

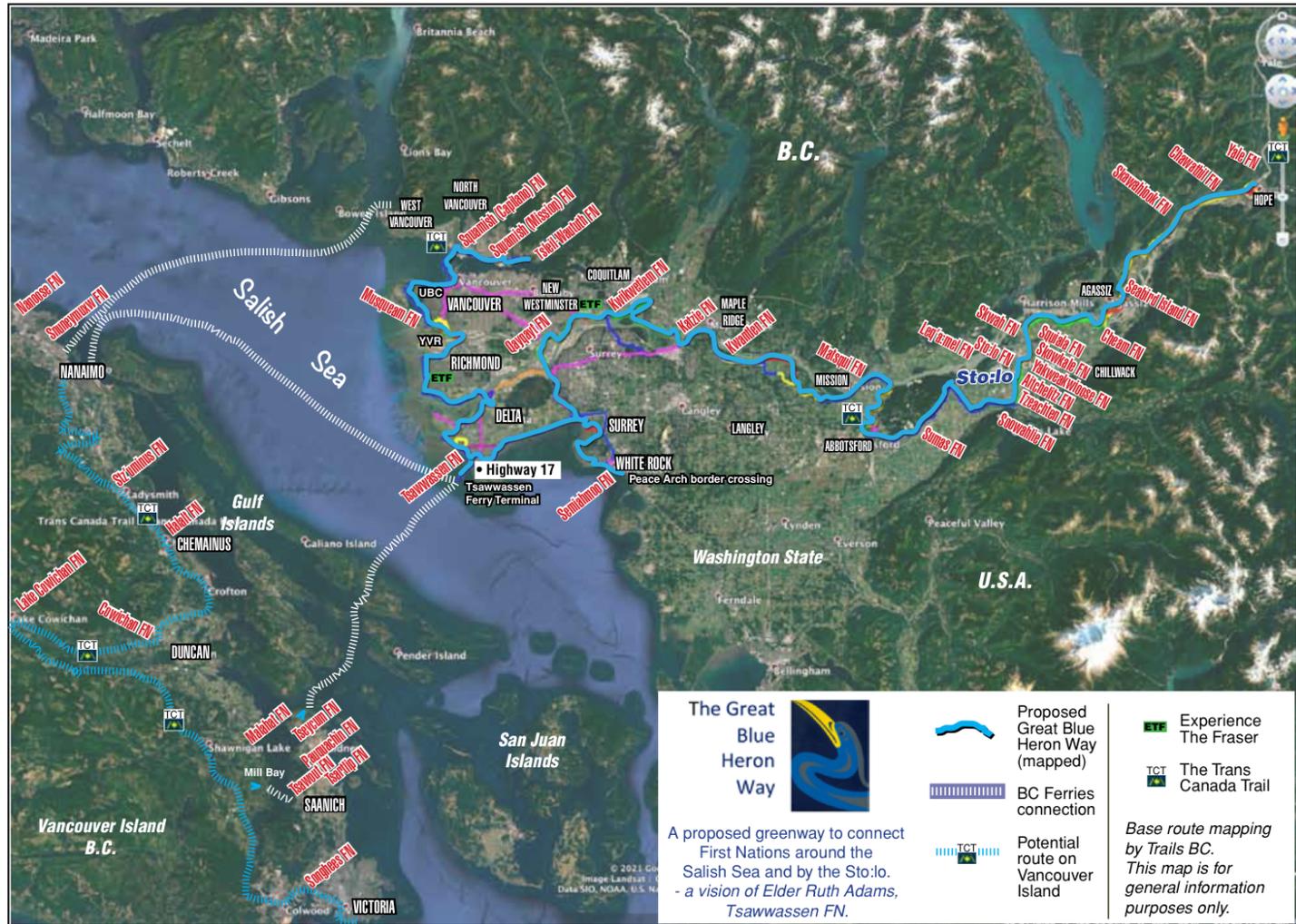
Business Case presented by the Great Blue Heron Way (GBHW- a non-government organization) for the incorporation of Active Transportation infrastructure on Highway 17 between 52nd St and Tsawwassen Drive, Delta.

Prepared July 2021 by David Grigg, infrastructure Planner for the GBHW.

Executive Summary

This business case presented is for Active Transportation improvements along Highway 17 between 52nd Street and Tsawwassen Drive through Tsawwassen First Nation and Delta.

The Great Blue Heron Way is the vision of Elder Ruth Adams, to connect First Nation communities and welcome all users, to safely walk and wheel on a cultural education pathway around the Salish Sea as close to wildlife habitat as is possible. The host nation is Tsawwassen First Nation (TFN) located where the four directions of the Great Blue Heron Way (GBHW) take travellers west along the ferry causeway to Vancouver Island, east to the Fraser Valley and BC Interior, north along the Salish Sea coast and south to the Peace Arch border crossing into the U.S.



The meeting of the four directions of the GBHW is where this business case is located. Safe greenway access across Highway 17 is required to connect existing multi-use pathways through TFN and Delta. Highway 17 has divided the residential homes and sacred sites of Tsawwassen First Nation ever since it was built.

Project Identification

The project includes Highway 17, a provincial ferry and truck route (the South Fraser Perimeter Road), between 52nd Street and Tsawwassen Drive. It includes both intersections – at 52nd Street where residents and workers need to access major retail workplaces and transit, and at Tsawwassen Drive where residents and travellers need to access homes, services, trails and parks.

Project Definition

With the advent of a treaty being signed by the governments with the Tsawwassen First Nation in 2009 the area has transformed from one, best described as suburban/rural-agricultural to an urban-residential and commercial conurbation.

The lower mainland’s largest shopping mall has opened on the north side of Hwy 17, along with centres of employment - including an Amazon distribution facility. Development has also included the expanding residential community of Tsawwassen Shores. On the opposite south side, adjacent to the Tsawwassen Springs Golf Course, the residential community of Seaside is now being occupied and further expansions are also proceeding close to the highway.

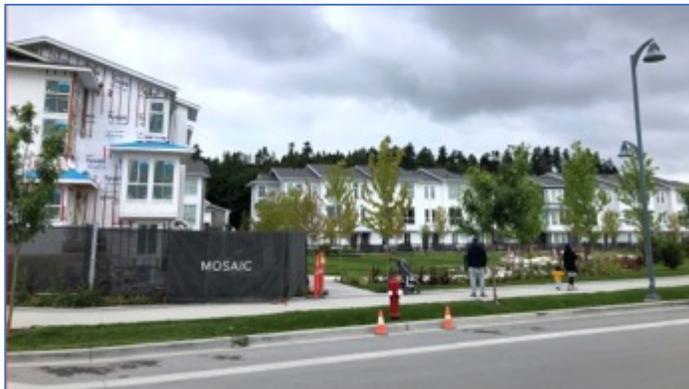


Photo: Seaside, the bluffs in the background house a Great Blue Heron Rookery.

The area remains in transition and construction continues unabated tapping into the Lower Mainland’s demand for affordable housing. However, school children, who are domiciled in the new housing complex of Tsawwassen Shores, on the north side of Highway 17, need to access schools and civic facilities situated within the township of Tsawwassen on the southside of Highway17, and the south side families need to access all the facilities, including park playgrounds and trails, on the north side. As a consequence, the need to improve walking and cycling infrastructure has increased exponentially.

Although signalized crosswalks are provided at 52nd Street, Salish Sea Way and Tsawwassen Drive intersections, the highway presents a considerable psychological and physiological barrier to active transportation. And that includes cycling in the paint line separated bike lanes alongside the vehicle carriageway that has a posted speed limit of 80km/h. Photos are Highway 17 travelling east towards Salish Sea Drive.



Photo 1: A 'cyclists stop and dismount' sign on Hwy 17. Photo 2: Cycle lane over ramp through bus stop. Photo 3: Shoppers on Hwy 17 at Salish Sea Drive.

Adding to the highway's overbearing complexity is its 53 degree (NE to SW) orientation from the north-south grid line. This results in challenging sight lines for drivers when merging southbound to westbound onto the highway from any of the north-south intersecting roads. A high degree of visual diligence is required to make the merge into the faster stream of traffic. This merging manoeuvre, at an acute angle of 37 degrees to the highway, is assisted by on-ramp slip lanes of large geometric radius at each of the intersections. For drivers executing this merging manoeuvre a visual extreme left shoulder check is required before and at the bike lane zone. It is also a pull in zone for Transit buses which adds to the diligence required by drivers to avoid cyclists.



The intersection refuge islands are now outdated - they are far too small to accommodate cyclists hauling a children's chariot or, as is very popular in Vancouver, a cargo bike cyclist taking children to and from daycare.

Photo 1: Pedestrians at 52 St walking north across Hwy 17. Photo 2: People standing on tiny refuge island at 52nd St and Hwy 17, north west corner of intersection.

There is one other very significant issue that should be considered. Highway 17 was constructed in 1960 to serve the BC Ferry Terminal. In doing so it split the Tsawwassen First Nations people from access to their freshwater springs emanating from the bluff, their church and their community on the southside. The southside includes the Great Blue Heron Rookery on the bluffs, and a sacred park for TFN members at a protected archaeological site below the bluffs.

While access to spring water is no longer an issue, back and forth pedestrian access across the busy highway with fast moving vehicles is. The TFN Breakwater Path, accessed by the BC Hydro Station near Tsawwassen Drive, halts at Highway 17, and Tsawwassen Drive itself will continue to require safe pedestrian access across Highway 17, between homes, trails and sacred land sites families of all ages should be able to safely visit and enjoy in their daily lives.



Photo 1: GBHW TFN Breakwater Path ends at Hwy 17 (looking west towards ferry terminal). Before Hwy 17 was built, the path was continuous, connecting the entire TFN community together.



Photo 2: Traffic heading to ferry on Hwy 17 at Salish Dr.



Photo 3: Pedestrians crossing Hwy 17 to Seaside from a walk on GBHW TFN Breakwater Path.

The current posted speed limit is 80km/h. An MVA involving a vehicle and pedestrian is most likely to result in a fatality. A posted speed limit of 50 km/h would reduce highway noise impacting the residential community and injurious outcomes by 60% compared with 80km/h. The Ministry recognizes this with posted signs that state '50km/h when children on the highway'. This is not adequate, vulnerable users, pedestrians and users of active travel modes, need all-hour safe passage.

Summing up. The conurbation of Tsawwassen and the Tsawwassen First Nation Lands has grown significantly and now is the time to take a fresh look.

Project Options

The primary goal is to increase pedestrian and cyclist safety at the intersections of 52nd St, Salish Sea Drive and Tsawwassen Drive. Fundamental to the modifications of existing infrastructure is the need to acknowledge and review the posted highway speed limit of 80km/h. Initially, 60 years ago, the highway was built to provide a safe and efficient (few signalised stopping points) route to the new ferry terminal. In 1997, the ferry terminal added a new truck destination, Duke Point, when truck traffic ceased at Horseshoe Bay Ferry Terminal and was transferred to the Tsawwassen Ferry Terminal. Duke Point also has heavy private vehicle use to mid and north Vancouver Island, there are no transit services at Duke Point for foot passengers. The two objectives, that of the Tsawwassen communities either side of the highway and that of the region for safe and efficient access to the ferry must be reconciled-including Active Transportation.

Option 1.

Transform the highway from a suburban/rural fast route to an urban arterial by reducing the posted speed limit to 50km/h and by changing the intersection(s) geometry to accommodate pedestrians and cyclists. The geometric changes could be targeted at specific corners and include removal of refuge islands and the accompanying slip to merge lanes and replacing them with normalized corner curbs that are able to work for both wheelchairs and cyclists with cargo type e bikes ferrying children between home, school, shopping and parks.

Pedestrians and cyclists should be designated their own crossing space, with a pedestrian crosswalk and a green painted cycle crossing.

Specifically, for Tsawwassen Drive, safe access is required for TFN Members of all ages to cross Highway 17 to access a new sacred site park opened in July 2021, located below the heron rookery on the Tsawwassen Bluffs.

Specifically, for the northwest corner of 52nd Street a “No right turn on red” would likely be a very significant advance in Active Transportation safety. The attached link captures the issue of underperforming pedestrian infrastructure on camera at 52 St. <https://www.youtube.com/watch?v=Ly94GiX0R6E>

Option 2.

Provide the minimum changes highlighted in option 1 but also to include a pedestrian/ cycle overpass at Tsawwassen Drive and at the 52nd St intersection.

Specifically, for 52nd St; It is noted that the minimum crossing distance from refuge island to refuge island is across 7 lanes and because of the angle geometry of the highway the crossing distance is approximately 40 metres. For seniors this translates to around 50 to 60 seconds crossing time. Given the objective of reconciling safety and vehicular efficacy, providing an overpass option while keeping the crossing time allowed to 40 seconds would strike an acceptable balance. As drivers are often guilty of making a left turn, say northbound to Hwy 17 west bound after the permitted signal phase, so too are pedestrians and cyclists guilty of stepping into intersection crosswalks when the warning signal has been displayed. An enhanced intersection would provide countdown timing displays with posted warning signs that inform intersection crossing users that a flashing signal or end of the countdown clock means that entry to the road space is illegal (jaywalking).

The desire for an overpass at 52nd St is not new. The City of Delta has made a number of requests. The following links highlight the wide intersection, long crossing angle for pedestrians (that slower vulnerable users, such as local elderly residents, do not even attempt to use) and the crowded refuge islands.

October 27, 2016

<https://delta.ca/your-government/external-projects-issues/pedestrian-cycling-overpass-at-highway-17-and-52-street>

January 5, 2019

<https://www.delta-optimist.com/local-news/delta-to-push-again-for-pedestrian-overpass-3090965>

June 25, 2021

<https://www.delta-optimist.com/local-news/overpass-needed-for-tsawwassen-highway-corner-says-delta-south-mla-3894652>

Note. For both options a reduction of the speed limit and corner improvements would enhance the experience and safety of cyclists along Highway 17. But it still remains as a bike lane separated from traffic by a painted line and within the cycling community the shared road is looked upon as “only comfortable for a few”.



Fortunately, on the south side of the highway between Tsawwassen and Salish Sea Drives, a low-cost solution is at hand. The development of the Seaside estate is being advanced by the construction of a gravel service road overlaying the old Springs Boulevard. On completion of development a simple asphalt topping would transform the service road into a



Multi-Use Path to connect Tsawwassen and Salish Sea Drive intersections with access to the northside paths and trails around or through the Tsawwassen Mills southside parking lot road infrastructure.

Photo 1: Service Road and TFN Seaside development multi-use path looking east.

Photo 2: Service Road looking west.

Recommendations

1. Speed reduction zone through Tsawwassen Community.

- a. Recommend new posted speed limit of 50km/h through the Tsawwassen community zone between 52nd St and Tsawwassen Drive. And that in the preceding zones, 56th St to 52nd St and the western ferry causeway approach to Tsawwassen Drive, that warning notices of a lower speed limit through the Tsawwassen community (50km/h) are posted.

2. Tsawwassen Community entrance signage.

- a. Recommend that highway “ destination” informational type of boards be placed to augment posted speed limit changes from the Highway 17 default of 80km/h on the eastern approach and 60km/h on the western causeway approach.

3. Reconfiguration of NW corners at intersections.

- a. Recommend that the intersections be reviewed and where necessary modified to accommodate pedestrians and cyclists in an urban setting. That long radius slip/ merge lanes behind refuge islands on the north-western corners are substituted by normalized corners with no permitted right turn on red (traffic light) privilege.

4. Overpass

- a. Recommend that an overpass at the Tsawwassen Drive and 52nd St intersections be constructed to accommodate walking and cyclists with access ramps at 5% maximum gradient. That the immediately adjacent crossing be upgraded to include a clearly marked dedicated cycle crossing of sufficient width for two-way use.

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