

## All Agenda and Abilities Cycling Network

### Frequently Asked Questions – Fort Street

#### WHY IS THE CITY INVESTING IN A CYCLING NETWORK?

Encouraging cycling, along with walking and transit use, is an important strategy to manage expected population growth and support community health, affordability, economic development, air quality and climate action objectives. Given Victoria's mild climate, moderate topography, scenic routes and compact density, the City holds a strong potential for a shift in transportation mode towards cycling to help achieve these goals.

As the City grows in population, we need to manage our existing public roadway space more efficiently to ensure that everyone can travel safely and efficiently to their destinations. We will need to shift some of our trips to transit, cycling and walking because these are much more efficient modes of transportation than single occupancy vehicles.

The City's Official Community Plan (OCP) has established bold transportation mode share targets which include 60% of all trips and 70% of trips to work by Victoria residents to take place by walking, cycling and public transit by 2041. Regional transportation goals for cycling include 25% of all trips by bike in urban areas such as Victoria by 2038. Based on 2011 data for the City of Victoria, an estimated 50% of all trips and an estimated 50% of trips to work are by transit, cycling and walking, and an estimated 4% of all trips and 11% of trips to work are by cycling (Sources: National Census Data 2011 and CRD Origin and Destination Study 2011).

Victoria is already a great city for cycling with quiet comfortable local streets, existing bicycle lanes and routes distributed throughout the City and supportive culture of citizens who want to bike. The challenge is that the existing infrastructure does not accommodate the largest group of residents who want to bike but have concerns regarding their safety or the safety of their children. Cities across the world are tapping into this market of residents who do not currently ride a bike by providing safe, comfortable and complete high quality bicycle networks. After many years of planning, consultation and design work, Victoria is ready for the implementation of its "All Ages and Abilities" (AAA) bicycle network to empower residents to bike more, live healthier lives, address climate change goals, and make Victoria a more attractive city to live in and invest in.

#### WHY IS THE CITY BUILDING AN "ALL AGES AND ABILITIES" (AAA) CYCLING NETWORK?

For many people, conventional bike lanes do not provide the safety and comfort required to share a busy roadway. Typically, people fall into four cycling-potential groups (Source: Geller, R. 2006, Portland):

- **Strong and Fearless** - Willing to cycle on most roads amongst cars (less than 1%);
- **Enthused and Confident** - Willing to use conventional bike lanes with busy intersections and network gaps (7%);

- **Interested but Concerned** - Interested in cycling but choose not to cycle due to safety concerns (60%); and
- **“No Way No How”** - Not interested in cycling (33%).

The City is currently implementing a network of AAA cycling facilities to target the majority of people who are interested but concerned about safety.

## WHY IS THE CITY PRIORITIZING THE DOWNTOWN MINIMUM GRID?

- **Highest concerns for safety:** Collision data from ICBC and VicPD clearly identify that the greatest risk to cyclists exists in the downtown core. Cycling to and from the city centre will not be attractive to a broader range of users until safe facilities are established.
- **High demand for active transportation infrastructure:** Victoria is British Columbia's Capital City and the metropolitan centre of Greater Victoria. The City is home to many businesses, commercial, retail and tourism services, and attracts thousands of inter-municipal travellers daily and millions of tourists yearly. Thousands of cyclists enter the City daily, many along the high quality regional trail networks which currently terminate upon reaching the downtown core. A downtown minimum grid will vastly improve inner and inter-municipal connections and facilitate new ridership with the provision of AAA facilities to service the highest density of key destinations in the region – downtown Victoria.
- **Attract more trips by bike with improvements to safety and comfort:** In addition to accommodating existing demand, new AAA bicycle facilities will support growing demand for high quality bicycle facilities to connect to the downtown minimum grid from the various villages and key destinations through the City.
- **Resolve bicycle network gaps:** Bicycle planning and infrastructure investments to date have not made a large investment in the downtown core. Many comfortable bicycle facilities exist surrounding the downtown core in the form of quiet local roads or buffered bike lanes on busier streets but the existing infrastructure of conventional bike lanes on Douglas street or signed bike route on Wharf or Vancouver streets do not attract the user group of “interested but concerned” citizens to attract more people to bike to, from and around the downtown core.

## HOW HAS THE CITY DEVELOPED ITS CYCLING NETWORK OVER TIME?

- **Over 20 years in the making:** Bicycle planning, design and implementation is not new to Victoria. Our bicycle master plan dates back to 1995 with a goal of improving safety.
- **2012 OCP Transportation Goals:** Extensive community consultation to inform the Official Community Plan lead to the development of key policy areas to establish a multi-modal

transportation system, prioritize pedestrian, cyclists and transit users, connect destinations and efficient road use.

- **2014 Network planning:** City staff embarked on a City wide consultation process to re-engage with the public on the Cities bicycle network. Key messages heard included safety is the largest barrier to more people cycling, be bold and be a leader, cycling for all ages and abilities and make cycling irresistible. Through the 2014 network planning process staff consulted with the public on a revised bicycle network and initial AAA bicycle network.
- **2015-2018 Strategic plan:** Goals identified in the Strategic Plan of 2015 – 2018 include, increase the number of trips by bike, build protected bicycle facilities, complete 4 – 8 AAA bike corridors, design with a complete streets lens and build the bicycle network.
- **2015-2016 Bicycle Network Enhancements and Priorities:** The #Biketoria study brought together an international team of world class bicycle infrastructure engineers and planners to review and enhance the 2014 bicycle network, identify priority corridors for implementation and develop conceptual designs for 24 kilometers of roadway on 8 priority corridors.

## HOW WAS THE AAA CYCLING NETWORK DEVELOPED?

To support the evaluation of the 2014 network, recommend enhancements to the network and identify priority corridors, the following project framework and analysis inputs were used to develop the enhance bicycle network.



- **2014 Network and Priority Projects:** The 2014 Network was developed by staff and informed through a city-wide consultation program to enhance the 1995 Bicycle Master Plan network which lacked any connections through the downtown core. Priority corridors approved for implementation by Council in July of 2014 included the following:
  - i. Pandora Avenue - Store street to Cook street (currently under construction)
  - ii. Johnson Street – Store street to Cook street (completed 2016)
  - iii. Vancouver Street – Park Boulevard Tolmie Avenue via Graham and Fifth streets (included in 2016 Priority Network – not completed)
  - iv. Kings / Haultain Streets – Dowler to Richmond Road (included in 2016 Priority Network – not completed)
  - v. Off-Shelbourne route – (slightly revised in 2016 Priority Network – not completed)
  - vi. Wharf / Belleville route - (included in 2016 Priority Network – not completed)

- **2014 public engagement evaluation:** Review of the 2014 consultation process concluded the process was very comprehensive and engaged a diverse range of stakeholders.
- **Council 2015 Strategic Plan:** Premised on connecting villages and the downtown core and being bold and a leader, the #Biketoria study included additional corridors in the bicycle network to augment the 2014 network which included Cook street and Fairfield road as AAA candidate corridors.
- **Guiding principles and framework:** To inform the network enhancement recommendations, the following guiding principles were established:
  - i. **Comfortable** (safe and comfortable for people of all ages and abilities)
  - ii. **Complete** (a connected minimum grid network that ensures all residents have access to AAA facilities with a short cycling distance)
  - iii. **Convenient** (a direct and convenient network that connects major destinations in the City which include the urban core, town centres, urban villages, retail businesses, community amenities such as schools, parks, institutions and health centres, major employment areas and major tourist destinations)
- **Additional network analysis:** Additional technical analysis of the Network included a minimum grid assessment of base conditions of priority corridor candidates to gauge the suitability and feasibility of each corridor. Assessment criteria included the following:
  - i. Length of corridor
  - ii. Road classification
  - iii. Road design (one way / two way)
  - iv. Posted speed limit
  - v. Width of corridor
  - vi. Number of vehicle lanes
  - vii. Parking composition
  - viii. Truck route
  - ix. Greenway
  - x. Current bicycle infrastructure
  - xi. Current level of comfort
  - xii. Pedestrian & cycling Master Plan – Primary Inter-Community Network Designation
  - xiii. Links to adjacent neighbourhoods

More technical analysis to further refine the assessment included geospatial mapping to assess the following:

- i. Existing level of traffic stress
- ii. Cycling collision heat map
- iii. Activity density heat map
- iv. Cycling network gap analysis
- v. AAA cycling network gap analysis

- vi. Bicycle commute mode share analysis
- vii. Cycling potential analysis
- viii. Equity score mapping
- ix. Topographical slope analysis

- **World class cycling expertise:** To help in the analysis of the network enhancement and prioritization study world class cycling implementation experts who were instrumental in the successful development and implementation of cycling infrastructure program in Cities who are world leaders in transportation mode shift (eg. Copenhagen, Portland, Bogota, Vancouver).
- **Stakeholder & public engagement:** The most influential factor in the development of the network recommendations and priority recommendations was a multi-tiered consultation program which was layered with the advancement of conceptual designs and priority recommendations. Highlights from the consultation process include the following:
  - i. Over 2,500 consultation participants in a diversity of consultation platforms including events, surveys, pop up pilot bike lanes, one on one meetings, interest group meetings, and / or social media informed the network recommendations and conceptual designs for each of the 8 priority corridors.
  - ii. Key messages heard included safety matters, quality counts and road congestion is a concern
  - iii. 65% of survey respondents do not normally bike for transportation needs
  - iv. 78% of survey respondents agreed that the proposed AAA enhanced network connects them to the places they want to go
  - v. 70% of survey respondents agree that they will bike more once the AAA network is built
  - vi. 71% of survey respondents agree the AAA network comes close enough to their home
  - vii. Network alignments with strong community concerns included the James Bay Belleville alignment, Oak Bay avenue east of Richmond alignment, Cook street and North park village alignments, and Government street alignment between Yates and Wharf. BC Transit had concerns regarding the Gorge road alignment and the design team (consultants and staff) had concerns with the feasibility of the Shelbourne and Fairfield alignment due to impacts to parking, street trees and project costs.

Priority selection and sequencing recommendations have been further refined by interdisciplinary staff assessment to confirm the recommendations of the staff and consultants work throughout 2016 through a comprehensive framework which evaluated the 8 corridors as 25 isolated segments under the following evaluation metric themes:

- **Safety and Comfort:** Assessment of unsafe existing conditions, level of traffic stress, scale of safety improvements, topographical constraints, quality of design (AAA)

- **Connectivity:** Assessment of segment connection to existing and / or planned facilities, connection to inter-municipal facilities, connection to key destinations, addressing a network barrier, gap or hindrance, directness of route.
- **Demand:** Assessment of segment responding to current bicycle mode share, origin and destination activity, future cycling potential, distribution of infrastructure, latent demand for infrastructure.
- **Feasibility:** Assessment of the conceptual designs for priority corridors were informed by the construction costs, complexity of design, construction impacts, level of public support, leverage from other projects and additional resource needs.

## WHY WAS FORT STREET SELECTED?

- **Direct and Convenient** – Fort street is relatively flat from Wharf street to Cook street and provides a direct and convenient connection through the downtown core. Fort street also connects people on bikes to number of destinations to accommodate their daily transportation needs.
- **Network distribution density** – a minimum suitable density of for the AAA cycling network in the downtown core is the spacing of 500 meter between AAA corridors. Fort Street is located 400 metres south of Pandora Avenue and an average of 600 metres north of the Humboldt corridor to the south.
- **Key destinations:** The Fort street corridor connects users to the diverse retail, employment, and food and beverage destinations in addition to a variety of services and high density residential buildings. Key destinations along the corridor include the Hudson Bay Centre, numerous commercial offices and co-working spaces (Fort Tectoria, the Watershed, Alacrity), and a rich diversity of shops and services. Further east, the Fort Street Corridor also connects users to schools, churches and other employment centres.
- **Existing demand:** May 2016 count data estimates approximately 1000 cyclists on Fort street under existing conditions (approximately 17% of all travel modes). Following the implementation of Fort two way protected bike lane, it is estimated that bicycle ridership will at least double to an estimated range of 2000 – 2500 cyclists per day on the corridor as two way movements are permitted and the facilities are safe, comfortable.
- **Forecast demand:** New developments along the corridor and in the vicinity will increase the number of people who are living in the downtown area. Fort Street will provide a convenient place for riders to come into and out of the Southern portion of the downtown core.
- **Supportive land uses** – Fort Street is home to a diversity of land uses including residential and commercial uses which support multi-modal transportation investments due to the demand for diverse transportation options from downtown residents and visitors. Victoria's employment markets (including a rapidly growing tech sector), unique and

diverse retail offerings, and growing mixed use residential development along the corridor further reinforce the latent and growing demand for safe and comfortable AAA bicycle facilities.

- **Multi modal transportation opportunities** – Under existing conditions, Fort Street is heavily used by pedestrians, supported by a frequent transit service and attracts a relatively high number of people who ride bikes considering the current environment for cycling is not attractive for riders of all ages and abilities. The complete street design considerations for Fort Street aim to improve conditions for pedestrians, transit, and people who ride while maintaining required levels of service for vehicles and formalizing the allocation of space for commercial delivery needs.
- **Past Cyclist Collision Incidences** - Fort Street like the majority of downtown has *high to very high collision rates* when compared against incidence rates elsewhere within the City limits. Safety has been stated by the public (riders and non-riders alike) through bicycle network consultation events as a top priority when developing bike facilities.
- **Separation of road users** – Currently there is a traditional bike lane on Fort Street from Douglas eastward on the south side of the roadway located in between the general purpose travel lane, parking and transit bays along the 700, 800 and 900 blocks of Fort street. This condition has many safety concerns for cyclists including truncated transit movements and drivers opening their doors into the bike lane. In addition, there are a number of westbound cyclists who illegally choose to ride on the sidewalk compromising the safety of pedestrians. *A two way protected bike lane would mitigate these issues and separate all road users.*
- **Protected corridors and protected intersections** – The design for the two way protected bike lane has been informed by international engineering design guidelines and best practices to provide a fully protected corridor and fully protected intersections. A combination of physical barriers as well as paint and bollard treatments provide the protected corridors. The design also provides exclusive movements for each road user via bike, pedestrian and vehicle intersection signalization.
- **Vehicle speed reduction potential** – The reduction of an eastbound travel lane, narrowing of existing travel lanes and the introduction of 3 additional mid-block crossings may have a small traffic calming effect on vehicle. There are numerous studies which articulate the benefits of reduced motor vehicle speeds related to the frequency and severity of injuries to pedestrians or cyclists involved in a motor vehicle collision.
- **Multi-modal connections:** Fort Street is a frequent transit corridor and connects to other high frequency transit routes (eg: Quadra). The corridor will also connect to other approved priority AAA corridors to the east and west (Cook and Wharf) and support the existing signed bike routes on both Wharf and Vancouver.
- **Surplus road right-of-way capacity:** Fort Street is ideal for a fully protected two way bike lane as there is available capacity within the road way on the 700, 800 and 900 blocks of the corridor. The two-way bike lane design *minimizes impacts to parking downtown and retains on-street parking on both sides of the street exclusive of the north side of the 600 block.*

- **Relatively low construction impacts:** The current design for the corridor keeps *implementation costs and construction disruption relatively low by not requiring extensive work to reconstruct sidewalks*, aside from where new left turn bays are required. An option exists to maintain some level of parking on the North side of the 600 block, however this will *add to project costs, overall construction impacts and time*. This option would impact quality of pedestrian environment on this block with narrower sidewalks and existing street trees would also have to be relocated.

## WHY WAS A TWO-WAY FACILITY SELECTED FOR FORT STREET?

- **Mitigation of parking loss overall downtown:** To provide AAA protected facilities downtown, a minimum of 5-6 meters is required for two one-way bike lanes and a minimum of 3.5-4 meters is required for one two-way bike lane. Analysis indicated that two one-way facilities on Fort and Yates streets would necessitate a higher loss of on-street parking overall compared to one two-way facility.
- **Mitigation of construction impacts and costs:** Construction of two one-way facilities would require additional construction costs (due to requirement for fully protected intersections) and have greater impacts to more businesses and residents over a longer period of time compared to the construction of one two-way facility.

## HOW ARE TWO-WAY CYCLE TRACKS DESIGNED?

- A two way protected bike lane is becoming a more common design treatment for AAA bicycle facilities in constrained urban environments like the City of Victoria. Many cities have bi-directional facilities which are safe and efficient at moving cyclists when intersections are also invested in to provide safe and timely for passage and turning movements.
- Best case practices in design and design standards provide a basis from which two way bike lanes on one way streets can be safe, enjoyable and an efficient use of space. The two way protected bike lanes will range in size from 2.7m to 3.5m with an average of 3.0m which will accommodate cyclist volumes up to 250 cyclists per hour comfortably. The two-way facilities are also wide enough to provide vehicles to drive down the bike

## WHAT PUBLIC FEEDBACK WAS RECEIVED REGARDING THE FORT STREET CORRIDOR?

- **Conceptual design feedback (2015 / 2016)** – City-wide consultation events throughout 2015 and 2016 identified strong public support for the Fort street corridor, including a two way protected bike facility on the north side.
- **Functional design feedback (2016)** – The current design received positive feedback from a number of stakeholders along the corridor and in the community. There were concerns identified by 500 and 600 block businesses regarding commercial loading needs, on-street parking availability and concerns of reducing vehicle capacity to one eastbound travel lane as a part of the consultation process in fall 2016. These concerns

were articulated to Council in December 2016. There is ongoing dialogue with stakeholders to resolve the needs of businesses along the corridor – particularly on the 500 and 600 blocks.

## WHAT IS THE TIMELINE FOR FORT STREET?

The Fort Street project is planned for 2017 and is expected to take 4 – 6 months to complete. The City will work with the contractor to develop a block by block schedule that will provide the least amount of disruption for those who live, work, shop, travel through and do business on the corridor. Construction will be coordinated with planned major events in the City. The City will ensure pedestrian accessibility is maintained at all times and that impacts to businesses and residents are minimized.

## WHAT ARE THE IMPACTS FROM THE ELIMINATION OF A VEHICLE TRAVEL LANE ON FORT STREET?

*Travel Time* - The capacity of the roadway with the proposed design was evaluated and it was found that there would be only a small increase in vehicle travel time on the corridor (during afternoon peak periods it is estimated that it may take up to 60 seconds longer to travel between Wharf Street and Cook Street).

*Emergency Vehicles* – The corridor selection process and corridor design process have considered emergency access and input from VicPD and Victoria Fire Department is being incorporated into the design. Emergency vehicles may stop in an on-street parking space, commercial loading zone, or passenger drop off area. If it is necessary for emergency vehicles to stop in the travel lane, then other vehicles will be temporarily re-routed around the emergency area.

*Utility Company Vehicles* – Utility companies require City approval to work on their infrastructure in the public right-of-way, and they must provide traffic management plans to show how the public road users (pedestrians, cyclists, transit and motor vehicles) will be accommodated when work is being done. The new road design will require utility companies to re-examine how work is planned, scheduled and performed on Fort Street. For example, some works may require re-scheduling to evening hours to maintain minimum acceptable standards of access and mobility.

*Vehicles Travelling Wrong Way* – City staff have reviewed the Fort/Douglas intersection to confirm appropriate signage is in place to advise that Fort Street is an eastbound one-way street. Additional signage to reinforce this condition will be installed shortly.

## HOW DOES THE FORT STREET DESIGN ACCOMMODATE DIFFERENT SIZES OF VEHICLE TRAFFIC?

*Pedestrians* – Existing sidewalk widths are maintained (3-4 m). Planned improvements include three new mid-block crossings, and the additional separation between pedestrians and motor vehicles will create a more enjoyable pedestrian environment on the north side of the street.

*Cyclists* – Dimensions for the two-way protected bike lane average 3.0m in width adjacent to a 1.0m buffer when adjacent to parking. These dimensions are reduced to 2.6m in constrained areas such as the 500 block in order to retain parking on both sides of the street and at intersections to accommodate turning lanes.

*Transit & Commercial Buses* – The design accommodates all sizes of transit and commercial buses and other large vehicles. For the blocks with a single travel lane, the travel lane will be 3.5 m wide. Many downtown streets currently have 3.0 m travel lanes, including Douglas Street, Blanshard Street, Pandora Avenue, Johnson Street and Yates Street.

## **HOW WILL THE FORT STREET PROJECT IMPACT VEHICLE SPEEDS?**

In general, reduced lane widths, as proposed, will encourage lower travel speeds. Data from 2016 indicate that 85% of all Fort Street traffic is currently travelling below 45 km/h.

## **DOES THE FORT STREET PROJECT INCLUDE SIDEWALK WORK?**

In general, upgrading the sidewalks on the Fort Street corridor is not included in the current project, but may be considered, subject to availability of capital budget for sidewalk replacement/maintenance. Some sidewalk replacement will be required where mid-block crosswalks or new traffic signal poles are being installed.

## **HOW WILL DRIVEWAY CROSSINGS OF THE CYCLE TRACK WORK?**

Drivers exiting driveways are required to yield to other road users, including pedestrians and cyclists. Drivers entering private property at driveways/crossing the bike lanes will also be required to yield to pedestrians and cyclists. Paint/signs will be used in the bike lane to highlight these vehicle crossing areas.

## **HOW MANY ACCESSIBLE PARKING SPACES ARE AVAILABLE ON FORT STREET AND WILL ANY BE REMOVED?**

The City has 28 on-street parking spaces in the downtown core designated for use by people with a valid 'disabled' placard on their vehicle. Of these spaces, four are located on the south side of Fort Street and all four spaces will be retained on the corridor. Drivers with disabilities may purchase up to two hours of parking time at these spaces. To maximize parking choice

and accessibility, an additional hour of free parking time at any 90 minute (or greater) parking space is provided for drivers displaying a valid BC Disability Parking Permit.

## **WHAT OTHER TYPES OF ACCESSIBILITY ENHANCEMENTS ARE PART OF THE FORT STREET DESIGN?**

The City is adding new tactile direction strips (truncated domes) at pedestrian crossings for those with visual impairments. Additional audible pedestrian signals and countdown signal heads will be added at signalized intersections not already equipped with these enhancements.

## **HOW IS THE CITY DEALING WITH EXISTING PARKING CHALLENGES?**

The City will be undergoing a review of its current parking strategy, and examining parking management programs that will encourage higher turnover and increase the availability of on-street parking.

City staff regularly review and assess on-street parking spaces to create more parking where possible. Staff work with businesses and/or residents to ensure that curb space is regulated to best meet the demands of directly-affected properties. For example, over the past 2 years, 27 new on-street parking spaces have been added in the downtown. Staff are currently assessing opportunities to add more on-street parking in the downtown.

## **WHAT TRANSPORTATION DATA IS AVAILABLE FOR INTERSECTIONS ON OR NEARBY FORT STREET?**

The City of Victoria collects data for all travel modes through a manual count program at select intersections with the goal of a 5 year interval in data collection for high volume intersections. Along Fort Street, data collection programs in 2013 and 2014 provided mode share data for each intersection from Wharf Street to Cook Street. Data collection programs on Broughton and View were completed in 2013. Automated count stations are proposed for the new cycling facilities to provide a data to evaluate mode share use along the respective corridors.

There are numerous studies published by other Cities who have already completed protected bike lanes and have experienced cycling ridership increases. For example:

- Vancouver has increased their active transportation mode share (pedestrian, bike, transit) from 40% to 50% between 2008 and 2015.
- In Calgary weekday bicycle trips along pilot cycle track routes have tripled between September 2014 and September 2016. The inbound peak period bicycle mode split increased to 3% (increasing from 1.9% in 2010). Bicycle trips into and out of downtown increased by 40% between the 2015 and 2016 (ref: annual May Central Business district cordon count).
- Portland has seen a 322% increase in bicycle use on four main bicycle friendly bridges since 1991 while automotive trips have not increased.

- Seattle has seen an 135% increase in cycling between 2006 and 2016.
- New York has doubled its bicycle mode share between 2009 and 2013.