



In 2017 Council directed staff to complete the entire priority network by 2022 with additional considerations for interim design treatments and alternate corridor alignments as well as recommendations to introduce an earlier and more robust engagement strategy for each corridor.

Phase 1 of the AAA bicycling network establishes a minimum grid in the area with highest safety concerns, density and new growth. This phase is nearing completion with Pandora Avenue, the Johnson Street Bridge Multi-Use Deck, Fort Street, and the Beacon Hill Connector finished. Construction of the Wharf and Humboldt Street projects will start in February 2019 and the Vancouver Street project is slated for construction in fall 2019.

With every AAA project, the City seeks to equitably manage the competing demands for highly sought-after road right-of-way and curb space among different road users, address underground and surface infrastructure conflicts, maintain access to properties, and support urban forest and public realm objectives while at the same time advancing mode share increases in cycling and walking.

Completion of the network under the City's current implementation model will likely take until 2023 or 2024, set mainly by design, engagement and procurement processes. A modified, streamlined approach to expedite project completion intends to increase the probability of completion before the end of 2022. Accelerating project timelines is not possible without assuming some additional cost risks (additional resources) and social risks (reduced engagement scope/complexity), but those risks can be offset somewhat by creative engagement design and procurement models, improved approvals reporting, and construction management activities.

## **PURPOSE**

The purpose of this report is to provide an overview of the Bicycle Master Plan Program and present options and considerations that would result in de-risking program schedule, in order to increase the probability of completing the remaining All Ages and Abilities bicycle network, by the end of 2022.

## **BACKGROUND**

In 2015, the City of Victoria initiated the AAA Bicycle Network Design Project (known at that time as the "*Biketoria*" study) to support broader Official Community Plan objectives related to mode-shift, improved active transportation safety, and community health.

For many people, the long-standing conventional painted bike lanes do not provide the safety required to share a busy roadway with moving motor vehicles. Improving cycling infrastructure safety, convenience and performance helps people choose cycling as a viable daily mode of mobility not only for commuting but other general purpose trips. Experience in other cities, and research from Portland, Berkley, Edmonton and Austin, teaches us that the majority of people who would, but do not yet cycle, are those concerned mainly about safety (Figure 1).



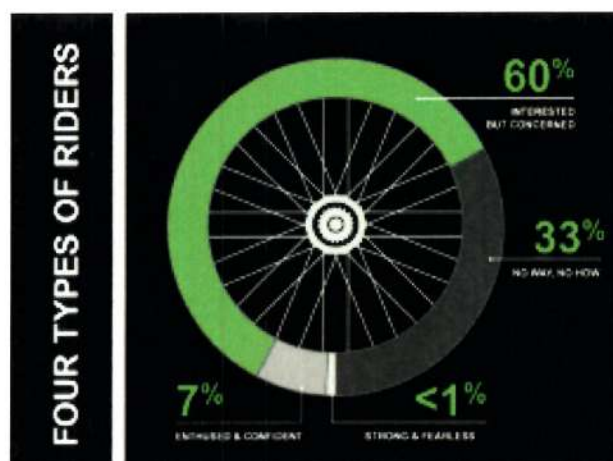


Figure 1: Typology of Potential Bicycle Riders (2006)

As part of the Vision Zero movement, cities across the globe are investing in ways to improve cycling safety and reduce the risks of the most vulnerable road users. This type of infrastructure is now common in leading cities around the world. North America, Vancouver, Calgary, Seattle, Portland, Montreal, Winnipeg, and Ottawa have developed AAA bicycling networks. AAA infrastructure generally consists of:

- **Protected bike lanes** introduce physical barriers between cyclists and vehicle traffic. These facilities are generally suitable in urban environments with higher traffic volumes, speeds, or land uses that generate significant non-local vehicle circulation. 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 of motor vehicles.
- **Shared facilities** are used on local roads and operate within lower speeds and volumes to reduce both the risk and severity of collisions involving vulnerable road users. In the City of Victoria, shared road AAA facilities are based on target volumes of 500 – 1000 vehicles per day and speeds of 30km or less.
- **Off street pathways** provide a comfortable cycling experience, 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 dedicated only for those riding bicycles.

### AAA Implementation Progress

The Pandora Street project opened in May 2017, the Johnson Street Bridge Multi-Use Deck in March 2018, Fort Street in May 2018 and the Beacon Hill Connector in November 2018. The Wharf and Humboldt Street projects start construction in February 2019 with completion expected in summer 2019. The Vancouver Street project has the final phase of consultation anticipated for March 2019. Assuming a successful procurement process, the City will start construction on Vancouver Street in fall 2019. In total, these projects represent 7.3 km of the 32 km network.

The City has received more than \$2.5M in funding contributions towards Phase 1 from the Province of BC, The Trans Canada Trail Foundation, and the Federation of Canadian Municipalities (FCM).

The City is a winner of the Community Energy Association's Climate Leadership Awards and *People for Bikes* named Fort Street as one of North America's top 10 cycling infrastructure projects in 2018. The City's efforts have also been profiled in international tourism and transportation conferences, by professional planning and engineering associations, FCM and the Local Government Management Association of BC.



Count data shows an average number of cycling trips per day of 1422 on Pandora Street and 823 on Fort Street during the summer of 2018. These represent 149% and 234% increases respectively over comparable months before the AAA infrastructure was in place. Variability is expected throughout the seasons, but the digital counter at Harbour Road and the Galloping Goose Trail serves as an indicator of overall cycling ridership into the downtown core. In 2018, data demonstrates a 14% increase in ridership over 2017 levels. The 2017 CRD Origin and Destination survey data also confirms that 9% of all trips within Victoria are made by bicycle, up from 5% in 2011.

The City is on its way to meeting its OCP and Climate Leadership Plan targets to increase cyclist mode share. Staff continue to monitor long term cycling trends using information gathered through local and regional manual count programs, automated data collection equipment, the national household travel survey data gathered through the federal census, and regional origin and destination survey data.

Additional indicators and metrics focused on transportation access, safety, affordability and equity from the multi-modal infrastructure investments will be explored in 2019 as a part of Go Victoria, the City's sustainable mobility strategy, as well as academic research projects with Simon Fraser University.



## Network Development History, Sequencing and Decision Points

In 2015, the City retained professional consultant services to build of the City's existing Bike Master Plan, in order to accelerate the implementation of priority AAA facilities. Urban Systems consultancy, in partnership with Gehl and Associates, 8-80 Cities, and Alta Planning and Design, helped the City develop the City's AAA bicycling network. The process was completed over eight months and included a full review and analysis of the City's road network along with community engagement involving residents, businesses, neighbourhood associations, and other stakeholders.

Staff also completed a comprehensive review of all community inputs and the detailed consultant report and recommendations. Each cycling corridor was reviewed internally, to assess the feasibility of implementation and effectiveness of the concept designs aligned with the Official Community Plan (OCP) policies, as well as the Downtown Core Area Plan, and city's emerging streetscape standards. In May 2016 Council approved a 24km network with a four-phased implementation approach described below (Figure 2). The network plan included starting with the downtown core, where ridership, risks of injury and complexity was the greatest.

- **Downtown Core:** Pandora Avenue, Wharf Street or Government Street, Humboldt Street, Fort Street and Cook Street
- **Village Connections:** Kings Road, Government Street, Vancouver Street
- **Regional bikeways:** Harbour Road, Fifth Street, Haultain Street, Richardson Avenue, Pandora Avenue, off-Shelbourne route
- **Completion of the network:** Gorge Road, Oak Bay Avenue, James Bay, Cook Street Village

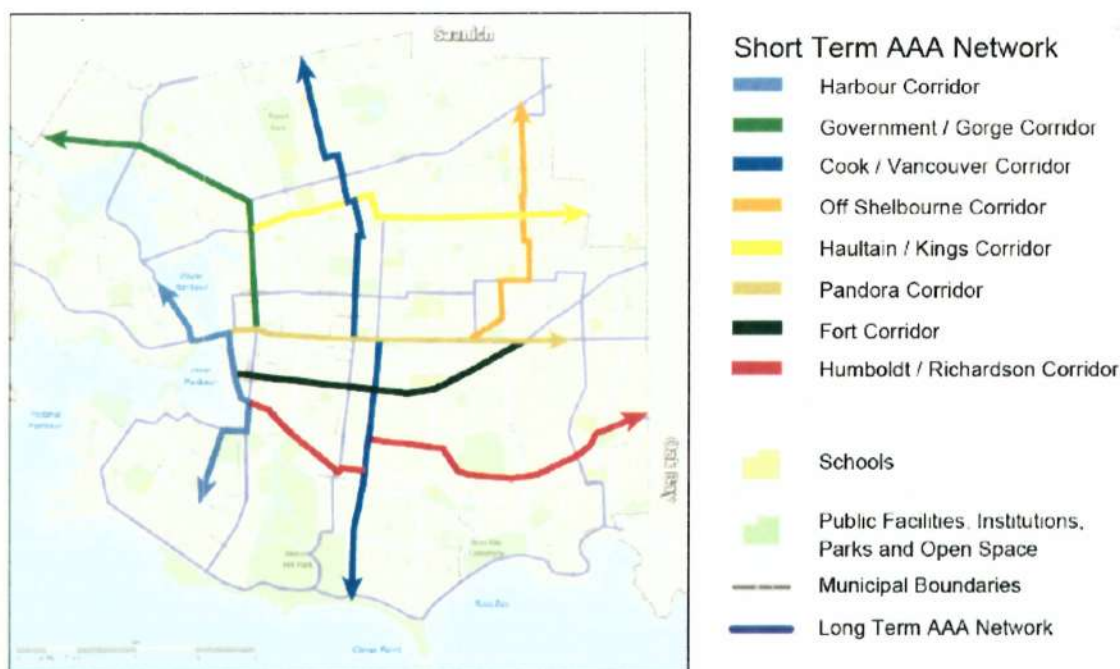
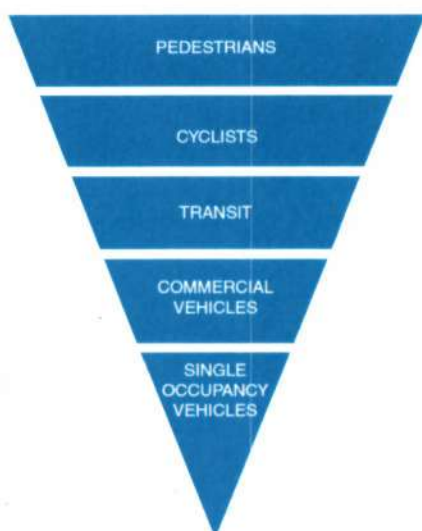


Figure 2: May 2016 Approved AAA Network Map

A “complete streets” design approach for the first phase of implementation was confirmed by Council to ensure the function of cycling infrastructure also addressed the needs of pedestrians, motorists, and transit riders. These design principles encourage integration of modes, infrastructure renewal, and public realm objectives improvements, such as landscaping, street furniture and/or

public art. The OCP transportation hierarchy priorities (pictured below) were considered alongside value for money, achievability and road safety requirements.



#### Official Community Plan Considerations

- Safer cycling facilities
- Impacts to pedestrian amenities
- Impacts to commerce
- Balanced on-street parking
- Integration with Transit
- Application of minimum design standards
- Adjacent land use
- Existing bicycle facility conditions
- Impacts to vehicle levels of service
- Accessibility
- Impacts to street trees
- Impacts to commercial vehicle needs
- Multi-modal connectivity
- Public realm enhancements

Throughout the public consultation process, various stakeholders raised concerns about specific AAA facilities. Concerns included congestion and route connectivity in James Bay, on-street parking impacts on Oak Bay Avenue and in Cook Street Village, and right-of-way challenges (space available) for full AAA treatments on Gorge Road. It was recommended that these projects be completed in the final phase (phase 4) of the implementation program, in order to give time for additional alignment review, design, technical assessments, and consultation.

In May 2016 Council also requested that staff determine which priority corridor was best to pursue to complete the downtown network – Wharf Street or Government Street, between Pandora and Humboldt. After a four month targeted consultation process with stakeholders such as the Downtown Residents Association and Downtown Victoria Business Association, Council confirmed Wharf Street as the north / south alignment for priority investment in December of that same year. Transportation improvements on Government Street would be considered in the future as a part of future planning for Government Street mall improvements.

Following the direction provided by Council in December 2016, staff presented an updated implementation strategy for consideration in February 2017. This strategy maintained the phased “hub and spoke” model with new routes on Dallas Road and Beacon Hill Park associated with the CRD Force Main project and introduced the concept of alignment and treatment pilot projects as a mechanism to support community “buy-in” of infrastructure changes. Pilot treatments were proposed on Haultain Street, Richardson Street and Kimta Road. These included “lighter, quicker and cheaper” installations with expedited engagement processes and temporary traffic calming treatments. Within this sequencing, City staff once again identified additional design and consultation processes to determine the best treatments and alignments to Burnside Gorge, Oak Bay and James Bay neighbourhoods. These were envisioned to be complimentary processes in tandem with local area planning processes.

As a part of this report, staff proposed the completion of the now larger, 32km network, by 2023 but Council directed staff to take actions to complete the entire priority network by 2022, using interim design treatments and alternate corridor alignments. At the same time, staff were directed to introduce an earlier and more comprehensive engagement strategy for each corridor, starting with Fort Street, without additional resources.



Table 1 outlines the approved network sequencing from February 2017. Staff were directed to report back at a future date on the implications of this reduced delivery timeline and the recommended approaches to mitigate these.

AAA Routes	Network Sequencing Plan (2017)
Fort Street, Cook Street North (Pakington to Pandora), Humboldt Street, Wharf Street	2018
Vancouver Street (Pandora to Bay), Graham/5 <sup>th</sup> , Harbour Road, Haultain Street (pilot), Richardson Street (pilot), Kimta Road (pilot)	2019
Dallas Road, Government Street North, Kings Road, Burnside Gorge route (alignment pilot)	2020
Fort Street (east), Pandora (east), Off-Shelbourne route, Oak Bay Route (alignment pilot)	2021
Cook Street South (Park to Dallas), James Bay (alignment pilot)	2022

Table 1: February 2017 Approved AAA Network Sequencing.

In May 2018 Council further approved network sequencing after reviewing the design options (3 lane and 4 lane configurations) and the associated trade-offs for AAA infrastructure on Cook Street. With consideration of the best balance for all road users, project costs, boulevard tree impacts, and construction length, Council directed staff to complete priority investments on Vancouver Street (Park Avenue and Bay Street) in 2019.

As a part of the financial planning process for 2019, Council directed staff to identify potential resource requirements or options for de-scoping projects to complete the network by 2022 or earlier. This report responds to that motion.

## ISSUES AND ANALYSIS

### Corridor Design and Implementation Process Overview

Figure 3 identifies the City's AAA project delivery approach used in Phase 1, with estimated durations for processes, which overlap. Typically, a corridor takes 2 years to complete, from outset.

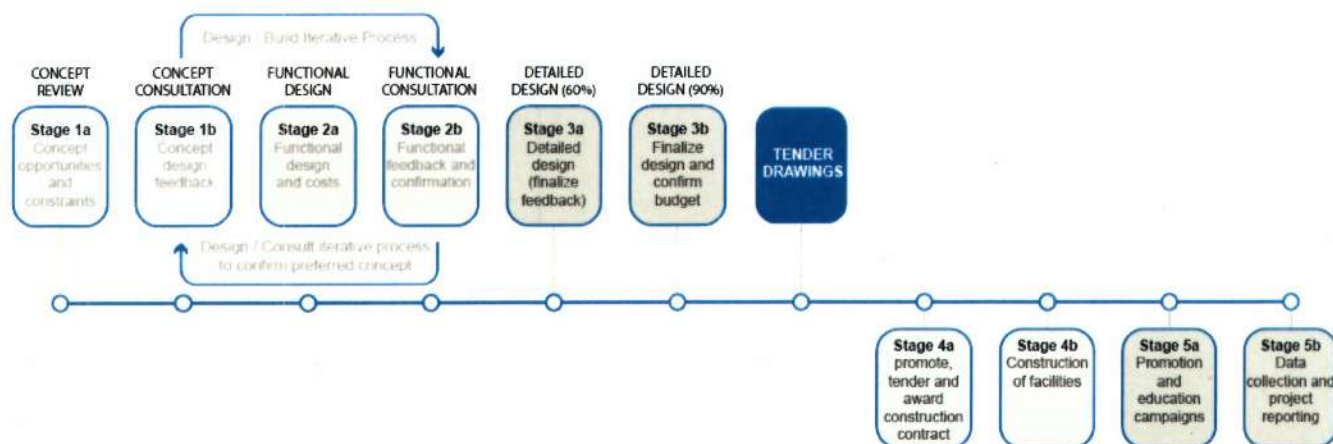


Figure 3: AAA project design and implementation process.

**Iterative Design Process (7-9 months):** There are three phases to design development:

- Conceptual Design Review: 1 month
- Functional Design Development: 3 – 4 months
- Detailed Design Development: 3 – 4 months

Building upon the concept designs derived from the Biketoria process, staff review the concept designs and commence development of options that balance all road user needs within the constrained road right of way such as transit, connectivity to other infrastructure, on-street parking and loading as well as pedestrian realm improvements and accessibility needs. Once a preferred functional design is confirmed and approved by Council, a further four to six months is required for detailed engineering design.

**Engagement Processes (6-8 months):** There are three phases used for community engagement through the design process.

- Phase 1: Early engagement with community associations and agency partners to identify existing transportation issues, project priorities, and planning considerations (2 months)
- Phase 2: Public engagement with corridor stakeholders, commuters, businesses, community associations and agency partners on preliminary concepts, issues and considerations (2 – 3 months)
- Phase 3: Public engagement with corridor stakeholders, commuters, businesses on a functional design (2 – 3 months).

This multi-phased engagement approach builds common understanding, enables the city to gather alignment and design input, and ensure that the project meets technical and user requirements to support all modes of transportation. The City strives to provide a diversity of on-line and in-person options for stakeholders, commuters and partner agencies to participate. The City's active transportation advisory committee and accessibility working group are also consulted at different stages for input.

**Procurement (2-3 months):** The City's public procurement process can take up to two months for securing third party construction services. Depending on market demand and development activity in the region, the City may extend tender timelines to support a competitive bid process. Other municipal, regional and provincial investments in the region also affect availability of skilled trades and/or technical sub-contractors.

**Construction (5-8 months):** The quality of each project, or level of design treatments, impact the time that it takes for construction. The City has put in place of construction requirements to support operational traffic needs during construction (maintaining vehicle flow, transit service and access to businesses and residences) as well as accommodating special events, other adjacent construction or seasonal work restrictions. Coordination with other major capital construction projects including underground infrastructure renewal, other city road works and/or private developments extends the time for construction completion.

**Road User Education (ongoing):** Without any comprehensive road user education programs led by the Province of BC, ICBC or the CRD, the City is left to undertake road user education programs for new cycling infrastructure on its own. The City's educational efforts are targeted at cyclists, motorists and pedestrians in advance of and after the opening of each corridor. Efforts include print, radio, on-line advertisements, social media content, as well as in-person education and skills development for new riders. Educational programs are leveraged wherever possible with the support of agency partners such as the CRD Traffic Safety Commission, Climate Action Program



or Regional Planning services.

**Project Evaluation & Enforcement (on-going):** Specialized data collection, evaluation and enforcement continue after each project is completed. Digital equipment is used to monitor cycling volumes and reported on monthly supported by in-person seasonal counts by local and regional staff. Victoria Police support road-user enforcement efforts within their existing Traffic Division resources. The City also participates in two major research initiatives through Simon Fraser University focused on the safety, access and health related economic benefits generated from network implementation. These national data collection and academic research programs are four to six years in length and contribute to provincial and national research priorities on urban design and infrastructure development. Finally, the City continues to work with partner agencies as a part of project evaluation to identify and make minor modifications or changes to the built environment after observation and operational periods.

BMP and AAA program implementation has been delivered with one dedicated FTE and the support of other existing resources from transportation, engagement, parks, planning, public works, legal, purchasing and finance. Within this framework, a project typically takes approximately two years to complete, from concept.

### **Schedule Impacts – Scope Increases**

Since the adoption and approval of the original AAA network in 2016, there have been modifications made to the program including:

- changes to the scope or design of individual projects (eg: Fort Street 600 block);
- changes to alignments as a result of detailed technical analysis (eg: Cook Street to Vancouver Street);
- re-prioritizing of project sequencing (eg: Kimta Road/ E&N to align with regional / private development timelines);
- additional network scope (eg: Beacon Hill Park and Dallas Road); and
- Directed increases to community engagement processes.

With a program of this scale and complexity and the ambitious and transformational outcomes it will deliver, such changes are inevitable and appropriate and should be anticipated, within the remaining years of program implementation.

Phase 2 and Phase 3 of the network are located outside of the downtown core but are not without their challenges. Alignment choice, intersection crossing treatments, geometric design, curbside management and other road user needs will affect the design complexity, cost and time to deliver the remaining projects. **Based on today's best information, staff would expect to complete the priority network in 2023, without any float in the program, which suggests significant risks of carry forward into 2024.**

### **Streamlined Engagement and Consensus Building**

Engagement activities are designed and lead by transportation planners and designers, with support from engagement staff as well as transportation, planning and parks subject matter expertise. Engagement activities demand significant resources from the whole team, and directly reduces the group's capacity to progress project design and planning activities.

Staff's experience with bike master plan public engagement suggests that maximum benefit / inputs are reached well before the end of engagement activities. Invariably, there are many stakeholder that will not use bike lanes, and some who are even opposed to the projects, and their impacts to

parking or other trade-offs. Consensus building is not considered a likely outcome of these processes. The engagement process was originally designed to minimize dissent and maximize the potential for consensus. Reductions in engagement complexity and duration may not meet public appetite for engagement, but based on recent discussions with Council, that risk may be considered acceptable. Reducing scope, while still ensuring a prudent/reasonable standard of engagement activities will recover valuable resources, without losing valuable community input and dialogue. A reduced, but meaningful suite of engagement sessions will ensure that stakeholders are still afforded appropriate opportunities for input, while still maintaining overall project pace.

Table 2. Corridor Summary and Risks.

Project Corridor	Earliest Completion Date	Complexity of Project	Type of AAA	Key Corridor Risks
Wharf Street	2019	High	Protected	Construction disruption
Humboldt Street	2019	High	Shared	Construction disruption
Vancouver Street <sup>1</sup>	2020	Moderate	Protected and Shared	Design complexity (general trade-offs)
Graham / 5 <sup>th</sup>	2020	Moderate	Shared	Design complexity (portion adjacent to Quadra school)
Harbour Road	2020	Low	Protected	Design complexity (commercial and industrial vehicle accommodation)
Haultain Street	2020	Moderate	Shared	Transit accommodation and design complexity (achieving required traffic volume reductions)
Richardson Street	2020	Moderate	Shared	Design complexity (achieving required traffic volume reductions)
Government Street North	2020	Moderate	Protected	Vehicle level of service accommodation
Dallas Road and BH Connection	2020	High	Off-street	Construction disruption
Kings Road	2021	High	Shared	Legal / Land Use agreements
Kimta Road / E&N Rail Trail	2021	High	Protected	Legal / Land Use agreements
Oaklands NS connector	2021	Low	Shared	Design complexity (achieving required traffic volume reductions)
Fernwood NS connector	2021	Low	Shared	Design complexity (achieving required traffic volume reductions)
Pandora East	2022	High	Protected	Design complexity (general trade-offs); Transit stop design accommodation
Fort Street East	2022	High	Protected	Design complexity (on-street parking)
Oak Bay Connection	2022	High	Shared	Alignment / Design (constrained right of way, on-street parking)

<sup>1</sup> The Vancouver Street project (Park Boulevard to Bay Street) directly links to the AAA connection on Park Boulevard or via the EW Beacon Connector, continues via Camas Circle and connects to Dallas Road, which is planned to open in 2020. The southern part of Cook Street (Park to Dallas road) will remain on the City's long term cycling network.



Burnside / Gorge Connection	2023	High	Protected	Alignment / Design (constrained right of way, transit level of service and stop accommodation)
James Bay Connection	2023	High	Protected and Shared	Alignment / Design (on-street parking and loading, vehicle level of service)

Based on the above overview, the driving constraints can be summarized as follows:

- a. **Design Complexity:** Design and planning needs are major areas of attention, and are specific to each corridor. Managing vehicle and transit level of service and accommodating pedestrian, commercial and private vehicle needs (including parking and loading) will continue to be a challenge.
- b. **Social Licence:** Social license is a standing requirement, and a risk that is present in all projects. The City continues to seek majority agreement or consensus amongst local stakeholders for the project alignment, design, treatments, timings or other issues.
- c. **Legal/Land Use Requirements:** Unique considerations related to land use (constrained right of way) and legal access are required in a number of corridors. These will take time to address and may require creative approaches to network completion.
- d. **Construction Disruption:** Managing street activity disruptions due to civil works and “complete street” retrofits requires consistent communications and creative construction management to reduce short term impacts to residents, commuters, businesses and service providers.

### **Levers for Accelerating Program Pace**

Council has requested staff provide considerations of how to de-risk the program for AAA network completion before or by the end of 2022. Early delivery of the network will require a level of compromise for different projects in terms of project quality and scope and will likely generate new and sometimes negative neighbourhood responses during engagement.

Some levers were not considered appropriate, as they represent departures from core requirements, lessons learned, and City standards, such as:

- **AAA Safety Objectives:** The network is build on AAA standards, and any corridor must largely meet and retain AAA objectives. Interim treatments may be considered as a part of individual projects where overall safety objectives can be met.
- **Complete Streets Quality:** All projects have a potential to incorporate complete street objectives to support OCP objectives. Some streets can incorporate higher levels of “complete street” design elements (for example, public realm enhancements, road re-paving, sidewalk replacement), while others may be limited (for example, minor landscaping, required underground utility replacements, accessibility enhancements). Any option to reduce costs/time/complexity will be explored as matter of priority, to match applications where temporary solutions are appropriate and cost-prudent (through life).
- **In-House Design:** Our experience has taught us that a significant portion of the designs must be done in-house, due to the coordination of designs across disciplines and

infrastructure groups. Access to City materials and staff/expertise are a necessity for functional design phase. Conceptual design and detailed designs can be supported by external experts.

Potential levers for reducing risk and/or expediting the program are identified below. The mix and potential significance of these levers will vary by corridor.

Table 3. Schedule Improvement Options.

OBJECTIVE	LEVER	DESCRIPTION
<b>Reduce engagement / duration</b>	Modify process and additional staff	<p>Overall, this change would focus on early, more intense engagement with key corridor stakeholders and combine engagement events for multiple projects at once.</p> <p>Reducing overall number of engagement events, and tailoring engagement based on the complexity of each AAA corridor. Reduce the three-phase approach to either 1 or 2 phases, depending on complexity. This would require careful management of expectations, and issues. Staff could greatly simplify the moderate and low complexity projects with only 1 phase (early) and provide synthetic / digital means for soliciting input on design treatments. Complex corridors would require a condensed 2 phase approach. Shortening this process from 6-8 months to 3 months is the intent.</p> <p>Adding a dedicated staff resource to support daily/weekly engagement will make this shorter, intense engagement possible, while managing weekly communications and media efforts.</p>
<b>Reduce design duration</b>	Additional technical staff	<p>Adding transportation technologists with strong CAD/CAM skills to develop engineering design options, traffic models and schematics for design and planning work.</p> <p>Obtaining a steady-state contract administration &amp; inspection position to support construction coordination and an administrative staff support staff position will also accelerate implementation.</p>
<b>Reduce procurement time</b>	Bundling of Contracts	Bundling of several remaining projects into a single procurement processes for design and/or construction.
<b>Reducing administrative time</b>	Streamlining approvals process	Presenting Council with multiple projects and budget considerations, vice single corridors at a time.

### **Planning Priorities**

The following priorities are common to whatever the way ahead.

1. **Alignment Confirmation and Design Concepts (2019):** Several corridors require confirmation of alignments (James Bay, Gorge Road, Oak Bay Avenue). Other projects, like Government Street North will be reviewed with an urban planning and development lens in consideration of other multi-modal priorities.
2. **Legal/Land Use Issues (2019):** Immediate in-house legal review would be required to confirm the way ahead for the corridors that have legal and real estate complexity.
3. **Procurement Bundling Options Assessment (early 2019):** The City will need to review options for procurement bundling to reduce administrative time and maximize



design and construction time, which will be influenced by rules, risks and creative opportunities.

The combination of these levers and planning efforts are estimated to de-risk the overall schedule and reduce timelines of the 2019-2023 program, in order to complete by 2022.

## **OPTIONS & IMPACTS:**

The biggest challenges to deliver the network by 2022 are associated primarily with staff resources in areas including design, contract administration and public engagement. Project complexity and technical challenges on individual routes, as well as the level of neighbourhood and stakeholder support, represent continued delivery risk within the context of implementation moving forward.

Staff have reviewed the remaining projects for Phase 2 and 3 to identify the key risks as described above. These provide an indication of the areas of focus and attention moving forward. Modified design approaches have been identified to expedite the planning, design, engagement and procurement processes should these be necessary to keep on track.

As experienced with the program so far, sometimes-unforeseen issues emerge. With fifteen remaining projects in the AAA network, managing and mitigating these risks is a key factor in ensuring program delivery.

**Option 1: Streamline project processes and activities via a condensed engagement process, bundled procurement, and reduced design timelines as per the detail of this report, and add the required temporary positions under the Bicycle Master Plan Capital Program Budget within the 2019-2023 Financial Plan with funding from Gas Tax. (RECOMMENDED).**

Description: Under this option, temporary staff appointments would be established to support implementation of the network by 2022, using capital funds. The adjusted approach for project streamlining includes reduced engagement scope, increased project resources, procurement bundling, accelerated designs for out-year programs, and bundled corridor approval processes, and other prudent project adjustments to save costs and time, without compromising materially on quality. The 2019-2022 AAA Corridor Summary (Appendix A), the AAA Project Profiles (Appendix B), and the updated AAA Bicycle Network Implementation Maps (Appendix C) account for this option.

Initial calculations of the revised network (as presented in Appendix B) indicate that when built 78% of Victoria's land area would be within 400m of an AAA facility, including 93% of schools and 73% of parks within a 400m intersect. These modifications are an improvement on the original 2016 network. The additional resources required would be as follows, with number and additional project costs noted in brackets:

1. **Transportation Technologists (X2, \$180,000 per year (\$90,000 each)):** support development of design concepts, analysing design alternatives, supporting the detailed design process
2. **Project Communications/Engagement (X1, \$110,000 per year):** One new staff in the engagement division would provide a dedicated focus on community consultation, media responses, public notification, construction liaison activities, promotional campaigns, educational campaigns, and reporting activities.
3. **Construction Management Tech (X1, no net increase):** preparing tender documents and administering and managing daily issues related to construction. This position has been in place via contracts for each corridor, but this model

brings the position in-house to ensure City needs are best supported in steady-state, continuous learning.

4. **Administrative Support (X1, \$60,000 per year):** One administrative staff person would also support program planning and delivery (there are no current administrative resources allocated).
5. **Reduction of Phase IV Corridor Uncertainties (1 time cost, \$60,000, paid from unused 2019 salary contingencies (above):** Retain consultant support, to analyse and report back in 2019 with recommendations and considerations related finalizing alignments and concepts for AAA routes associated with Gorge Road, Oak Bay Ave, James Bay, Government Street and/or alternatives.

This approach fundamentally intends to reduce project schedule risks and accelerate AAA implementation. This option requires approximately \$350,000 additional annual project costs in salary, of which a small portion would be required in 2019, and then likely fully for 2020-2022. This would offset other project costs by reducing overall project duration and associated operating costs.

- **Benefits:** The benefits of this approach include increased in-house capacity focused on the network delivery needs. Once positions are filled, this approach will reduce the length of time for design phases, and potential cost savings from combined engagement and design processes. Relocating contract administration to in-house and adding and inspection / construction management will also help reduce procurement times and ensure the highest standards of construction quality. There may also be potential for improved construction efficiencies and cost savings through bundled procurement. Additional staff will add operational costs, but savings are likely via reduced project contingencies, reduced overall project duration and subsequent annual salary requirements, and cost escalation savings.
- **Risks:** The Bicycle Master Plan has relied largely on federal gas tax program contributions, but is also funded through Development Cost Charges and grants. While Gas Tax funding has restrictions that require the use of external contractors, consultants and service providers, Development Cost Charges do not and can be used to fund these additional positions.

#### **Option 2: Maintain status quo (NOT RECOMMENDED)**

- **Description:** This option maintains the network implementation approach as described above and used in Phase 1.
- **Benefits:** The City will continue with the familiar model of a corridor-by-corridor approach to planning, design, engagement and construction using the existing dedicated FTE and support from other transportation division resources.
- **Risks:** Under this option, the City will not achieve the network completion by 2022. According to forecasts and outstanding risks (identified above), the network would not be completed until 2023 or early 2024.

#### **Option 3: Engage a third-party consulting firm to support network delivery including corridor planning, engagement, detailed design, and contract administration for all remaining projects so that the network can be completed by 2022 (NOT RECOMMENDED)**

- **Description:** This option uses a single third party consultant to support the completion of all outstanding planning, engagement, detailed design and contract administration / inspection



work in a compressed timeframe. Functional design would remain in-house.

- **Benefits:** The City will undertake a procurement process to secure third party consulting support for network implementation. This will reduce planning, design timelines and procurement timelines and provide one consistent team for activities such as detailed design and contract administration. This option would allow some of the more complex projects, scheduled for later years, to be addressed sooner. The main benefit of this approach is that these services could be funded through the gas tax program.
- **Risks:** The skillsets required for this type of work are diverse and likely to attract interest from a broad range of engineering / design firms. The costs of this approach are unknown. If this option is pursued, a detailed scope of work would be required to critically identify roles, responsibilities, skills and outcomes.

#### **Option 4: Reduce the AAA priority network size (NOT RECOMMENDED)**

- **Description:** This option focuses on reducing the network size by deferring AAA projects which are more complex and/or reducing the extent of the priority network until a later date.
- **Benefits:** The benefits of this option include rapid implementation of fewer routes, reduced capital costs and decreased pressure on existing staff resources.
- **Risks:** The drawbacks of this option included reduced village connections, reduced active transportation mode shift, potential and increased transportation infrastructure inequities between neighbourhoods, and reduced GHG benefits.

#### **Option 5: Defer other priority transportation projects (NOT RECOMMENDED)**

- **Description:** Deferral of priority transportation planning, design and operational programs.
- **Benefits:** Reduced overall costs. Reduced staffing requirements.
- **Risks:** Higher safety and transportation system risks. Reduced capacity for high priority transportation planning, design, safety, construction and neighbourhood mobility management. Based on the actual daily requirements to manage transportation issues, it is impractical to consider reducing resources to service daily City operational transportation needs.

#### *Accessibility Impact Statement*

All AAA projects will assess opportunities for implementing universal design standards and/or retrofitting the built environment to support enhanced accessibility for persons with disabilities as a part of the complete street design lens. Under all Options listed above, designs for each corridor will be presented to the Accessibility Working Group for feedback and insights to inform the preferred design concept recommended to Council.

Further modifications to already-built infrastructure will also continue to support improved accessibility for persons with a disability as provincial, national and international design standards evolve.

### *Impacts to Financial Plan*

Financial resources for Phase 1 include the Federal Gas Tax transfer program, provincial and agency grants and the use of Development Cost Charges, where applicable. Current grant agreements provide financial support towards completion of Wharf Street, Humboldt Street, and Vancouver Street. The functional and detailed 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.

City Staff have some flexibility in how the City's mix of Gas Tax and capital funds are allocated, which can be used to support increases to BMP operating costs. The recommended option will increase annual costs by approximately \$350,000 in years 2020-2022, and much less in 2019. Further funding details will be brought forward via BMP update reports and the annual financial planning process, with a full project outlook as part of the 2020 financial plan.

The costs required to operate and maintain new AAA cycling amenities are included in year-on-year financial plans for the requisite department (ie. landscaping, electrical, pavement, paint, snow removal, lighting, etc).

### *2019 – 2022 Strategic Plan*

The 2019 to 2022 Draft Strategic Plan identifies a desired outcome for Victoria to implement the Bicycle Master Plan by 2022 (action 14 of objective 7).

### *Official Community Plan Consistency Statement*

The Cycling Network Implementation Program supports actions in the Official Community Plan under Goal 7: Transportation and Mobility (specifically objectives 7B and 7C and policies 7.5.2, 7.5.3, 7.7.2, and 7.16.7).

## **CONCLUSIONS**

The All Ages and Abilities cycling network is a key strategic priority that supports multiple city objectives in the areas of sustainable transportation, climate leadership, mobility equity and economic inclusion. This report provides an overview of the strategies that can reduce schedule risks and increase certainty AAA priority network project completion by the end of 2022.

On-going work to inform the development of other cycling network investments, introduction of spot improvement programs post network implementation, and further indicator initiatives will be pursued through the development of the City's sustainable mobility strategy, local area planning and collaboration with the CRD and adjacent municipalities.

Respectfully submitted,



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Sustainable Transportation  
Planning & Development



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Fraser Work, Director  
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**Report accepted and recommended by the City Manager:**

**Date:** February 15, 2019

Appendix A: 2019-2022 AAA Corridor Approach  
Appendix B: 2019 – 2022 AAA Project Profiles  
Appendix C: Bicycle Network Implementation Maps