stage of public engagement in November and December 2019. Consultation activities included:

- Online survey (738 participants)
- Community meetings with Neighbourhood Associations (8 sessions ~ 145 people)
- Corridor tours (4 tours ~ 150 participants)
- Pop-up on-street events / information stations (6 stations ~ 340 participants)
- Public Open house events (4 events ~ 750 people)
- Agency partner design review and discussion meetings (11 meetings – ICBC, Victoria Fire, Victoria Police, BC Emergency Health Services, BC Transit)
- Meetings with cycling businesses and walking & cycling advocacy groups
- Design discussions and consultation with the Active Transportation Advisory Committee
- Designs posted online providing opportunity for email feedback (More than 500 unique emails)

Design refinement continued as planned with agency partners in January and February 2020. While all comments, suggestions, and ideas were considered, many suggestions were not incorporated as they did not contribute to the overarching goal of a safer cycling experience or were not suitable design treatments for the adjacent land use. The designs do not respond to people who were not in favour of any changes to the corridor. For a comprehensive summary of engagement activities and all records of public input, see the engagement summary in Appendix G.

ISSUES AND ANALYSIS

AAA facilities need to balance the many competing road user needs and priorities, within limited rights of way. Each project presents design challenges and trade offs but also offers an opportunity to improve cyclist and pedestrian safety, enhance the pedestrian environment and public realm, improve asset condition and remove barriers to accessibility in the built environment.

Infrastructure design standards help determine which treatments are most appropriate in different contexts to ensure a higher level of safety and comfort for riders of all ages and abilities.

- Fully protected bike lanes, like those proposed for Government Street North, introduce physical barriers between cyclists and vehicle traffic and are most appropriate when traffic volumes and/or speeds are higher. Designs must accommodate turning movements for large vehicles and consider on-going maintenance requirements.
- Off-street pathways, like the segment of trail between the Johnson Street Bridge and Tyee Road and the E&N Trail between Catherine Street and Robert Street, are designed to

maximize travel space for pedestrians and cyclists while accommodating safe road crossings.

- Shared use neighbourhood bikeways, like those proposed for Kings-Haultain and Richardson corridors, require lower motor vehicle speeds and volumes to achieve the AAA status. Traffic calming and diverters are intended to minimize the potential for conflicts between users and improve the overall neighbourhood environment. Interventions will result in some traffic using alternative routes within the City's road network so must be carefully planned to avoid undesirable impacts and paired with adjacent investments to holistically address the approach.

As with any major City infrastructure project, staff will plan to monitor, observe and collect data to ensure that all new AAA infrastructure is meeting road safety objectives and functional requirements for businesses and residents. While the goal is always intuitive design, studies show it can take up to a year for different users to adjust their patterns and behaviours in response to roadway and traffic operation changes.

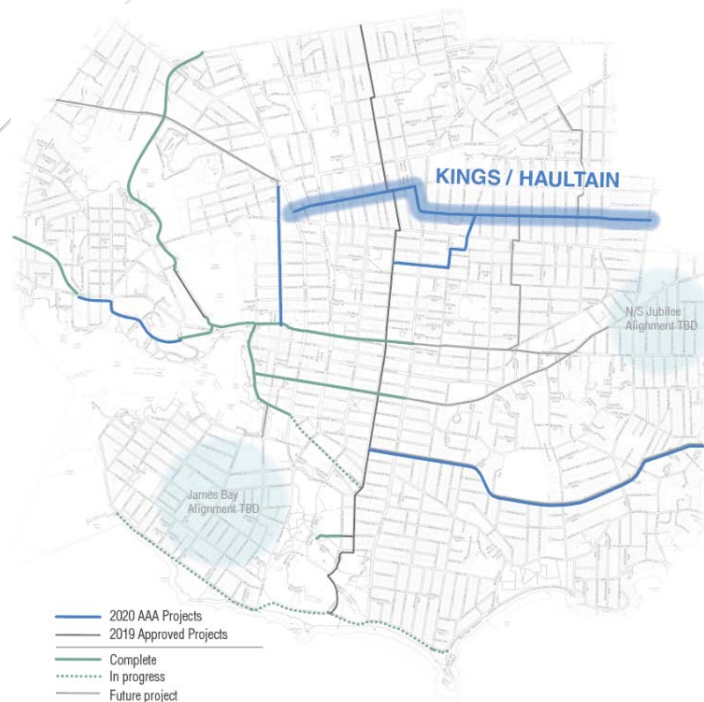
A) KINGS / HAULTAIN CORRIDOR

The Kings / Haultain corridor is 2.9 km long and serves the Hillside/Quadra and Oaklands neighbourhoods. The alignment follows Kings Street (Douglas to Blackwood Street), Blackwood Street (Kings Road to Haultain Street), and Haultain Street (Cook Street to Richmond Road).

The route intersects with Graham Street AAA facility, connects to the downtown core via Government Street North, and links to a future AAA route on Gorge Road. The alignment also connects on the eastern end to the designated cycling route within the District of Saanich.

The recommended design is a shared use AAA neighbourhood bikeway from Douglas Street to Richmond Road. The design includes traffic calming and diversions in select locations to reduce vehicle speeds to 30km/hr and volumes to 500-1000 vehicles per day.

As per council's direction in August 2019, staff have also developed an additional north / south AAA connection between Haultain Street and Vancouver Street via Cedar Hill, Chambers and Princess Street which incorporates a new pedestrian controlled traffic signal at Princess and Cook Street, approved in the 2020 Financial Plan. The design also includes the new pedestrian controlled traffic signal at Blanshard at Kings which was approved as a part of the 2019 financial plan and will also be constructed this year.



Route Alignment Considerations:

This route alignment was approved as a part of the 2016 AAA network development process and is on the CRD Pedestrian & Cycling Master Plan. The most significant constraint for this project is the gap on Kings Road between Douglas Street and Government Street. This was previously identified by staff in February 2019 as there are numerous property and real estate requirements to fully complete the AAA route.

Staff are recommending an interim treatment of conventional painted bike lanes on Bay Street, between Douglas Street and Government Street, until such time that an AAA connection can be established. Bay Street is scheduled for road safety improvements and road re-paving in 2022. Design details of this segment is provided in Appendix F and will continue to evolve with adjacent land use changes.

Corridor Design Approach:

This corridor is highly suitable for a neighbourhood bikeway and is already used by cyclists under existing conditions as a safer and more comfortable alternative to Bay Street (200 – 350 cycle trips per day).

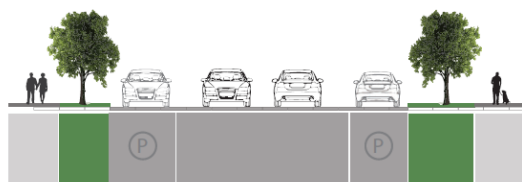
Kings Road is characterised by several existing features which already deters cut-through, or non-local, traffic. Haultain Street is a secondary collector and currently carries up to 3,000 vehicles per day with vehicle speeds ranging from 40 – 50 km/hr. The proposed design builds on the existing streetscape by adding new crossings at busy intersections, introducing traffic diversions to achieve target volumes where required, and adding traffic calming features to slow vehicle speeds.

Design Overview:

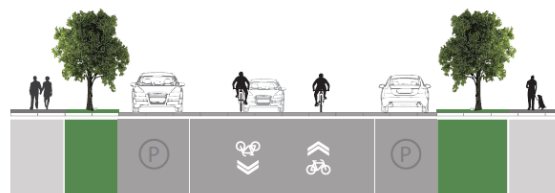
The proposed design includes the following features / amenities:

- 5 new pedestrian crossings and 2 new cyclists crossings
- 3 pedestrian crossing improvements and 4 cyclist crossing improvements
- 1 new traffic diversion and 3 modifications to existing diversions
- New speed humps to reduce vehicle speeds
- Up to 48 additional parking spaces

Existing Conditions



Proposed Conditions (shared use road - neighbourhood bikeway)



Design Consideration	Existing Conditions	Proposed
Road Classification	Local Road (Blackwood and Kings); Secondary Collector (Haultain from Cook to Shelbourne)	Local Road throughout
Traffic Volumes	2500-3000 vpd	500-1000 vpd
Vehicle Speeds	40-50 km/hr	30 km/hr
Traffic Diversions / Vehicle Circulation	Current restrictions at Blackwood / Kings,	Additional restrictions proposed at Fernwood /

	Shelbourne / Haultain, Richmond / Haultain	Haultain, Shelbourne / Haultain, Richmond / Haultain
Transit Service	Frequent Service on Haultain	Relocation of Service to Bay Street
Pedestrian Amenities	Sidewalk and select pedestrian crossings	New and upgraded pedestrian crossings and accessibility features
Landscaping and Public realm	Tree lined boulevard	Landscaped medians and potential for parklet at Haultain Corners
Cycling Amenities	No infrastructure	Shared use AAA neighbourhood bikeway
On-street parking / loading	On-street parking (both sides)	Net gain of on-street parking

The corridor is divided into four segments, described in detail in Appendix A. The table below highlights key design elements proposed for the following corridor segments:

- Segment A | Kings Road – Douglas Street to Quadra Street
- Segment B | Kings Road / Blackwood Street – Quadra Street to Cook Street
- Segment C | Haultain Street – Cook Street to Asquith Street
- Segment D | Haultain Street – Asquith Street to Richmond Road

Segment	Current Condition	AAA Design	Pedestrian and Public Realm Features	Parking Change
A	No cycling facilities	Shared use neighbourhood bikeway	- New traffic signal at Kings Road and Blanshard Street - Accessibility upgrades	Net gain of 18 stalls
B	No cycling facilities	Shared use neighbourhood bikeway	- Improved crossing for cyclists at Quadra Street - Improved safety and access for pedestrians and cyclists at Kings / Blackwood	Net gain of 6 stalls
C	No cycling facilities	Shared use neighbourhood bikeway	- Improved crossing at Cook Street and Fernwood Road - New pedestrian crossings at Capital Heights and Cedar Hill Road	No change
D	No cycling facilities	Shared use neighbourhood bikeway	- Improved crossings at Shelbourne Street and Richmond Road - New pedestrian crossings and accessibility upgrades at Asquith Street, Belmont Avenue, and Forbes Street	Net gain of 24 parking stalls

Public Input

Most public feedback was focused on specific design options and treatments including locations of traffic diversion interventions. The common themes that emerged from engagement activities for the Kings-Haultain corridor have been incorporated into the design recommendations, details are highlighted in the table, below.

What we heard	How the design responds
Improve road safety for cyclists	The shared use design will achieve target volumes of less than 1000 vehicles per day and speeds of less than 30km/hr.
Improve safety and comfort for pedestrians and people with disabilities	New marked crossings, curb extensions to narrow crossing distance, and reduced vehicle volumes and speeds will improve safety for pedestrians. The project also includes accessibility upgrades to remove existing barriers for people with disabilities.
Maintain Haultain corners as an important neighbourhood and commercial hub	Curb extensions at all four corners will narrow the road, slowing traffic. New pedestrian-oriented lighting and marked crosswalks will be added. Place-making design elements, such as a parklet, will also be explored as part of detailed design.
Retain on-street parking	A net gain of 48 on-street parking spaces is achieved through the design.
Provide a safe crossing for pedestrians and cyclists on Blanshard Street	A new traffic signal is planned for Blanshard at Kings. Council has previously allocated capital funds as a part of the 2019 budget. Design for this intersection will also consider adjacent land use changes in the area.
Reduce traffic speeds	This project employs paint markings, speed humps, traffic circles, reduced speed limits and traffic diversions to reduce cut-through traffic on the corridor.
Ensure connectivity to the AAA network	This project provides direct connectivity to other established or planned AAA routes and a link to designated cycling routes in the District of Saanich. The scope also includes an AAA connector to Vancouver Street via Cedar Hill, Chambers and Princess Streets.
Maintain adequate motor vehicle circulation for residents	Access is maintained for residents who need to or wish to drive while traffic calming and diversion interventions act as disincentive to use the route as a cut-through.
Minimize additional traffic on Fernwood Road	The design has been modified based on feedback from the public to avoid additional vehicle volumes on Fernwood Road by not pursuing intervention on Cedar Hill, north of Haultain Street.
Relocate transit service to Bay Street	BC Transit will re-route part of its existing service to Bay Street, 200 meters away. The City will add bus stops/shelters and improve pedestrian crossings on Bay Street to support this change. This supports improved service on the approved Frequent Transit Network.

Traffic Volume, Circulation and Speed Management

Vehicle speeds on this corridor are typically higher where the road is wider. Proposed changes to manage speed include a 30 km/hr posted speed limited, speed humps, the addition of on-street parking and curb bulb-outs in select areas.

Current vehicle volumes vary along the corridor, with the highest volumes observed on Haultain Street (~3,000 vehicles/day). Kings Road and Blackwood Street do not require additional traffic diversions but will benefit from reduced speed limits and speed humps.

Interventions on Haultain Street were considered at all arterial and collector roads. In total, three traffic diversions are being proposed on the corridor. Two interventions will reduce east / west vehicle volumes traffic on Haultain (Fernwood and Shelbourne) and one will support improved road safety for pedestrians and cyclists (Richmond).

Motor vehicle traffic that currently uses Haultain as a route between Cook Street and Shelbourne Street will be required to use Bay Street or Hillside Avenue, both of which are Arterial roads. Local travel patterns will change for some residents in the neighbourhood but overall impacts are anticipated to be minimal. Several other measures are also being explored for the Oaklands neighbourhood as a part of the City's traffic calming program including limited speed zones on Ryan Street and a permanent speed reader board on Fernwood Road between Kings Road and Haultain Street.

Each illustration below demonstrates vehicle travel movements that are maintained under the proposed design.

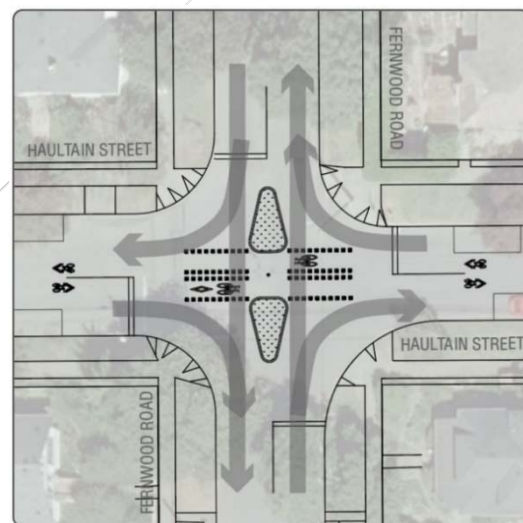
Fernwood Road @ Haultain Street:

Fernwood Road was identified as the most suitable location for a traffic diversion as it is the only north - south collector between Cook Street and Shelbourne Street intended to accommodate higher traffic volumes than the surrounding local streets.

The design at this location proposes a center median to restrict east-west vehicle movements and left turns. Right turns remain permitted. Emergency vehicles and cyclists can continue to travel through on Haultain Street.

The location is the most suitable as it retains local access without adding undesirable traffic volumes on adjacent local streets. Some concerns were raised by stakeholders about existing vehicle speeds and volumes on Fernwood Road.

Fernwood is a primary collector road and as such, intended for vehicle volumes of up to 8,000 vehicles per day. Existing traffic volumes range between 4,500 – 5,000 vehicles per day. This intervention is estimated to add between 700 and 900 vehicles per day, still well within the collector road range.



Shelbourne Street @ Haultain Street:

There is an existing median diverter on Shelbourne Street that restricts east-west vehicle movements on Haultain.

In order to reduce west-bound traffic volumes and improve safety of the road crossing, a modification to restrict the northbound left turn is being proposed as a part of the project.

The existing traffic signal infrastructure is also at end of life so full intersection upgrades will be completed as a part of this project.



Richmond Road @ Haultain Street:

The existing traffic diversion at Richmond Road restricts east-west vehicle movements and permits both southbound and westbound left turns. The design proposes to restrict the westbound left turn as it conflicts with the existing pedestrian crossing.

The crosswalk is proposed to be upgraded with new curbs and rapid flashing beacons.



AAA Connection to Vancouver Street:

Following Council's direction in August 2019, this project includes an additional north / south AAA connection via Cedar Hill, Chambers and Princess Street. This connection provides safe and comfortable access to the Vancouver Street AAA route from the Oaklands neighbourhood and avoids the indirect connection via Kings Road and Graham Street.

The scope includes traffic calming on Cedar Hill Road, Chambers and Princess Street (speed humps, road markings and a reduced posted speed limit of 30km / hr) as well as a new centre median at Cedar Hill Road at Bay Street to facilitate crossing. A new pedestrian-controlled traffic signal at Princess Avenue and Cook Street (approved as a part of the 2020 Financial Plan) is also planned for implementation this year. Staff had initially proposed an additional road closure at Cedar Hill at Fernwood to extend the AAA facility to the north, however this feature is not being pursued in order to respond to concerns from residents to minimize additional traffic impacts on Fernwood Road.

Cedar Hill Road @ Bay Street:

To maintain desirable vehicle volumes on Cedar Hill Road and provide a safe road crossing for cyclists at Bay Street a median diverter is being proposed. This would restrict north-south through movements for motor vehicles and left turns. Right turns and east-west movements would be maintained.

The existing pedestrian crossing at Chambers Street (130 metres west) is planned to be upgraded with rapid flashing beacons in 2020.



Transit Service

BC Transit currently runs a portion of Route 22 (Vic General / Hillside Centre) on Haultain between Fernwood Road and Shelbourne Street. This route has full-sized (12 metre) buses and currently provides high ridership local service (every 30 minutes on weekdays and Saturdays and every 60 minutes on Sundays). Best practices for a shared AAA neighbourhood bikeway do not align with this service frequency and vehicle size.

In order to support the City's design objectives, BC Transit will reroute service for this segment to Bay Street (~200 metres away). BC Transit is supportive of this concept as it will support service on a designated future frequent transit corridor while largely retaining the 400m targeted transit service coverage for the neighbourhood. Existing transit stops on Haultain Street would be repurposed to on-street parking / loading zones. Modifications at Bay Street and Shelbourne Street are planned to support transit operational needs and customer amenities such as new bus stops on Bay Street.

Parking and Loading

There are approximately 48 additional parking stalls proposed for the Kings / Haultain corridor. On-street parking supports traffic calming objectives by further narrowing the road and reducing vehicle speeds. Specific parking or loading restrictions will be informed by adjacent land use and demand.

Public Realm & Landscaping

This project proposes public realm improvements to Haultain Corners including enhanced pedestrian crossings, curb bulb outs, additional on-street parking and new lighting. Landscaping opportunities will be explored in the medians along the corridor and a parklet is being assessed for Haultain Corners in partnership with the Neighbourhood Association.

Three trees will be removed from the central median on Blanshard Street at Kings Road in order to accommodate the new pedestrian controlled traffic signal. Six new trees will be replaced on City property to mitigate impacts to the urban forest.

Capital Project Coordination

To minimize neighbourhood disruption the project will be coordinated with other capital works to reduce impacts on the neighbourhood. The two traffic signals previously approved on these corridors will be moving forward with construction in 2020.

Other identified project synergies include road paving on Blackwood Street, Bay Street and Shelbourne Street as well as paving on a small segment on Haultain Street. Routing changes for transit service on Haultain Street will be incorporated into construction sequencing and will align with BC Transit's typical seasonal service changes.

B) KIMTA ROAD / E&N CONNECTION

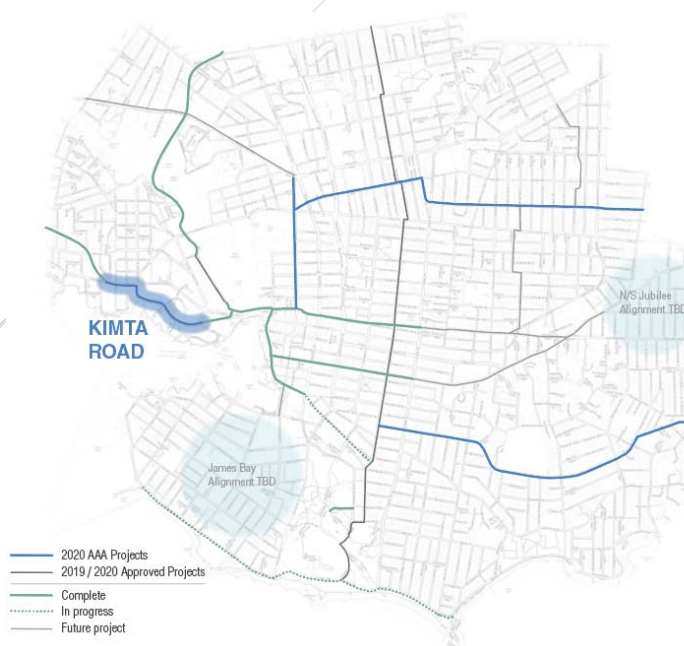
The Kimta Road / E&N Connector is 1.2 kilometres long and will formally connect the City's downtown AAA network with the E&N Regional Trail servicing the Victoria West neighbourhood and neighbouring municipalities and First Nations in the Region.

The recommended design from west to east includes an off-street AAA facility from Robert Street to Catherine Street, a two-way protected bike lane on the north side of Kimta Road from Catherine Street to Tyee Street, and upgrades to the existing multi-use pathway in front of the Delta Hotel.

Alignment Considerations:

The E&N Rail Trail - Humpback Connector (herein referred to as the E&N Trail) is a multi-use off-road pathway, operated and maintained by the CRD. The trail is currently 12km in length with a goal to complete the entire 17km route in partnership with four municipalities, two First Nations and the Island Corridor Foundation (ICF) by 2021. In Victoria, the E&N Trail currently terminates at Robert Street and Esquimalt Road.

The Kimta Road / E&N Connector project has been planned to coordinate design, implementation and cost sharing with the CRD in order to complete the southern extent of the Trail and close the existing gap to the City's downtown AAA network.



The CRD has established agreements in place that enable the development of off-street cycling and pedestrian infrastructure between Robert Street to Catherine Street. In February 2017 Council approved Kimta Road, between Catherine Street and Tyee Road, as part of the priority AAA network.

Longer term, a parallel multi-use corridor will be established on the E&N corridor through the Master Development Agreement with the Bayview property, a 9 acre private parcel of land on Esquimalt Road extending from Catherine Street to Sitkum Road. The City, through the Association of Vancouver Island Coastal Communities, continues to advocate to senior levels of government to

support the comprehensive restoration of island railway infrastructure and associated recreational trail amenities, however there are no confirmed infrastructure investments at this time.

Design Approach:

Staff explored two design concepts for the Kimta Road / E&N connection. Common to both design options were upgrades to the existing multi-use pathway in front of the Delta Hotel that connects the Johnson Street Bridge to Tyee Road and the completion of the E&N Trail between Catherine Street and Robert Street.

Advisory bike lanes were initially considered on Kimta Road as a cost-effective approach to improve conditions for cyclists while maintaining the majority of on-street parking supply. Advisory bike lanes are bicycle priority areas within a shared street environment. Bicycle riders have priority with dedicated painted lanes on either side of the road but motorists may legally enter the lanes to pass on-coming motor vehicles. The design includes a posted 30km/hr speed limit and target of ~2,500 vehicles per day or less where it would be rare for two motor vehicles travelling in opposite directions while one or more people are cycling in the same vicinity.

The alternate design was a two-way protected bike lane on the north side of Kimta Road. This design provides a higher degree of separation and design consistency with the regional trails, with some impacts to on-street parking supply.

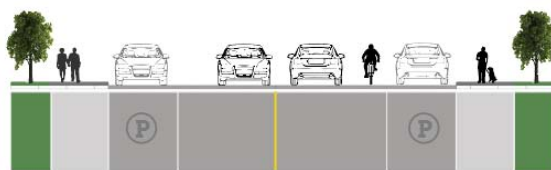
Both the on-line survey results and engagement activities confirmed public support for a two-way protected bike lane, along with improvements to the existing multi-use trail and new connection to the E&N Trail at Esquimalt Road.

Design Overview

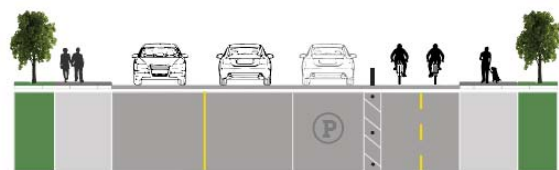
The project includes:

- A complete re-design of the existing E&N terminus at Esquimalt Road. This will add 50 metres of off-street multi-use pathway (Robert Street to Russell Street) and 180 metres of off-street pathway that has separated spaces for bicycles and pedestrians (Russell Street to Catherine Street)
- 650 metres two-way protected bike lane on Kimta Road (Catherine Street to Tyee Road)
- 200 metres of multi-use path upgrades (Tyee Road to Johnson Street Bridge)
- 2 new pedestrian and 3 new cyclists road crossings

Existing Cross Section



Proposed Cross Section



Design Consideration	Existing Conditions	Proposed
Road Classification	Secondary Collector	No change
Traffic Volumes	1800-2000 vpd	No change
Vehicle Speeds	40-50 km/hr	No change

Traffic Circulation	No restrictions	Time-limited left turn restriction from Esquimalt Road to Robert Street
Transit Service	N/A	N/A
Pedestrian Amenities	Sidewalk and select pedestrian crossings	New pedestrian crossings and accessibility features
Cycling Amenities	No infrastructure	AAA off-street and protected bike lanes
Public Realm and Landscaping	Tree lined boulevards	No change
On-street parking / loading	On-street parking (both sides)	Net loss of 51 on-street parking spaces (retention of 72% of on-street supply).

The corridor is divided into two segments, described in detail in Appendix B. The table below highlights key design elements proposed for the following corridor segments:

- Segment A | Robert Street to Saghalie Road
- Segment B | Saghalie Road to Johnson Street Bridge

Segment	Current Condition	AAA Design	Pedestrian and Public Realm Features	Parking Change
A	Conventional painted bike lanes on Esquimalt Road; No cycling facilities on Kimta Road	Off-street cycling pathway; two-way protected bike lane	- 1 new cyclist crossing at Russell Street - 2 new multi-use path crossings (Russell Street and Mary Street) - 1 new pedestrian crossing at Saghalie Road	Net loss of 11 parking stalls
B	No cycling facilities	Two-way protected bike lane	- 1 new pedestrian crossing at Tyee Road	Net loss of 40 parking stalls

Public Input

Most of the public feedback was focused on design elements such as parking layout, crossing locations and long-term development plans for the E&N rail corridor. The common themes that emerged from engagement activities have been incorporated into the design recommendations, details are highlighted in the table, below.

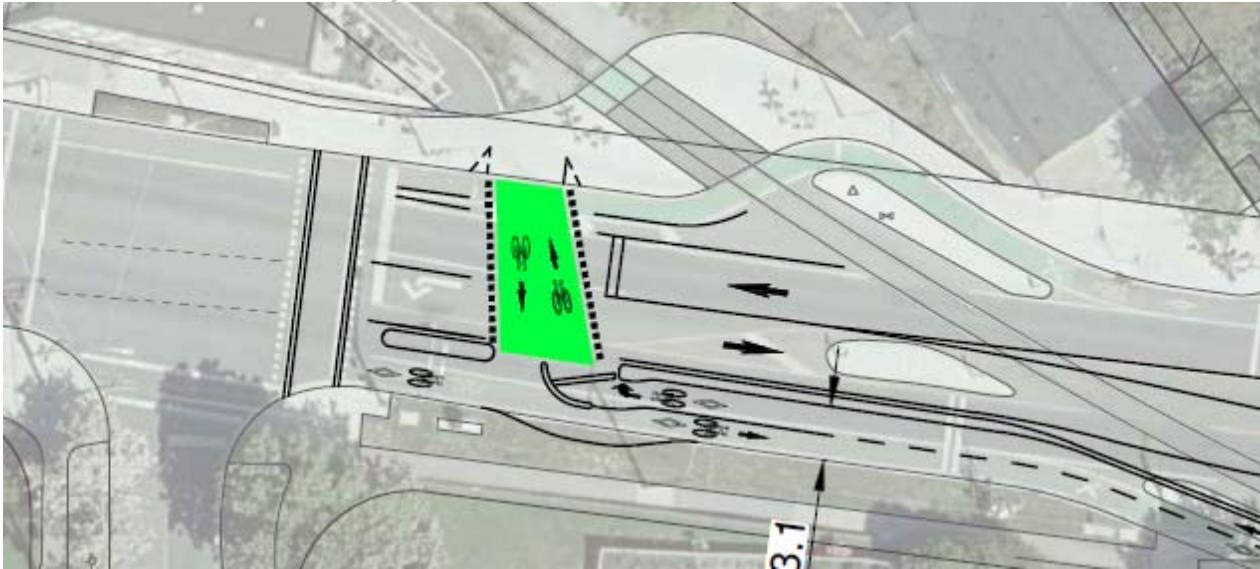
What we heard	How the design responds
Improve road safety for cyclists	The two-way protected bike lane and off-street multi-use trail will improve safety for cyclists and encourage more AAA riders to use the corridor.
Improve the existing multi-use trail in front of Delta Hotel	The recommended design includes new surface and lighting improvements to the existing multi-use trail between Tyee Road and the Johnson Street Bridge. While only modest widening of the trail is being pursued at this time in order to avoid tree conflicts and maintain

	maximum flexibility for the future, addressing the drainage, surface and lighting conditions were widely supported through the consultation.
Retain on-street parking	The design minimizes impacts to on-street parking while maintaining adequate and comfortable road widths for all users. To help address parking loss on Kimta Road and support waterfront public park access, angle parking is proposed on both Paul Kane Place and Cooperage Place.
Improve safety and comfort for pedestrians and people with disabilities	New marked crossings and curb extensions are planned to narrow crossing distances. The project also includes accessibility upgrades to remove existing barriers.
Improve the connection to the regional trail network	This project includes a re-design of the existing E&N transition at Esquimalt road and fills a gap in the regional network by connecting the E&N Trail to the downtown core and the Galloping Goose Trail, with a consistent and predictable AAA design.

Traffic Circulation and Speed Management

No changes to posted speed limits are planned. Observed vehicle speeds on Kimta Road are 45 km/hour in a 50km / hr zone. It is anticipated that the new bicycle facilities, curb bulges and pedestrian crossings will contribute to a slight reduction in existing vehicle speeds.

The existing transition from E&N trail to Esquimalt Road at Robert Street has significant opportunities for road safety improvements. The proposed intersection design, shown below, provides a fully separated, more predictable and safer crossing for vulnerable road users while maximizing the use of existing traffic signals, avoiding costly moves to underground and rail infrastructure, and avoiding the loss of mature trees.



In order to support east/west movements on Esquimalt road, a peak-time left turn restriction is proposed at Robert Street. Time limited turning restrictions are common throughout the City and are intended to support the continued flow of motor vehicle traffic on arterial and collector streets. At this location, left turns will be restricted from 4-6pm Monday to Friday. Access to residential areas during this time will be provided by Maitland Street (120 metres west of Robert Street).

Parking and Loading

The existing curb space on Kimta Road can accommodate approximately 160 parked vehicles. The average daily utilization is very low on this street - typically 26% - with higher demand (~30-40% or between 48 and 64 vehicles) observed between 10:30 am and 3:00 pm.

The recommended design has a net loss of approximately 51 parking stalls. To help ensure overall neighbourhood parking supply is maintained, angle parking is being proposed on both Cooperage Place and Paul Kane Place where the wider pavement width allows for the City to add 11 additional on-street parking stalls. Overall, a total of 133 parking stalls or 72% of on-street parking is retained in the area, significantly in excess of the observed demand.

Public Realm & Landscaping

The Kimta Road / E&N connection has limited opportunities for new street trees. New landscaping will be integrated in the off-road AAA pathway between Robert Street and Catherine Street. Some widening improvements will be modest, such as on the off-street pathway in front of the Delta Hotel in order to avoid loss of healthy trees.

Capital Project Coordination

There is little associated capital maintenance work required on Kimta Road. As such, coordination efforts will be focused on working with the CRD to collaborate on the design and construction of the off-street portion of the corridor (Robert Street to Catherine Street) and coordinating with current construction activities on private land.

C) GOVERNMENT STREET NORTH

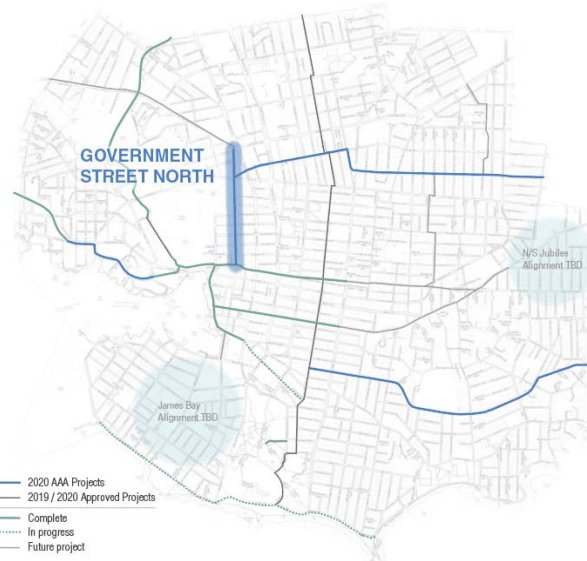
The Government Street North Corridor is 1.1 kilometres long and services the Burnside-Gorge and Downtown neighbourhoods. This corridor will connect the downtown cycling network at Pandora Street to the Kings-Haultain corridor and a future AAA route on Gorge Road.

Alignment Considerations:

Government Street North was included in the 2016 network, is a designated greenway south of Bay Street, and identified in the CRD Pedestrian and Cycling Master Plan.

The current aesthetics and function for the majority of this corridor do not align with policies in the Official Community Plan and reflect a more suburban car-oriented design. Segments of the corridor are characterized by wide travel lanes with few pedestrian amenities, sparse vegetation, and intermittent cycling infrastructure.

This project presents a significant opportunity to transform the public realm to better support pedestrians and cyclists on Government while accommodating vehicle traffic servicing and circulation needs.



Government Street North is an ideal north-south candidate for a “complete-street” upgrade that will improve road safety, align with planned underground asset renewal, and help shape future re-development of the northern section in the City’s downtown core. Subsequent phases of Government Street will be considered for improvements in Old Town as well as on the southern extent within the Parliament Building Precinct. These phases will be considered by Council as a part of future reports and financial planning processes.

Corridor Design:

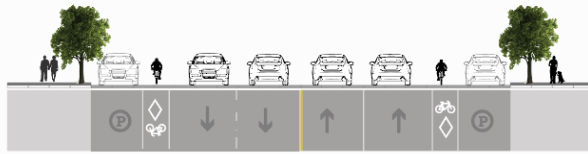
The design proposes one-way protected bike lanes on each side of Government Street from Pandora Avenue to Gorge Road. The cycling facility will be buffered by on-street parking with concrete curbs approaching intersections. The project includes new pedestrian crossings, a new traffic signal, dedicated left turn lanes, new trees, landscaping opportunities, and additional on-street parking.

Design Overview

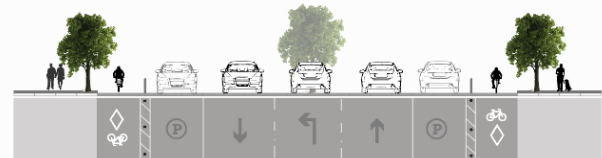
The proposed design reconfigures the existing four lane roadway to a three lane roadway with a single northbound vehicle lane, a single southbound vehicle lane and a centre left turn lane. The project includes:

- 1.1 km of protected bike lanes on each side of the street
- 3 new pedestrian crossings
- 1 new traffic signal
- New landscaping and new street trees
- Net gain of 36 on-street parking / loading stalls

Existing Conditions



Proposed Conditions



Design Consideration	Existing Conditions	Proposed
Road Classification	Downtown Core (Pandora to Chatham), Secondary Arterial (Chatham to Gorge)	No change
Traffic Volumes	~15,000 VPD	No change
Vehicle Speeds	40-45 km/hr	Modest reductions
Traffic Circulation	No restrictions	East-west through movements and restrictions to left turns proposed at Herald and Discovery intersections
Transit Service	N/A	N/A
Pedestrian Amenities	Select locations with marked pedestrian crossings	New crossings and accessibility features
Cycling Amenities	Conventional painted bike lanes	Protected bike lanes on each side of the street
Public Realm and Landscaping	Tree lined sidewalks	Up to 5 street trees proposed for center median and bulbouts
On-street parking / loading	On-street parking (both sides)	Net gain of stalls

The corridor is divided into two segments, described in detail in Appendix C. The table below highlights key design elements proposed for the following corridor segments:

- Segment A | Pandora Avenue to Pembroke Street
- Segment B | Pembroke Street to Gorge Road

Segment	Current Condition	AAA Design	Pedestrian and Public Realm Features	Parking Change
A	Conventional painted bike lanes	One-way protected bike lanes	<ul style="list-style-type: none"> - New pedestrian crossings and accessibility upgrades at Herald and Discovery and a new traffic signal at Pembroke Street - New landscaping and trees in centre medians - Potential for new parklet 	Net loss of 11 parking stalls
B	Conventional painted bike lanes	One-way protected bike lanes	<ul style="list-style-type: none"> - Opportunity for new crossings at Queens Avenue and John Street (to be explored through detailed design) - New landscaping and trees in centre medians 	Net gain of 47 parking stalls

Public Input

Most public feedback was focused on specific design treatments including locations of pedestrian crossings, loading zones, and future connectivity to Gorge Road. Some of the common themes that emerged from engagement activities for the Government Street North corridor have been incorporated into the design recommendations, details are highlighted in the table, below.

What we heard	How the design responds
Improve road safety for cyclists	The one-way protected bike lane design will improve safety for cyclists and encourage more AAA riders to use the corridor.
The importance of on-street parking and commercial loading zones	The design adds to on-street parking capacity and new loading zones will support commercial access. Parking is only removed in select areas to address road safety requirements.
Improve safety and comfort for pedestrians and people with disabilities	New marked crossings as well as shorter crossing distances at multiple locations. The project also includes accessibility upgrades to remove existing barriers for people with disabilities.
Enhance the overall pedestrian experience and improve the public realm	The overall design of the project will dramatically change the look and feel of this section of Government Street. A parklet is also being explored with stakeholders and the Downtown Victoria Business Association as part of the detailed design process.
Ensure adequate circulation for motor vehicles	Dedicated centre turn lanes, turn signals at signalized intersections and a new traffic signal at Pembroke street will provide convenient and safe motor vehicle access to properties in the area.
Maintain road capacity for motor vehicles	The road design can easily accommodate current traffic volumes while maintaining overall level of service.

Traffic Volume, Circulation and Speed Management

Government Street is one of three north-south arterial roads moving vehicle traffic to and from the downtown. The existing four lane roadway is proposed to be modified into a three lane roadway which can accommodate protected bike lanes and on-street parking and loading. This design supports Vision Zero (there were over 25 collisions on Government Street between Bay and Discovery involving vulnerable road users in the past five years) and is more consistent with downtown public streetscape design.

Traffic volumes on Government Street have historically been dropping as indicated by the City's annual screen-line count program. Volumes from 1990 to 2000 compared to 2000 to 2010 indicate a 19% decrease in traffic and volumes from 2010 to 2019 suggest a further 23% decrease. The proposed lane configuration can accommodate up to ~18,000 vehicles per day with volumes currently at 15,000 vehicles per day. Other arterial streets, such as Shelbourne Street or Craigflower Road carry significantly more vehicles under similar road geometries and lane widths. Traffic modeling indicates that vehicle level of service is maintained along the corridor with only minor delays in peak travel times under the proposed three lane design. In addition, both Douglas Street and Blanshard Street have available capacity to accommodate motor vehicle traffic.

Staff explored several options to support traffic circulation on the corridor. New centre medians are being proposed at both Discovery Street and Herald Street. These interventions will shift east – west cross traffic movements (across Government Street) to other higher classified roads. To support vehicle flow and improve level of service for those driving, new dedicated left turn lanes will be added at all cross streets excluding Herald and Discovery Streets. A new traffic signal is also proposed at Pembroke Street to improve commercial access to Store Street. All of these changes work as a system and take into account the density of the street grid, commercial vehicle truck routes, and emergency access while improving the overall pedestrian environment with landscaping and shorter crossing distances.

While no change to the speed limit is being proposed for this corridor, it is anticipated that the average vehicle speed will decrease on this segment of Government Street with its transition to a more urban cross section with the addition of a centre median and new on-street parking.

Parking and Loading

The design retains on-street parking / loading while maintaining adequate sight lines to ensure a safer environment for cyclists and pedestrians. While there will be some on-street parking loss in the southern segment, the proposed design adds a net increase of 36 parking stalls to the corridor.

Public Realm & Landscaping

This project presents a unique opportunity to accelerate a change to the character of Government Street from a car traffic dominated road to a multi modal urban transportation corridor and in doing so significantly improving road safety. The design seeks to balance the use of the road for all road users, maintains function and level of service for motor vehicles, and contributes to overall aesthetics and AAA network linkages.

The Official Community Plan (OCP) identifies policy objectives to “increase pedestrian safety and comfort on major roads through the use of physical separation and buffers from travel lanes including, curb-side parking, green verges, street furniture and street tree planting” and “enhance planting, signage, signalization and pedestrian and cycling facilities.”

A parklet is also being explored in the 1900 block of Government Street. This would result in a shift to the existing commercial loading zone (but it would remain on the same block) and add an important place-making feature for residents, employees and visitors to the area.

The design for Government Street North is consistent with the OCP’s Walkable Urban Thoroughfare Guidelines with several areas identified for median landscaping and street trees, pedestrian lighting or banner poles. These gateway elements will help frame the downtown core character areas including the Rock Bay, Chinatown and Old Town districts. The design does not preclude future right of way investments and sets the stage for future frontage improvements associated re-development of private land.

Capital Project Coordination

Minimizing construction impacts on Government Street has been a key design objective both in terms of the specific design of the facility but also ensuring coordination with other major improvements including road paving, water-main replacement plus street lighting and traffic signal upgrades. To reduce disruption, the following activities are proposed as supplementary items to be managed, designed and constructed as part of the Government Street North project:

- Pavement restoration on Government Street (Bay Street to Pandora Avenue)
- Electrical upgrades at Pandora, Fisgard, Chatham and Pembroke Streets
- Watermain replacement and re-lining from Chatham Street to Johnson Street
- Traffic signal replacement at Johnson Street

The proposed design from Herald Street to Pandora Avenue advances the people priority greenway design principles identified in the OCP by creating a safer environment for pedestrians and cyclists and introducing new planted boulevards while allowing maximum flexibility for any possible future design scenarios and investments.

As per Council's direction, Government Street between Humboldt Street and Herald Street has been identified for pedestrian priority improvements in 2022 with timing of this driven largely by underground infrastructure renewal and traffic signal pole replacement. More recently, Council approved a temporary pedestrian priority zone as a mechanism to support business recovery in the Build Back Victoria Program. Future phases of work on Government Street must consider the scope of required underground and surface infrastructure upgrades, budget availability, impact to the community and overall aesthetic and functional linkages.

D) RICHARDSON STREET

The Richardson Street Corridor is 2.8 kilometres long and connects the downtown core to the Fairfield-Gonzales and Rockland neighbourhoods and to the District of Oak Bay. The recommended design is a shared use neighbourhood bikeway from Vancouver Street to Foul Bay Road. The design includes traffic calming and diversions in select locations to reduce vehicle speeds to 30 km/hr and volumes to 500-1000 vehicles per day while accommodating transit service.

Alignment Considerations:

Richardson Street forms part of the approved 2016 network and is included on the CRD Pedestrian and Cycling Master Plan.

Fairfield Road was originally explored as an alternate east-west alignment in 2015-2016 and was considered less suitable as a priority AAA project given the anticipated impacts to on-street parking and transit service.

Corridor Design Approach:

Of all the 2020 corridors, the Richardson Street project presented the greatest challenge in terms of finding a suitable design that maintains the best balance for all road users and achieves desired network objectives.

Numerous treatments were explored including protected bike lanes (one way and two way), advisory bike lanes and ultimately a shared road neighbourhood bikeway design. Each design considered different trade-offs for different road users as well as impacts for residents versus commuters.

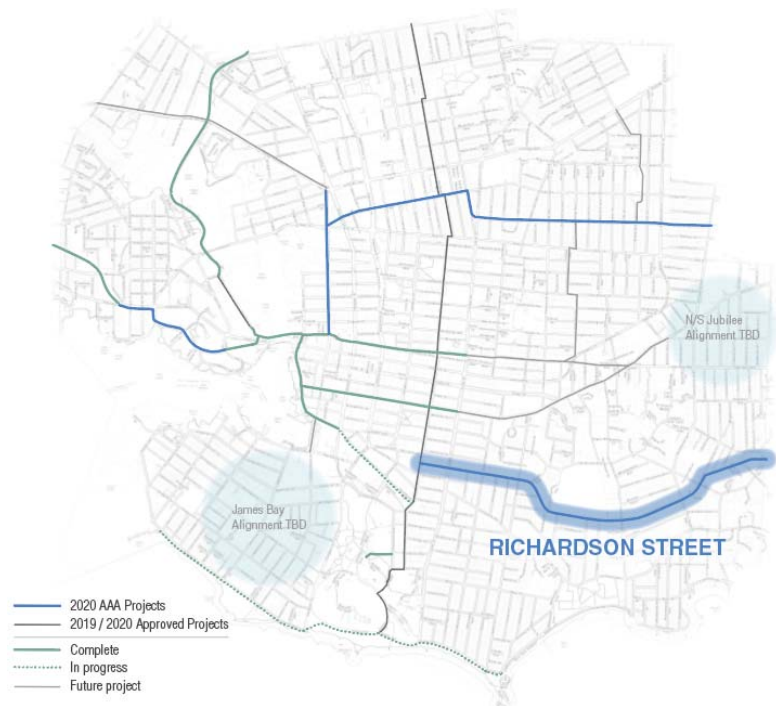
The first phase of engagement indicated strong support for a shared road treatment over protected bike lanes. Protected bike lanes were not supported by the community due to the limited pedestrian benefits, the number of driveways on the corridor, and the magnitude of on-street parking loss.

Using this feedback, staff developed an advisory bike lane design concept for Richardson. Advisory bike lanes were previously shared with Council in February 2017 as a design concept for this corridor. These are bicycle priority areas within a shared street environment where riders have priority with advisory painted lanes on either side of the road which motorists may legally enter the lanes to pass on-coming motor vehicles. The design includes a posted 30km/hr speed limit and target of ~2,500 vehicles per day or less where it would be rare for two motor vehicles travelling in opposite directions while one or more people are cycling in the same vicinity.

The advisory bike lane design treatment has been used only in a few North American cities. The concept was deemed advantageous for Richardson based on current volumes of 2800 – 3800 vehicles per day, relatively flat topography, and the low-density land use. If pursued, an advisory bike lane design would have required less interventions to achieve target volumes and speeds therefore be a cost and time efficient project.

The public engagement outcomes suggested that the advisory lanes were not supportable as it did not achieve the desired level of comfort for riders of all ages and abilities. Some felt that because the infrastructure has not been widely used in BC nor in the capital region that additional road user education and enforcement would be required. Others felt that the targeted volumes were too high to be considered for the Victoria AAA network.

In order to respond to public feedback while respecting earlier outcomes related to level of support for protected bike lanes, a revised design for a shared use AAA neighbourhood bikeway is now being recommended. This design approach requires more traffic calming measures on Richardson to achieve the target volume of 500 – 1000 vehicles per day and triggers some interventions at adjacent locations to distribute those volumes. The revised design also results in a more pleasant and safer environment for pedestrians.

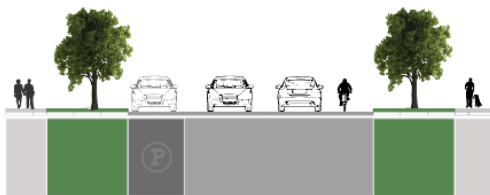


Design Overview

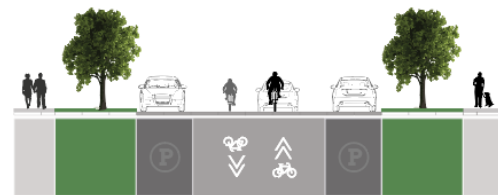
The proposed design is a 2.8 km traffic calmed shared use neighbourhood bikeway and includes the following features:

- 8 pedestrian crossing improvements
- 2 new pedestrian and cyclist crossings
- 1 new signalized bike crossing
- 85 m of new sidewalks
- 5 traffic diversions to reduce vehicle volumes
- Speed humps to reduce vehicle speeds
- New road paving
- New landscaping opportunities, street trees and a new pedestrian plaza
- Net gain of ~72 on-street parking stalls

Existing Cross Section



Proposed Cross Section



Design Consideration	Existing Conditions	Proposed
Road Classification	Secondary Collector	Local Road
Traffic Volumes	2,800 vpd – 3,800 vpd	500-1000 vpd
Vehicle Speeds	40-45 km/hr	30 km/hr
Traffic Circulation	All movements accommodated	Vehicle circulation changes at Cook, Lotbiniere, St. Charles, Maddison and Foul Bay Road
Transit Service	Local transit service (route 1)	Local transit service with minor operational service change for 2 blocks.
Pedestrian Amenities	Sidewalk and select pedestrian crossings	New sidewalk, new and improved pedestrian crossings and accessibility features in select areas
Cycling Amenities	Signed bike route	Shared use neighborhood bikeway
Public Realm and Landscaping	Tree lined sidewalks	4 new street trees proposed
On-street parking / loading	On-street parking on one or both sides	Net gain in on-street parking

The corridor is divided into two segments, described in detail in Appendix D. The table below highlights key design elements proposed for the following corridor segments:

- Segment A | Vancouver Street to Lotbiniere Avenue
- Segment B | Lotbiniere Avenue to Foul Bay Road

Segment	Current Condition	AAA Design	Pedestrian and Public Realm Features	Parking Change
A	Signed bike route	Shared use neighbourhood bikeway	<ul style="list-style-type: none"> - A new signalized pedestrian / bicycle crossing at Cook Street - New pedestrian crossing at Linden Avenue - Pedestrian crossing upgrades at Moss Street and Lotbiniere Avenue - New sidewalk from Minto to Carnsew Street 	Net gain of ~51 parking stalls
B	Signed bike route	Shared use neighbourhood bikeway	<ul style="list-style-type: none"> - Pedestrian crossing upgrades at St. Charles, Richmond Avenue, Maddison Street, Cowichan Street and Foul Bay Road - New grade-raised mid-block crosswalk between St. Charles St and Richmond Ave 	Net gain of ~21 parking stalls

Public Input

Most public feedback was focused on the importance of retaining transit service, locations of traffic diversion interventions and solutions for traffic calming. Some of the common themes that emerged from engagement activities for the Richardson Street corridor have been incorporated into the design recommendations, details are highlighted in the table, below.

What we heard	How the design responds
Improve road safety for cyclists	The shared use bikeway design will achieve target volumes of less than 1000 vehicles per day and speeds in the range of 30km/hr.
Concern about Advisory Bike Lane suitability	Design has been modified from the advisory concept to the AAA shared use bikeway
Improve safety and comfort for pedestrians and people with disabilities	New sidewalk, marked crossings, pedestrian-controlled signals, curb bulbs, and reduced vehicle volumes and speeds. The project also includes a number of accessibility upgrades to remove existing barriers for people with disabilities.
Minimize impact of additional vehicle volumes on adjacent local streets	Locations for diversions will distribute the volume of vehicles equitably across the neighbourhood. Each diverter has been placed with consideration of how people will access local streets without disproportionately impacting any one local road.
Retain on-street parking	A net gain is achieved through the design
Desire for comprehensive traffic calming	This project uses paint markings, speed bumps, reduced speed limits and strategically located traffic diversions
Ensure connectivity to the AAA network	This project provides direct connectivity to other established or planned AAA routes and links to designated cycling routes in the District of Oak Bay. The traffic calming also proposed on Maddison Street

	supports a future north / south AAA route and improves the existing greenway.
Maintain adequate motor vehicle circulation for local residents	Access is maintained for residents who need to or wish to drive while traffic calming and diversion interventions act as disincentive to use the route as a cut-through.
Maintain transit service	The design accommodates the existing transit service on Richardson Street with minor operational changes

Traffic Volumes and Vehicle Circulation

To achieve target volumes, different traffic intervention scenarios were assessed by City staff to help manage the reassignment of traffic onto other parts of the network. Unlike other shared AAA routes such as Vancouver or Haultain Street where there are parallel arterial roads with available capacity, the road network surrounding Richardson includes several connected north / south and east / west local streets. This means there are more local streets to consider managing spill-over impacts on.

The five types and locations of traffic diversions work collectively as a system and reinforce support for the City’s greenways network. The design approach establishes three distinct catchment areas to accommodate local vehicle access, circulation and manage traffic volumes in an equitable way. The locations avoid unwanted re-direction of through-traffic on to local streets and ensure there is not a disproportionate impact to any one single street for local access. In other words, proposed changes will require some people to alter their typical driving habits to get to and from local destinations or for commuting purposes, but interventions won’t result in all traffic being directed to one route.

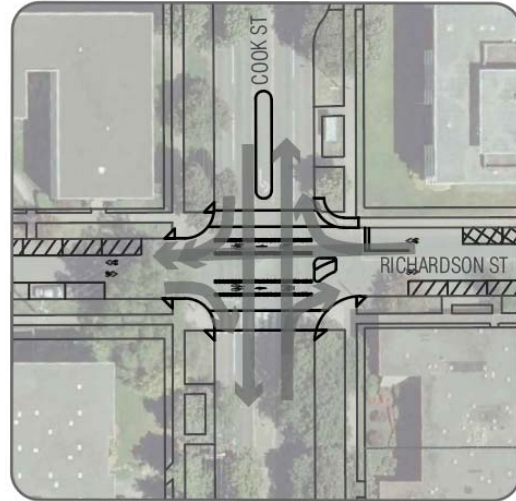
Traffic studies undertaken in 2019 show that there are currently 2,800 - 3,800 vehicle trips per day on Richardson Street. Approximately 40 – 60% of peak period volumes (1,100 – 2,200 vpd) are a result of through-traffic choosing to use Richardson as an alternative to adjacent collector and arterial roads. The proposed design will displace the majority of these through-trips to the adjacent roads largely Fairfield Road, Richmond Road, Oak Bay Avenue, and Fort Street. Depending on route and time of day, this may add 4 – 7 minutes to a person travelling in their vehicle from Oak Bay to downtown.

Each illustration demonstrates vehicle travel movements that are maintained under the proposed design.

Cook Street @ Richardson Street:

A diverter is proposed to restrict southbound left turns and eastbound through movements and will act a primary eastbound deterrent to support target volumes on Richardson Street. Eastbound traffic will be encouraged to use Fort Street (400m to the north) or Fairfield Road (170m to the south).

BC Transit will adjust their eastbound service to access Richardson Street from Cook Street. This minor operational shift also supports design objectives for the Vancouver AAA route as it removes transit busses travelling north on Vancouver Street, between Fairfield and Richardson Street.



Richardson Street @ Lotbiniere Avenue:

A closure is being proposed at Lotbiniere Avenue to restrict east - west vehicle through movements and ensure vehicle volumes are reduced to 500 – 1,000 vehicles per day.

BC Transit buses, cyclists and emergency vehicle will be permitted access through this closure.

Access to the catchment area between Cook Street and Lotbiniere Avenue will be largely provided via Moss Street. This closure will also help to deter non-local traffic from using Brooke and/or Stannard.

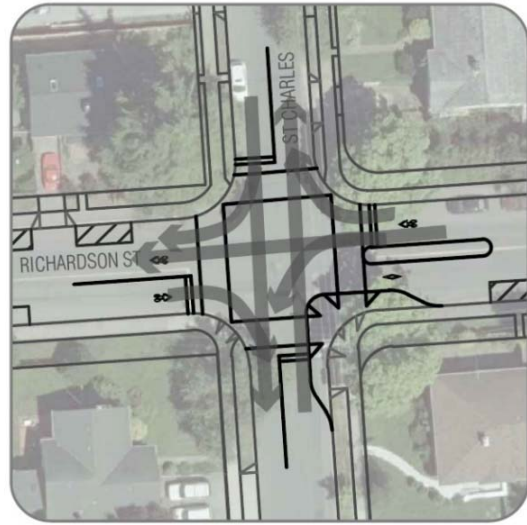


Richardson Street @ St. Charles Street:

This directional closure would restrict eastbound vehicle access on Richardson Street at St. Charles Street to reduce eastbound traffic volumes between St. Charles Street and Foul Bay Road.

This design treatment was changed based on feedback from the community to allow west bound movements and avoid additional volumes on local roads such as Brooke and Stannard.

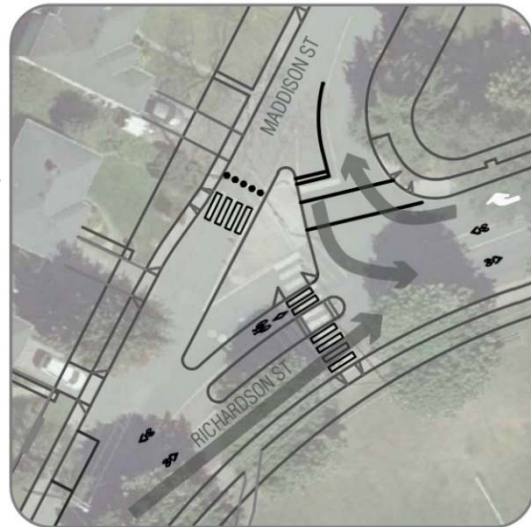
Emergency services, transit buses and bicycles would be able to continue through in both directions.



Richardson Street @ Maddison Street:

The proposed westbound directional closure at Maddison and Richardson is required in tandem with the westbound directional closure at Foul Bay Road at Richardson Street.

This additional traffic diversion is required to deter vehicle traffic avoiding the diversion at Foul Bay Road and mitigate additional traffic volumes on Quamichan Street, Runnymede Avenue, Cowichan Street, Lawndale Avenue and Maddison Street.

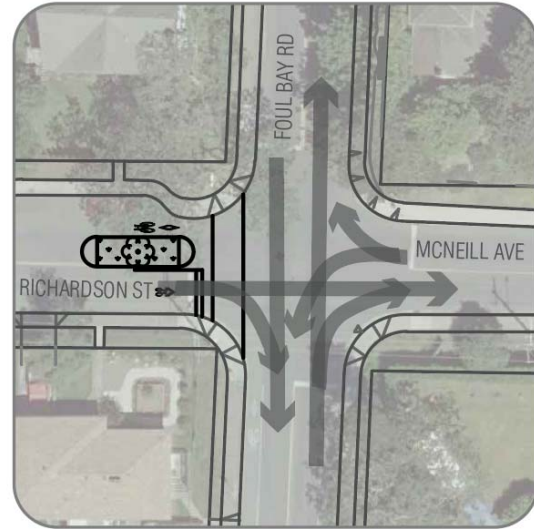


Richardson Street @ Foul Bay Road:

This directional closure would restrict westbound access at Foul Bay Road and act a primary deterrent to reduce westbound through-traffic on Richardson Street.

Westbound traffic will be encouraged to use Oak Bay Avenue (580m to the north), or Fairfield Road (700m to the south).

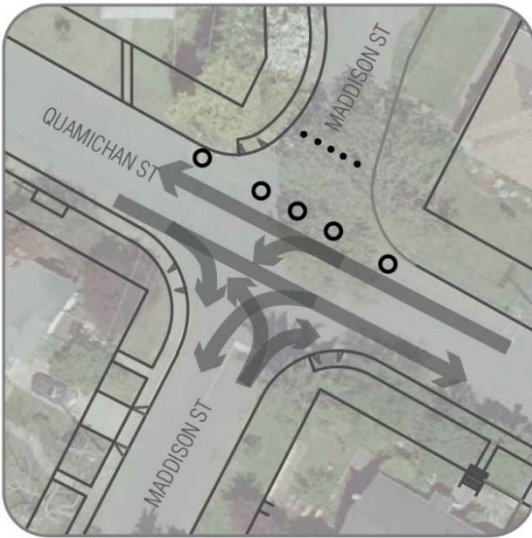
BC Transit will adjust their westbound service to access Richardson Street from Gonzales Street and then continue as today on Richardson Street to Vancouver Street.



As a part of the integrated design approach, the following improvements on adjacent corridors are also proposed as a part of this project. These interventions are intended to pre-emptively address short-cutting on other local roads as a result of achieving the shared AAA neighbourhood bikeway design on Richardson.

- A new traffic signal at Fairfield Road and St. Charles Street will improve pedestrian safety and support overall vehicle circulation
- A traffic signal upgrade for an advanced left turn at Richmond Avenue and Oak Bay Avenue will improve road safety and support vehicle circulation.
- A northbound closure on Maddison at Quamichan will support traffic calming in the neighbourhood and long-term greenways implementation
- A full closure at Gonzales Avenue east of Richmond Avenue will reduce potential cut-through traffic on Gonzales between Rockland Avenue and Richmond Avenue.

Maddison Street @ Quamichan Street



Richmond Avenue @ Gonzales Avenue



Speed Management

Richardson Street is currently posted at 40 km/hr from Cook Street to Gonzales Avenue, 30 km/hr from Gonzales Avenue to Cowichan Street, and 50 km/hr from Cowichan Street to Foul Bay Road. As a part of this project, a new posted speed limit of 30 km/hr is proposed along with speed humps, new centre medians, and additional on-street parking.

Transit Service

BC Transit staff have been key partners in developing the design recommendations. BC Transit currently operates the Route 1 (South Oak Bay / Downtown) on this corridor. The route is currently serviced by a mid-sized bus with 9 trips daily. Accommodating this low level of service and typical vehicle size on Richardson is acceptable in the shared use neighbourhood bikeway design.

The transit service will remain on Richardson with two minor operational modifications at the west and east ends of the corridor. The concept also allows future changes to be made should bus service be relocated to other routes in the future to support local and regional transit priorities. Transit signal detection capabilities will also be added to the new traffic signal at Richardson and Cook to reduce wait times for buses during peak travel hours.

Parking and Loading

There is currently parking on both sides of Richardson east of Lotbiniere Avenue that serves residential properties and overflow from some institutional uses such as churches. Additional on-street parking is being added in select areas where previous streetscape design standards were required to accommodate higher vehicle speeds and volumes reflective of a secondary collector road.

Public Realm & Landscaping

In addition to 4 new street trees, the most notable public realm enhancement is a new plaza at Lotbiniere Avenue which could provide space for benches, place-making and location for future public art.

Capital Project Coordination

To minimize disruption, the project will be coordinated with other capital works where scheduling synergies exist to reduce construction impacts on the neighbourhood. Identified projects include the following:

- Watermain replacement (Gonzales Avenue to Maddison Avenue)
- Stormwater infrastructure on Hamley (Kipling Street to Arnold Avenue)
- Road paving (Moss Street to St. Charles Avenue)
- Speed humps on Thurlow Street (Moss to Kipling) and Gonzales (Richardson to Foul Bay) as part of the City's traffic calming program

E) Dallas Road

The Dallas Road project was initiated as a community amenity in association with the CRD Waste Water Treatment Project (WWTP). The off-street cycling pathway was designed to serve as complementary infrastructure to the existing pedestrian-only waterfront pathway and the two-lane road with vehicle parking on Dallas Road.

The segment from Lewis Street to Clover Point has been substantially finished for several months. During this time, the CRD's Contractor has informally allowed users to enjoy the pathway at their own risk, while adjacent works such as the segment between Ogden Point and Lewis Street, the Public Plaza at Clover Point and landscaping, are still underway. The asset will be formally transferred to the City once all components are fully completed and inspected.



The City is now in a position to direct the implementation of sign and paint markings for the segment between Lewis Street and Clover Point. Staff have identified several emerging themes for Council's consideration related to the use and function of the pathway prior to completing the final paint markings and signage. These include:

- **COVID-19 and continued need for physical distancing:** From early on in the pandemic, Dallas Road has played an important role providing residents access to greenspace. The pedestrian-only pathway does not provide adequate widths for people to physically distance and there are no current plans to widen or replace this pathway or add new sidewalks on the north side of Dallas Road in the immediate future.

- **Inclusive Mobility & Recreation Space:** Diverse users are currently taking advantage of this informal access to the pathway. Observations by staff and stakeholders include people cycling, individuals using electric and motorized wheelchairs, walking groups, parents with strollers, roller-skaters and skateboarders, and children on skateboards, scooters, and run bikes. In the evenings, joggers and walkers are opting for the new pathway, which have pedestrian-oriented lighting. While this arrangement is not immune to conflict between users, overall there has been a somewhat organic development of an inclusive mobility and recreation space where the majority of users are respectful and cordial.
- **Advancement of Park Management Priorities:** The City continues to manage the park space to achieve ecological and recreational. In order to support off-leash dog uses within the park, new segments of split rail fencing are being installed along the pathway this fall. These areas, combined those designated for ecological restoration and invasive species management, interrupt direct pedestrian access from vehicle parking to the waterfront pathway. As a result, people who park on Dallas Road in front of these fenced areas and want to access the pedestrian-only pathway will have to walk on the grass, on the road or – more likely - on the new facility to reach designated connection points.

Even with Phase 3 of provincial recovery in place, physical distancing will likely remain a priority for several months. The ability to spread out on Dallas Road, particularly as the City prepares for a potential second wave of the pandemic, could be beneficial. By temporarily designating the off-street cycling facility to an off-street multi-use pathway, the City can support several objectives, including the AAA cycling experience.

Providing dedicated and separate spaces for different users generally provides the best experience and greatest safety benefit. There are, however, several examples of successful multi-use pathways in the City including Oaklands Park, Redfern Park, the Galloping Goose and Beacon Hill Park. While the new pathway dimensions were designed for cycling-only, the width does exceed the recommended lower limit for multi-use pathways under both Transportation Association of Canada’s Geometric Design Guidelines and the BC Active Transportation Design Guidelines.

Transitioning this facility to multi-use would be relatively easy. Painted crosswalks would remain in place and new stencils clearly indicating who is allowed on the pathway would be added. Signage would help to draw attention to decision point locations where users can connect to the pedestrian-only pathway. Tactile domes will be added at designated crossings as planned and new educational information with input from user groups, would be developed and shared with organizations, businesses and residents. The section between Ogden Point and Lewis Street would remain separated as planned.

While some informal discussions with stakeholders have taken place, the City has not undertaken a comprehensive public engagement process related to this topic. In order to evaluate the transition, staff would collect both quantitative data and qualitative feedback from stakeholders over a proposed 18-month period. Results of the evaluation process would be the subject of a future report back to Council.

OPTIONS AND IMPACTS

Kings / Haultain Corridor

The Kings / Haultain design supports a safer cycling and pedestrian environment, inter-municipal network connections and includes traffic signal renewal, additional on-street parking and public realm enhancements.

Options:

1. Approve the design for the Kings-Haultain corridor as per the details of this report and direct staff to complete engineering drawings and prepare construction tender documents. (RECOMMENDED)
2. Direct staff to complete further public engagement on potential design modifications or revised scope of project. (Not Recommended)
3. Direct staff to defer the Kings / Haultain project at this time. (Not Recommended)

Kimta Road / E&N Connection

The Kimta Road / E&N Connection will close an existing network gap between the City's downtown AAA network and the regional trails. Formal collaboration with the CRD will result in safer cycling infrastructure, new sidewalks, new pedestrian crossings, and upgrades to existing multi-use pathways.

Options:

1. Approve the design for the Kimta Road / E&N Connector and direct staff to complete engineering drawings and prepare construction tender documents; and

Authorize City Staff to apply for funding for the Kimta Road / E&N Connector project through the 2021/2022 Province of BC Active Transportation Grant Program. If successful, authorize the City Clerk to execute the agreement under terms similar to those of the 2020/2021 grant program; and

Authorize the City to enter into an agreement with the Capital Regional District (CRD), on terms acceptable to the Acting Director of Engineering and Public Works and in the form satisfactory to the City Solicitor, for cost-sharing towards the detailed design of the Kimta Road / E&N Connector project that includes the following general provisions:

- a) Consent and agreement of the use of Island Corridor Foundation parcels, project representatives, design, tendering and award, project management, communications and debt due.
 - b) Development of a Project Charter to detail project representatives, design, tendering and award, project management, communications and implementation costs.
 - c) City's total contribution not to exceed \$1.38M. (RECOMMENDED)
2. Direct staff to complete further public engagement on potential design modifications or revised scope of project. (Not Recommended)
 3. Direct staff to defer the Kimta Road / E&N Connection project at this time. (Not Recommended)

Government Street North Corridor

The Government Street North project focuses on road safety improvements including protected bike lanes, new and enhanced pedestrian crossings. Enhancements such as landscaping and street trees are in line with the downtown public realm plan and Official Community Plan.

Coordination of this project includes road paving, electrical asset renewal and underground infrastructure replacement.

Options:

1. Approve the design for the Government Street North corridor as per the details of this report and direct staff to complete engineering drawings and prepare construction tender documents. (RECOMMENDED)
2. Direct staff to complete further public engagement on potential design modifications or revised scope of project. (Not Recommended).
3. Direct staff to defer the Government Street North project at this time. (Not Recommended)

Richardson Street Corridor:

The Richardson Street Corridor is recommended as a shared use corridor connecting the downtown core to the Fairfield-Gonzales and Rockland neighbourhoods and to the District of Oak Bay. Enhancements including new trees, new sidewalks, and upgraded crossings for pedestrians, combined with continued transit service and traffic calming interventions support several neighbourhood priorities.

Options:

1. Approve the design for the Richardson Street corridor as per the details of this report and direct staff to complete engineering drawings and prepare construction tender documents. (RECOMMENDED)
2. Direct staff to complete further public engagement on potential design modifications or revised scope of project. (Not Recommended).
3. Direct staff to defer the Richardson Street project at this time. (Not Recommended)

Dallas Road

The City has an opportunity to modify plans for the off-street cycling facility to consider other users in order to support physical distancing, inclusive mobility and recreational pathways, and access while addressing other important operational priorities in the park. With this recommendation, staff will update the paint and sign markings and work with the CRD's contractor to complete the project. Staff will also reach out to stakeholders to develop associated education and evaluation initiatives.

Options:

1. Approve designating the Dallas Road Project, between Lewis Street and Clover Point, as a temporary multi-use pathway for up to 18 months. (RECOMMENDED)
2. Direct staff to proceed to open the off-street cycling facility as planned. (Not Recommended)

Network Planning

Like several other City initiatives, COVID-19 has had an impact on the progress of bicycle network completion. Staff are balancing several Council priorities while considering changes to revenues and current budget needs.

Options:

1. Direct staff to incorporate costs for the 2020 projects referenced in this report into the 2021 Financial Planning process for consideration by Council. (RECOMMENDED)
2. Direct staff to organize a workshop with Council prior to the 2021 Financial Planning process to assess changes to the scope and sequencing of remaining corridors in the network while considering the current budgetary, social and environmental outlooks. (RECOMMENDED)

Accessibility Impact Statement:

Improving road safety for vulnerable users, including people with disabilities, is a primary objective of each of these capital projects. All four proposed capital projects include barrier removal and new accessibility features. Examples include replaced or improved wheelchair let downs, accessible pedestrian signals, sidewalk restoration and installation, public seating, and tactile domes at intersections and crossings. Landscaping vegetation and tree selection will also consider a range of low-allergen species developed by the Parks Department.

Evaluation programs that include the experiences and feedback from people with disabilities will also be important requirements if Council proceeds with recommended temporary changes to Dallas Road.

Impacts to Financial Plan

The functional design stage includes an estimated project budget with contingency amounts reflective of the complexity of the project and percentages identified in the City’s Capital Cost Estimates Policy. A value engineering lens will continue to be applied through the detailed design stage in order to identify further strategies without comprising safety or negatively impacting overall project quality.

Kings / Haultain Street Project	
Cycling Infrastructure (neighbourhood bikeway)	\$80,000
Pedestrian / Accessibility, Public Realm and Landscaping	\$170,000
Traffic Calming	\$110,000
Traffic Signal Infrastructure / Intersection Modifications	\$370,000
Transit Stop Improvements / Modifications	\$10,000
AAA Connection via Cedar Hill / Chambers / Princess	\$110,000
Construction Contingency (30%)	\$255,000
<i>Sub-Total (Construction Cost Estimate)</i>	<i>\$1,105,000</i>
Engineering & Professional Fees (10%), Market adjustment factor (5%), Project / Site Condition Contingencies (5%)	\$221,00
Total estimate	\$1,326,000

Kimta Road / E&N Project (city portion)	
Cycling Infrastructure	\$430,000
Pedestrian / Accessibility, Public Realm and Landscaping	\$275,000
Traffic Signal / Rail Infrastructure	\$150,000
Construction Contingency (30%)	\$255,000
<i>Sub-Total (Construction Cost Estimate)</i>	\$1,110,000
Engineering & Professional Fees (15%), Market adjustment factor (5%), Project / Site Condition Contingencies (5%)	\$277,500
Total estimate	\$1,387,500

Government Street North Project	
Cycling Infrastructure (protected bike lanes)	\$425,000
Pedestrian / Accessibility, Public Realm and Landscaping	\$235,000
Signal Renewal / Vehicle Circulation	\$450,000
Construction Contingency (50%)	\$555,000
<i>Sub-Total (Construction Cost Estimate)</i>	\$1,665,000
Engineering & Professional Fees (15%), Market Adjustment factor (5%), and Project Site / Condition contingencies (5%)	\$416,250
TOTAL PROJECT ESTIMATE	\$2,081,250

Richardson Street	
Cycling Infrastructure	\$130,000
Intersection modifications	\$200,000
Traffic Calming	\$90,000
Pedestrian, Landscaping & Public Realm	\$360,000
Road Paving	\$130,000
Vehicle Circulation Enhancements	\$150,000
Neighbouring Corridors	\$70,000
Construction Contingency (30%)	\$340,000
<i>Sub-Total - Construction Cost Estimate</i>	\$1,460,000
Engineering & Professional Fees (15%), Market Adjustment factor (5%), and Project Site / Condition contingencies (5%)	\$290,000
TOTAL PROJECT ESTIMATE	\$1,750,000

As part of the scope of work, there are planned contributions from other applicable capital budgets (such as the Major Roads Program or Underground Infrastructure Renewal Program) to support complete street elements. Combining and/or sequencing these works will reduce the overall construction related impacts to the public in the long term and avoid having to come back to the corridor at a later date, with additional administrative costs. The cost estimates above do not include:

- Funding for design and construction of traffic signals at Blanshard at Kings (\$463,000 available), Princess at Cook (\$330,000) and Government at Pembroke (\$425,000). These funds have already been approved as a part of the 2019 and 2020 Financial Plans.
- Funding for road paving on Richardson, Government Street North or Bay Street between Government and Quadra. These costs will be proposed as deliverables in the 2021 and 2022 Financial Plans under the Minor and Major Road budget.
- Funding for all associated underground infrastructure renewal on Government Street North.

External grant programs will also be pursued for these projects. A funding application is planned for Kimta Road under an anticipated call for the 2021/2022 Province of BC Active Transportation Grant program. When details are released on provincial and/or federal stimulus programs resulting from COVID-19, one or more of these projects may also be candidates for funding. Should additional resources be required beyond the available project budget to accommodate accessibility features and existing barrier removal, staff will present a future report to access funds from the Accessibility Reserve.

Once constructed, the costs required to operate and maintain new AAA cycling amenities are added to year-on-year operating budgets for the requisite department (i.e. landscaping, trees, electrical, pavement, paint, snow removal, lighting, etc). Any changes in parking revenues will also be adjusted in the budget year that they are introduced.

Financial resources to support the detailed design and tender document preparation in 2020 will come from the existing Bicycle Master Plan budget. As reported to Council through the first Triannual Update in June 2020, revenues are not expected to meet the City's budget. As such, capital funds to construct and deliver these projects are proposed to be considered as a part of the 2021 Financial Planning Process.

In order to evaluate the implications of COVID-19 on network progress and completion timelines, staff are also recommending a workshop with Council prior to the 2021 Financial Planning process to assess changes to the scope and sequencing of remaining corridors while considering the current budgetary, social and environmental outlooks.

2019 – 2022 Strategic Plan

The AAA Bicycle Network implementation program is an approved Strategic Priority of Council. Road. Council has also identified a focus area to remove barriers in the Built Environment as a part of the draft Accessibility Framework.

Official Community Plan Consistency Statement

The AAA Bicycle Network program supports actions in the Official Community Plan under the following thematic goals:

- Goal 6: Land Management and Development (goals 6A, 6B, and 6C)
- Goal 7: Transportation and Mobility (7A, 7B and 7C)
- Goal 8: Placemaking – Urban Design and Heritage (8A)
- Goal 9: Parks and Recreation (9A)
- Goal 10: Environment (10A)
- Goal 11: Infrastructure (11A)
- Goal 12: Climate and Energy (12A, 12C, and 12E)
- Goal 15: Community Well-being (15F and 15G)

- Goal 15: Community Well-being (15F and 15G)

CONCLUSIONS

Go Victoria, the City's Sustainable Mobility Strategy, identifies key initiatives to achieve Vision Zero and increase the number of people walking, cycling and taking public transit. Implementation of the All Ages and Abilities (AAA) cycling network is an important strategy to achieve these goals.

Victoria is not alone as it faces new pressures and uncertainties associated with COVID-19. Public health recommendations act as a new driver for the re-allocation of road space and now, more than ever, our streets are supporting mobility, recreation, commerce, and community vitality. Safe cycling infrastructure connecting parks, schools and employment areas can help to encourage those who want to and are able to cycle, to do so more often.

After completing a comprehensive design development and public engagement process between October 2019 and February 2020, City staff are ready to finalize designs for the Kings-Haultain Corridor, Kimta Road / E&N Connector, Government Street North Corridor and Richardson Street Corridor. Once construction is complete, this phase of projects will mark 67% progress of network completion.

Temporary changes to the Dallas Road off-street cycling facility will also help to support the City's objectives on physical distancing and supporting inclusive mobility and recreation spaces, while accommodating other Council directions and priorities on park management.

Respectfully submitted,




Sarah Webb, Manager
Sustainable Transportation Planning &
Development



Philip Bellefontaine, Acting Director
Engineering & Public Works

Report accepted and recommended by the City Manager:



Date: June 26, 2020