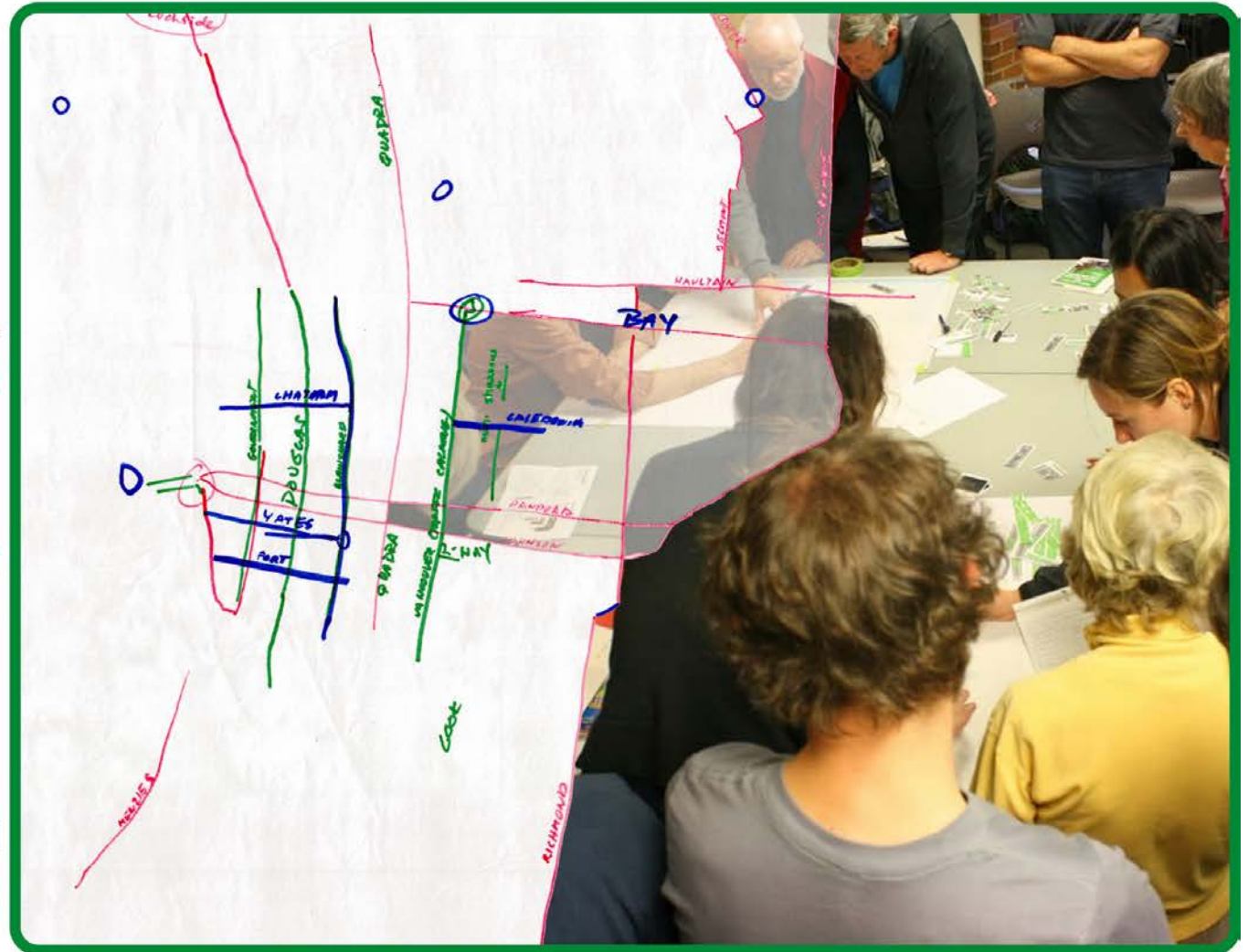


VICTORIA CYCLING CONCEPTS

Report on City of Victoria
Cycling Master Plan 2014.

Greater Victoria
Cycling Coalition



Introduction

In the Spring of 2013, the Mayor of Victoria announced the formation of a Cycling Task Force to guide the development of an update to the City's Bicycle Master Plan. The update was formally launched in November 2013 when Victoria Council passed a Project Charter outlining goals and tasks for the Master Plan Update process.

The Greater Victoria Cycling Coalition (GVCC) was invited by the City to participate and contribute to the Master Plan Update.

The Greater Victoria Cycling Coalition created this report to advise Victoria Council, staff and citizens on the best steps forward in updating its Bicycle Master Plan. We aim to encourage Victoria to strive for an efficient and functional cycling network and the highest quality infrastructure. Doing so will enable more people to cycle more places, more often - throughout Victoria and the region.

We have undertaken several initiatives to help inform and provide input into the Master Plan Update:

- Conducted a downtown transportation survey in the fall of 2013
- Met with the Mayor and several members of Council
- Hosted a workshop on November 30, 2013 to gather feedback from the public. Feedback from this workshop appears throughout this document
- Are providing ongoing feedback to a technical committee advising the Master Plan Update

This report is divided into three sections, following the format of our workshop:

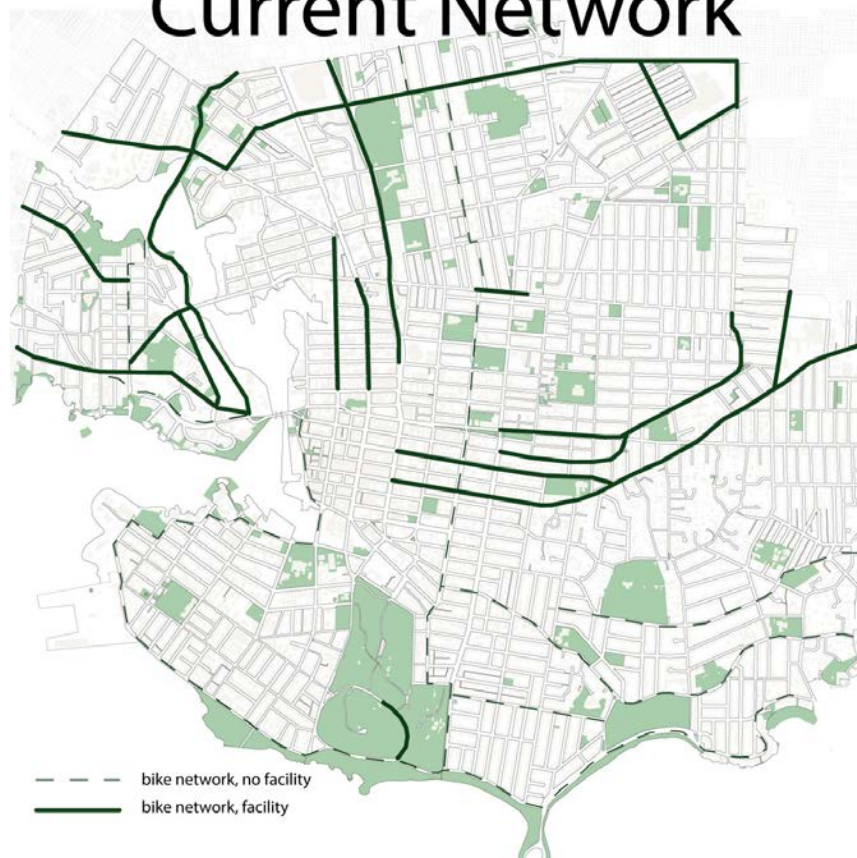
- Network: What improvements can be made to Victoria existing cycling network? Specifically, what roads and routes should be added to ensure a comprehensive cycling network across Victoria?
- Design: What types of cycling facilities (ex: bike lanes, traffic calming, etc) should be incorporated into the cycling network?
- Education/Celebration: What initiatives and programs can the city of Victoria initiate to get new cyclists riding?

Below are suggested ideas deriving from our workshop, with some additional commentary and observations.

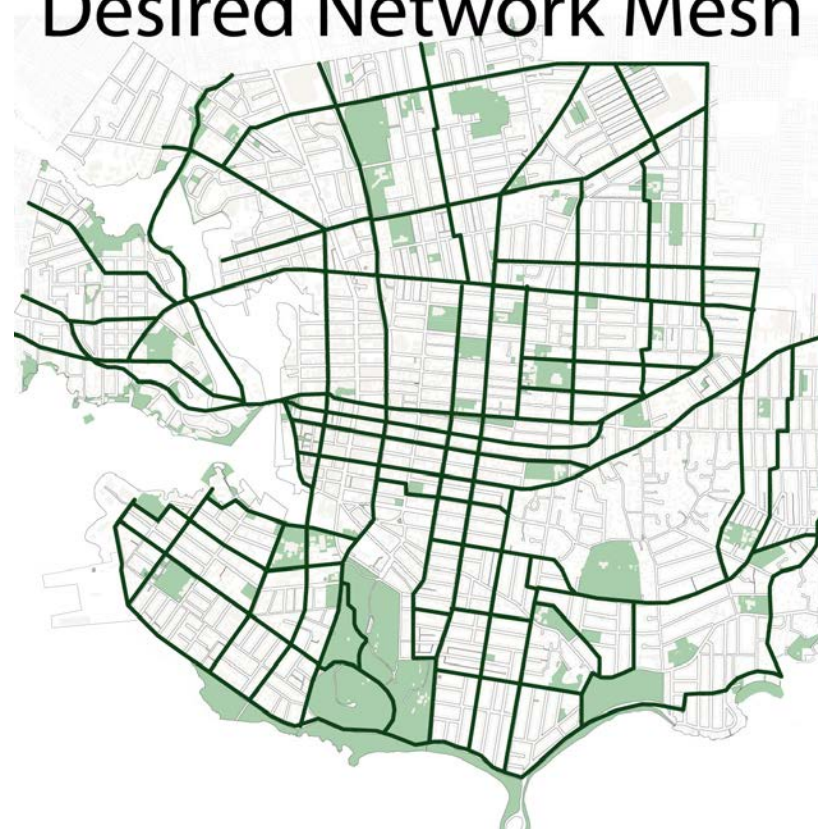
Network

A critical element of the cycling environment in any city is a well-connected bicycle network. To ensure people ride bikes for everyday transportation and activities, residential neighbourhoods need **connected**, **direct** and **safe** routes to commercial centres, primary areas of work, shopping and services (CROW 2006).¹ A complete network will have multiple cross-city bikeways that run continuous and direct routes to primary destinations. If an individual has to cycle more than 500m to get to a cycling facility they are likely to choose another mode of transportation². Hence, there should be a minimum network mesh density of at least 500m.

Current Network



Desired Network Mesh



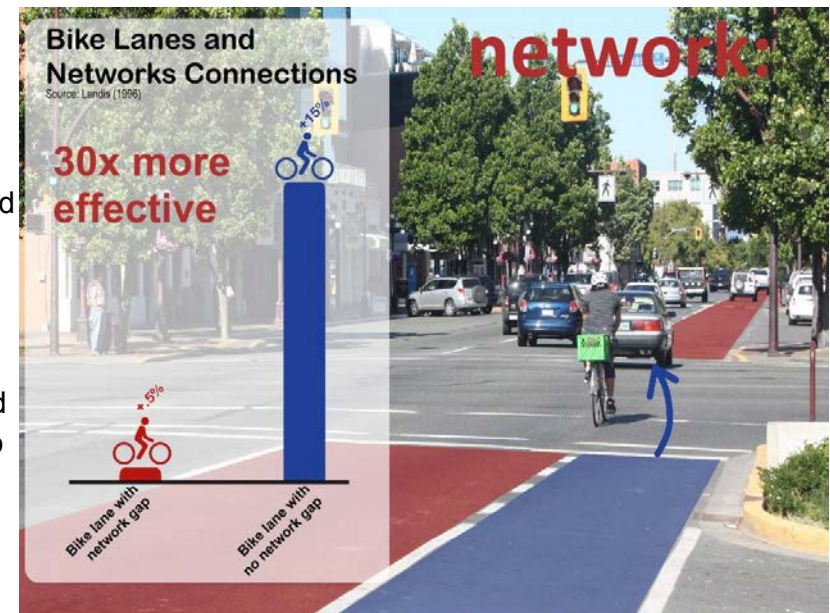
¹ CROW, *Design Manual for Bicycle Traffic*, CROW, The Netherlands, 2006, p58-66.

² Nikos A. Salingaros - *Principles of Urban Structure*, 2005.

In Victoria, there are many bicycle routes identified in the city's network map that are difficult to identify on the ground. There may be little more than the occasional sign marking it as a bike route, even where it might be frequently used by cyclists.

Other routes may provide a comfortable, continuous ride for many riders, but not be recognized as a bike route in the city's network. For instance, roads such as Rockland and Haultain are well used cycling routes due to their directness and lower traffic volumes, but are a part of the city's Greenway Network rather than the Cycling Network.

At our November 30th workshop, we asked participants to identify what routes should be added to the existing cycling network, and where improvements and extensions to existing routes that are well traversed by cyclists should be made.



Participants at the GVCC Bike Planning workshop, Nov. 30, 2013 (photos: Celina O'Connor)

Key findings most often cited at Nov. 30 workshop on Cycling Network

1. **Haultain St** *Alternative route to Bay St*
2. **Hillside Ave** *An important east-west route connecting Quadra Village & Hillside Mall.*
3. **Pandora St** *Downtown segment to JSB would benefit greatly w/ new cycle track. (as part of potential new developments).*
4. **Johnson St**
5. **Fort St**
6. **Superior St** *part of city network, but has no features or bike facility design features.*
7. **Richardson St** *part of city network, but has few features or bike facility design features.*
8. **Dallas Rd**
9. **Vancouver St** *part of city network, but has few features or bike facility design features.*
10. **Linden Ave** *Direct from Dallas Rd to Fort Street. Neighbourhood alternative to Cook Street.*
11. **Wharf St** *many people identified as needing cycling improvements.*
12. **Government St**
13. **Douglas St** *south linking James Bay to Downtown*
14. **Foul Bay Rd**
15. **Chambers St** *Potential link between Haultain and Caledonia, via Cedar Hill?*
16. **Rockland Ave** *Key connector between Oak Bay/Jubilee and Downtown*
17. **Gladstone Ave**
18. **Tolmie Ave** *Important east-west connection for cyclists exiting Galloping Goose.*



Design

When considering the appropriate facilities for our cycling network, it is essential that we consider design for both the roadways and the intersections they cross. Intersections are where a majority of accidents take place, and the intersection design issues that need to be addressed are different from the ones we must consider at straight roadways. Hence, we will deal with roadways and intersections separately.

At our November 30th workshop, we asked participants to identify design improvements, on new or existing cycling corridors, they felt were appropriate. We asked them to single out straightaways and intersections for design enhancements.

Straightaways design

For each road section function, form and use should guide facility type. **As motor vehicle frequency and speed increase so must the separation between bikes and motor vehicles.** In the workshop we discussed three types of straightaway facilities.

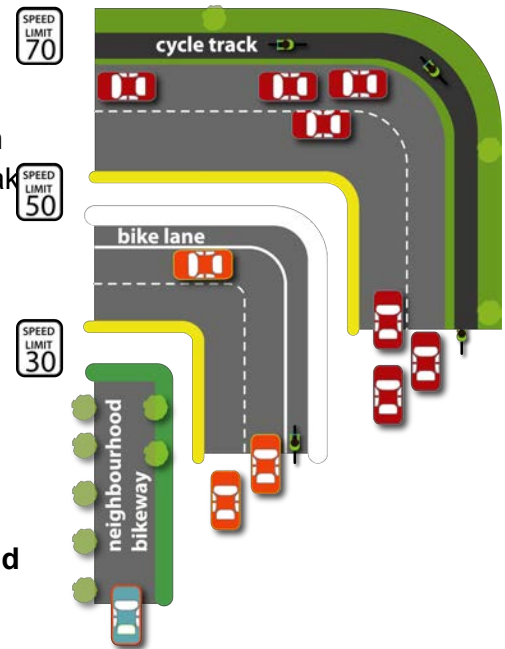
neighbourhood
bikeway



bike lane



cycle track



Shared road facility, comfortable for road users of all ages. Posted and effective speed limit is 30km/h. Best traffic calming are motor vehicle diversions. Shared road facilities should be used where vpd (vehicles per-day) is <2500 and speeds are <30km/h. Shared road facilities should generally not be used where motor vehicle speeds exceed 45km/h.

Generally used where motor vehicle frequency is <6000 vpd and effective speed limit is between 35-55.

Generally, used motor vehicle frequency > 6000 vpd and speeds are >40km/h

Key findings most often cited at Nov. 30 workshop on straightaway design (including suggested improvements)

1. **Government St**
2. **Wharf St**
3. **Vancouver St** *Traffic diversion at Balmoral? Separated facility from Fort to Pandora*
4. **Bay St** *Cited by many participants as in need of improvements.*
5. **Haultain St** *Popular east-west route*
6. **Pandora Ave** *Ideal road for 2 way cycle track given connection to Johnson Street Bridge*
7. **Johnson St** *Parts of new bike lanes need better design; some dangerous spots*
8. **Dallas Rd** *Appealing recreational route*
9. **Richardson St** *Direct route, but lacks facilities*
10. **Richmond Rd**
11. **Fernwood Ave & Rd**
12. **Grant St**
13. **Gladstone Ave**
14. **Belmont Ave**
15. **Gorge Rd**
16. **Blanshard St**
17. **Douglas St**
18. **Hillside Ave** *Missed opportunity for separated facility in front of Hillside Mall*
19. **N Dairy/Finlayson**
20. **Beacon Hill**
21. **Superior St** *Particularly dangerous between Menzies and Douglas*
22. **Simcoe St**
23. **Menzies St**
24. **Montreal St**
25. **Esquimalt Rd**
26. **Foul Bay Rd**
27. **Fort St**
28. **Cook St** *Substantial right of way on large portions*
29. **Linden Ave**
30. **Shelbourne St** *Saanich looking at cycle tracks*

Straightaway Design



Intersection design

A direct and comfortable bike route is only as good as its weakest link. Even one or two unsafe intersections will keep new or less confident riders from taking up what otherwise is a very attractive transportation option. Intersections are where different modes of traffic interact, and where most (60%) bike/motor-vehicle collisions occur.

Intersection design for bicycles should **minimise the number of conflict points, be unequivocal, easily comprehensible** and **minimize speed differential between road users**. The basic principle, minimise number of conflict points, is often at odds with maximizing motor-vehicle traffic flow. For bicycle facilities, the number one objective at intersections is to reduce the risk of a crash. If a collision does occur, we want to ensure that motor vehicle speed is low enough to reduce the risk of serious injury.

At the Nov 30 workshop we discussed four types of cycling facility treatments for intersections: 1) bike boxes, 2) intersection markings, 3) two-phase turn queue boxes and 4) bicycle traffic control signals.

bike box



Designated area at the head of a traffic lane at a signalized intersection that provides people riding bikes a safe and visible way to get ahead of queuing traffic during the red signal phase.

intersection markings



Intersection markings clearly indicate the path for cyclists through the intersection. They guide cyclists on a safe and direct path through the intersection and provide a clear boundary between cyclists and motor-vehicles.

two-phase turn queue box

































Afraid to merge into busy traffic to make a left-hand turn? A two phase turn queue box gives you a refuge to stop, turn your bike on and wait for the light to change.

bicycle traffic control signals



For the workshop discussion we included bicycle signal heads, bicycle countdown lights and signal detection and actuation. Bicycle control signals are installed at intersections bicycle signal phases and other bicycle-specific timing strategies.

Key findings most cited at Nov 30 workshop on Intersections (including suggested improvements)

1. Finlayson/Blanshard  
2. N. Dairy/Doncaster  
3. N. Dairy/Cedar Hill  
4. Fort/Pandora 
5. Haultain/Cook 
6. Fairfield Rd/Fairfield Plaza  connect cyclists from Dallas Rd, via Memorial Cres to Fairfield Plaza.
7. Bay/Government 
8. Johnson Fernwood 
9. Humboldt/Blanshard 
10. Humboldt/Douglas 
11. Shelbourne/Hillside  
12. Shelbourne/North Dairy  
13. Pandora/Johnson/Begbie 
14. Vancouver/Bay  
15. Richmond/Bay   
16. Richmond/Fort  
17. Fort/Vancouver   better light timing for bikes Fort and Yates.
18. Yates/Blanshard  barriers to limit motor vehicle movements Yates/Fort and Blanshard/Douglas.
19. Tolmie/Douglas   Connect Goose to Blanshard, Gorge Corridor.

Intersection Design



Education and Celebration



Photo from 2012 Saanich Bicycle Festival

Many people choose to cycle because it is convenient, healthy and affordable. Regular cyclists often comment on how 'fun and enjoyable' riding a bike can be, especially when they share the cycling experience with friends and family.

Nonetheless, getting people to try cycling for transportation can be a major challenge. The habit of driving is hard to break, and there remain many barriers to cycling - perhaps the primary one being safety concerns.

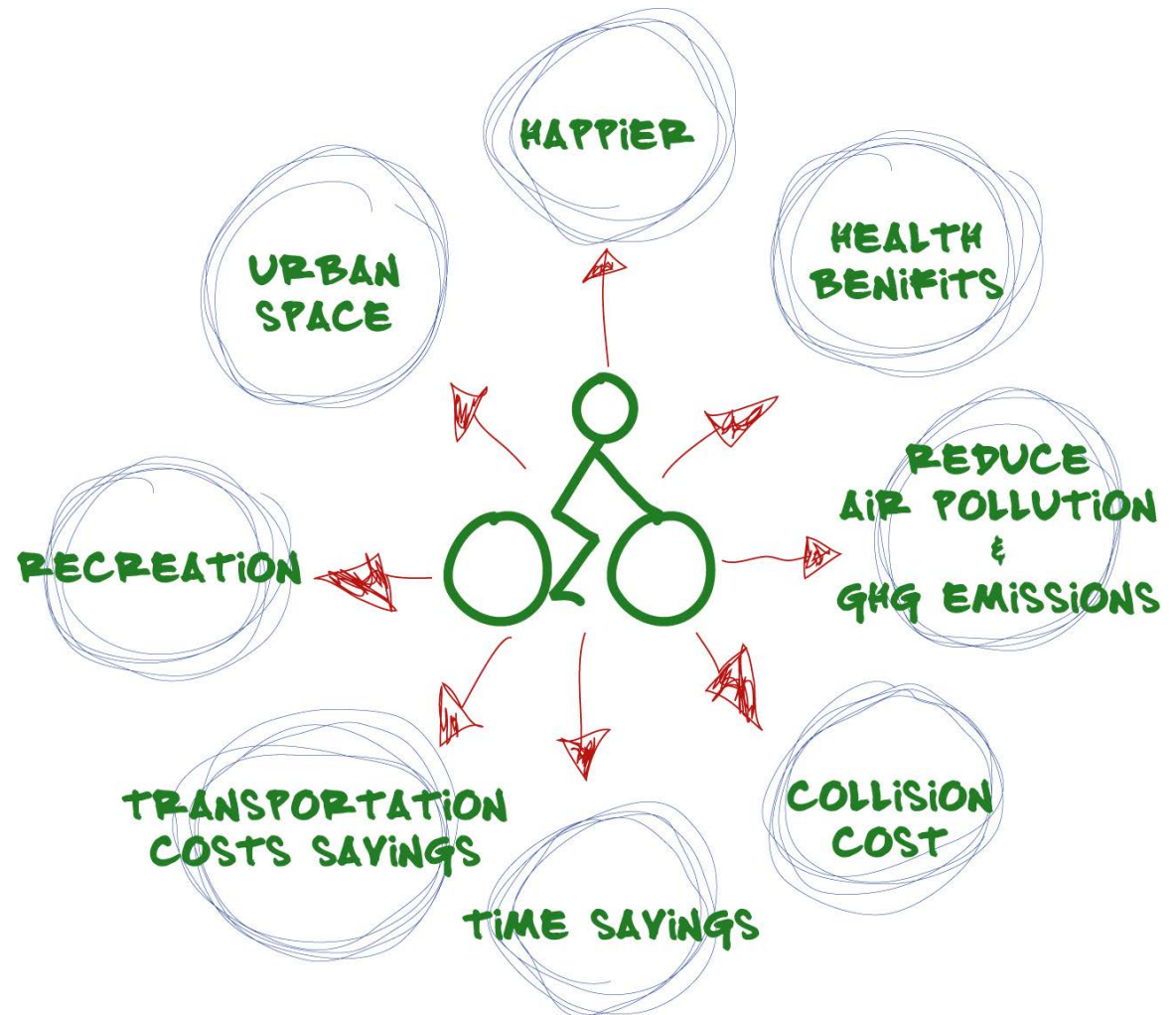
Therefore efforts to celebrate cycling and educate people - about the benefits of and barriers to cycling- are critical to creating a bicycle-friendly community. Moreover, education and programs raising awareness of new cycling facilities can increase ridership 400% over facilities alone. ([source: HUB Vancouver](#)).

Experience has shown that that municipal cycling campaigns are effective in getting more people on their bikes. Generally speaking a distinction is made between motivational campaigns and safety campaigns. Motivational campaigns aim at changing transport modes while safety campaigns aim at changing a given behavior of road users.

Research has shown that promoting new and improved facilities are essential to changing habits. Most people know that cycling is healthy and eco-friendly, but more effort is needed before habits change. Motivational campaigns help people get out on their bikes and encourage everyday cycling.

Key findings most often cited at the Education Table of our workshop.

1. Education directed at cyclists must be positive.
Encourage people to cycle not discourage.
2. Bicycle education in Schools- *Ministry of Education*
3. Integrate cycling into driver training/licensing-*Ministry of Attorney General.*
4. Closing streets to traffic on Sundays-Government
St or Dallas Rd., Celebration of cyclists and pedestrians
5. Educate businesses on the benefits of cycling.
6. Sponsor a bike festival
7. Sponsor riding school-bus program
8. Education for Police on cyclist behavior
9. Get education material, *such as Bike Sense book, into bike shops.*
10. Close some driving lanes during Bike to Work Week.
11. Extend Bike to Work into *Bike to School and Bike to Shop.*
12. Make City parkades more inviting for bike parking.
13. Education campaigns directed at motorists. *Get Behind the Box campaign in Portland, 1m passing campaign in Ontario.*
14. Free pocket map of bike network.



Additional Comments and Observations

Greenways vs bikeways: Many workshop participants were confused by the difference between the bicycle network and the greenway network.

Two-Phase turns: At the beginning of the workshop, most of the participants did not know what a two-phase turn was. By the conclusion of the workshop, it was clear that the two-phase turn was a popular intersection facility with the workshop participants. There are many intersections within the City of Victoria where even more experienced cyclists feel insecure making left turns.

Counter-flow lanes downtown: During the workshop, many of the participants expressed a strong desire for counter flow bike lanes on downtown streets: Pandora, Johnson, Yates, Fort and even View. One way streets make it difficult for cyclists to navigate downtown streets, discourage some people from riding, and encourage illegal bicycle maneuvers.

Downtown bike lanes: Particular needs of downtown routes - high motor vehicle traffic and bicycle volumes, multiple turns, need for safety, visibility etc. require/demand greater separation between modes. Intersections need to be improved to provide greater clarity for road users

Neighbourhood Bikeways and Shared Road Facilities: Workshop participants were attracted to quiet traffic calmed streets, and desire more of these in Victoria. Many participants spoke highly of the neighbourhood bikeway network present in Vancouver, and would like to see a similar network deployed here in Victoria, with characteristics such as reduced traffic speeds and vehicle diversions, such as those seen on the 10th ave bikeway in Vancouver.

The GVCC recognizes that given Victoria's lack of a cohesive street grid, developing the same network of shared road facilities as Vancouver is not practical. It could be argued that Victoria's fractal/concentric street pattern bears more resemblance to the great cycling cities of Amsterdam and Copenhagen than it does to Vancouver. The fractal concentric pattern of streets offers many advantages, such as more direct cycle routes, that Vancouver's grid does not, but will require greater separation between cyclists and motor vehicles than currently offered.



Recommendations to Cycling Task Force

1. **Update Cycling Network:** Victoria's cycling network requires a major update. Frequently used cycling routes such as Linden and Gladstone Ave should be added to the network. Greenway routes such as Rockland and Haultain should also be added. Signage for the cycling network should also be enhanced. Cycling directions on the network to regional centres should also be considered.
2. **Update facility design standards:** Facility design standards for both roadways and intersections should be updated to reflect current best practices that prioritize safe cycling, including the design and implementation of protected bike lanes.
3. **Increase dedicated cycling infrastructure funding:** Cycling infrastructure funding should be increased to better reflect the cycling transportation modeshare. Currently, cycling modeshare for all trips in Victoria is approximately 5%, while cycling infrastructure funding is below 2%.
4. **Improve bicycle counting metrics and set modeshare targets:** New initiatives, such as traffic and bike counts, should be undertaken to account for the number of cyclists on Victoria's roads. Bike counts should be done before and after the installation of new cycling facilities to measure their effectiveness. Short term targets for modeshare increases should then be set, and efforts made to attain them.
5. **Develop a new Bicycle Master Plan:** A new master plan, beyond the update 2014, should be undertaken. References to the city's Official Community Plan, and CRD's Pedestrian and Cycling Master Plan are valuable and necessary. But as Canada's "Cycling Capital", the City, its citizens and the cycling community deserve a stand-alone document that highlights best practices, design standards, and other goals and opportunities to strive for - to aspire to be a truly great cycling city.

Conclusion

Twenty years have passed since the city's first Bicycle Master Plan. Since that time, new cycling facilities and infrastructure have been installed throughout Victoria and the CRD. A robust cycling community has emerged, and the city has some of the highest ridership numbers in North America. But Victoria's Bicycle Plan is well out of date. Sustained commitments to invest in cycling have not been maintained, or kept pace with best practices around North America and the world.

The 1994 Bicycle Master Plan remains the city's guiding document. In 2005, the city developed a working list of bike priority projects, in conjunction with the city's Bicycle Advisory Committee which is now disbanded. Some of these projects have proceeded, but most remain not started or incomplete. Other obvious or needed projects fall outside the Master Plan's objectives. For instance, the 1994 Master Plan suggests there is no need for any dedicated bike lanes or facilities in the downtown core. Moreover, the past decade has seen little to no growth in the cycling mode share of trips in Victoria. We are certainly below the 12% target set out in the 1994 Plan.

Over the last 20 years, North American engineering and design standards on what constitutes high quality bicycle facilities and infrastructure have advanced dramatically. Many cities, including Vancouver, Calgary, Chicago, Minneapolis, New York and dozens of others, have adopted or are in the midst of adopting, safety-oriented design standards that seek to attract new and less confident cyclists. A prime example of this is the rise of cycle tracks or protected bike lanes as an integral part of cycling networks in many cities.

Most cities recognize that the primary objective of new cycling investments and facilities should be to attract new and less confident cyclists. This has led to a growing adoption of safety-oriented design standards and facilities, e.g. protected on-road bike lanes separated from traffic. Such facilities are very popular, attracting many new riders of all ages and abilities.

This changing standards and public expectations imply the need for more than a mere 'Update' of select priorities and routes. We believe the City of Victoria should develop a full-fledged new Bicycle Master Plan, one that meets the needs of current and potential cyclists in Victoria, and aligns with the best practices and standards of bicycle engineering and design (as outlined in the CRD's Pedestrian and Cycling Master Plan, and other current bicycle research and guidelines).

With the current Bicycle Master Plan Update, we anticipate the city will commit to adopting a new cycling network, improve facility design standards and budget the necessary funds to implement the most needed improvements.

Looking towards the future, however, we believe it is time for the City of Victoria to pursue a fully-fledged new Bicycle Master Plan, with a new vision of cycling for the city of Victoria.