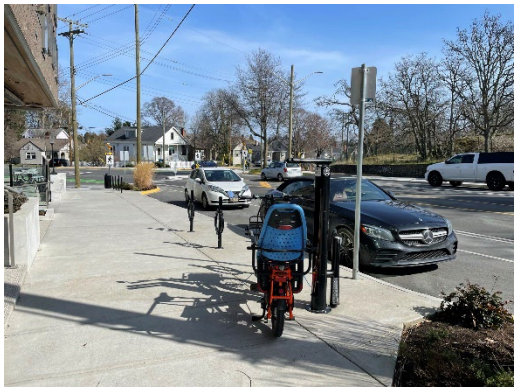
REVIEW OF OAK BAY ACTIVE TRANSPORTATION STRATEGY

Final Report



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1.0 INTRODUCTION

The District of Oak Bay's Active Transportation Strategy (ATS) was completed in 2011. As twelve years have passed since the Strategy's adoption, this report serves as a review of what has been done so far and what remains to be implemented in terms of active transportation infrastructure in Oak Bay. More specifically, the objective of this review is to identify—and prioritize—which of the incomplete projects in the 2011 Strategy should be advanced so the District could apply for funding and grant applications in the immediate future. Further, this report also references the District's draft Pedestrian and Sidewalk Master Plan, which informed the list of priority pedestrian facility projects.

The active transportation networks in the District of Saanich and City of Victoria are also considered within this review to understand opportunities for connections to existing facilities in adjacent communities.

1.1 Existing Policies, Plans, and Industry Guidelines

1.1.1 BC Active Transportation Design Guide

The BC Active Transportation Design Guide (BCATDG)[1] is a comprehensive set of planning and engineering guidelines offering recommendations for the planning, selection, design, implementation, and maintenance of active transportation facilities across the province. It contains engineering principles and best practices from the municipal, provincial, national, and international levels.

The BCATDG was used as a reference for evaluating and recommending facilities in this review. Therefore, the recommendations provided in **Section 3.0: Priority Projects** align with provincial guidelines and industry standards.

[1] Ministry of Transportation and Infrastructure. (2019). BC Active Transportation Design Guide. Available online at: https://www2.gov.bc.ca/gov/content/transportation/transportation-infrastructure/engineering-standards-guidelines/traffic-engineering-safety/active-transportation-design-guide

1.1.2 Oak Bay Active Transportation Strategy (2011)

The 2011 Oak Bay ATS identifies routes, facilities, programs and regulations that can help facilitate an increase in active transportation and work toward creating a safer, healthier, more sustainable community. It focuses on pedestrian networks, multi-use trails, commuter bike routes, neighbourhood bikeways and wayfinding improvements with recommended accessibility considerations for each. The strategy includes an implementation plan that indicates priorities for each facility type, in addition to funding opportunties, policies and regulations to move forward with.[2]

Cycling facilities that had already been developed prior to the adoption of the 2011 ATS are outlined in the Strategy, as follows:

- Foul Bay Road bike lanes on both sides from Lansdowne Road to Fort Street / Cadboro Bay Road
- Foul Bay Road signed as a shared roadway from Fort Street / Foul Bay Road to McNeill Avenue
- Cadboro Bay Road bike lanes that are approximately 100m north and south of the Cadboro Bay Road / Bowker Avenue intersection
- Cedar Hill Cross Road bike lane on the north side between Henderson Road and Gordon Head Road (District of Saanich border)
- Beach Drive signed as a shared roadway from Crescent Road to the City of Victoria border. Beach Drive is identified as a scenic route throughout Oak Bay (and beyond), but does not include dedicated cycling facilities
- There are many major roadways identified as appropriate bike routes using signage, but do not include specific on-street cycling facilities
- Bowker Creek Walkway used as a off-road cycling route; however, it is not intended for cycling per the the Recreational Use of Oak Bay Parks & Open Spaces: Report of the Parks Vision Committee (2011)

[2] District of Oak Bay. (2011). Active Transportation Strategy. Available online at: https://www.oakbay.ca/sites/default/files/municipal-hall/Reports/Oak%20Bay%20Active%20Transportation%20Strategy_FINAL_Sept12-11.pdf.

In addition, the ATS identifies the types of pedestrian facilities that existed in Oak Bay prior to its adoption including sidewalks, trails, and walkways. In particular, the following walking trails are referenced:

- The Bowker Creek Walkway that runs along the "day lighted" portions of Bowker Creek, between Monterey Avenue and the east of Oak Bay High School
- The Willows Beach Walkway that follows Willows Beach from Cattle Point to Bowker Avenue, and includes a wide walkway with lighting and benches
- The Shoal Bay Walkway that follows the waterfront adjacent to Oak Bay Marina
- Former laneways that have been designated and designed as trails throughout Oak Bay, including Camas Lane and Centennial Trail

The improvements undertaken by the District since the 2011 ATS are summarized in **Section 2.0.**

1.1.3 Pedestrian and Sidewalk Master Plan (2023)

Currently underway, the District of Oak Bay's Pedestrian and Sidewalk Master Plan (PSMP) will guide the development of the sidewalk network and identify additional strategies to improve the pedestrian experience for residents, visitors, and people working in Oak Bay. It will provide an opportunity to build an inclusive and connected pedestrian network that strengthens the quality of life for the community. The aim is to ensure connections that are meaningful and provide continuous and direct routes that are safe, comfortable, enjoyable, and navigable for users of all ages and abilities.[3]

With the first draft complete, the Pedestrian and Sidewalk Master Plan outlines the baseline conditions of pedestrian facilities in the District, identifies issues, opportunities and improvement strategies, and provides several concept designs throughout the District to represent the application of potential design solutions to address the identified issues.

As the PSMP is near completion and with a detailed analysis of the District's pedestrian network already completed through that plan process, this report does not include a comprehensive summary of the District's current and planned pedestrian facilities. Upon

[3] District of Oak Bay. (2023). Pedestrian and Sidewalk Master Plan. Available online at: https://connect.oakbay.ca/pedestrian-sidewalk-masterplan

the adoption of the PSMP, pedestrian and cycling infrastructure must be integrated to ensure safe and accessible connectivity across the entire active transportation network in Oak Bay.

1.2 Neighbouring Municipalities Active Transportation Networks

1.2.1 City of Victoria

The City of Victoria is building an All Ages and Abilities (AAA) cycling network throughout the city. AAA facilities are intended to be designed in such a way that they are safe, comfortable, and equitable for all cyclists, regardless of age or ability.[4] Adopted in 2016, the City's AAA cycling network plan is aimed to be completed by this year (2023). Once the network is complete, 95% of the municipality will be within 500m of an AAA cycling route, providing safe and convenient access to village centres, parks, recreation centres and schools.[5] The plan includes cycling facilities on three roads that connect to Oak Bay:

- **Haultain Street –** completed in 2022, the Kings – Haultain corridor is a shared use neighbourhood bikeway that extends to Richmond Road, approximately 500 metres from the Oak Bay border. This corridor provides signage and traffic calming facilities intended for people cycling. Haultain Street continues into Oak Bay, eventually turning into Eastdowne / Estevan Road.
- **Fort Street** – Projected to be completed in 2023, the proposed AAA cycling facilities on Fort Street from Cook Street to Foul Bay Road will include road paving, protected bike lanes, pedestrian crossing upgrades, accessibility enhancements, and new traffic signals. East of Foul Bay Road, Fort Street continues into Oak Bay as Cadboro Bay Road.
- **Richardson Street** – From Cook Street to Foul Bay Road, Richardson Street is designed as a shared-use neighbourhood bikeway, similar to Haultain Street. Richardson connects into Oak Bay after Foul Bay Road as McNeill Avenue, terminating at Newport Avenue.

[4] National Association of City Transportation Officials. (2023). Designing for All Ages & Abilities. Available online at: https://nacto.org/publication/urban-bikeway-design-guide/designing-ages-abilities-new/
[5] City of Victoria. (2023). Victoria's AAA Cycling Network. Available online at: https://www.victoria.ca/EN/main/residents/streets-transportation/walk-roll-transit/cycling/victoria-s-aaa-cycling-network.html

Figure 1 shows Victoria's AAA Cycling Network map.

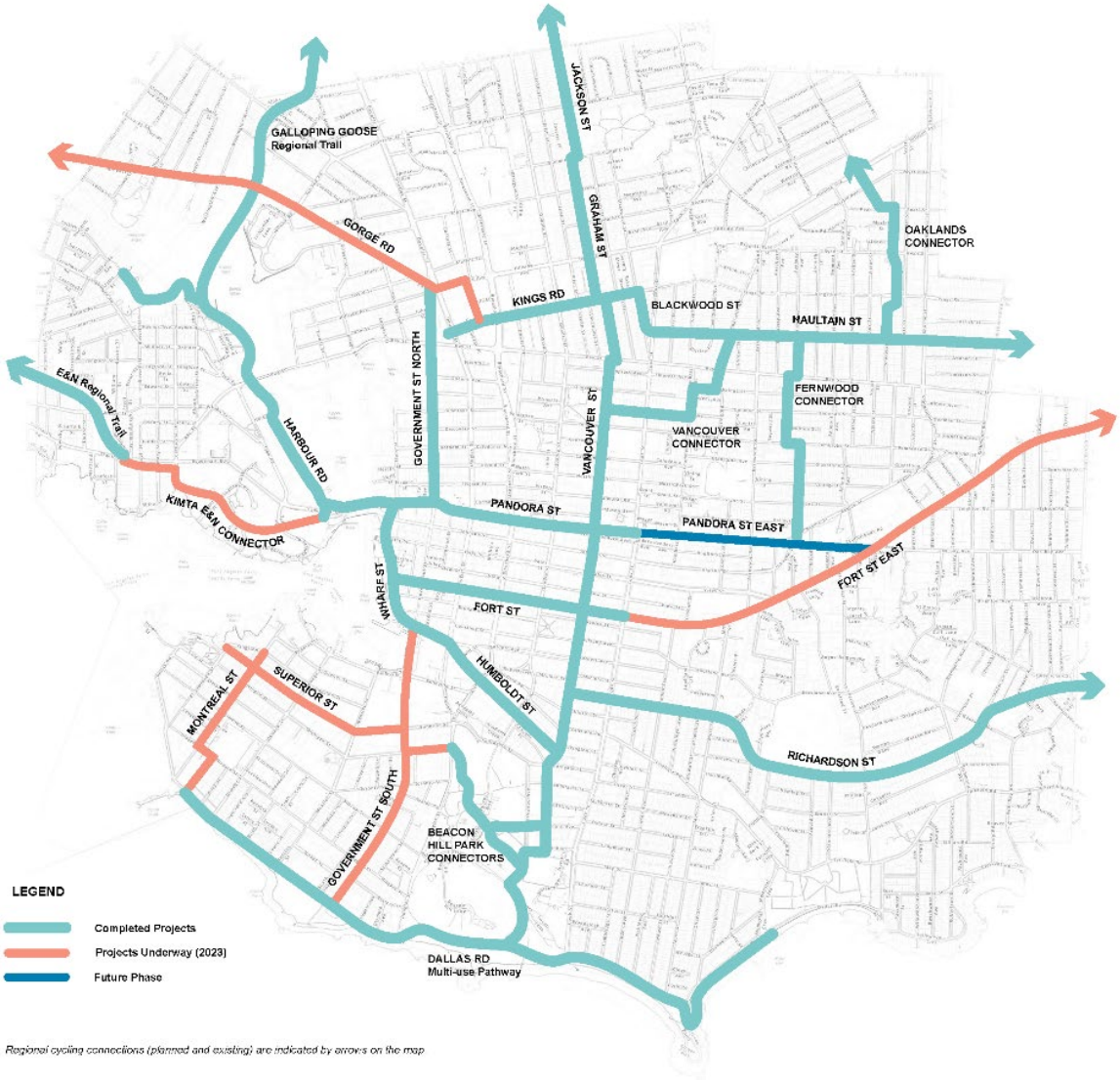


Figure 1. Map of Victoria's AAA Cycling Network

1.2.2 District of Saanich

The District of Saanich's Active Transportation Plan, developed in 2018, guides Saanich's investments in active transportation over the next 30 years. The plan establishes strategies and actions to improve active transportation related to three overarching themes: connections, convenience, and culture. Using these strategies and themes, infrastructure and programming improvements will ensure that active transportation modes are accessible, comfortable, and convenient choices for all ages and abilities.[6] The 2018 plan is currently being updated and as such, the priority facilities may change.

The long-term cycling network identified in the 2018 plan identifies a main AAA network spine along major corridors, and bicycle routes on local collectors. Saanich's proposed AAA network and bicycle routes provide connections that extend through to Oak Bay via the following roads:

Bicycle Routes:

- Cadboro Bay Road
- Cedar Hill Cross Road
- Foul Bay Road

AAA Network:

- Lansdowne Road
- Haultain Street

Figure 2 outlines the long-term cycling network map for the District of Saanich.

[6] District of Saanich. (2018). Moving Saanich Forward: Active Transportation Plan. Available online at: https://www.saanich.ca/assets/Local~Government/Documents/Engineering/Active%20Transportation%20Plan%20FINAL%20(Web).pdf

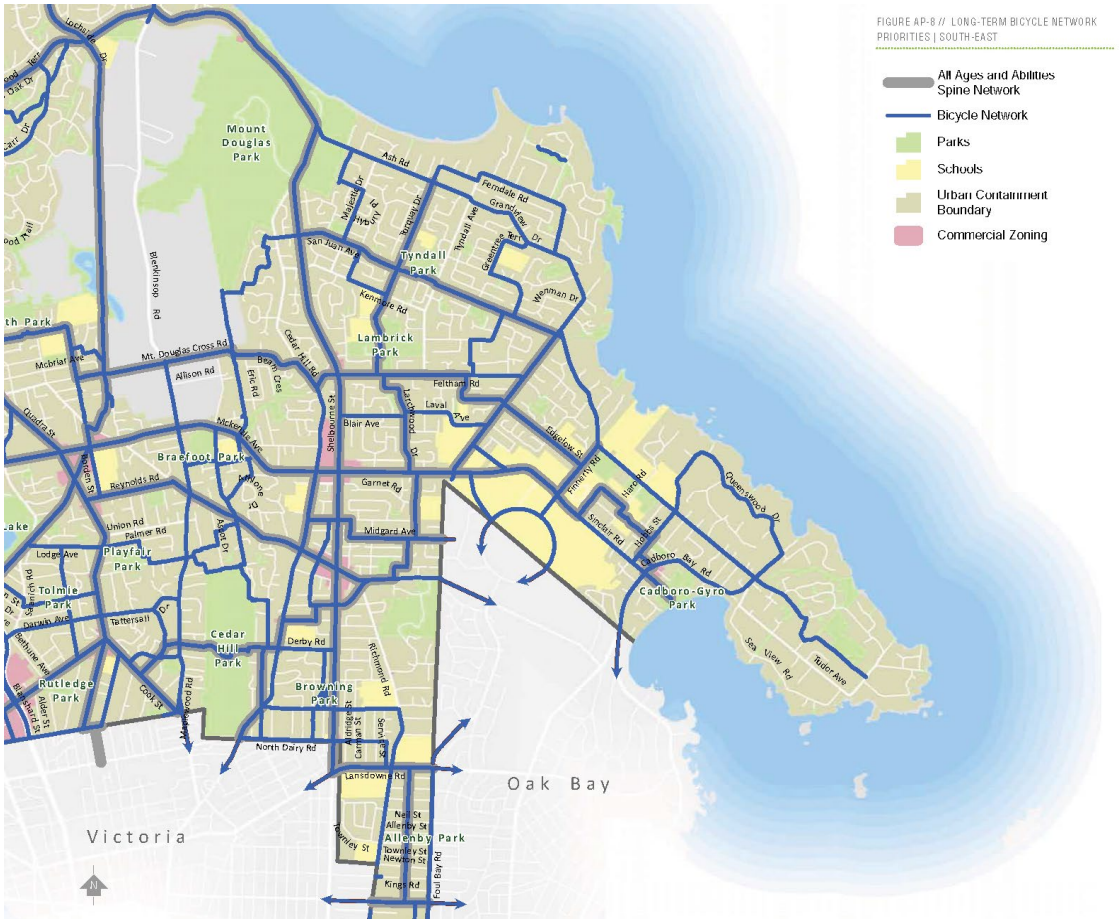


Figure 2. Long-Term Cycling Network - District of Saanich

2.0 ACTIVE TRANSPORTATION FACILITY INVENTORY

2.1 Pedestrian Facilities

The 2011 ATS recommended three specific locations for improved pedestrian facilities:

1. Oak Bay High School
2. Elgin Avenue / Public Works Walkway
3. Henderson Recreation Centre / Uplands Campus Trail.

Other recommendations for pedestrian facilities include walkway signage and safe routes to schools. The recommended improvements for Oak Bay High School have been completed, and the District is now looking more comprehensively at its pedestrian network through its PSMP to identify other areas for improvement.

The draft Pedestrian and Sidewalk Master Plan provides a detailed assessment of pedestrian facilities in Oak Bay and their associated conditions. The existing pedestrian network is shown in **Figure 3** and comprises on-street sidewalks and off-street paths.

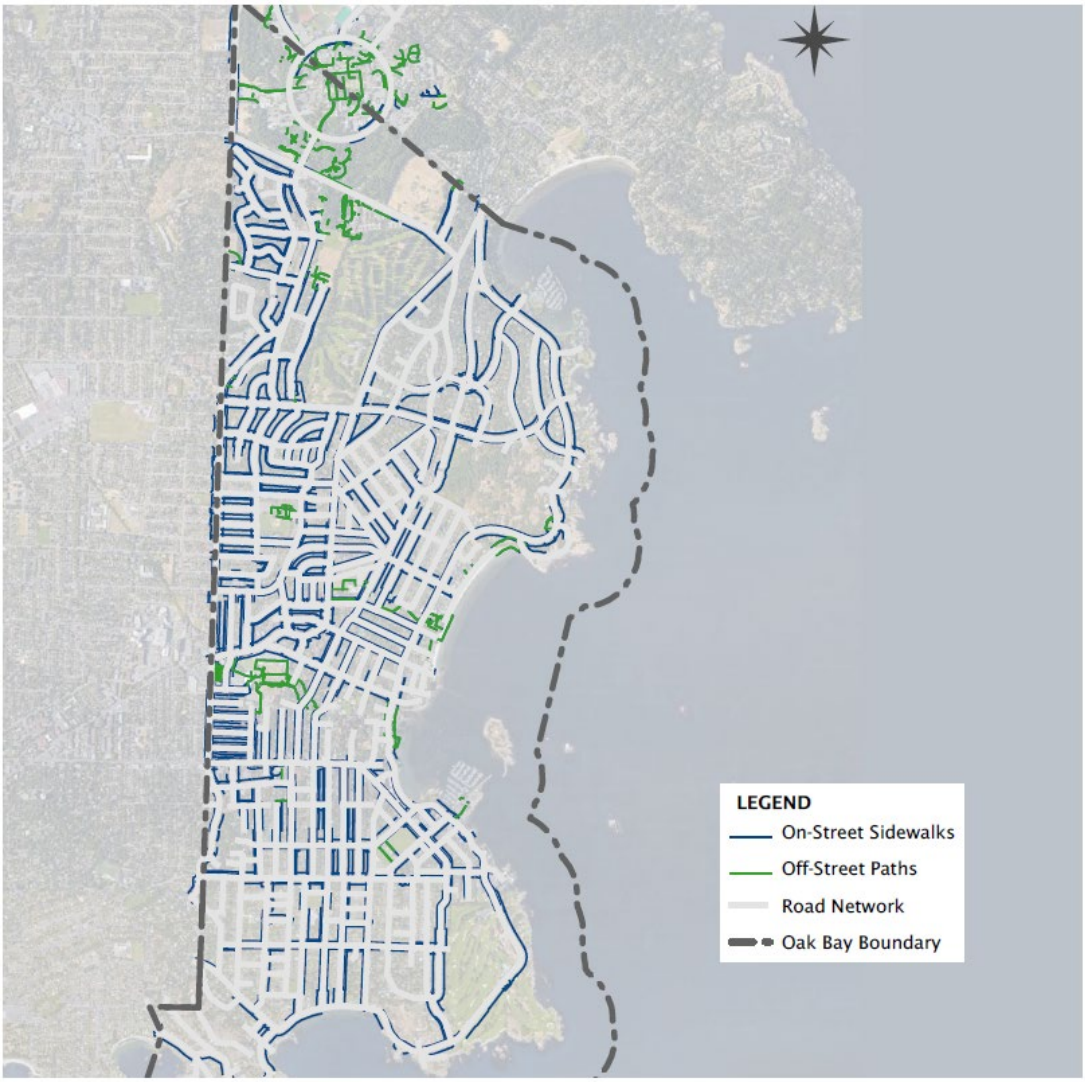


Figure 3. Existing Pedestrian Network (Pedestrian and Sidewalk Master Plan)

The recommended pedestrian improvements identified in the 2011 ATS are outlined in Table 1 below, along with their level of completion.

Table 1. ATS 2011 Pedestrian Facility Improvements

ATS Project Number / Location		Project Status	ATS Facility / Program Description
4.1a	**Oak Bay High School Connections**	Complete	Extension of Bowker Creek multi-use trail along the south of the school site, and north-south connections from Cadboro Bay Road and Epworth Street to the north end of Elgin Street
4.1b	**Elgin Avenue / Public Works Walkway**	Complete	Add a sidewalk on the east side of Elgin Street; widen sidewalk to the north side of Oak Bay Avenue immediately east of Elgin Street; improve walkway aesthetics adjacent to the public works yard (new lighting and murals on large adjacent wall)
4.1c	**Henderson Recreation Centre / Uplands Campus Trail**	Incomplete	Walking trail to connect the north end of Woodburn Avenue to Henderson Recreation Centre and Cedar Hill Cross Road (direct trail route at the east edge of the property and trailhead signage at each entrance that identify the trail)
4.1d	**Walkway Signage**	Partial	Include trailhead markers on walkways that are already constructed to an appropriate standard: Carnarvon Park (Townley St to Harlow Dr); Kendal Ave (west end); University Woods (west end); Woodburn Ave (south end)
4.1e	**Safe Routes to Schools**	Partial (Willows Elementary School, 2018)	Work with the School District, Parent Advisory Groups and schools to improve active transportation networks to schools; improve crosswalks at mid-block and intersection locations near Monterey School, along Cadboro Bay Road, and in school zones.

2.2 Cycling Facilities

Oak Bay's Active Transportation Strategy includes 19 different locations for cycling facilities to be implemented, categorized within four network types:

- **Multi-use Trail Network**
- **Commuter Cycling Network**
- **Neighbourhood Bikeway Network**
- **Laneway Network**

Figure 4 identifies the recommended trail and bicycle network in locations in the ATS.

To review the status of the network, a matrix was created to compare the ATS recommendations for each project with what has been implemented to date. Appendix A includes a high-level overview of what remains to be completed for each facility recommendation, in comparison to what has been done so far. The WATT team completed a cycling tour of the identified locations over two days, (March 2 and March 16, 2023) to review the status of completion for each project. The cycling tour showed that three of the 19 projects are partially completed, and one project fully completed. Table 2 summarizes the status of the identified cycling projects in the ATS, and photos are included on the following pages showing the observations of existing facilities from the cycling tour.

Figure 4. Recommended Trail and Bicycle Network - Oak Bay 2011 ATS

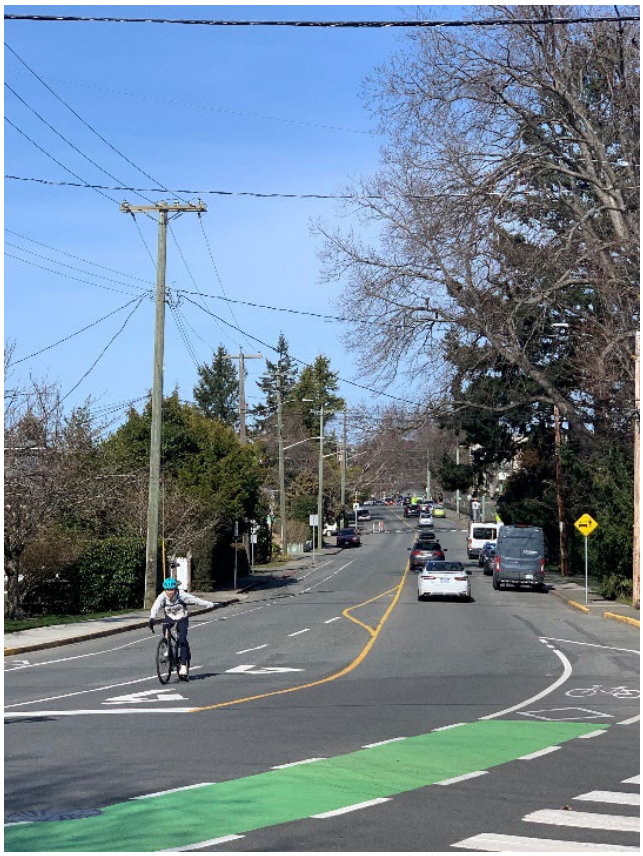
Table 2. Cycling Facility Inventory

Project Number / Location		Project Status	Facility Provided
Multi-use Trail Network			
4.2a	**Bowker Creek Multi-use Trail**	Complete	Multi-use trail connecting from Bowker Creek Walkway through Oak Bay High School to Cadboro Bay Rd
4.2b	**Cedar Hill Cross Road Multi-use Trail**	Incomplete	N/A
Commuter Cycling Network			
4.3a	**Cadboro Bay Road Commuter Route**	Partial	Painted bike lane on both sides of road from Foul Bay Rd to Bowker Ave
4.3b	**Henderson Road/Foul Bay Road Commuter Route**	Incomplete	N/A
4.3c	**Oak Bay Avenue Commuter Route**	Incomplete	An adaptive sidewalk[7] was installed during the pandemic on the north side of the road from Wilmot Place to Elgin Road. It is currently used by people walking and cycling.
4.3d	**Lansdowne Road Commuter Route**	Incomplete	N/A
4.3e	**McNeill Avenue Commuter Route**	Incomplete	N/A
4.3f	**Bowker Avenue Commuter Route**	Incomplete	N/A
4.3g	**Beach Drive Scenic Route**	Incomplete	N/A

[7] An adaptive sidewalk is an at-grade pedestrian facility within the roadway that is usually separated by a vehicle travel lane. These facilities typically have protection from a vehicle travel lane in the form of a barrier (e.g., bollard, delineator post, etc.).

Project Number / Location		Project Status	Facility Provided
Neighbourhood Bikeway Network			
4.4a	**Central Oak Bay Neighbourhood Bikeway**	Incomplete	N/A
4.4b	**Henderson Road Neighbourhood Bikeway**	Partial	Multi-use pathway between Kings Rd – Carrick Rd
4.4c	**Haultain-Estevan Neighbourhood Bikeway**	Partial	Signage has been installed
4.4d	**McNeill Avenue-Beach Drive Neighbourhood Bikeway**	Incomplete	N/A
4.4e	**Oak Bay Ave-Beach Drive Neighbourhood Bikeway**	Incomplete	N/A
Laneway Network			
4.5a	**Hampshire Road-Windsor Park Connection**	Incomplete	N/A
4.5b	**Victoria Avenue-Byng Street Connection**	Incomplete	N/A
4.5c	**Ripon Road – Beach Drive Connection**	Incomplete	N/A
4.5d	**Dunlevy Street – Beach Drive Connection**	Incomplete	N/A

Wayfinding at Oak Bay High School



Cadboro Bay Road

McNeill Avenue

Henderson Road Multi-use Trail from Kings Road - Carrick Road

End of Bike Lane on Cadboro Bay Road

Bowker Creek Multi-use Trail

Cadboro Bay Commuter Route

Adaptive Sidewalk on Oak Bay Avenue

3.0 PRIORITY PROJECTS

3.1 Pedestrian Facilities

The draft Pedestrian and Sidewalk Master Plan includes a proposal for five "missing links" that have high potential for pedestrian improvements as follows:

- **McNeill Avenue** – issues of high vehicle speeds, high vehicle volumes and poor visibility. Potential improvements could include traffic calming devices.
- **Musgrave Street** – issues of high vehicle speeds, high traffic volumes, and traffic control compliance. Potential improvements could include crossing guards to enforce vehicle stopping at crosswalks.
- **Cadboro Bay Road** – a pedestrian crossing control analysis identified that a special crosswalk would be suitable for the intersection of Epworth Road and Cadboro Bay Road.
- **Oak Bay Avenue** – improvements could include more street furniture, reduced crossing distances, wider sidewalks, raised crosswalks, pedestrian-only zones, improved street lighting, more signalized crossings, and additional traffic crossing measures.
- **Beach Drive** – improvements could include improved sidewalks and crosswalks and additional traffic calming measures.

The PSMP includes improvement strategies and concept designs that can be applied to various locations throughout Oak Bay to improve safety, comfort, enjoyment, and navigability around the community.

Based on the missing links identified in the PSMP and alignment with cycling facility priorities (see Section 3.2), three pedestrian improvements have been identified as high priority based on two broad criteria: (1) overall alignment with the PSMP and (2) opportunity to be integrated with a priority cycling facility improvement project. The design measures and recommended facility types align with what is outlined in the PSMP. The three projects, their specific locations, rationale, and recommended improvements are shown in Table 3. Note, the recommendations are derived from the PSMP.

Table 3. Summary of Pedestrian Priority Projects

Project / Location	Rationale	PSMP Recommendation
McNeill Avenue (Hampshire Road – Island Road) **Focus Intersections:** • McNeill Avenue & Hampshire Road • McNeill Avenue & Transit Road • McNeill Avenue & Monterey Avenue	• Located near a school and lacks crossing opportunities at several intersections • High vehicle speeds, high vehicle volumes, poor visibility • WATT is already preparing detailed design for this corridor based on Council direction to include the project in the 2023 capital program • Identified as a high priority for cycling improvements	• Speed humps, to reduce vehicle speeds and alert drivers that they are approaching a crosswalk • Pedestrian activated flashers, to reinforce pedestrian priority and warn drivers to slow down and stop for pedestrians • Curb bulges and curb extensions to slow down vehicles and improve sightlines • Tactile mats, to indicate where crossing is safe for those with visual impairments
Cadboro Bay Road (Bee Street – Cranmore Road) **Focus Intersection:** • Cadboro Bay Road & Epworth Street	• Located near a high school that extends through a shopping area • Right-turn lane into Oak Bay High School is frequently misused to pass vehicles before the traffic lanes along Cadboro Bay Road merge • Safety concerns for students crossing Cadboro Bay Road at Epworth Street to access the westbound bus stop located across from the school • Identified as a high priority for cycling improvements	• Curb extension to make use of unused residual space; reinforce pedestrian priority; and provide a physical barrier encouraging drivers to slow down and merge where existing pavement markings are confusing • Raised bike lane and crossing to encourage people cycling to slow down before crossing the pedestrian zone • Bollards/planters, to serve as a visual queue for oncoming traffic and to indicate where crossing is

Project / Location	Rationale	PSMP Recommendation
		safe for pedestrians with visual impairments
Oak Bay Avenue (Yale Street – Oliver Street) **Focus Intersection:** • Oak Bay Avenue & Hampshire Road	• Main commercial village • Public has expressed an interest in improving the pedestrian realm and overall pedestrian connectivity • Identified as a high priority for cycling improvements	• Restricted left turns to reduce pedestrian-vehicle conflicts that arise from the off-set of Hampshire Road • Widened sidewalks to provide more space for pedestrians and improve accessibility for those using mobility aids • A raised pedestrian plaza to reinforce pedestrian priority and encourage walking within the Oak Bay Village • Parklets to encourage the pedestrian realm, improve business opportunities, and provide space for street furniture and pedestrian refuge • Planters to serve as visually appealing barriers between the pedestrian and vehicle zones

3.2 Cycling Facilities

Following completion of inventory of the existing cycling facilities, projects that were identified as incomplete or partially complete were evaluated further to determine their level of priority for implementation. Priority was determined based on the following criteria: [a] existing facilities (i.e., if a project has already started but requires extension or upgrading); [b] existing facilities connect to adjacent municipalities to enhance regional connectivity; [c] the road has annual average daily traffic (AADT) data that is available and warrants a cycling facility based on best practices; and [d] the location provides connectivity to major destinations in Oak Bay.

Based on these criteria, six projects have been identified as high priority. The naming and terminology for the recommended facility type reflects the BC Active Transportation Design Guide (BCATDG). The six projects are as follows:

1. **Lansdowne Road Commuter Route** – multi-use pathway
2. **Cadboro Bay Road Commuter Route** – protected bike lanes
3. **Oak Bay Avenue Commuter Route** – protected bike lanes
4. **Henderson Road Neighbourhood Bikeway** – neighbourhood bikeway
5. **Haultain-Estevan Neighbourhood Bikeway** – neighbourhood bikeway
6. **McNeill Avenue Neighbourhood Bikeway** – neighbourhood bikeway

Table 4 provides a summary of the selected priority projects, and the rationale and implications for each. It is recommended that all six projects be designed to an all ages and abilities (AAA) standard that is consistent with the design guidance in the BC Active Transportation Design Guide.[8,9]

[8] The inclusion of this recommendation is based on feedback from a District of Oak Bay Council meeting (July 17, 2023) Resolution #2023 – 368.
[9] Government of BC. (2019). BC Active Transportation Design Guide. Available online at: https://www2.gov.bc.ca/gov/content/transportation/transportation-infrastructure/engineering-standards-guidelines/traffic-engineering-safety/active-transportation-design-guide

Table 4. Summary of Cycling Priority Projects

Project / Location	Rationale	Implications
Lansdowne Rd Commuter Route – multi-use pathway (Cadboro Bay Road – Beach Drive)	• Connects directly to the existing multi-use pathway on Lansdowne Road in Saanich • Connects to Camosun College—a key destination for commuters • AADT: 7,100. Based on the BCATDG, streets that have traffic volumes >4,000 vehicles per day warrant a higher quality cycling facility such as a protected bike lane or multi-use pathway.	• The ATS includes a proposal for 1.5m protected bike lanes; however, to promote regional connectivity and greater safety for people walking and cycling, it is recommended that the District implement a multi-use pathway that is consistent in design to the one in Saanich • Requires altering the roadway and/or the right-of-way to include a multi-use pathway on the north side
Cadboro Bay Rd Commuter Route – protected bike lanes (Entire length)	• There are existing bike lanes on a segment of Cadboro Bay Rd (from Foul Bay Road to Bowker Ave) • AADT: 6,500. Based on the BCATDG, streets that have traffic volumes >4,000 vehicles per day warrant a higher quality cycling facility such as a protected bike lanes or multi-use pathway. • Connects directly to the AAA cycling network in the City of Victoria via Fort St • Connects to key destinations: Oak Bay High School, the commercial village at Estevan Ave / Cadboro Bay Rd, Cadboro-Gyro Park	• Potential loss of on-street parking • BC Transit Route 11-Tillicum Centre/UVic has multiple stops along Cadboro Bay Rd

Project / Location	Rationale	Implications
Oak Bay Ave Commuter Route – protected bike lanes (Fort Street – St. David Street)	• AADT: 5,700. Based on the BCATDG, streets that have traffic volumes >4,000 vehicles per day warrant a higher quality cycling facility such as protected bike lanes or multi-use pathway • Connects directly to the AAA cycling network in the City of Victoria via Pandora Ave and Fort St • Connects to Oak Bay Village, one of the main commercial hubs in the District	• Potential loss of on-street parking for commercial businesses • Requires altering the roadway to allow space for protected bike lanes • BC Transit Route 2 – James Bay/South Oak Bay has multiple stops along Oak Bay Ave
Henderson Rd Neighbourhood Bikeway (Foul Bay Road – Haultain Street)	• Existing multi-use path on a segment of the corridor (Kings Rd – Carrick Rd) • Speed limit is 30-40 km/h, allowing for safe cycle travel with reduced traffic speeds • Connects directly to other proposed facilities in Oak Bay (Lansdowne Rd, Haultain St) • Connects to key destinations: Camosun College, University of Victoria • Provides a north-south connection in Oak Bay	• The corridor already functions like a neighbourhood bikeway. However, per the BCATDG, the road should be signed with a posted speed limit of 30 km/h and have pavement markings (e.g., sharrows) to meet the standards of a “Level 1” neighbourhood bikeway
Haultain-Estevan Neighbourhood Bikeway (Foul Bay Road – end)	• Speed limit is 30-40 km/h, allowing for safe cycle travel with reduced traffic speeds • Connects directly to the existing AAA cycling network in the District of Saanich and the City of Victoria via Haultain St • Connects to Willows Beach, a key recreational destination • Provides an east-west connection in Oak Bay	• The corridor already functions like a neighbourhood bikeway. However, per the BCATDG, the road should be signed with a posted speed limit of 30 km/h and have pavement markings (e.g., sharrows) to meet the standards of a “Level 1” neighbourhood bikeway

Project / Location	Rationale	Implications
McNeill Ave Neighbourhood Bikeway (Foul Bay Road – Transit Road)	• WATT is already preparing detailed design for this corridor based on Council direction to include the project in the 2023 Capital program • Connects directly to the existing AAA cycling network in the City of Victoria (Richardson Street) • AADT: 4,000 (as of 2019). Based on the BCATDG, streets that have traffic volumes in the range of 1,000 – 2,500 vehicles per day should be candidates for a Level 3 neighbourhood bikeway with traffic calming and traffic diversion, where feasible	• Traffic calming improvements are recommended per WATT's design, which will slow down vehicle speeds along this corridor

Table 5 provides an overview of the proposed facility type for each priority project and the recommended guidelines from the BCATDG based on the proposed facility type and road characteristics.

Table 5. Proposed Facility Types and Recommended Guidelines

Project / Location	Facility Type	Guidance from BCATDG
Lansdowne Rd Commuter Route (Cadboro Bay Road – Beach Drive)	Multi-use pathway	• **Recommended width:** 3.0 - 4.0m • **Street Buffer Zone:** 0.6 - 2.0m • **Surface Material:** Asphalt • **Longitudinal Grade:** 0.6% – 5% • **Cross Slope:** 2% - 5% • **Signage:** Every 50 - 100m
Cadboro Bay Rd Commuter Route (Entire length)	Protected bike lanes	• **Recommended Width (uni-directional)**: 1.8-2.5m • **Street Buffer Zone**: 0.6-0.9m • **Street Buffer Type:** Preferred spacing elements for 50km/h – intermittent vertical elements (flexible posts, planters) • **Pavement Markings:** Bicycle symbol and Reserved Use diamond symbol pointing in the direction of travel at each approach to all crossings. Green pavement markings at conflict points
Oak Bay Ave Commuter Route (Fort Street – St. David Street)	Protected bike lanes	See above.
Henderson Rd Neighbourhood Bikeway (Foul Bay Road – Haultain Street)	Neighbourhood bikeway	• **Level 1 Treatments (traffic volumes 1,000-2,500 & speed 30-50km/h)** • Intersection treatments (cycling activated signals, signalized

Project / Location	Facility Type	Guidance from BCATDG
		crossings, minimizing stops at local road crossings) • Signage (bicycle route sign, wayfinding, road sign plates to include bicycle symbol) • Pavement markings (shared use lane, custom directional markings) • 4.0-5.5m clear width travel lane
Haultain-Estevan Neighbourhood Bikeway (Foul Bay Road – end)	Neighbourhood bikeway	See above.
McNeill Ave Neighbourhood Bikeway	Neighbourhood bikeway	See above – detailed design in progress

DESIGNING WITH ELECTRIC BICYCLES IN MIND…

In addition to the identified priority projects, the District must consider the implications of electric bicycles (e-bikes). E-bikes have an electric motor of 500 watts or less and functioning pedals that is limited to a top speed of 32 km/h without pedalling. There are more e-bike users now in the Capital Regional District since the 2011 ATS was adopted, and as the District continues to build its cycling network, the needs of e-bike users will need to be considered. This includes oversized bicycle parking for electric cargo bikes, charging infrastructure, wayfinding for infrastructure, and signage for multi-use pathways, among others. Signage on multi-use pathways is especially important given that e-bikes operate at higher speeds compared to regular bicycles.

3.3 Costing

High-level (Class D) unit costs have been included in this section to help staff prioritize the various projects identified in the preceding sections.[10] Section 7.9 of the PSMP includes unit cost estimates for a range of infrastructure types including traffic calming devices, signage and pavement markings, and pedestrian specific amenities (e.g., benches, planters, parklets). Therefore, this section only includes unit costs for the pedestrian and cycling facilities that are above and beyond what is included in the PSMP as shown below in **Tables 6-8**.

Table 6. Class D Unit Cost Rates, Pedestrian Facilities

Item	Unit Cost / Unit
2.0m sidewalk	$640 per metre
Growing medium soil 100mm depth (grass, banks)	$20 per m^2

Table 7. Class D Unit Cost Rates, Cycling Facilities (Multi-Use Pathway)

Item	Unit Cost / Unit
Installation – Civil Works & Materials	
Granular base 19mm – 100 mm thickness	$10 per m^3
75mm minus pit run – 300 mm thickness	$25 per m^3
Asphalt on pathway (50mm depth)	$55 per m^2
Pavement Markings and Signage	
Paint (symbol)	$300 each
Sign	$750 each
Green conflict zone marking	$250 per m^2

[10] Class D (2023 dollars) unit costs are based on concept level information using unit rates for linear works and intersection improvements. Cost estimates include 25% engineering and communications as well as 50% contingency. Cost do not include property and other significant impacts. Class D unit cost rates should not be used for budgeting purposes.

Table 8. Class D Unit Cost Rates, Cycling Facilities (Protected Bicycle Lanes)

Item	Unit Cost / Unit
Installation – Civil Works & Materials	
Paint (longitudinal white) lane	$10 per m
Concrete barrier (0.6m width)	$500 each
Pavement Markings and Signage	
Paint (symbol)	$300 each
Sign	$750 each
Green conflict zone marking	$250 per m^2

Table 9. Class D Unit Cost Rates, Cycling Facilities (Neighbourhood Bikeways)

Item	Unit Cost / Unit
Pavement Markings and Signage	
Paint (symbol) bike	$300 each
Sign	$750 each

4.0 SUPPORTING POLICIES & PROGRAMS

In addition to the provision of appropriate infrastructure, a high-quality active transportation network must be supported by policies and programs to help facilitate culture change and community uptake of utilizing active transportation facilities. In particular, the District should consider end-point facilities on District-owned properties and updates to the Parking Facilities bylaw to include bicycle parking requirements.

4.1 End-Point Facilities (District-owned Properties)

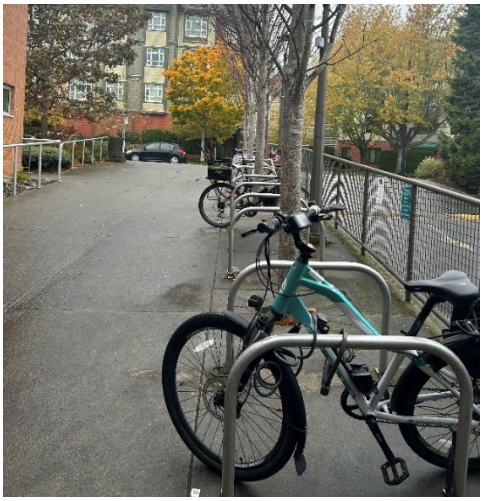
The District has the opportunity to provide upgraded end-point facilities for bicycles at District-owned properties. End-point facilities[11] refer to short-term and long-term bicycle parking, showers, change rooms, and repair facilities that accommodate active modes of travel for everyday trip.

More specifically, the District should consider end-point facilities at three locations: (1) Oak Bay Recreation Centre, (2) Monterey Recreation Centre and (3) the District of Oak Bay Municipal Hall.[12] These three locations are accessed by both staff and members of the public on a daily basis.

All three locations currently have some form of end point facilities; however, it is recommended that these facilities be upgraded to meet BCATDG standards. Currently, the Oak Bay Recreation Centre has both uncovered and covered short-term bicycle parking facilities, as shown in the images below. The uncovered bicycle parking facilities provided are an inverted U type (also called loop or staple rack), whereas the covered facilities provided are a coat hanger type rack.

[11] Government of BC. (2019). BC Active Transportation Design Guide. Chapter H.2: End-point Facilities. Available online at: https://www2.gov.bc.ca/assets/gov/driving-and-transportation/funding-engagement-permits/grants-funding/cycling-infrastructure-funding/active-transportation-guide-low-res/2019-06-14_bcatdg_section_h_rfs.pdf

[12] The inclusion of this recommendation is based on feedback from a District of Oak Bay Council meeting (July 17, 2023) Resolution #2023 – 368.



Existing Short-term Bicycle Parking at Oak Bay Recreation Centre

Existing Short-term (Covered) Bicycle Parking at Oak Bay Recreation Centre

Similarly, both uncovered and covered short-term bicycle parking is currently provided at Monterey Recreation Centre. The same coat hanger rack type is provided for both uncovered and covered facilities, as shown in the images below.

Existing Short-term Bicycle Parking at Monterey Recreation Centre

The District of Oak Bay Municipal Hall provides uncovered short-term bicycle parking facilities at two different entrances of the building. The facilities provided are an inverted U rack type (also referred to as loop or staple rack types). See images below.

Existing Short-term Bicycle Parking at Municipal Hall

The BCATDG standards identify that coat hanger type racks (such as the bicycle racks provided at Monterey Recreation Centre and in the covered bicycle parking at Oak Bay Recreation Centre) should be avoided due to performance concerns including, but not limited to:

- The top bar limits the height of bicycles that can be accommodated.
- Thin coat hanger loops are less durable than the thicker posts on other rack types.

The BCATDG recommends two rack types, shown in the figure below. The uncovered bicycle parking at Oak Bay Recreation Centre and the Municipal Hall meets the suggested inverted U design type.

RACK TYPE	NOTES
Inverted U (Also called loop or staple rack) 	•Can support two bicycles per rack. •Can be installed alone or in a series on rails. •Many variations are available. •Can be efficiently located within the Furnishing Zone of a public right-of-way.
Post and Ring 	•Can support two bicycles per rack. •Products exist to retrofit certain parking metres to create custom post and ring racks. •Can be efficiently located within the Furnishing Zone of a public right-of-way.

Figure 5. Bicycle Racks for All Applications from the BCATDG

In addition to end-point facilities for standard-sized bicycles, all locations should also provide short-term non-standard (oversized) bicycle parking with access to electrical outlets to be used for electric and/or oversized bicycles. Currently, none of the three focus locations provide oversized bicycle parking or access to electrical outlets. Figure 6 illustrates an example of the type of rack that could be considered for oversized bicycle parking and how paint can be used to better delineate these spaces.

[13]

Figure 6. Example of short-term oversized bicycle parking in Dublin, which provides extra space for larger bikes and are delineated with paint to make it easier for users to find.

To align with BCATDG standards, it is recommended that short-term non-standard bicycle parking be installed in covered shelters or off-street areas that are located at grade or accessible via a ramp so that cyclists do not need to lift their bicycles. Non-

[13] Image credit: Dublin City Council.

standard bicycle parking should be marked with signage and/or pavement markings to differentiate from standard bicycle parking. Figure 7 outlines design guidelines as per the BCATDG.

RACK TYPE	NOTES
Half-Height Stand  Source: Kevin Hickman	•Low enough that it will not support a standard bicycle, helping to reserve it for non-standard bicycles. •No lower than half height (40 centimetres tall), as some users may have difficulty bending down to access the rack. •Can be a tripping hazard; therefore, racks should be clearly marked with signage and/or pavement markings and installed in groups, preferably in a well-lit and sheltered location.
Ground Fixings   Source (both images): VelopA	•Parking bracket that can be flipped up by foot up to provide a secure place to attach a lock. •When not in use, the bracket retracts into the ground, so it is not a tripping hazard. •May not be accessible for people with limited leg or foot control or people with difficulties bending down.
Copenhagenize Bar  Source: Mikael Colville-Anderson	•An emerging technology in Denmark; still in design phase, not in widespread use. •Consists of a movable bar that flips down to secure the bicycle; moving parts would require maintenance. •Could feature a built-in locking mechanism active through a swipe card for subscribers.

Figure 7. Bicycle Racks for Non-standard Bicycles from the BCATDG

4.2 Recommended Bylaw Updates

The District of Oak Bay's Parking Facilities Bylaw does not contain any bicycle parking requirements. There is one reference of bicycle parking within the bylaw, with respect to electric bikes:

- Section A.1 (e) - Where a building contains a secondary suite it must provide an outdoor, labelled energized outlet capable of providing at least Level 1 (110 v) charging for an electric vehicle, scooter or bike.

Therefore, the District should review and update the Parking Facilities Bylaw to include bicycle parking requirements.[14] The specific rates for number and type of spaces (short-term or long-term) for land uses should be determined through a more detailed, comprehensive review of the bylaw. The review should identify the following topics:

- The short-term and long-term bicycle parking space ratios for all land uses within the bylaw.
- Design details for bicycle parking spaces including dimensions for bike stall sizes, guidelines for bike parking rooms, types of shelter required, and locational standards for short- and long-term spaces.
- Non-standard (oversized) bike parking requirements and associated design details. This typically includes the percentage of spaces that should be designed as oversized, the stall dimensions, the type of racks to use, and the allocation of how many spaces should have access to electrified outlets.

[14] The inclusion of this recommendation is based on feedback from a District of Oak Bay Council meeting (July 17, 2023) Resolution #2023 – 368.

5.0 CONCLUSION & NEXT STEPS

Over the last 12 years since the adoption of the Active Transportation Strategy, the District has completed only one pedestrian facility and three of 19 cycling facilities outlined in its Strategy. Two of the cycling projects are partially complete and one is fully complete.

The purpose of this report is to identify which of the pedestrian and cycling facilities originally proposed in the 2011 ATS should be advanced to the detailed design stage, and—eventually—toward construction. Specifically, the review identified three pedestrian and six cycling priority projects that the District should consider advancing to receive grant funding:

Pedestrian Improvements:

1. **McNeill Avenue** (Hampshire Road – Island Road)
2. **Cadboro Bay Road** (Bee Street – Cranmore Road)
3. **Oak Bay Avenue** (Yale Street – Oliver Street)

Cycling Improvements:

1. **Lansdowne Road Commuter Route** – multi-use pathway (Cadboro Bay Road – Beach Drive)
2. **Cadboro Bay Road Commuter Route** – protected bike lanes (entire corridor)
3. **Oak Bay Avenue Commuter Route** – protected bike lanes (Fort Street – St. David Street)
4. **Henderson Road Neighbourhood Bikeway** – neighbourhood bikeway (Foul Bay Road – Haultain Street)
5. **Haultain-Estevan Neighbourhood Bikeway** – neighbourhood bikeway (Foul Bay Road – end)
6. **McNeill Avenue Neighbourhood Bikeway** – neighbourhood bikeway (Foul Bay Road – Transit Road)

5.1 Projects to Advance to Grant Funding

As far as next steps, it is recommended that the District prepare a cost estimate and preliminary design (30% design) for #1, 2, and 5 of the cycling facility projects. While an AAA cycling facility is needed on Oak Bay Avenue, the District could wait to undertake the design work once it completes the Village Area Plan in 2024/2025.

A Class C cost estimate is recommended. By doing so, the District will be eligible to apply for a BC Active Transportation Infrastructure grant. The Province provides cost-share funding of up to $500,000 per infrastructure project to help build safe, active transportation networks.

Section 4.1.1 and **4.1.2** provide an overview of two potential grants that are applicable to the District of Oak Bay toward active transportation.

5.1.1 BC Active Transportation Infrastructure Grant Program

The B.C. Active Transportation Infrastructure Grants Program offers two grant options for Indigenous governments and local governments, including municipalities, regional districts, and Islands Trust. Specifically, the Active Transportation Infrastructure Grant allows eligible governments to apply for a maximum of two grants if they satisfy the following criteria (based on the 2022 intake):

- Projects previously funded prior to 2022/23, or prior to 2021/22 for projects with budgets over $1M, must be completed by application submission date.
- Project is part of an active transportation network plan or equivalent
- Project can begin construction once provincial funding has been announced
- Projects will be completed by March 2025 (projects under $1 million) or by March 2026 (projects over $1 million)
- Projects are open to the public

The grant program typically requires that projects be “shovel-ready”. If the District acts quickly on moving forward with the short-term priority projects, it can position itself to apply for funding for the next grant intake (2023-2024), which opens September 1, 2023.

The program guidelines[15] provide the specific detail on what constitutes as a "shovel-ready" project, which includes the following:

- The Cost Estimate submitted with the Grant Application must be Class A-C and current or forecasted to proposed construction date
- All project design work is complete
- Community consultation is complete

The province cost-shares to a maximum of $500,000 per project and the District would be eligible for 70% of the provincial funding.

5.1.2 Green Municipal Funds

The Green Municipal Fund (GMF) is a program administered by the Federation of Canadian Municipalities intended to help Canadian communities expand their sustainability initiatives. Since 2000, the GMF has deployed $900M in financing to 1,250+ sustainability initiatives and a further $1 billion has been committed to the fund through the Federal 2019 budget.

The specific GMF initiative that is relevant to Oak Bay is the "Capital Project Transportation Networks Commuting Options", which is a combined loan and grant funding program for capital projects that reduce pollution by improving transportation systems and networks. This program covers several topics including bike paths, walking and cycling networks that promote accessibility and safety, and evaluation of active transportation infrastructure, among others.

5.2 Quick Win Projects

The three recommended neighbourhood bikeways (projects #4-6) can be pursued more quickly and do not require provincial funding as lower cost facilities. As indicated, the McNeill Avenue neighbourhood bikeway has already been approved to be included in the District's 2023 Capital program.

[15] The full list of requirements for a "shovel-ready" project are provided on the BC government website here: https://www2.gov.bc.ca/gov/content/transportation/funding-engagement-permits/funding-grants/active-transportation-infrastructure-grants

Appendix A – Review of 2011 Oak Bay Active Transportation Strategy

ATS Project / Location		Network Type	ATS Facility Type / Route	Project Status	ATS Recommended Facility	Facility Provided
4.2a	Bowker Creek Multi-Use Trail	Multi-use Trail Network	Multi-use trail	Complete	Route from Willows (esplanade) through community gardens, baseball diamond, onto existing Bowker Creek Walkway, through Oak Bay High School / Rec Centre to Cad Bay Rd; consider widening to 4m; existing road crossing at Hampshire Road may require further study for safe design	Multi-use path connecting from Bowker Creek Walkway through Oak Bay High School to Cadboro Bay Rd
4.2b	Cedar Hill Cross Road Multi-use Trail	Multi-use Trail Network	Multi-use trail	Incomplete	Roadside 3m multi-use trail north side of Cedar Hill Cross Road adjacent to Uvic or install bike lanes the length of Cedar Hill Cross Road	N/A
4.3a	Cadboro Bay Road Commuter Route	Commuter Cycling Network	Commuter Route	Partial	1.8m bike lanes along entire length of Cadboro Bay Road, with 0.5m buffer between bike and vehicle lanes where width permits	Painted markings Foul Bay Rd - Bowker Ave; East side- "bike lane ends" north of Bowker; west side - starts Dalhousie - ends Foul Bay
4.3b	Henderson Road / Foul Bay Road Commuter Route	Commuter Cycling Network	Commuter Route	Incomplete	Eliminate time restriction on Henderson - lanes should be made available to cyclists at all times (currently only reserved for cyclists Mon-Fri 7am-7pm)	N/A
4.3c	Oak Bay Avenue Commuter Route	Commuter Cycling Network	Commuter Route	Partial	Short term - signage and paint markings for cycling awareness; long term - alter road cross-section to include 1.5m bike lanes	Bike Route sign, bollard-separated walking path
4.3d	Lansdowne Road Commuter Route	Commuter Cycling Network	Commuter Route	Partial	Portion west of Cad Bay Rd to include 1.5m bike lanes with consideration for a buffer b/w bike and vehicle lanes	Separated bike lane south side Shelbourne-Richmond; paint markings north side

ATS Project / Location		Network Type	ATS Facility Type / Route	Project Status	ATS Recommended Facility	Facility Provided
4.3e	McNeill Avenue Commuter Route	Commuter Cycling Network	Commuter Route	Incomplete	Sharrows, signage directing to Beach Drive	N/A
4.3f	Bowker Avenue Commuter Route	Commuter Cycling Network	Commuter Route	Partial	Paint markings and signage	"Bike route" signage
4.3g	Beach Drive Scenic Route	Commuter Cycling Network	Scenic Route	Incomplete	Portion b/w Dorset Rd and Broom Rd - signage and paint markings to encourage cyclists to use middle of travel lane and for vehicles to travel single file with cyclists	N/A
4.4a	Central Oak Bay Neighbourhood Bikeway	Neighbourhood Bikeway Network	Neighbourhood bikeway	Incomplete	Three sections: 1. Musgraves St southbound to Estevan Ave intersection - minor improvements (minimal traffic calming, intersection treatments, signs, paint markings) 2. Musgrave St / Hampshire Rd (Estevan Ave-Oak Bay Ave) - village to village portion, requires more significant bikeway design features including traffic calming, paint markers, intersection treatments and signs 3. Monterey Ave and Oliver St (Oak Bay Ave-Beach Drive) - minor bikeway improvements (signs, road surface improvements, minor traffic calming)	N/A

ATS Project / Location		Network Type	ATS Facility Type / Route	Project Status	ATS Recommended Facility	Facility Provided
4.4b	Henderson Road Neighbourhood Bikeway	Neighbourhood Bikeway Network	Neighbourhood bikeway	Partial	1. Henderson Rd (Foul Bay Rd-Kings Rd) - minor improvements (traffic calming, intersection treatments, signs, paint markings) 2. Henderson Rd (Kings Rd-Haultain St) - develop right-of-way to a multi-use pathway standard per the PCMP design guidelines 3. Epworth St - design similar to Henderson Rd and Elgin Rd 4. Multi-use route through Oak Bay high school site and adjacent to the District's public works yard 5. Elgin Rd should be designed similar to Henderson Rd and Epworth St	2. Henderson Rd (Kings Rd-Haultain St) - multi-use trail between Kings Rd - Carrick Rd 4. Multi-use route through Oak Bay High School site and adjacent to the District's public works yard
4.4c	Haultain-Estevan Neighbourhood Bikeway	Neighbourhood Bikeway Network	Neighbourhood bikeway	Incomplete	Connects Willows Beach, Beach Drive, Estevan Village, and Cadboro Bay Road, while allowing for connection to the greenway priority route on Haultain Road in the City of Victoria - should be designed with minor improvements (traffic calming, intersection treatments, signs, paint markings)	N/A
4.4d	McNeill Avenue - Beach Drive Neighbourhood Connection	Neighbourhood Bikeway Network	Neighbourhood connection	Incomplete	Eastward extension of McNeill Ave cycling route to Beach Drive can be achieved along St Louis Street and Margate Ave, connecting to Oak Bay Beach Hotel (signage and pain markings to be included along St Louis St and Margate Ave as wayfinding and indicating the presence of cyclists)	N/A

ATS Project / Location		Network Type	ATS Facility Type / Route	Project Status	ATS Recommended Facility	Facility Provided
4.4e	Oak Bay Ave - Beach Drive Neighbourhood Connection	Neighbourhood Bikeway Network	Neighbourhood connection	Incomplete	Cyclists can't access Beach Dr from Oak Bay Ave b/c of steep embarkment with staircase - Establish a connection at the eastern end of Oak Bay Ave (provide ramps adjacent to the existing pathway that accommodate cyclists/wheelchairs, or retrofit the staircase to include a bicycle channel)	N/A
4.5a	Hampshire Road - Windsor Park Connection	Laneway Network	Laneway Enhancements	Incomplete	Trailhead signs should identify laneway routes and destinations along the route; Surface conditions should be maintained to a reasonable walking condition; Crossing points should include warning signage for motorists; General safety should be assessed using CEPTED criteria	N/A
4.5b	Victoria Avenue - Byng Street Connection	Laneway Network	Laneway Enhancements	Incomplete	Trailhead signs should identify laneway routes and destinations along the route; Surface conditions should be maintained to a reasonable walking condition; Crossing points should include warning signage for motorists; General safety should be assessed using CEPTED criteria	N/A
4.5c	Ripon Road - Beach Drive Connection	Laneway Network	Laneway Enhancements		Trailhead signs should identify laneway routes and destinations along the route; Surface conditions should be maintained to a reasonable walking condition; Crossing points should include warning signage for motorists; General safety should be assessed using CEPTED criteria	N/A

ATS Project / Location		Network Type	ATS Facility Type / Route	Project Status	ATS Recommended Facility	Facility Provided
4.5d	Dunlevy Street - Beach Drive Connection	Laneway Network	Laneway Enhancements		Trailhead signs should identify laneway routes and destinations along the route; Surface conditions should be maintained to a reasonable walking condition; Crossing points should include warning signage for motorists; General safety should be assessed using CEPTED criteria	N/A