

HUB Cycling Accessibility Assessment Ride

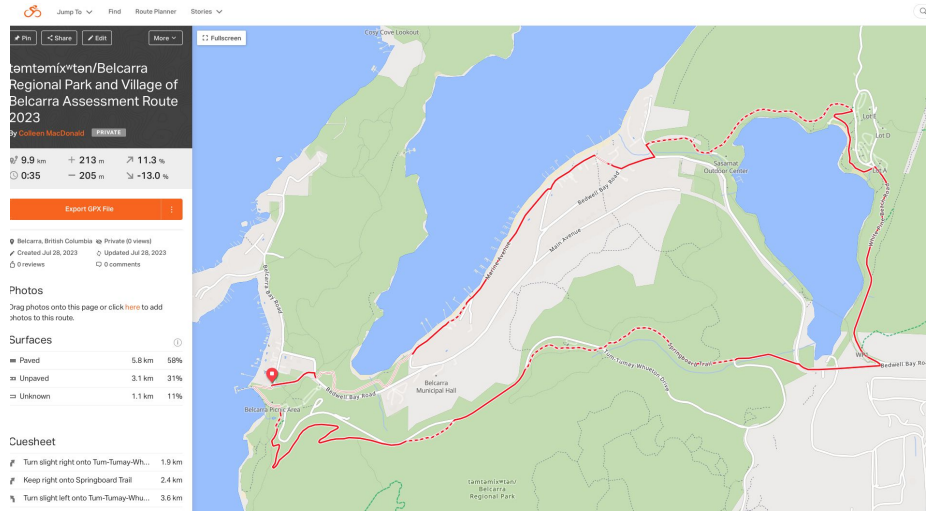
May 10, 2023



təmtəxw̓tən/Belcarra Regional Park and Village of Belcarra

The purpose of the ride was to assess cycling accessibility for varied types of people cycling in the park and through the village.

[Link to route map](#)



Attendees:

Peter Chisholm, Spinal Cord Injury of BC, *adaptive cyclist*

Leon Lebrun, TrailsBC, *hybrid ebike rider*

Colleen MacDonald, HUB Cycling Tri-Cities Local Committee, Let's Go Biking, *cargo bike rider*

Peter Boekhurt, *ebike rider*

Ian MacDonald, *mountain ebike rider*

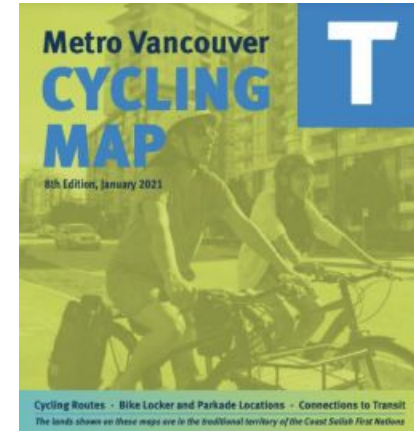
1. t̄mt̄m̄ix̄w̄t̄en/Belcarra Regional Park needs to be an inclusive and accessible place for all to explore and recreate
2. Active transportation needs to be encouraged to get people to the park, especially as parking is limited
3. New technologies in mobility aids such as as ebikes, adaptive bikes, cargo bikes provide opportunities to travel to and within the park
4. Accessibility and safety standards for maze gates and bollards have changed and upgrades are needed

The Springboard Trail was built for two purposes:

1. To offer a place to ride in the park
2. To provide a safe and separated route for people choosing to travel to the park by bike or on foot.



The Translink Cycling Map (TriCities) identifies cycling routes in the park and Belcarra Village.



Metro Vancouver Cycling Map 2021

- Green = comfortable for most
- Purple bold = comfortable for some
- Purple dotted = comfortable for few

Observation: Bedwell Bay Trail and Bowser Trail are identified as cycling routes.

Bike styles have changed since the trail was built. Cargo bikes and ebikes are more available and provide opportunities to get to the park without a car.

With this in mind, we assessed accessibility for a cargo bike. We found some areas that need to be upgraded to current standards to ensure the trail is accessible for cargo bike riders.

Things change
Bike styles change

We want people to *'get out of the car' and go by active transportation.*



I never felt the need to buy a car. Modo and occasional car rentals were enough and that hasn't changed since we had two children.

-Lisa Corriveau,
HUB Member



Cargo bikes are the new 'family car'

They are wider than 31" and have a longer turning radius.



New technologies such as adaptive bikes and trikes now allowed adaptive users to enjoy trails and routes. We assessed trail accessibility for an adaptive rider.



**Adaptive Bikes
are a great option for those
with mobility challenges**



**They need a straight entry
as they do not turn easily
and a gap 2" wider than the wheel span.
These range from 33" to 36" or more.**

**The current gap restricts the use of the trail, is an
accessibility issue and needs to be rectified to
provide access for users of all ages and abilities.**



"Making things more accessible benefits everyone."

A short video message from adaptive bike rider Peter Chisholm from Spinal Cord Injury of BC. Peter feels the route through the park and Village of Belcarra is a great opportunity for adaptive riders. *(please watch this video)*



Standards have changed since the Springboard Trail was first built. Maze gates and bollards are no longer recommended as they have been shown to pose an injury risk to the rider and limit accessibility for wider and longer bikes and mobility devices such as cargo bikes and adaptive bikes.

- The current BC Provincial Active Transportation states: *“It is recommended to avoid the use of rigid bollards, maze gates, or other solid impediments in the pathway at points of entry.”*
- Specifically: *“The use of rigid bollards or maze gates for bicycle speed control is also not appropriate, as its slowing effect is by creation of a potential safety hazard to the bicycle users.”*

Access Restrictions

Access restrictions for off-street pathways have often historically occurred through the installation of access control devices such as bollards, maze gates (offset gates), flexible delineators, raised medians, and/or signage to restrict access by motor vehicles to the pathway. As noted in **Chapter D.1**, it is recommended to avoid the use of rigid bollards, maze gates, or other solid impediments in the pathway at points of entry unless there is a demonstrated history of motor vehicle encroachment, and/or a collision history.

The use of rigid bollards or maze gates for bicycle speed control is also not appropriate, as its slowing effect is by creation of a potential safety hazard to the bicycle users. Bollards and other obstructions placed within the operating space of a bicycle facility create a confined operating space for all pathway users, increasing the likelihood of conflicts and collisions. Speed control of bicycle users is better obtained through geometric controls. Where physical elements are required, flexible bollards should be considered instead.

G.5 Off-Road Pathway Crossings G92



More information on current standards for accessibility and safety.

Link to [Accessible Canada](#)

Link to [BC Active Transportation Guidelines](#)

Accessibility changes are being made in many neighbouring communities.

- Maze gates are being removed in Coquitlam, Surrey, North Van and other communities



BEFORE



AFTER

- Rigid bollards are being replaced with flexible delineator posts



- We suggest Metro Vancouver Parks consider removing one or both sides of the maze gates and where needed, consider flexible delineators or signage.

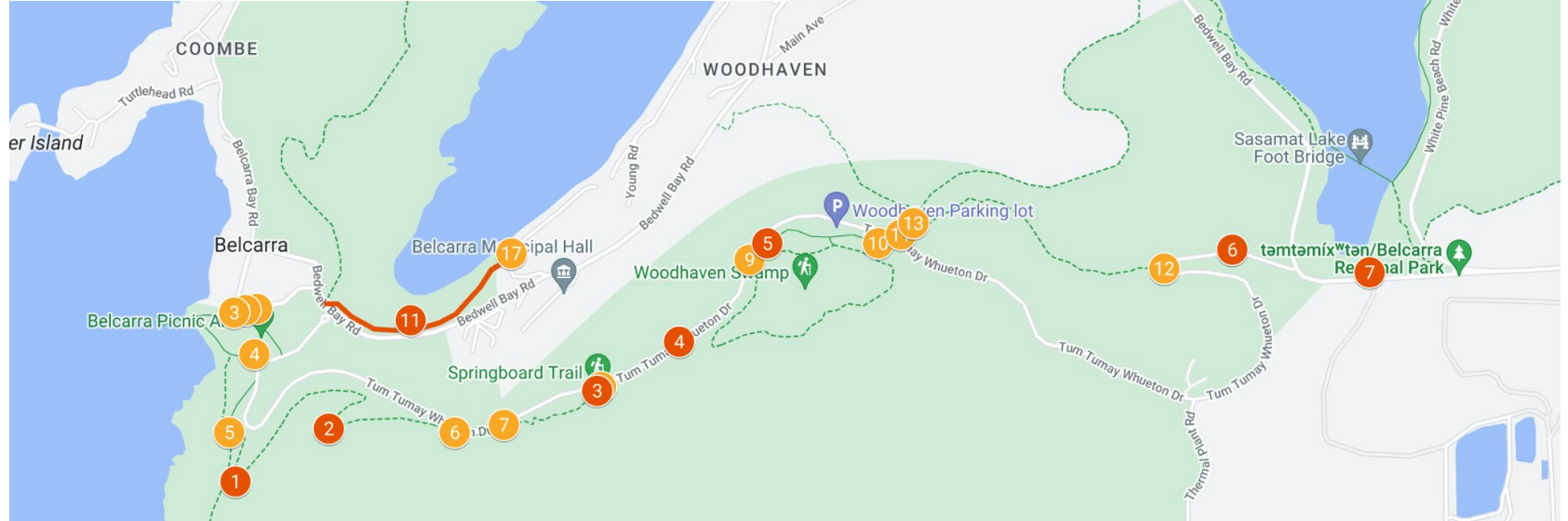
- Signage is used to communicate trail use



Map of Assessment route showing gate locations and problem areas

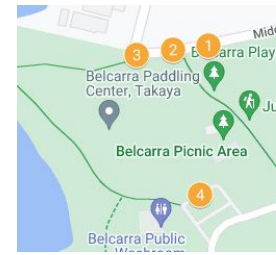
[Link to map](#)

Orange dot = problem
Yellow dot = gate



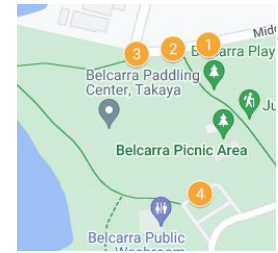
Gate 1 - Park east gate at playground

- Measurements: Two bollards with a gap of 44.5" between posts
- Adaptive rider was able to get through but pointed out the handles posed a hand injury risk
- Problem: 4.5" handles on bollards reduce travel space between to approx 35-36"
- Problem: too narrow for cargo bike unless handle is angled such as the one on the right
- Recommendation: remove handles to maximize width of gap or consider removing left side bollard



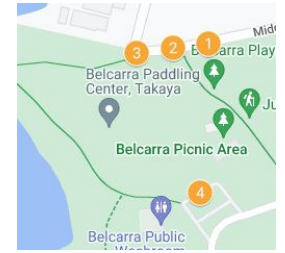
Gate 2 - Middle gate and bridge to playground

- Measures 49" wide
- Turning radius is fairly good, adaptive rider had no difficulty but cargo bike rider had to dismount and maneuver bike to get through
- Recommendation: If Gate 1 and Gate 3 are modified, this one could remain as is as there would then be alternate access available nearby

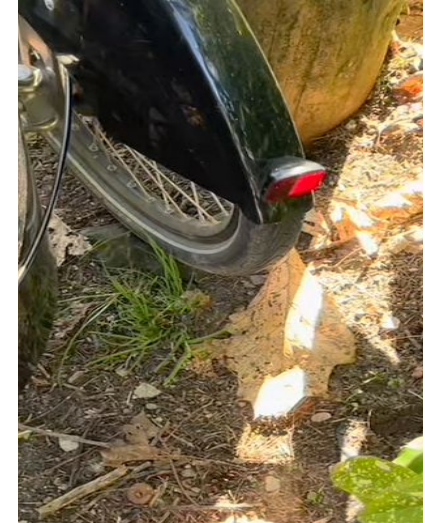


Gate 3 - Park entrance at Midden Rd + Belcarra Bay Rd

- Measurements: Left side gap is 39", right side gap is 40"
- Problem 1: cargo bike rider found the opening very tight and had to dismount to maneuver through
- Problem 2: adaptive cyclist felt openings were narrow and pointed out that the bollard and fence both posed a hand danger for him
- Recommendation: cut off fence on left side to widen gap, remove rock on right side, consider installing a flexible bollard

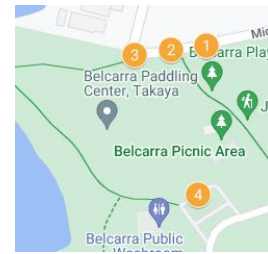


Rock impedes travel



Gate 4 - Parking lot entrance

- Gate is very wide
- Access is good
- Recommendation: Make more gates in this style!

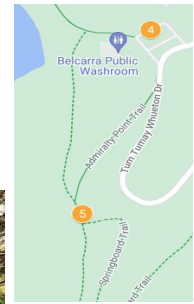


Gate 5 - Springboard Trail West Entrance

- Measurements: gap is 47", but narrows to 45" by problem 1.
- Problem 1: Raised post base plate eliminates 1" from each side of gap, reducing travel space to 45"
- Problem 2: Turning radius: adaptive rider was able to get slowly through gate, but was concerned about the poor turning radius on both sides as this could pose a tipping hazard for an adaptive rider
- Problem 3. Cargo bike rider found the turning radius was not wide enough for the cargo bike to maneuver through both sides of the gate, rider had to dismount to move through the gate - *see video*
- Recommendations:
 - a) Remove both sides of the maze gate -- there is no car traffic near this entrance
 - b) If needed consider installing a flexible delineator/bollard to reduce chance of injury
 - c) if only one side of gate is removed we prefer the left side as there is a hand injury hazard at the fence



Gate 5 Video



Post base problem



Gate 6 - Trail Section on road shoulder

- Measurements: gap is 47.5" but raised bollard bases reduce gap to 45.5"
- Turning radius is slightly better at this gate
- Problem 1 - adaptive rider felt the the turning radius needs to be wider as ditch on the right side poses a tipping hazard for an adaptive bike
- Problem 2 - cargo bike rider had to dismount due to the turning radius limitation, had to hand push through the gate
- Problem 3 - parking in Active Transportation (AT) Lane (- more on next slide)
- Recommendation: Remove both the maze gates, consider a flexible bollard/delineator if needed.
Or remove one side of the gate, left side preferred to avoid tipping hazard and possible hand injury due to fence on the right
- **Observation:** in 2019 there were bollards just east of the gate. Had these been left in place and both sides of the maze gate removed there would be better accessibility at this entrance, thus we suggest the gates be removed and bollards reinstated.



Note ditch on right side



Bollards in 2019 photo



Problem: Cars parked on the Active Transportation Lane

- The Springboard Trail was built for people to enjoy cycling and walking in Belcarra Park. By allowing parking on the road segments of the trail, people no longer have a safe place to ride and walk.
- The trail was built to provide safe active transportation for people choosing to ride or walk to the park. Assessment riders felt that allowing parking discourages active transportation to the park.
- Problem 1: Overflow parking in the Active Transportation Lane forces the rider into the travel lane
- Problem 2: Parked cars sometimes block entrance/exit from the gate (*see photo next slide*)
- Recommendation: Do not allow parking on the Springboard Trail road sections. Consider installing barriers to protect people cycling and walking on road sections.

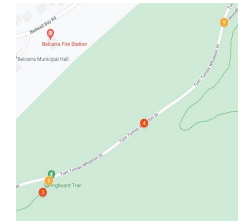


- We ask Metro Vancouver Parks to consider using a portion of general parking revenue to fund programs to encourage more people to cycle to the park, such as Bike Valet
- We encourage Metro Vancouver Parks to use a portion of general parking revenues to build more active transportation opportunities to allow people to walk and cycle to the park, *specifically the Sasamat Greenway*.



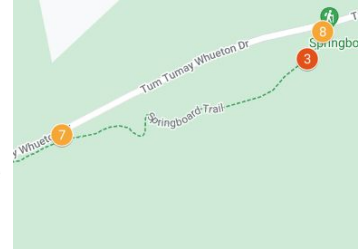


Urgent recommendation: Remove parking from the Springboard Trail on road sections to provide a safe place to walk and ride and to encourage people to choose getting to the park on foot or by bike.



Gate 7 - gate near Newt Crossing sign

- Adaptive rider was able to enter this gate but due to the low speed he found it hard to get started up the hill
- Cargo bike rider had to dismount and wheel bike through and also found it hard to build enough speed to climb the hill
- Recommendation: a) remove both sides of the maze gate, b) consider a flexible delineator if needed or c) remove one side of the gate being aware of hand injury and tipping risks
- Observation: in 2019 there were bollards just east of the gate. Had these been left in place and both sides of the maze gate removed there would be better accessibility at this entrance, thus we recommend the gate be removed and bollards reinstated.



Gate 8 - Top of 'newt hill'

- Of all the gates in the park, this one is the most urgent in need of repair.
- The adaptive rider, cargo bike rider and 3 cyclists all feel it is dangerous.
- Problem 1 - the trail surface approaching uphill to the gate has eroded and a deep dip has formed
- Problem 2 - The adaptive rider was not able to make it up on his first attempt and had to be pulled through by a helper(*see video 1*)
- Problem 3 - The cargo bike got stuck in the dip and needed help to get through the gate (*see video 2*)
- Observation: in 2019 there were bollards just east of the gate. Had these been left in place and both sides of the maze gate removed there would be better accessibility at this entrance, thus we recommend the gate be removed and the bollards reinstated.
- Recommendation: Fix the trail surface by leveling and paving the steep uphill grade, remove one or preferably both of the maze gates being mindful of the fences and tipping hazards.



Stuck
in dip

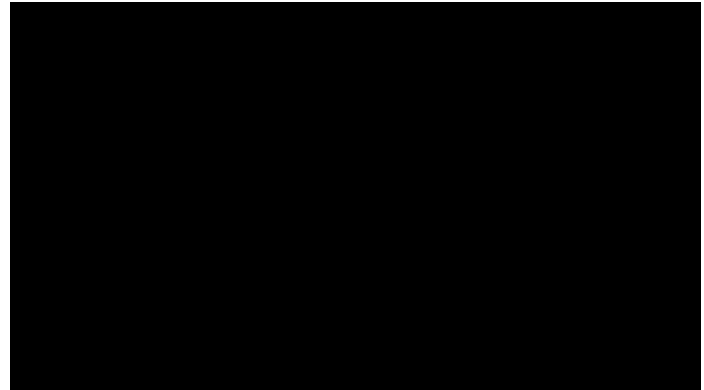


Former
Bollards



*Adaptive
rider
video*

*Cargo
rider
video*



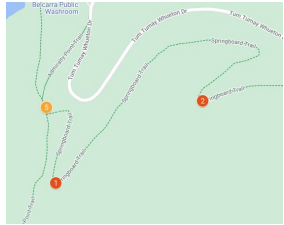
Gate 9 - Woodhaven Swamp West

- This gate has a poor turning radius. Every rider had to dismount and walk through the gate
- The adaptive rider had to take this one slow due to lack of turning radius and ditch on right side (tipping hazard)
- Recommendation: a) remove both sides of the maze gate, it would be unlikely for a car to enter this narrow path, consider signage if necessary



Trail surface issues

- Most of the Springboard Trail surface is good, but we noted many eroded sections that need re-paving and some trail segments in need of crushed gravel. Note: The quality of gravel is important. It must pack down hard to create a smooth surface. Loose or round gravel is a safety hazard for sliding, falling, and reducing equity for some wheeled users due to bumpiness.
- Three areas are identified as most urgent:



- Near the west end of the Springboard trail the first two corners were more difficult for all riders. (See orange location markers 1 and 2)
- Recommendation: remove encroaching vegetation to widen corner. Due to the steep grade at these corners, we recommend re-paving.



- (5) This section of the trail near Woodhaven Swamp needs surface repair (near Gate 9)

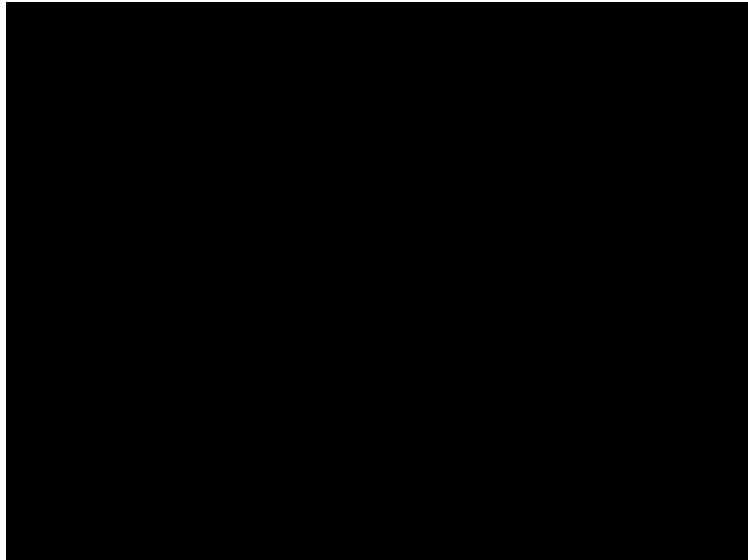


Gate 10 - Woodhaven Swamp east gate

- The adaptive rider found the turning radius good on the approach, but he was concerned about the tipping hazard on the exit from the gate (*see video*)
- Cargo bike rider had to dismount and push through the gate.
- Observation: in 2019 there were bollards just east of the gate (*see photo*). Had these been left in place and both sides of the maze gate removed there would be better accessibility at this entrance, thus we recommend the gate be removed and bollards possibly reinstated.
- Recommendation: a) remove both sides of the maze gate, b) consider a flexible delineator if needed or c) remove one side of the gate being aware of hand injury and tipping risks



Adaptive rider gate 10 video



Former bollards



Gate 11 - A good example of a gate!

- Width is adequate for both an adaptive rider, cargo bike rider and other people cycling.
- Access is flat and straight
- Problem: Handles on bollards reduce travel space and pose a risk for injury, specifically a hand injury for an adaptive rider.
- Recommendation: Remove bollard. Next best option: rotate handles on bollards to widen gap, consider replacing rigid center bollard with a flexible bollard



Gate 12 - Across Tumtumaywheuton heading east

- Gate is same size as others in the park, so the same issues
- Adaptive rider was very concerned about edge risk and tipping his bike, note the helper standing in dip and ready to keep him level (see *video*)



- Recommendation: Remove one or both of the maze gates, keeping in mind the fences on either side may need to be cut back to avoid a hand injury for an adaptive rider

Gate 13 - Springboard Gate east park exit

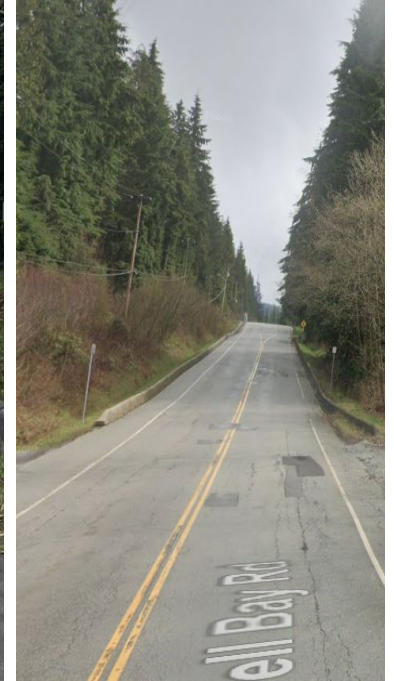
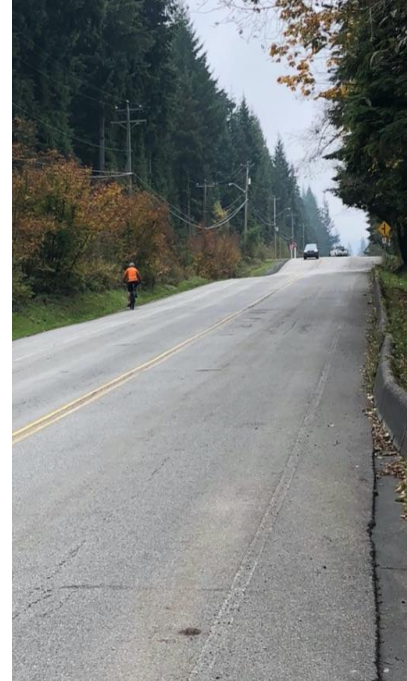
- Measurements are the same as other maze gates thus same issues
- Adaptive rider found the turning radius limited due to the rock on the left
- Adaptive rider was concerned about tipping hazard on right side
- Recommendation: Remove both maze gates as they are unnecessary as there is a bollard that does the job



Connecting White Pine Beach and Belcarra Park

After the immediate needs within the park are complete, we suggest making the connection to White Pine beach safer.

- To get from the main park to White Pine beach, a rider has to take the steep hill on Bedwell Bay Road.
- The south side shoulder is extremely narrow for cycling and walking and dangerous with the fast moving traffic as cars and trucks accelerate up the hill.



- People walking and cycling often use the wider north side shoulder.
- Concrete barriers were installed recently to block cars from parking on the shoulder, narrowing the shoulder width.
- It is suggested that these barriers be moved to the white line in order to create a protected space for people walking and cycling

Gate 14 ~ White Pine Beach - Bowser Trail east gate

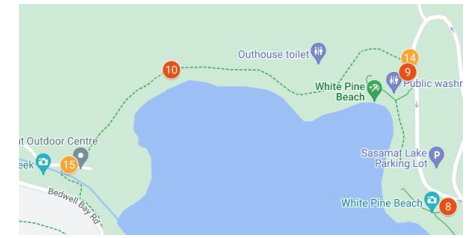
- Beach access road provides good access to beach for an adaptive bike, bollards are placed wide and there is lots of room for both the adaptive rider and cargo bike rider
- Bowser Trail access: Rock impedes passage for adaptive rider and cargo bike barely squeezes through. Rock is a hand injury issue for the adaptive rider
- Recommendation: Remove rock or tree to enlarge opening



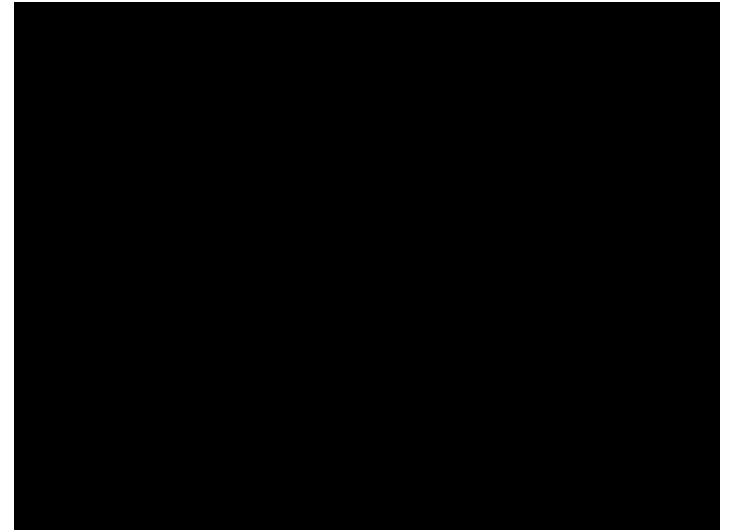
The Bowser Trail (10) offers a flat and safe option to travel from the Belcarra picnic area to White Pine Beach via Marine Avenue.

- Surface repair is needed to upgrade sections of the trail for walkers and people riding bikes. There are some difficult sections of the trail due to erosion and large rocks. The adaptive rider was concerned about the risk of tipping. The cargo bike rider had to dismount and walk through some sections. The mountain bike assessment riders had to dismount through two sections due to the large rocks. It is noted that a neighbour who walks this trail have mentioned they are concerned about the rough surface as it poses an ankle injury risk.

Recommendation: Repair rough sections on the trail to make it safe for walkers and people riding bikes. Note: the full width of the road wouldn't have to be upgraded, just the width of a trail. This will make the Bowser Trail safer for all users - hikers, walkers, cyclists.



Bowser Trail Video



Bedwell Bay Trail

As part of the assessment ride the team examined Bedwell Bay Trail as an accessible option to travel between White Pine Beach and the Belcarrá picnic area.

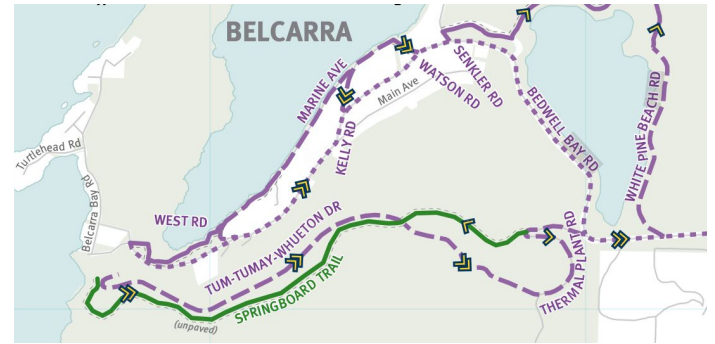
- All riders found this an easy trail as it is relatively flat, has a good crushed rock surface and a good width. The Ray Creek bridge measures 58" between the side boards. It is noted that this trail is equally as wide as many sections of the Springboard Trail.

All riders felt that this trail offers a safe accessible link, allows riders to avoid the busy, narrow and hilly Bedwell Bay Road and has less elevation gain than Springboard Trail.

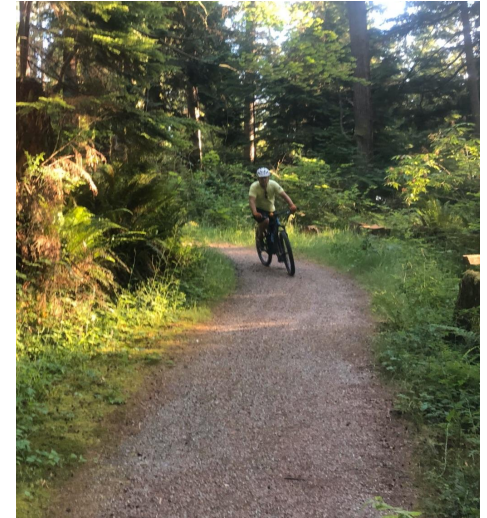
Recommendation: Allow cycling on Bedwell Bay Trail and add dual-use signage.



Note: Bridge gap 58" wide



Route on the Bedwell Bay Trail on the Translink Cycling Map



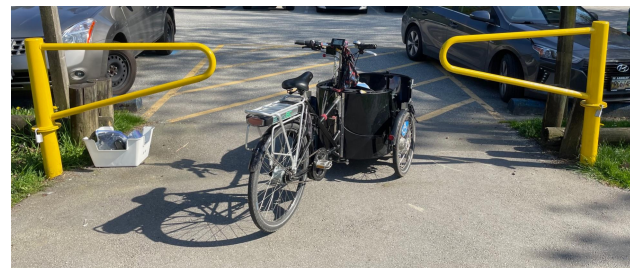
Many sections of the Springboard Trail are same width as Bedwell Bay Trail

Gate 14 - Bowser Gate west exit

- Problem 1: Opening is narrow, hindered by tree root
- Problem 2: Stairs are too close to allow a proper turning radius
- Adaptive rider was concerned about tipping on the stairs
- Cargo bike rider couldn't ride, had to have help getting through opening and turning onto road
- Recommendation: Make gate smaller and to allow wider access, see *other gate suggestions*



Other gates that would allow accessibility



Summary

1. To be an inclusive and accessible place for all to explore and recreate, areas of concern need to be addressed in t̩m̩t̩m̩x̩w̩t̩n/Belcarra Regional Park
2. Active transportation to the park needs to be a high priority to encourage to get people to 'get out of their cars'
3. The park needs to be accessible for mobility aids such as as ebikes, adaptive bikes, and cargo bikes so people can travel sustainably within and to the park, and reduce parking constraints
4. Maze gates and bollards need to be removed and improved for safety and accessibility.



Photo Courtesy of TriCity News - Mario Bartel

- *We're ready to ride to the park !*
- *Please make it safe, so we can go!*

Thank you for this opportunity to communicate accessibility needs in tæmtæmíxwtæn/Belcarra Regional Park.

Should you require further information our team will be pleased to assist in any way.

Colleen MacDonald
For HUB Cycling Tri-Cities Local Committee
colleenmacd@gmail.com

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