

Priorities for DC Fast Charging Locations on Vancouver Island - 2016 Update

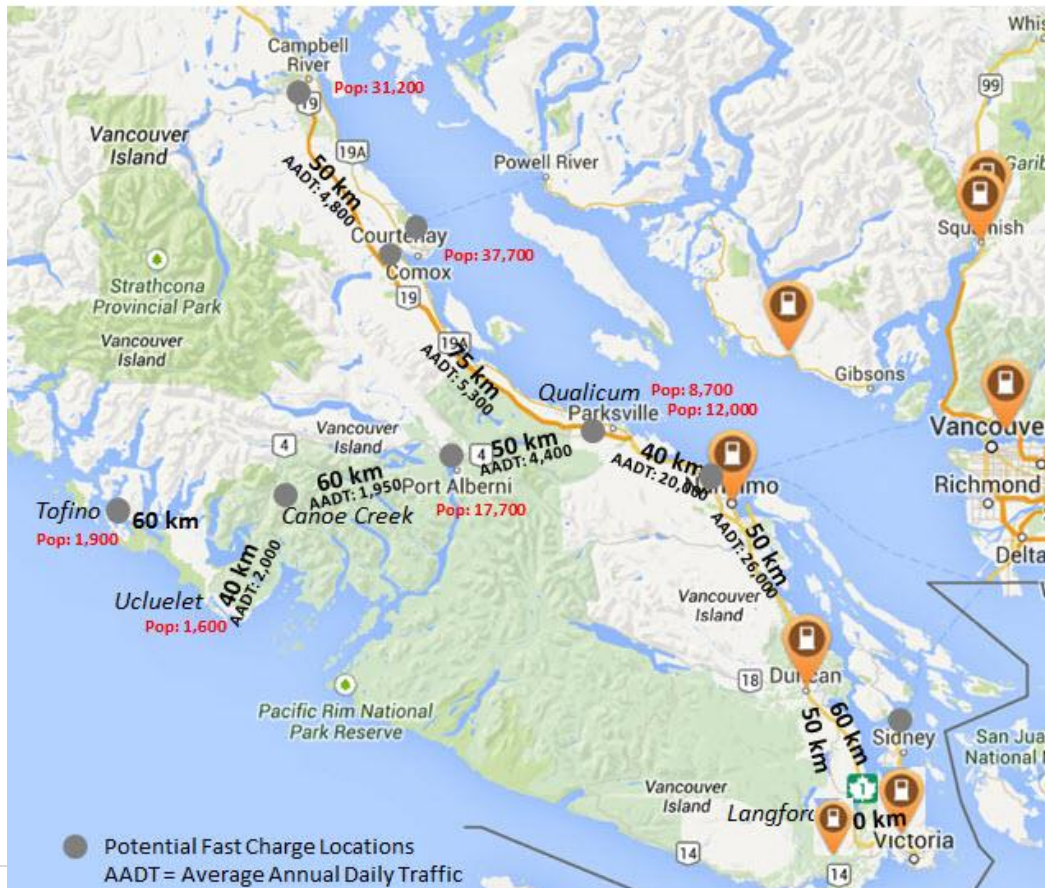
Each year the Victoria Electric Vehicle Club reviews its recommendations for future Direct Current Fast Charger (DCFC) facilities on Vancouver Island in order to take into account any new information or changed conditions.

Figure 1 (below) includes the potential DCFC sites that were considered in the 2016 review as follows:

- Sidney (near ferry terminal)
- Nanaimo (an additional DCFC near ferry terminal)
- Qualicum / Parksville / Coombs
- Port Alberni
- Canoe Creek
- Tofino
- Courtenay
- Comox (near ferry terminal)
- Campbell River

Figure 1

Potential additional DCFC Locations for Vancouver Island - 2016



As routes with higher traffic volumes and cities with higher populations centres are more likely to result in higher EV adoption rates, traffic volumes and city population data were added to the 2016 evaluation criteria for future DCFC locations.

Summer traffic volumes are higher on the vacation routes north and west of Qualicum and Parksville. However, according to BC Ministry of Transportation data, the summer volume increases are about the same (50%) in both directions. As a result, no additional weight or priority was given to routes with higher summer traffic volumes.

Table 1 outlines the evaluation criteria that were used in the determination of DCFC priorities by the Victoria Electric Vehicle Club for 2016.

Table 1

Evaluation Measure	Criteria
Extension of DCFC network	Preference given to locations that represent 50 to 70 km extensions to the current DCFC network and/or that are in proximity to the intersections of major highways
Traffic Volumes [1]	Preference given to highway links with higher traffic volumes
Proximity to Population Centres	Preference given to locations near higher population centres
Proximity to main Highway	Preference given to locations in close proximity to the Trans Canada or BC numbered Highways (Hwy 1, Hwy 4, Hwy 19)
Amenities & Security	Preference given to more secure locations with a minimum 24/7 availability of washrooms and refreshment facilities in the immediate area. An exception is made for wilderness areas [2] where no facilities are available.

[1] both Average Annual Daily Traffic (AADT) and Summer Average Daily Traffic (SADT) volumes were considered. As Hwy 4 and Hwy 19 experience about the same summer traffic percentage volume increases, just the AADT figures are included in Figure 1.

[2] A wilderness area is an area that has no commercial establishments for 50 km or more in either direction

The VEVC does not support priority being given to DCFC chargers at any of the island ferry terminals (Sidney, Nanaimo or Comox). DCFC chargers at ferry terminals would be subject to peak loading conditions at the times ferries arrive or depart resulting in more frequent charging queues. It is preferable to have DCFC use as random as possible at 50km -70km intervals along major highways to reduce the frequency of charging queues. On this basis, (and the close proximity of the existing Victoria and Nanaimo DCFC chargers to ferry terminals) the potential DCFC chargers at Sidney, Comox and an additional charger at Nanaimo were dropped from further consideration.

Tofino is a 3 hour drive from Nanaimo and a 4 ½ hour drive from Victoria. Tofino is considered to be suitable for destination charging as visitors usually stay overnight or for prolonged periods of time. Tofino does not warrant consideration of a DCFC at this time.

A DCFC is required in the vicinity of Qualicum Beach/Parksville/Coombs where Highway 19 intersects with Highways 4 and 4A West to Port Alberni and Tofino. Qualicum Beach has no 24/7 facilities and retains a zoning ban on chain establishments that could make such facilities available. Coombs is a seasonal destination with a low security profile and no 24/7 washroom or refreshment facilities. As Parksville has a 24/7 availability of washroom and refreshment facilities, Parksville is recommended as the DCFC location rather than at Coombs or Qualicum Beach.

The remaining five locations (listed in Table 2) locations were placed in priority order based on the evaluation criteria outlined in Table 1

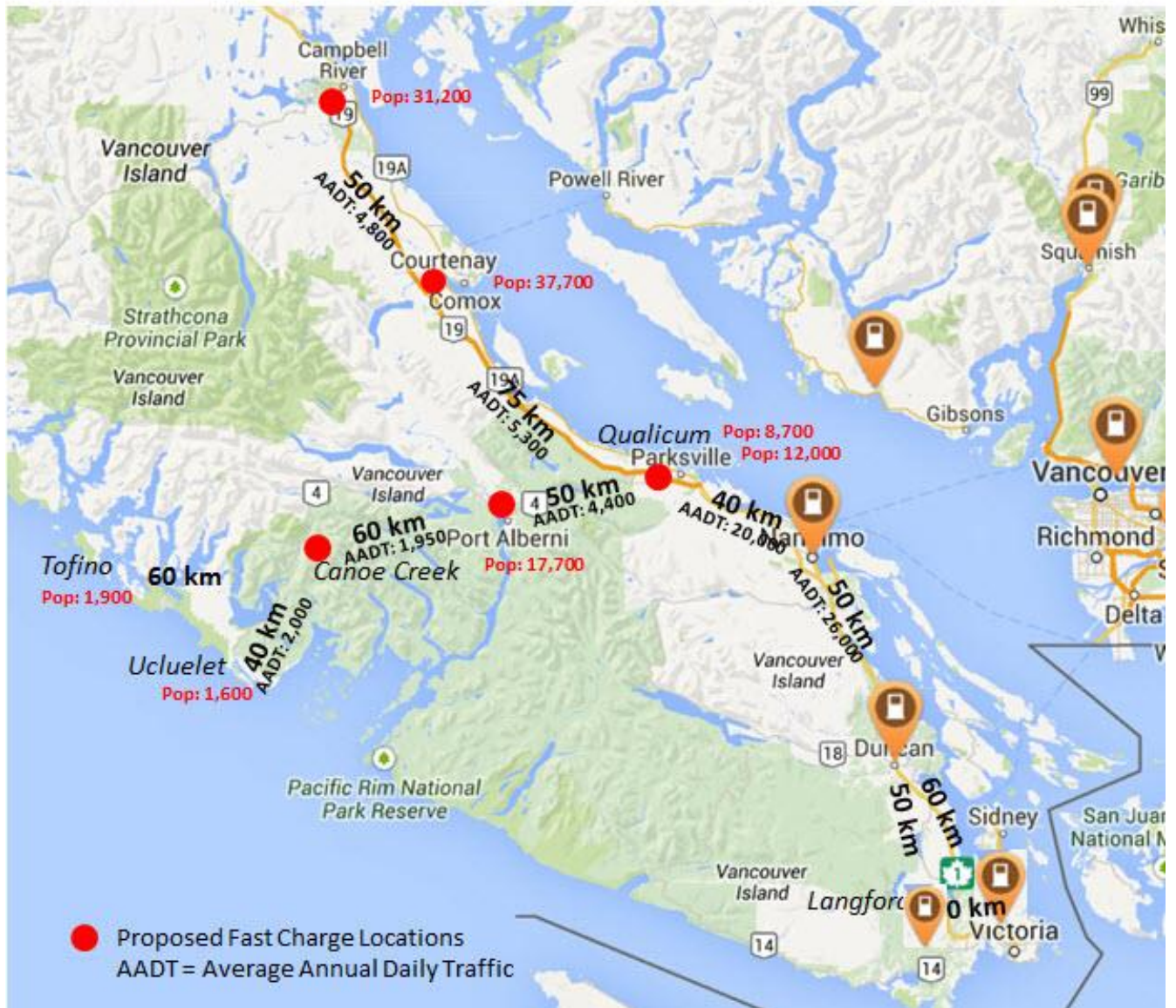
Table 2 - Summary of Priority DCFC locations for Vancouver Island - 2016 update

Location (priority order)	Distance to other DCFCs	DCFC from Hwy	Location Characteristics
Parksville*	Courtenay – 75 km Port Alberni – 50 km Nanaimo – 40 km	2.5 km	Urban, year-round Parksville has 24/7 amenities (e.g. Tim Hortons – 494 Island Highway) Qualicum maintains a ban on chain stores (Tim Horton etc.) and has no 24/7 amenities
Courtenay	Campbell River – 50 km	2.0 km	Urban, year-round 24/7 washrooms (e.g. Tim Hortons Cliffe /Lerwick) 24/7 refreshments and chain establishments
Campbell River	Courtenay – 50 km	0.8 km	Urban, year-round 24/7 washrooms (Tim Hortons, 3 locations are 24/7) 24/7 refreshments and chain establishments
Port Alberni	Canoe Creek – 40 km Parksville * – 50 km	0 km	Urban, year-round 24/7 washrooms (e.g. Tim Hortons, 4550 Johnson Rd - Hwy 4) 24/7 refreshments and chain establishments
Canoe Creek	Ucluelet- 40 km Tofino – 60 km Port Alberni – 60 km	0.0 km	Wilderness location: remote and isolated stretch of Hwy 4 No 24/7 washrooms No 24/7 refreshments or chain establishments

*Qualicum is 9 km closer to Courtenay but eliminated as it still maintains a zoning ban on chain establishments that could provide 24/7 service such as a Tim Hortons.

Figure 2 (next page) is a summary of the Victoria Electric Vehicle Club recommended DCFC location priorities for Vancouver Island.

Figure 2
Priority of Additional DCFC Locations for Vancouver Island 2016



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