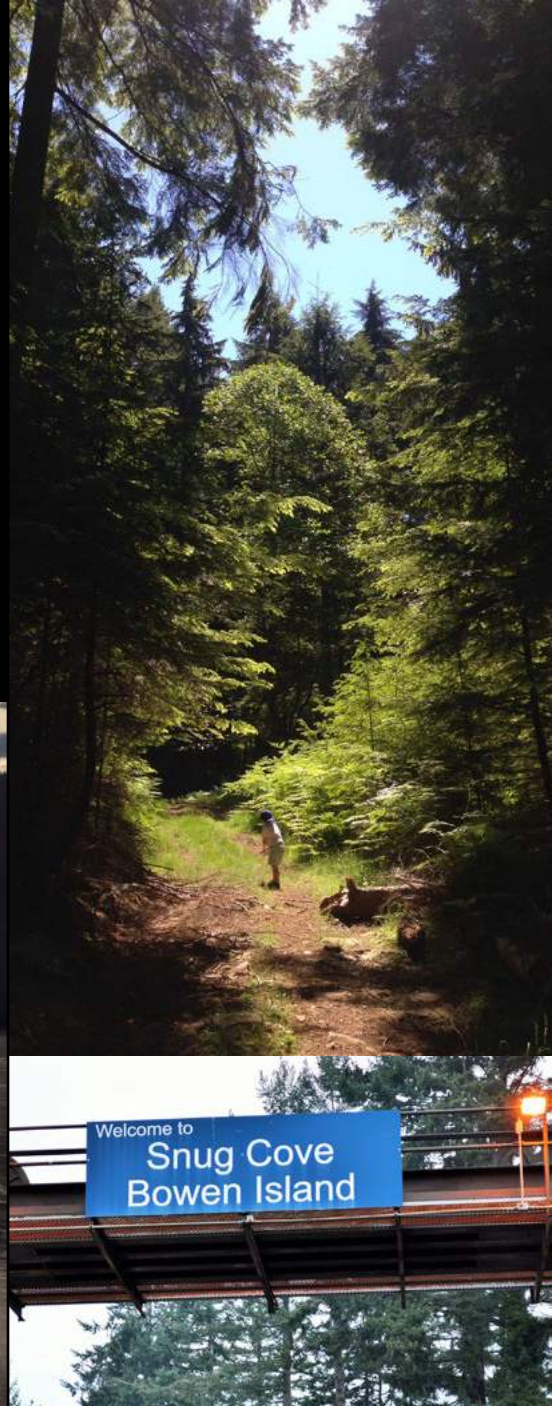


Transportation Plan

2018-2038



BOWEN ISLAND
Municipality

A special thank you to the dedicated Working Group for the Integrated Transportation Master Plan (ITMP) project. This Transportation Plan was made possible through the long hours, hard work and steadfast enthusiasm that this team contributed to this project. Thank you to:

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Executive Summary

In 2015, the Municipality embarked on creating the first Transportation Plan for the island. This 20-year Plan is the product of over two years of planning and stakeholder engagement. The Plan is built on a community vision of “simple, seamless, sustainable transportation options for every Bowen Islander”. This vision encompasses the three main goals of the Plan to have better transportation connections, choices, and health.

There are many islanders who often rely on walking or cycling and often encounter accessibility issues. Engagement and data collection identified that one of the greatest transportation gaps for the island is lack of safe and efficient active transportation infrastructure, along with need for more options to help reduce greenhouse gas emissions.

Priority projects over the next 20 years will be a cross-island multi-use path, pedestrian improvements to Cardena Dr, and coordinated

schedules between BC Ferries, TransLink, and other service providers. The Plan also includes many elements to build pedestrian and cycling networks, improve road safety, optimize and expand transit service, encourage alternative options, streamline access to regional destinations, and advocate for better accessibility on- and off-island.

The Plan organises these elements in a strategic approach by first developing the infrastructure and establishing more options, then promoting sustainable travel behaviour.

The Transportation Plan is a living document with annual reports to track progress and help inform minor adjustments to better achieve Plan goals. In 10 years, a comprehensive review of the Transportation Plan should be undertaken to determine any need to revise the community vision or goals.



Introduction

MISSION

To create an efficient and sustainable transportation system for the island by integrating planning for multiple modes of transportation, land use, and demand management.



In 1999, Bowen Island Municipality incorporated as a small rural community with rudimentary transportation operations. Over the years, the island has stayed rural and is still celebrated for its natural beauty. More recently, a variety of transportation issues were being raised by the community.

KEY CONCERNS

People were concerned about lack of connections and choices, and impacts on public health and the environment. They wanted to see an integrated transportation system that would:

- Facilitate walking and cycling
- Optimise bus service
- Coordinate regional connections
- Improve Cardena Rd pedestrian safety
- Increase alternative ways to get around
- Manage Snug Cove parking
- Integrate different modes of travel

In recent years, new opportunities have developed in technology, funding, and regional partnerships to help address these concerns. The time had come to invest in transportation planning to focus efforts and take advantage of arising opportunities.

TAKING ACTION

In 2015, the Municipality initiated the Integrated Transportation Master Plan (ITMP) project to develop the island’s first ever transportation plan. This plan would provide strategic guidance over the next 20 years for policies, development, and public investment related to transportation for Bowen Island.

MAKING OF THE TRANSPORTATION PLAN

The Plan was completed over two years by the ITMP Working Group, a sub-committee of the Transportation Advisory Committee (TAC). Through five phases, the project reviewed existing plans and studies, gathered background data, engaged stakeholders, developed alternatives, and prepared the final plan.

Community involvement was very important throughout the planning process. Over 1,000 people were engaged to help develop this Plan, with almost a year of dedicated public engagement including:

- ➔ A citizen questionnaire
- ➔ Three public information sessions
- ➔ A multi-stakeholder workshop
- ➔ Four neighbourhood meetings
- ➔ First Nations consultation
- ➔ A pop-up booth
- ➔ Two open houses

Additional comments were submitted through the project website and key contact (phone, email, and physical address). All key stakeholder groups were engaged, including residents, business owners, visitors, service providers, and external agencies. The Citizen Questionnaire was essentially an origin-destination survey that provided much of the travel pattern data cited in this Plan.



Engagement has been instrumental for establishing a community vision, and determining key priorities for improvement and public investment. The Transportation Plan builds on the ideas generated from the community, informed with data, analysis, research and best practices.

The Transportation Plan is organised as follows:

- VISION – what we want
- BACKGROUND – what we have
- PLAN – what we need to do
- IMPLEMENTATION – how we do it
- EVALUATION – keeping on track

Vision

WHAT WE WANT...

The community vision for Bowen Island transportation was crafted from the Official Community Plan (OCP), ITMP project engagement, and public comment to Council and the TAC over the years.

OFFICIAL COMMUNITY PLAN

The OCP chapter on transportation prioritizes active transportation, safety, more alternatives, integration, and reducing environmental impacts. The document contains 25 policies directly related to transportation. Every one of these policies draw on the need to better accommodate active transportation on the island. About half reference the design of the road network, with a specific policy to include a paved pedestrian path or sidewalk along all main roads. Five policies involve land use planning to create more walkable environments.

PUBLIC ENGAGEMENT OUTCOMES

Engagement results have highlighted key areas to be addressed, primarily active transportation



Figure 1 - ITMP on-line poll results

infrastructure, transit service, alternative options and regional connections.

Online Poll

Throughout 2016, an on-line poll was open on the project website asking people to select top transportation improvement priorities. 66 people voted, with almost half choosing walkability, followed by cycling and accessibility at 23% and 20%, respectively. Accessibility refers to the ability for everyone, regardless of ability or special needs, to access, use, and benefit from their environment.

Information Sessions Poll

During the three public information sessions, paper votes were submitted for transportation priorities. Almost half of votes were for active transportation, followed by transit at 19%, and alternative options and parking both at 17%. The majority of comments specifically asked for a multi-use path across the island.

Investment Priorities

The multi-stakeholder workshop identified common investment priorities across stakeholder

Transportation Plan Priorities

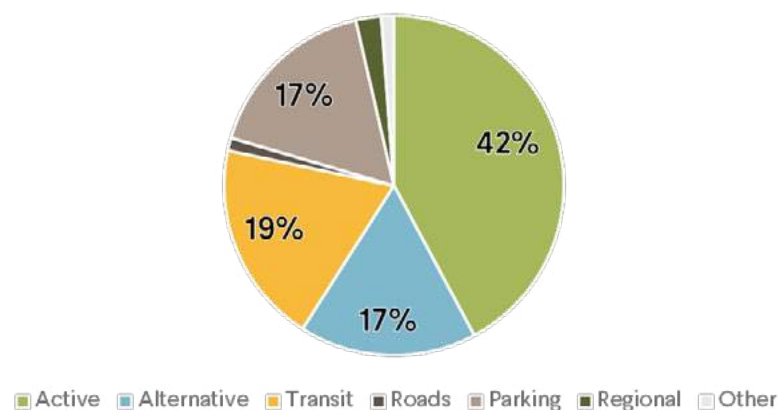


Figure 2 - ITMP Information Sessions poll results groups. These priorities were a multi-use path, improved transit and better regional connections. The highest priority location for a multi-use path was along Grafton Rd from Mount Gardner Rd to Grafton Lake. There was also support for a variety of alternative transportation options such as low-speed vehicles and ridesharing.

Neighbourhood Concerns

Discussion meet-ups were held in four different neighbourhoods across the island, yielding local insight on transportation issues and opportunities. The west side of the island would like more destinations for "purposeful walking", such as shops and services, and also safer walking and cycling connections to the local beaches. The south of the island would like to see more parking in the Cove, a water taxi to Seymour Bay, and a Park & Ride serving the area. Eastern neighbourhoods voiced concerns for pedestrian and cyclist safety, especially at night, as well as requests for "on-demand" style of transit service.

First Nations Consultation

Bowen Island is located within the Skwxwú7mesh (Squamish) unceded core traditional territory,

as well as the traditional territory of the xməθkəyəm (Musqueam), Tsleil-Waututh and shishalh (Sechelt). The island has been historically frequented by these First Nations for hunting, fishing and, later, wage jobs. Transportation initiatives in this Plan may provide opportunities to acknowledge and celebrate Aboriginal traditional knowledge through naming of key sites or routes, interpretive signage, public art, and continued collaboration with local First Nations, especially in the design of the Bowen Island portion of the North Shore Spirit Trail.

THE COMMUNITY VISION

In 20 years, Bowen Island transportation will epitomize island living. Getting around will be simple and relaxed. This means options that are efficient, healthy, safe and environmentally-conscious.

Pedestrians, cyclists and equestrians of all ages and abilities will have safe and direct connections to neighbourhoods and key

destinations. Transit will run in the evenings, seamlessly integrate with the ferry and water taxis, and serve more areas. Electric and low-speed vehicles will be common on the island. Bowen's strong sense of community will continue to foster a robust culture of hitchhiking and ridesharing.

For those that choose to drive, sufficient parking will be available at the village periphery to

VISION STATEMENT

Simple, seamless, sustainable transportation options for every Bowen Islander.

Figure 3 - Community vision for Bowen Island transportation





maintain a high-quality walking environment within the village core. The Cardena intersection, being the transportation hub of the island, will be safe and enjoyable to navigate for all users. Getting on and off the island, especially without a car, will be convenient and affordable.

Finally, islanders will not shy away from innovation and new technologies. Bowen Island will be a role model in creative transportation solutions that further the values of the community: safety,

accessibility, inclusiveness, autonomy, efficiency, and climate change mitigation.

STRATEGIC GOALS

This Plan is built upon three strategies for the community vision encompassing three main goals:

1. CONNECTIONS – Shorter trips, fewer trips
2. CHOICES – When you want, how you want
3. HEALTH – Fewer emissions, better health

STRATEGY #1: CONNECTIONS

To effectively connect people and places require efficient, integrated networks so that trips are shorter in time and distance. This strategy focuses on developing active transportation networks, improving upon the existing road network, and strengthening connections to regional networks.

Key elements of this strategy include a cross-island multi-use path as part of larger pedestrian and cycling networks, with a proper wayfinding system. The result will be efficient active transportation connections from residential neighbourhoods to the village.

Road standards will be updated to facilitate the development of these networks and provide more balanced use of road space. Potential inclusion in TransLink’s Major Road Network will give access to annual funding for road improvements and maintenance to meet the new standards. Also, forming local and regional partnerships will help strengthen off-island networks with more coordinated and direct access to key destinations.

STRATEGY #2: CHOICES

To provide a real choice for people to get around involves having viable alternatives to the private automobile. This strategy aims to support and encourage development of alternative transportation options that are fitting for Bowen Island.

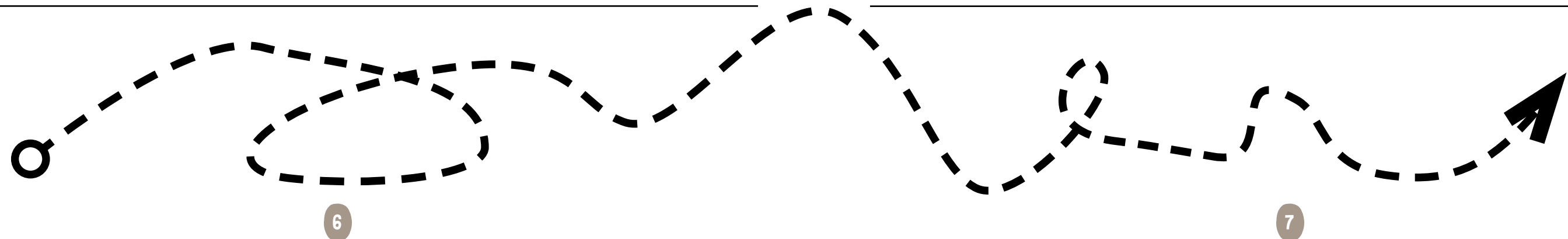
Key elements of this strategy include providing infrastructure for active transportation, facilitating alternative modes like scooters, electric vehicles and horses, designing for accessibility, and encouraging private enterprises like taxis and car sharing. Accessibility refers to the ability for everyone, regardless of ability or special needs, to access, use, and benefit from their environment.

Regional partnerships will also play an important role since a large portion of Bowen Island trips include off-island travel. For many alternative options to be viable on the island, they must be well-integrated into off-island transportation systems.

STRATEGY #3: HEALTH

To have transportation that is healthy for people and the environment means a system that encourages active modes, reduces harmful emissions and facilitates access to health care, especially for those that cannot drive. This is a two-pronged strategy that promotes more walking and cycling trips, while enabling fewer and shorter private automobile trips, especially single-occupancy ones.

Key elements of this mode include improving safety of active modes, promoting walking and cycling, supporting low emission options, and demand management to reduce automobile dependency. Awareness, education, and promotion campaigns will be critical parts of this strategy. Essentially, the first two strategies will lay the groundwork to make more sustainable transportation possible. This third strategy will spur the cultural shift that will make the community vision a reality.



BACKGROUND

WHAT WE HAVE...

Bowen Island is a municipality located in Howe Sound, about six kilometres off the coast of West Vancouver. The island has 3,680¹ permanent residents and approximately 1,500 seasonal residents. The population contains a significant number of youth and seniors. Covering about 50 square kilometres, the land is generally mountainous and over half is protected natural space. Development is predominantly low density residential on the east and west coasts. The village of Snug Cove, located on the east coast, contains most of the island's shops and services, as well as the only ferry terminal.

Being an island presents unique transportation challenges. In addition to on-island networks, water connections are needed to access off-island destinations. Once on the mainland, there is a high reliance on transit and alternative transportation options for those that walk on the ferry or take water taxis. Modes other than driving are especially encouraged in the interest

1 2016 Census of Canada, Statistics Canada.

of climate change mitigation and public health. However, Bowen Island has a relatively car-dependent transportation system, with very little active transportation infrastructure or alternative options.²

Greenhouse Gases

Based on a 2003 report³, transportation accounted for 90% of Bowen Island's greenhouse gas (GHG) emissions. This is mostly from off-island and ferry transportation. Key recommendations to help achieve target emission levels included developing an active transportation and transit strategy, increasing viability of transit use on mainland, and improving efficient usage of ferry car-capacity.

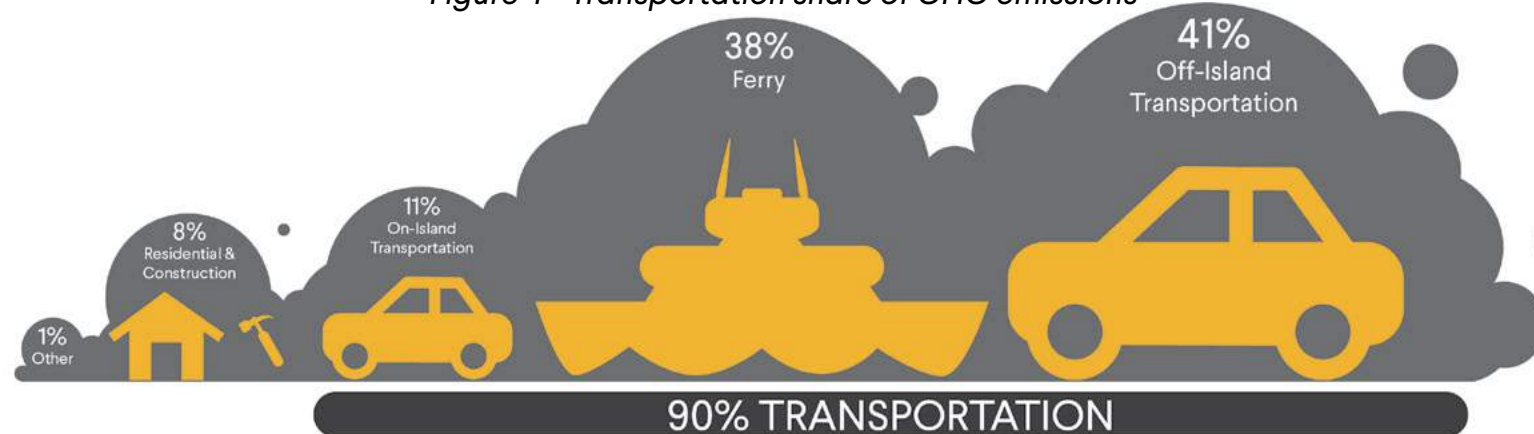
In 2017, Council approved a Community Energy and Emissions Plan (CEEP) containing actions to reduce GHG emissions from transportation, namely shifting to more active modes and efficient vehicles, especially electric⁴.

2 Bowen Island Community Health Profile, *My Health My Community*, 2015

3 Bowen Island Community Energy Planning Options, Pembina Institute, 2003

4 Bowen Island Community Energy and Emissions Plan, 2016

Figure 4 - Transportation share of GHG emissions



Current Networks

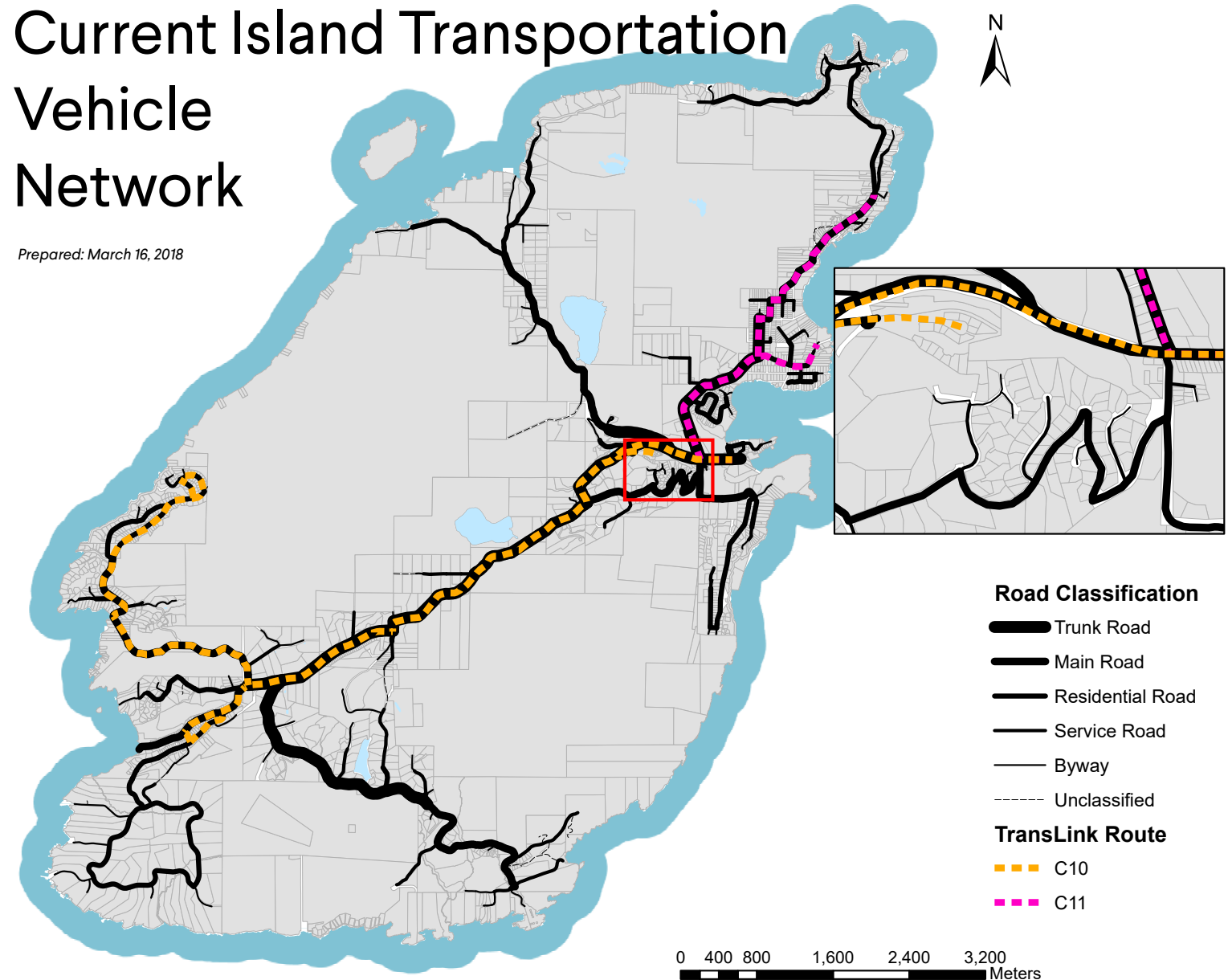
Bowen Island has about 75 km of public roads, most of which are paved with little or no shoulders. The maximum speed on the island is 40 km/h. ICBC crash data shows relatively few trouble areas, with the most reported incidents at the intersections of Bowen Island Trunk Rd & Miller Rd, and Grafton Rd & Adams Rd.

The island has two TransLink community shuttle flagstop routes - C10 and C11, recently renamed 280 and 281, respectively. These routes connect major residential areas to Snug Cove, running at basic service levels and following the ferry schedule. The shuttles have accessibility issues and do not have GPS capability for real-time tracking.

Figure 5 - Map of current vehicle networks

Current Island Transportation Vehicle Network

Prepared: March 16, 2018





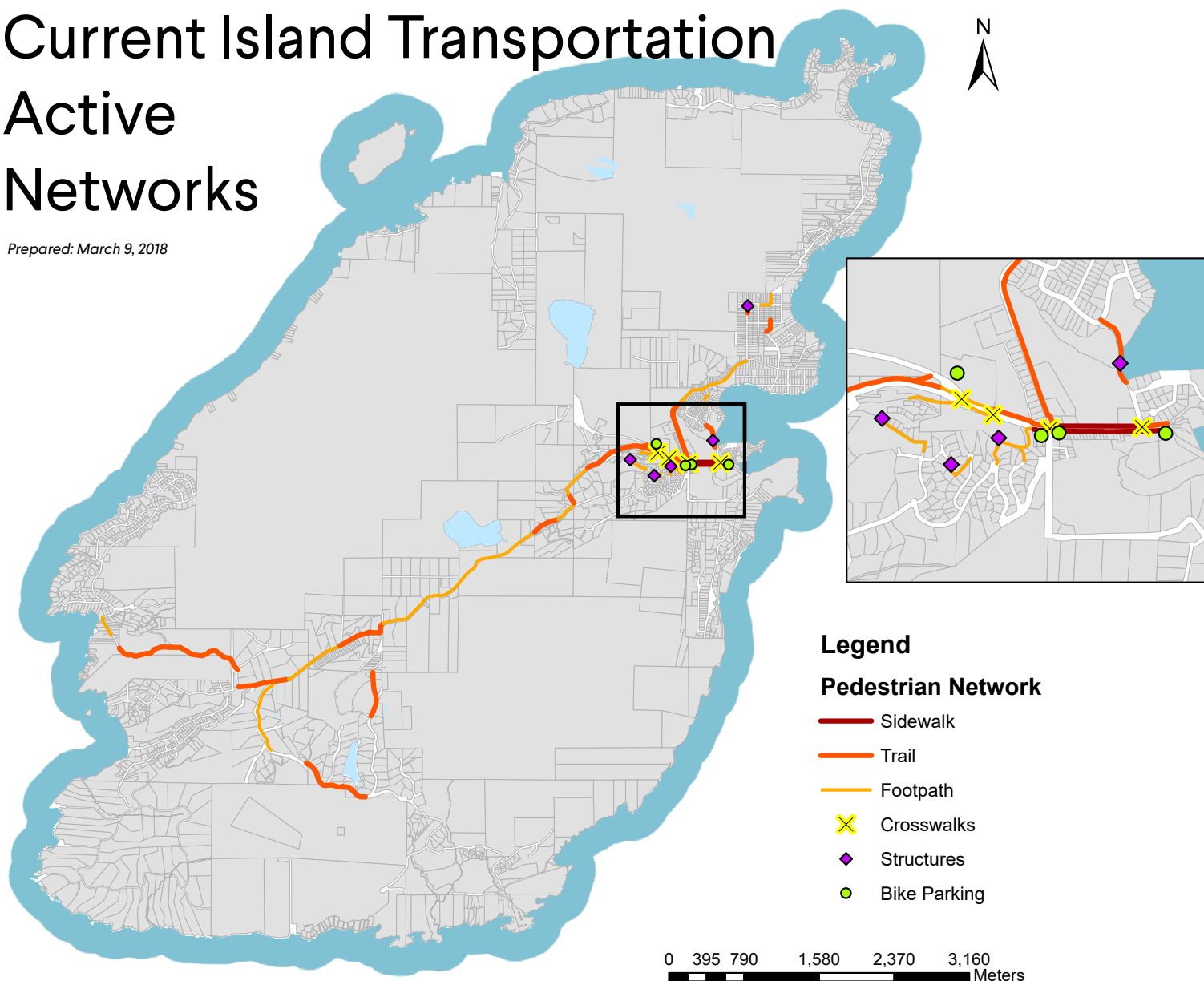
There is no dedicated active transportation infrastructure on the island, with the exception of half a kilometre of sidewalks along the main road to the ferry terminal. There is an informal requirement for a gravel shoulder on main roads, and no shoulder requirement for all other roads.

Cardena Dr at Bowen Island Trunk Rd is the transportation hub of the island, being the nexus of traffic and passenger exchange for the ferry, transit, school, information centre, marinas, and trailheads. The paved road here is narrow and littered with informal parking spaces. There is inadequate space for bus turnaround, and a lack of safe, accessible pedestrian connections.

Figure 6 - Map of current active transportation networks

Current Island Transportation Active Networks

Prepared: March 9, 2018



The main connection to the mainland is a 20-minute BC Ferries route from Snug Cove to Horseshoe Bay. The ferry runs almost every hour between 5:30 AM and 10 PM. Passenger-only water taxis provide additional connections with regular weekday service to Horseshoe Bay and Coal Harbour. Water taxis also provide charter services to destinations in the greater region.

On the mainland, two TransLink bus routes connect Horseshoe Bay with Park Royal in West Vancouver and with downtown Vancouver. An Independent Transit Service, the Bowen Downtown Express, provides a peak hour route direct to downtown Vancouver. There are no direct routes to North Vancouver from Horseshoe Bay.

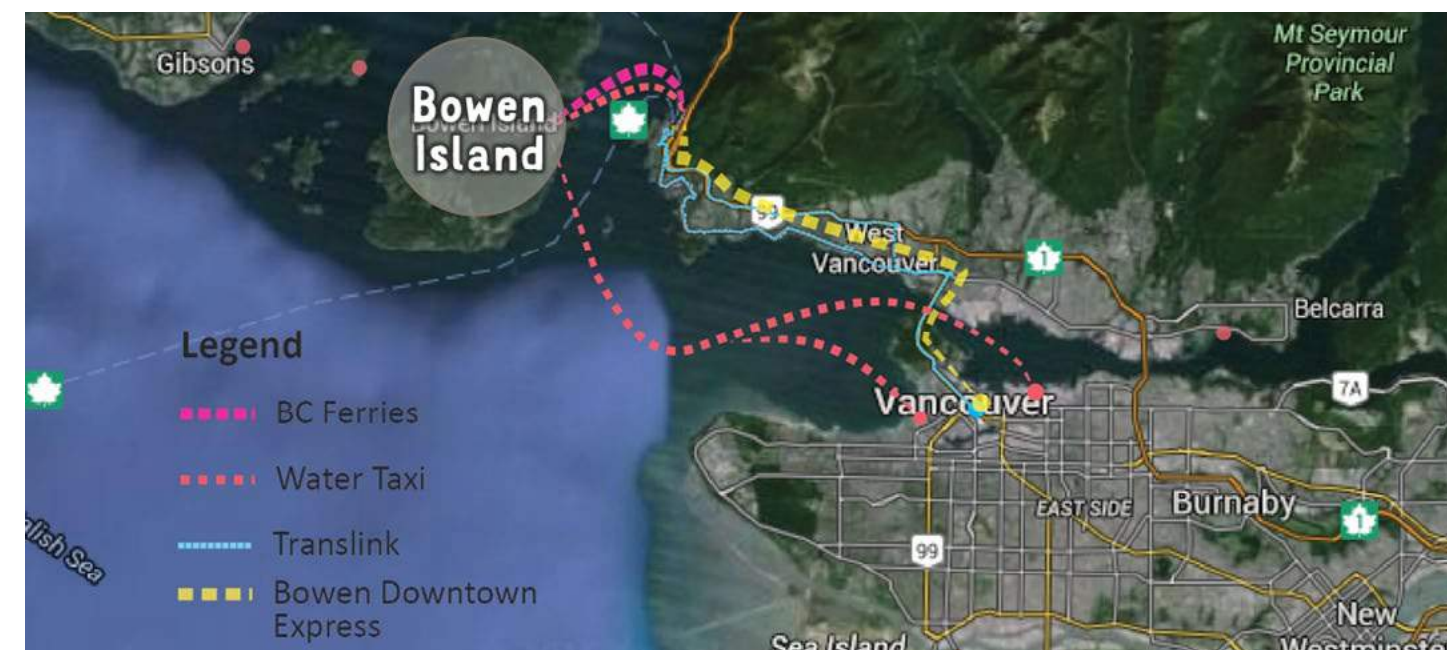
A valuable regional connection for many Bowen Islanders has been car sharing company car2go in Horseshoe Bay. However, car2go canceled its

Horseshoe Bay zone in March of 2017. There are no other car sharing companies in the area.

Longstanding alternative transportation options that work well on Bowen are motorcycles, scooters, hitchhiking, and a Jack Bell vanpool to the University of British Columbia. The vanpool vehicle is in need of replacement, but funds are no longer available for a new vehicle.

There appears to be an adequate supply of public parking spaces in the Cove with approximately 130 long-term and 92 short-term. In addition, there are 61 private pay parking spaces. All public spaces are free and number of spaces generally exceed demand. In Spring of 2017, a Municipal long-term lot was strategically located in the village periphery to improve the pedestrian environment and encourage more walking.

Figure 7 - Map of regional networks



TRAVEL PATTERNS

About half the current population is located on the east side and a quarter is on the west side. Key destinations on the island include the residential neighbourhoods on the east and west sides, the ferry terminal, Snug Cove, Bowen Island Community School (BICS), the recycling depot,

Artisan Square, Tunstall beach, Mount Gardner trailheads, and the golf course.

Main reason for trips is commuting (to work or school), especially for off-island trips. Since there is no high school on the island, almost all high school age children board the 7:30 am ferry to transit to school in West Vancouver. The

second most common reason to travel is for errands and the top destination is Snug Cove, followed by the Knick Knack Nook/Recycling Depot, and the Bowen Building Centre.

People mostly drive (53% overall), although significantly less do for trips going off-island

(about 40%). The mode share for walking and cycling is relatively high (about 20%) compared with the region, especially for commute trips.⁵ The largest sources of driving are work trips on

⁵ Bowen Island Community Health Profile, *My Health My Community*, 2015

Figure 8 - Map of activity nodes

Activity Nodes

Prepared: March 9, 2018

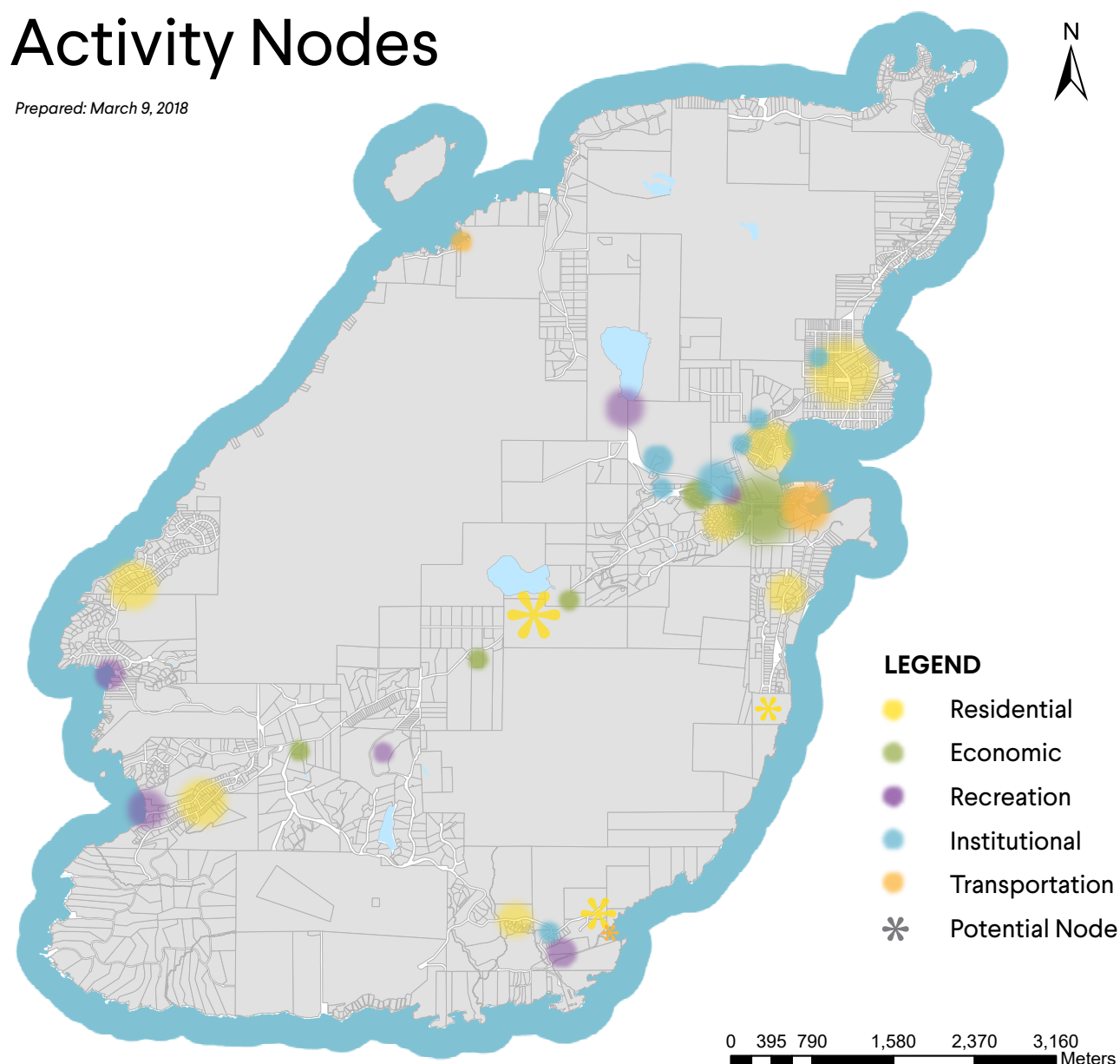


Figure 9 - Summary of trip purpose

2016 ITMP Citizen Questionnaire: Trip Purpose

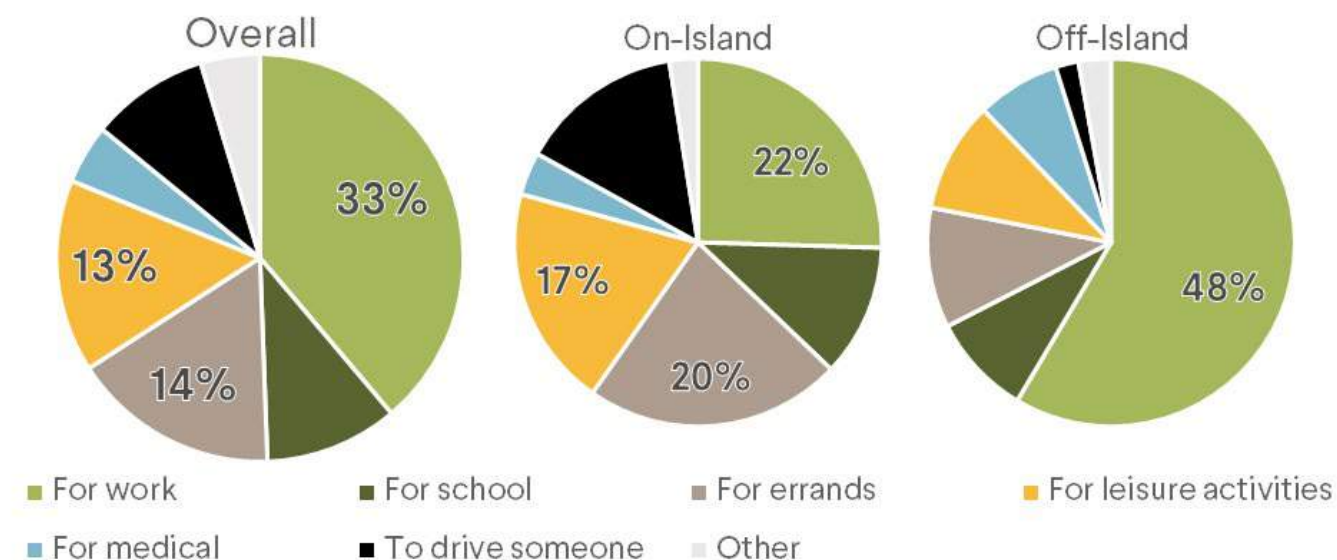
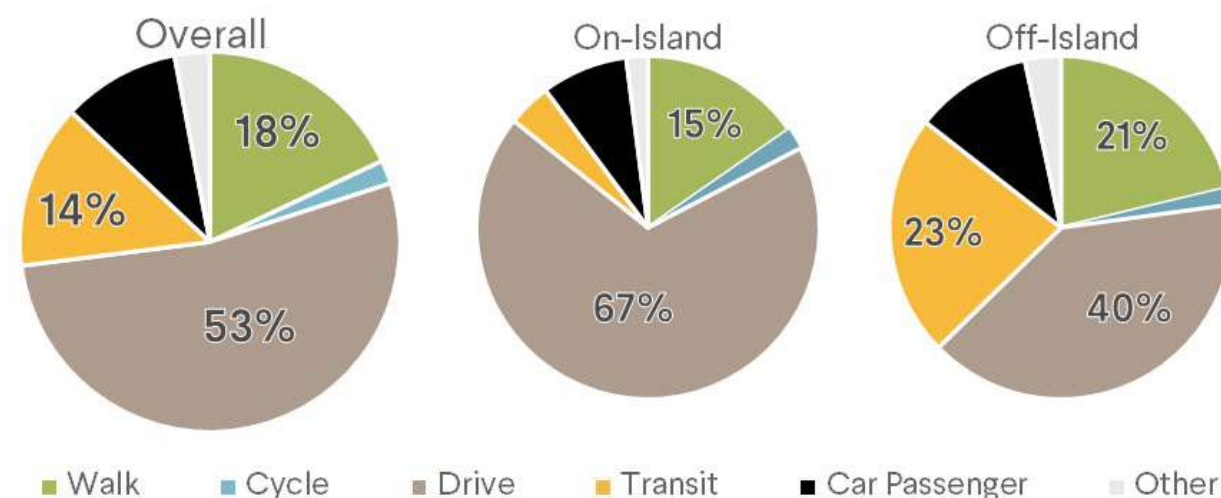


Figure 10 - Summary of mode share

2016 ITMP Citizen Questionnaire: Mode Share



the island and errands trips both on- and off-island. About a quarter of people indicate they have used alternative transportation, chiefly motorcycles and scooters.

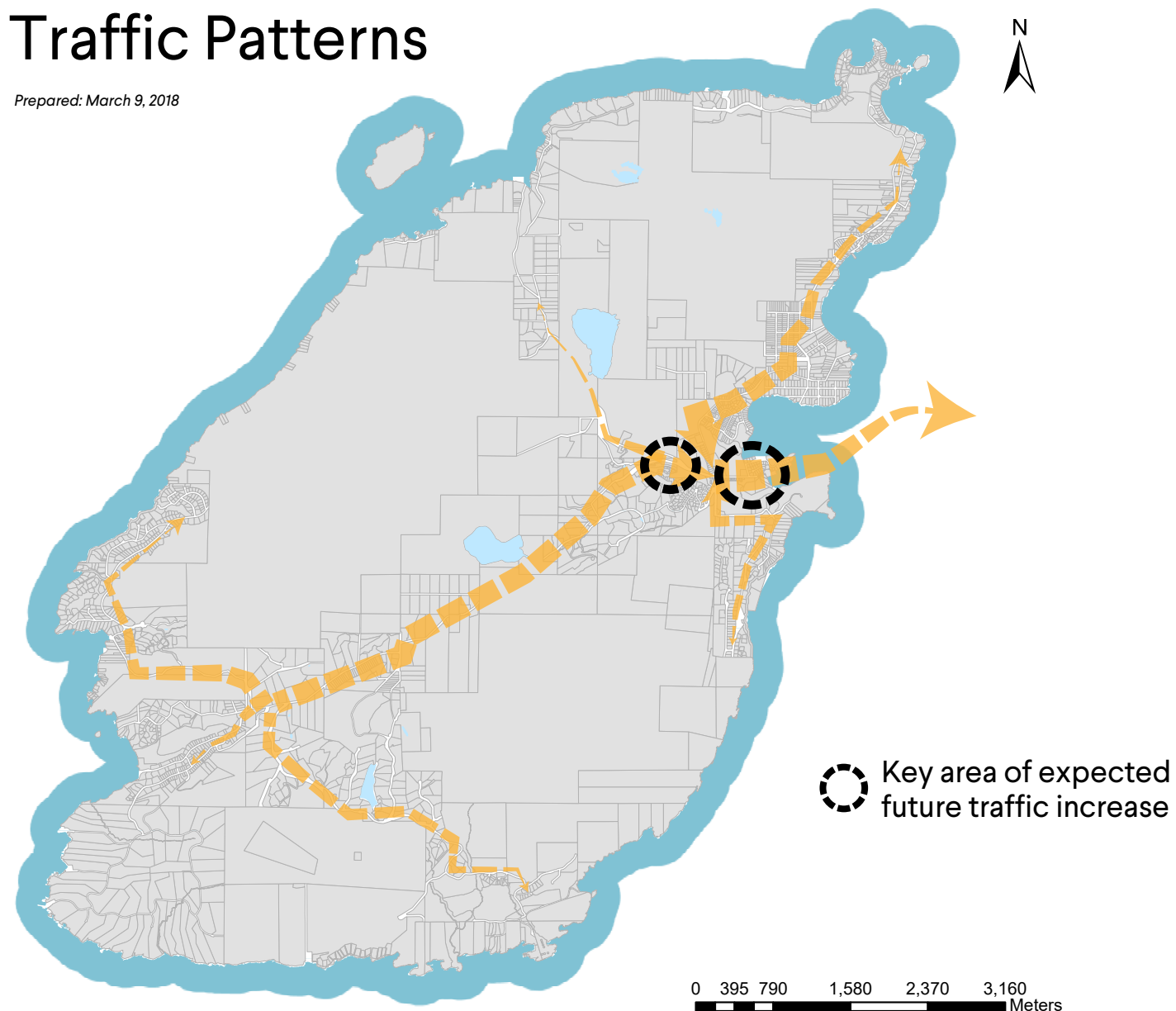
The main travel patterns on Bowen consist of AM/PM waves of commuters and students along the main roads to and from Snug Cove.

About two-thirds of trips involve portions off-island. Top destinations off-island are North and West Vancouver and City of Vancouver, mostly downtown. Visitor traffic mainly goes toward the west coast beaches, up Mount Gardner Rd to Killarney Lake and trailheads, or south to the golf course.

Figure 11 - Map of traffic patterns

Traffic Patterns

Prepared: March 9, 2018



Community Needs

The island's land use designations mainly allow for low density residential use. Commercial and institutional uses are almost entirely designated in Snug Cove and Artisan Square.

Current development activity is focused around the southern neighbourhood of Cowan Point, and a rezoning for significant density increase is in progress for the Grafton Lake area in the centre of the island. Island population is projected to increase by 700 over twenty years, a moderate average annual growth of 1.24%, most of which is expected to be young families.

With the expected growth and development, travel patterns would be impacted with increased traffic volumes along Grafton Rd, and intensification of traffic at BICS and Cardena Dr. Improvements for walking and cycling for these areas will be a top community need, especially since community feedback showed more people prefer to walk or cycle than actually do (33% versus 20%). The main reason cited for not walking or cycling is lack of safe, accessible infrastructure. Similar reasons are mentioned for alternative options such as scooters and vanpools. Bowen Island needs to be innovative to support and increase transportation by modes other than the private single-occupancy vehicle.

And lastly, the planned redevelopment of the Horseshoe Bay and Snug Cove terminals in 5-10 years will also impact travel patterns. The terminals will need better accessibility and modal integration, especially with active transportation. Redevelopment will present opportunities to address these issues and help fundamentally shift travel behaviours.

Figure 12 - Map of designated land uses

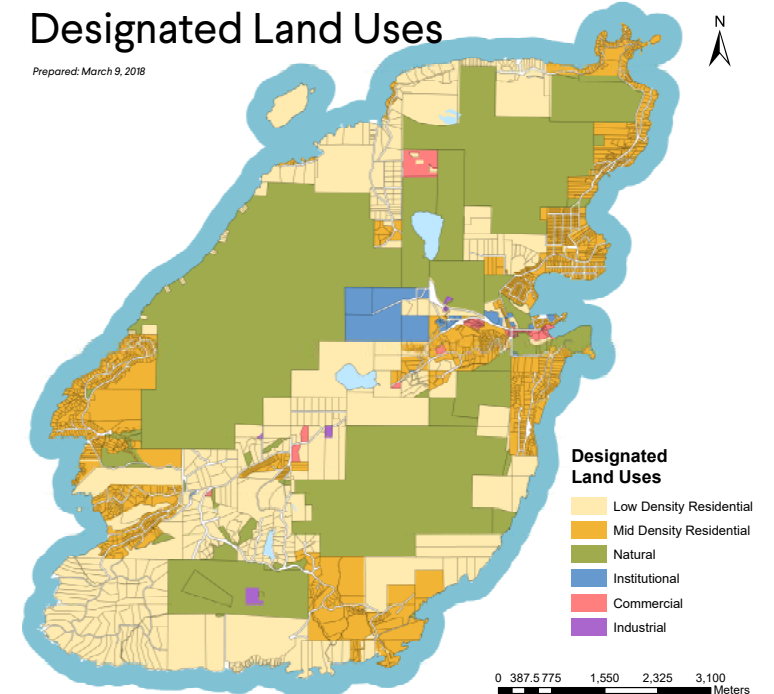
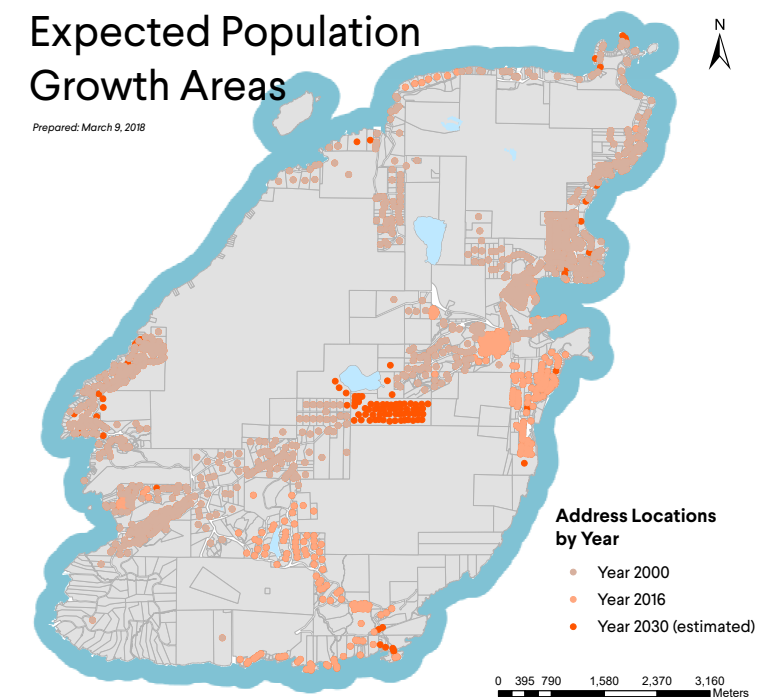


Figure 13 - Map of expected growth areas



PLAN

WHAT WE NEED TO DO...

This section presents the strategic elements needed to transform the island's existing transportation system into the simple, seamless and sustainable community vision. The components of the vision are active transportation, transit, regional connections,

alternative modes, parking, and multi-modal integration. These components will be improved following the three strategies laid out in the Vision section of this Plan: 1) connections, 2) choices, and 3) health.

Figure 14 - Transportation Plan concept

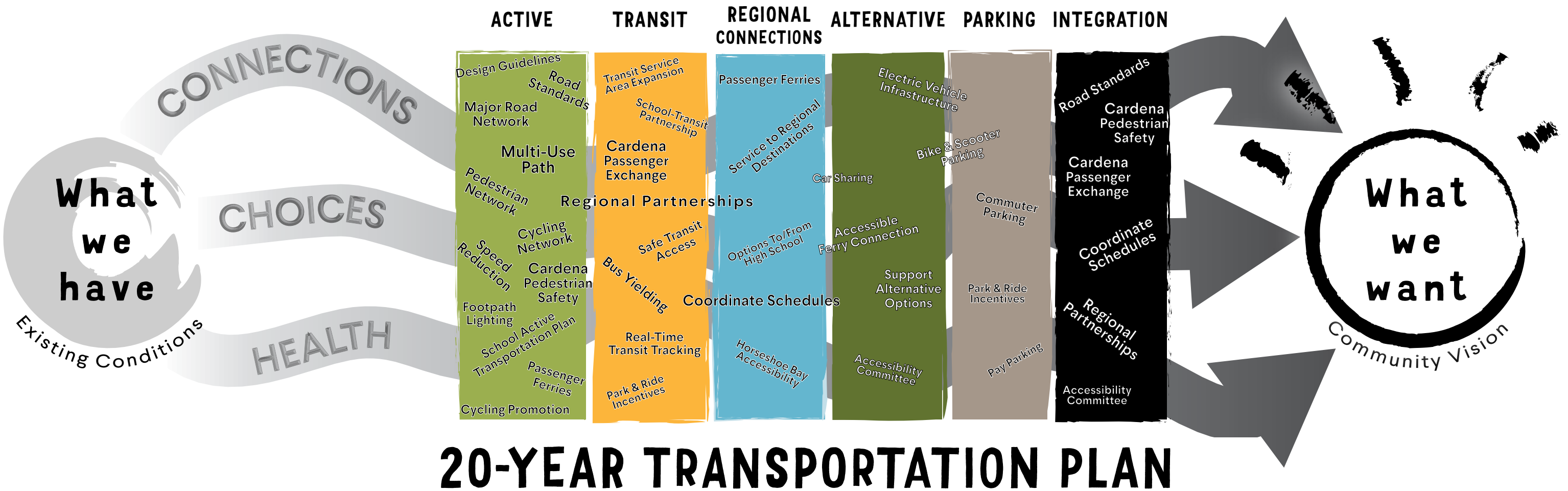




Table 1: Summary of plan elements

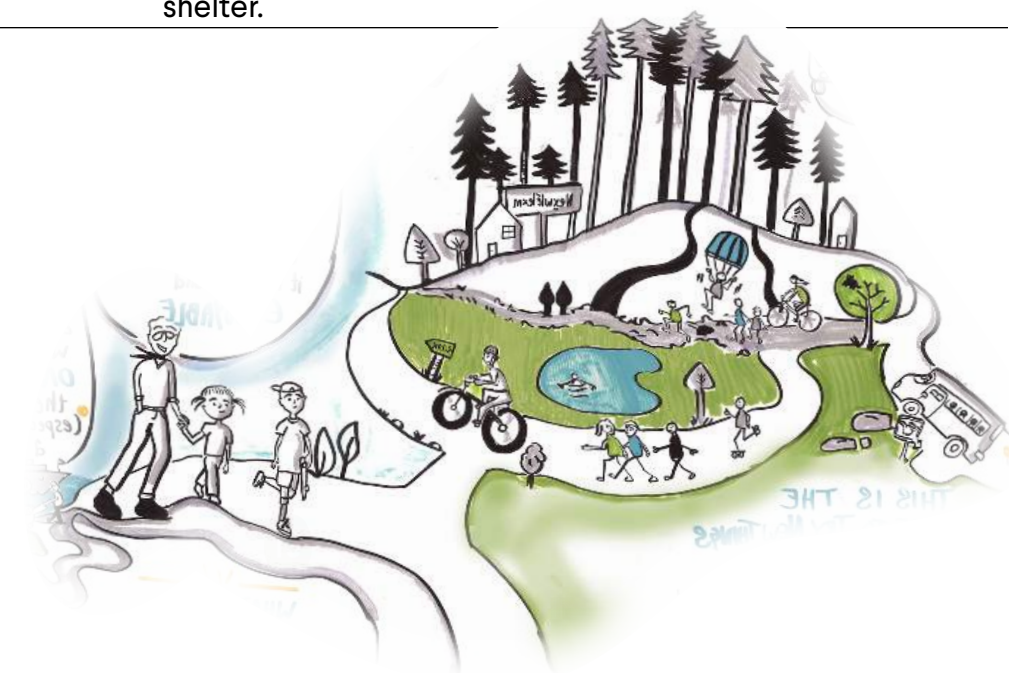
PLAN ELEMENT	ACTIVE	TRANSIT	REGIONAL	ALTERNATIVE	PARKING	INTEGRATION
HIGH PRIORITY						
A1 Active transportation design guidelines	✓					
A2 Road standards	✓					✓
A3 Multi-use path	✓					
A4 Pedestrian network	✓					
A5 Cycling network	✓					
A6 Major road network	✓					
A7 Coordinate schedules			✓			✓
A8 Speed reduction	✓					
A9 Cardena pedestrian safety	✓					✓
A10 Cardena passenger exchange		✓				✓
A11 Bus yielding		✓				
A12 Alternative Ferries	✓		✓	✓		
MID PRIORITY						
B1 Support alternative options				✓		
B2 Real-time transit tracking		✓				
B3 Regional partnerships	✓	✓	✓			✓
B4 Footpath lighting	✓					
B5 Cycling promotion	✓					
B6 Commuter parking					✓	
B7 Electric vehicle infrastructure				✓	✓	
B8 Safe transit access		✓				
B9 Bike & scooter parking	✓			✓	✓	
B10 Accessible ferry connection				✓		
B11 School active transportation plan	✓					
B12 Service to regional destinations			✓			
LOWER PRIORITY						
C1 Transit service area expansion		✓				
C2 Horseshoe Bay accessibility			✓	✓		
C3 Options to/from high school			✓	✓		
C4 Car sharing			✓	✓		
C5 Park & ride incentives		✓			✓	
C6 Pay parking					✓	
C7 School-transit partnership		✓				
C8 Accessibility committee				✓		✓

ACTIVE TRANSPORTATION

An integral part of the community vision, active transportation will help provide more travel options, increase physical activity, reduce chronic disease, and help mitigate climate change. Active transportation may also benefit tourism and social equity. Therefore, a large part of this Plan involves facilitating and encouraging active transportation.

Firstly, the island needs more infrastructure that accommodates safe and efficient walking and cycling. This can be created through retrofitting existing roads and updating development requirements for new roads.

A1 - Active Transportation Design Guidelines	Develop and adopt active transportation design guidelines for new development.
A2 - Road Standards	Update Subdivision & Development Servicing Bylaw to have road standards that accommodate pedestrians and cyclists.
A3 - Multi-Use Path	Design and construct a cross-island multi-use path that accommodates pedestrians, cyclists and equestrians. This path is part of the North Shore Spirit Trail.
<p>Networks should also be developed specifically for pedestrians and cyclists, including proper wayfinding and end-of-trip facilities like bike parking.</p>	
A4 - Pedestrian Network	Construct and improve critical footpaths to connect neighbourhoods to important destinations.
A5 - Cycling Network	Designate cycling routes and install bike facilities at strategic locations to better enable cycling across island.
B9 - Bike & Scooter Parking	Design and install dedicated bike and scooter parking with shelter.





ACTIVE TRANSPORTATION

Reliable annual funding should be established to enable the construction and maintenance of the above infrastructure.

A6 - Major Road Network Apply to TransLink for inclusion in the Major Road Network, which provides municipalities with annual funding for operation and rehabilitation of roads.

In addition to dedicated networks, safety is essential for active transportation to be a viable option.

A8 - Speed Reduction Develop and implement program to effectively establish and regulate traffic speeds.

A9 - Cardena Pedestrian Safety Include pedestrian safety improvements in the redevelopment of Cardena Dr.

B4 - Footpath Lighting Develop and implement program, compliant with Night Sky Bylaw, to improve lighting for pedestrian network.

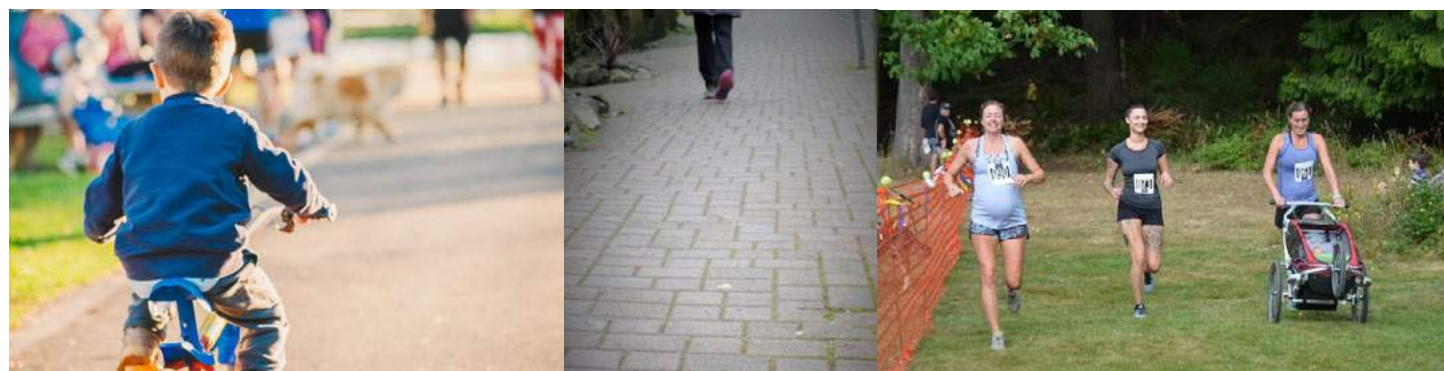
Lastly, education and awareness will further improve safety and encourage more people to walk and cycle.

A12 - Alternative Ferries Work with BC Ferries to shift focus from vehicles to passengers.

B3 - Regional Partnerships Advocate and foster regional transportation planning partnerships to help identify best practices, opportunities for collaboration and potential funding.

B5 - Cycling Promotion Develop ongoing cycling promotion strategy to include events, education and awareness.

B11 - School Active Transportation Plan Partner with BICS to develop a School Active Transportation Plan.



TRANSIT

Closely connected with active transportation, transit also reduces GHG emissions and provides an affordable transportation option, especially for longer distances. Currently, transit is underutilized, especially on-island. Feedback has shown that convenience is one of the main considerations in whether to use transit. This includes distance to bus routes, reliability and coordination of schedules, and time of travel.

Steps should be taken to advocate for more service areas.

C1 - Transit Service Area Expansion Advocate for investigating service expansion to growing demand areas such as Cowan Point, Queen Charlotte Heights, Cates Hill, and future developments.

C7 - School-Transit Partnership Investigate viability of partnership with school bus service.

Getting to the bus needs to be safe. This is largely addressed by the active transportation elements listed above, but targeted improvements can be made to ensure safe access to transit.

A10 - Cardena Passenger Exchange Improve transit pick-up/drop-off areas.

B8 - Safe Transit Access Collaborate with TransLink and ICBC to improve safety of transit access.

Scheduling improvements should positively impact the user experience and encourage more transit use both on- and off-island.

A7 - Coordinate Schedules Help coordinate schedules between BC Ferries, TransLink and the water taxis.

A11 - Bus Yielding Enforce vehicular traffic yielding to buses, especially at terminal.

B2 - Real-Time Transit Tracking Support development and implementation of technology to access real-time transit information, such as location and expected time of arrival.





TRANSIT

In addition to network and service improvements, some transit promotion will help further increase ridership.

C5 - Park & Ride Incentives	Implement incentives to promote and encourage use of Park & Ride facility.
--	--



REGIONAL CONNECTIONS

Being an island community, regional connections are an unavoidable part of life. Seamless integration of transportation options here is particularly important to reduce wait times and travel costs, and avoid getting stranded. Also, given the large majority of GHG emissions are from ferry and private vehicle use on the mainland, reduction of both these modes will greatly benefit climate change mitigation.

REGIONAL CONNECTIONS

To enable many of the elements pertaining to the greater region will require strong, collaborative working relationships with regional partners.

B3 - Regional Partnerships	Advocate and foster regional transportation planning partnerships to help identify best practices, opportunities for collaboration and potential funding.
-----------------------------------	---

Connections to the mainland are limited. Efforts should be taken to explore additional options.

A12 - Alternative Ferries	Work with BC Ferries to shift focus from vehicles to passengers, and to consider using electric ferries.
B12 - Service to Regional Destinations	Advocate for more frequent and better coordinated connections between key destinations in North and West Vancouver. Also, explore rail connection for Sea-to-Sky corridor.

C3 - Options To/From High School	Develop additional options for high school students to travel between West Vancouver and Bowen Island.
---	--

C4 - Car Sharing	Advocate for and explore car sharing opportunities in Horseshoe Bay.
-------------------------	--

Streamlining transportation will be critical for regional connections. Regular efforts need to be made to coordinate and optimize available options.

A7 - Coordinate Schedules	Help coordinate schedules between BC Ferries, TransLink and the water taxis to reduce waiting times and encourage ridership.
----------------------------------	--

C2 - Horseshoe Bay Accessibility	Advocate for improved accessibility to, from and within the Horseshoe Bay Terminal, and for better connections to TransLink services.
---	---

ALTERNATIVE MODES

Transportation options for islanders are quite limited, contributing to high automobile dependency. Community feedback has brought forward many ideas for alternatives to single-occupancy private vehicle use. Some of these ideas will require infrastructure changes.



ALTERNATIVE MODES

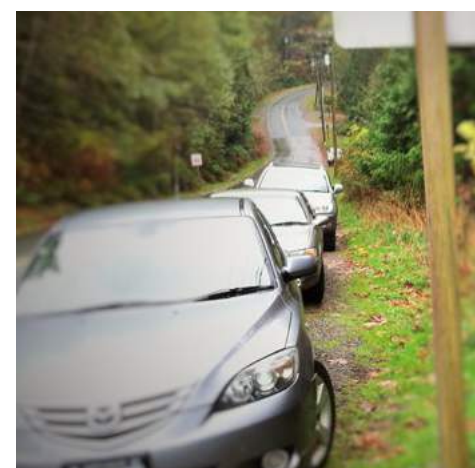
B7 - Electric Vehicle Infrastructure	Develop electric vehicle infrastructure and install public charging station(s).
B9 - Bike & Scooter Parking	Design and install dedicated bike and scooter parking with shelter.
B10 - Accessible Ferry Connection	Install an accessible pick-up/drop-off area closer to ferry ramp.
C2 - Horseshoe Bay Accessibility	Advocate for improved accessibility to, from and within the Horseshoe Bay Terminal, and for better connections to TransLink services.
Some ideas require new types of service provision.	
A12 - Alternative Ferries	Work with BC Ferries to shift focus from vehicles to passengers, and to consider using electric ferries.
C4 - Car Sharing	Advocate for and explore car sharing opportunities in Horseshoe Bay.
In general, the Municipality should endeavour to foster alternative transportation ideas and provide support wherever possible.	
B1 - Support Alternative Options	Encourage alternative transportation enterprises, such as taxis, scooter rentals and sharing rides.
C8 - Accessibility Committee	Appoint an Accessibility Committee to advise on accessibility improvements and develop accessible design policies.



PARKING

Parking strategies are a common tool of travel demand management. Balancing parking availability and costs can effectively shift mode share from driving to other modes such as walking, cycling, transit or alternative transportation.

B7 - Electric Vehicle Infrastructure	Develop electric vehicle infrastructure and install public charging station(s).
B9 - Bike & Scooter Parking	Design and install dedicated bike and scooter parking with shelter.
C5 - Park & Ride Incentives	Implement incentives to promote and encourage use of Park & Ride facility to reduce parking demand in Village.
Long-term parking should be located on the periphery to maintain the pedestrian environment of the village.	
B6 - Commuter Parking	Shift public commuter parking to periphery of village.
Cost of providing free parking spaces is significant and unfair to taxpayers that do not use them. A pay parking system would be more equitable and help fund parking improvements.	
C6 - Pay Parking	Implement public pay parking in the village and use revenue to fund improvements, maintenance and enforcement.





MULTI-MODAL INTEGRATION

The overall theme of this Plan is integration across all transportation modes to truly achieve a system that is simple, seamless, and sustainable. This applies to transportation on- and off-island, active modes, transit, regional connections, alternative modes, and parking.

A2 - Road Standards	Update Subdivision & Development Servicing Bylaw to include requirements for transportation impact studies for significant new developments, and road standards that accommodate pedestrians and cyclists.
A7 - Coordinate Schedules	Help coordinate schedules between BC Ferries, TransLink and the water taxis.
A9 - Cardena Pedestrian Safety	Include pedestrian safety improvements in the redevelopment of Cardena Dr.
A10 - Cardena Passenger Exchange	Improve transit pick-up/drop-off areas.
B3 - Regional Partnerships	Advocate and foster regional transportation planning partnerships to help identify best practices, opportunities for collaboration and potential funding.
C8 - Accessibility Committee	Appoint an Accessibility Committee to advise on accessibility improvements and develop accessible design policies.

SPECIAL PROJECTS

Three site-specific projects are already scheduled for the next 20 years that may provide opportunities to help achieve the goals of the Plan: 1) Cardena Improvements, 2) Snug Cove Ferry Terminal Redevelopment, and 3) Horseshoe Bay Ferry Terminal Redevelopment. Special consideration should be taken to align these projects with the Plan and advocate for inclusion of plan elements.

IMPLEMENTATION

HOW WE DO IT...

The implementation of the Transportation Plan will be overseen and guided by the TAC. The schedule and estimated budget is laid out by year for each plan element, followed by key step-by-step actions including responsible roles and potential funding. TAC will prepare an annual work plan with identified priority projects for Council approval.

TIMELINE

The Plan will be carried out over 20 years, with both operational and capital elements (Table 2). Due to limited resources, new infrastructure will be constructed incrementally over the 20-year timeline.

BUDGET

The Transportation Plan has a total estimated budget of \$3.29 million over 20 years (Table 4-7). Almost 90% of the budget is for active transportation infrastructure, most of which is eligible for 50-75% cost sharing from external agencies. Operating costs are minimal, mainly to cover partnership and safety initiatives, as well as maintenance and repair of the new active transportation networks and facilities. Potential funding is estimated at \$1.58 million, which would result in a Municipal cost share estimate of \$1.7 million. This equals just over \$85,000 per year.

Implementation of capital projects will require inclusion in the Five-Year Financial Plan, along with subsequent annual budget approval by Council.





Table 2: Transportation Plan timeline

PLAN ELEMENT	2018	2019	2020	2021	2022	2023-27	2028-38
HIGH PRIORITY							
A2 Road standards							
A6 Major road network							
A11 Bus yielding							
A1 Active transportation design guidelines							
A9 Cardena pedestrian safety							
A10 Cardena passenger exchange							
A12 Alternative Ferries							
A3 Multi-use path							
A4 Pedestrian network							
A5 Cycling network							
A7 Coordinate schedules							
A8 Speed reduction							
MID PRIORITY							
B2 Real-time transit tracking							
B6 Commuter parking							
B9 Bike & scooter parking							
B11 School active transportation plan							
B12 Service to regional destinations							
B1 Support alternative options							
B3 Regional partnerships							
B7 Electric vehicle infrastructure							
B4 Footpath lighting							
B5 Cycling promotion							
B8 Safe transit access							
B10 Accessible ferry connection							
LOWER PRIORITY							
C1 Transit service area expansion							
C2 Horseshoe Bay accessibility							
C8 Accessibility committee							
C5 Park & ride incentives							
C3 Options to/from high school							
C4 Car sharing							
C7 School-transit partnership							
C6 Pay parking							
Annual Progress Report							
Travel Survey							
Plan Review							
Capital work							
Operational work							

Table 3: Special Projects timeline

SPECIAL PROJECT	2018	2019	2020	2021	2022	2023-27	2028-38
CARDENA IMPROVEMENTS							
A6 Major road network							
A11 Bus yielding							
B6 Commuter parking							
A9 Cardena pedestrian safety							
A10 Cardena passenger exchange							
A4 Pedestrian network							
A5 Cycling network							
B4 Footpath lighting							
B7 Electric vehicle infrastructure							
B8 Safe transit access							
C6 Pay parking							
B3 Regional partnerships							
SNUG COVE TERMINAL REDEVELOPMENT							
BC Ferries community engagement							
BC Ferries terminal plans							
BC Ferries terminal construction							
A3 Multi-use path	Elements to be considered during engagement		Municipality to consider complementary infrastructure or facilities if necessary				
A4 Pedestrian network							
A5 Cycling network							
A11 Bus yielding							
B7 Electric vehicle infrastructure							
B9 Bike & scooter parking							
B8 Safe transit access							
B10 Accessible ferry connection							
B3 Regional partnerships							
HORSESHOE BAY TERMINAL REDEVELOPMENT							
BC Ferries community engagement							
BC Ferries terminal plans							
BC Ferries terminal construction							
A7 Coordinate schedules	Elements to be considered during engagement		Review plans for inclusion of elements		Municipality to consider complementary infrastructure or facilities if necessary		
A12 Alternative Ferries							
B1 Support alternative options							
C2 Horseshoe Bay accessibility							
C3 Options to/from high school							
C4 Car sharing							
B3 Regional partnerships							
Capital work							
Operational work							

Table 4: Transportation Plan budget summary

20-YEAR PLAN EXPENDITURES	ESTIMATED AMOUNT
Capital Budget	\$3,025,000
Operating Budget	\$266,300
Potential Funding	(\$1,577,500)
Municipal Cost Share	\$1,713,800

Table 5: Capital budget

ID	PLAN ELEMENT	ELEMENT BUDGETS	YEAR						
			2018	2019	2020	2021	2022	2023-27	2028-38
HIGH PRIORITY		\$2.9 M							
A1	Active transportation guidelines	\$0							
A2	Road standards	\$0							
A3	Multi-use path	\$2,160,000	\$25,000	\$335,000	\$250,000	\$250,000	\$300,000	\$500,000	\$500,000
A4	Pedestrian network	\$250,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$125,000	
A5	Cycling network	\$100,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$25,000	\$50,000
A6	Major road network	\$0							
A7	Coordinate schedules	\$0							
A8	Speed reduction	\$0							
A9	Cardena pedestrian safety	\$250,000	\$250,000						
A10	Cardena passenger exchange	\$150,000	\$150,000						
A11	Bus yielding	\$0							
A12	Alternative ferries	\$0							
MID PRIORITY		\$85 k							
B1	Support alternative options	\$0							
B2	Real-time transit tracking	\$0							
B3	Regional partnerships	\$0							
B4	Footpath lighting	\$5,000			\$5,000				
B5	Cycling promotion	\$0							
B6	Commuter parking	\$30,000	\$30,000						
B7	Electric vehicle infrastructure	\$10,000		\$10,000					
B8	Safe transit access	\$10,000						\$10,000	
B9	Bike & scooter parking	\$10,000	\$10,000						
B10	Accessible ferry connection	\$10,000						\$10,000	
B11	School active transportation plan	\$10,000	\$10,000						
B12	Service to regional destinations	\$0							
LOWER PRIORITY		\$30 k							
C1	Transit service area expansion	\$0							
C2	Horseshoe Bay accessibility	\$0							
C3	Options to & from high school	\$0							
C4	Car sharing	\$0							
C5	Park & ride incentives	\$0							
C6	Pay parking	\$30,000						\$30,000	
C7	School-transit partnership	\$0							
C8	Accessible transportation	\$0							
ANNUAL BUDGET TOTALS			\$505 k	\$375 k	\$285 k	\$280 k	\$330 k	\$700 k	\$550 k
CAPITAL TOTAL			\$3,025,000						

Shaded amounts may be cost shared by external funding

Table 6: Operating budget

ID	PLAN ELEMENT	ELEMENT BUDGETS	YEAR						
			2018	2019	2020	2021	2022	2023-27	2028-38
HIGH PRIORITY		\$235 k							
A1	Active transportation guidelines	\$20,000		\$20,000					
A2	Road standards	\$0							
A3	Multi-use path	\$57,000					\$2,000	\$15,000	\$40,000
A4	Pedestrian network	\$72,500		\$500	\$1,000	\$1,500	\$2,000	\$17,500	\$50,000
A5	Cycling network	\$22,000		\$100	\$200	\$300	\$400	\$4,500	\$16,500
A6	Major road network	\$0							
A7	Coordinate schedules	\$20,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$5,000	\$10,000
A8	Speed reduction	\$34,000				\$2,000	\$2,000	\$10,000	\$20,000
A9	Cardena pedestrian safety	\$3,800		\$200	\$200	\$200	\$200	\$1,000	\$2,000
A10	Cardena passenger exchange	\$0							
A11	Bus yielding	\$1,000			\$1,000				
A12	Alternative ferries	\$5,000							\$5,000
MID PRIORITY		\$26 k							
B1	Support alternative options	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B2	Real-time transit tracking	\$1,000	\$1,000						
B3	Regional partnerships	\$10,000	\$500	\$500	\$500	\$500	\$500	\$2,500	\$5,000
B4	Footpath lighting	\$0							
B5	Cycling promotion	\$12,000			\$1,500	\$500	\$500	\$3,500	\$6,000
B6	Commuter parking	\$0							
B7	Electric vehicle infrastructure	\$0							
B8	Safe transit access	\$0							
B9	Bike & scooter parking	\$0							
B10	Accessible ferry connection	\$0							
B11	School active transportation plan	\$0							
B12	Service to regional destinations	\$2,500	\$500	\$500	\$500	\$500	\$500		
LOWER PRIORITY		\$6 k							
C1	Transit service area expansion	\$1,000						\$1,000	
C2	Horseshoe Bay accessibility	\$1,000							\$1,000
C3	Options to & from high school	\$1,000						\$1,000	
C4	Car sharing	\$1,000						\$1,000	
C5	Park & ride incentives	\$1,000		\$1,000					
C6	Pay parking	\$0							
C7	School-transit partnership	\$500						\$500	
C8	Accessible transportation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ANNUAL BUDGET TOTALS			\$3 k	\$24 k	\$6 k	\$7 k	\$9 k	\$63 k	\$156 k
OPERATING TOTAL			\$266,300						

Table 7: Potential funding

ID	PLAN ELEMENT	ELEMENT FUNDING	YEAR						
			2018	2019	2020	2021	2022	2023-27	2028-38
HIGH PRIORITY		\$1.53 M							
A1	Active transportation guidelines	\$20,000		\$20,000					
A2	Road standards	\$0							
A3	Multi-use path	\$1,295,000	\$15,000	\$180,000		\$500,000	\$150,000	\$250,000	\$200,000
A4	Pedestrian network	\$0							
A5	Cycling network	\$50,000	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$12,500	\$25,000
A6	Major road network	\$1,140,000		\$60,000	\$60,000	\$60,000	\$60,000	\$300,000	\$300,000
A7	Coordinate schedules	\$0							
A8	Speed reduction	\$17,000			\$1,000	\$1,000	\$5,000	\$10,000	
A9	Cardena pedestrian safety	\$125,000	\$125,000						
A10	Cardena passenger exchange	\$20,000	\$20,000						
A11	Bus yielding	\$0							
A12	Alternative ferries	\$0							
MID PRIORITY		\$50 k							
B1	Support alternative options	\$0							
B2	Real-time transit tracking	\$0							
B3	Regional partnerships	\$0							
B4	Footpath lighting	\$2,500			\$2,500				
B5	Cycling promotion	\$12,000			\$1,500	\$500	\$500	\$3,500	\$6,000
B6	Commuter parking	\$0							
B7	Electric vehicle infrastructure	\$0							
B8	Safe transit access	\$5,000						\$5,000	
B9	Bike & scooter parking	\$10,000	\$10,000						
B10	Accessible ferry connection	\$10,000						\$10,000	
B11	School active transportation plan	\$10,000	\$10,000						
B12	Service to regional destinations	\$0							
LOWER PRIORITY		\$1.0 k							
C1	Transit service area expansion	\$0							
C2	Horseshoe Bay accessibility	\$0							
C3	Options to & from high school	\$0							
C4	Car sharing	\$0							
C5	Park & ride incentives	\$1,000		\$1,000					
C6	Pay parking	\$0							
C7	School-transit partnership	\$0							
C8	Accessible transportation	\$0							
ANNUAL BUDGET TOTALS			\$185 k	\$206 k	\$9 k	\$506 k	\$156 k	\$286 k	\$241 k
FUNDING TOTAL			\$1,577,500						

Funding in light grey indicate Major Road Network funding that may be applied to transportation projects on the network. Due to the variability of the funding applicability it is not included in the funding total

IMPLEMENTATION DETAILS

Ongoing efforts to ensure transportation options are integrated, coordinated and adequate will require regular meetings and collaboration with the community, service providers, and regional partners. Infrastructure projects will require timely completion of planning, funding, budget approval and design to ensure successful

construction. And, lastly, annual evaluation reports will be essential to track progress, keep the Plan on schedule, and proactively identify any issues or concerns that may require attention.

The information in this section is meant to help TAC develop the annual work plan. A template for the work plan is available in Appendix D.

HIGH PRIORITY ELEMENTS

A1 Active transportation design guidelines

What is intended Guidelines should be adopted as a policy to ensure that all new development addresses the requirements of the Plan, as well as considers opportunities for improving active transportation within and connecting to the site.

- Key actions**
- 2018 Summer – **Planning** apply for funding (e.g. Federation of Canadian Municipalities (FCM) Staff Support Grants)
 - 2018/19 Winter – **Council** approve budget
 - 2018/19 Winter – **Planning** research and draft guidelines
 - 2019 Summer – **TAC** review guidelines
 - 2019 Fall – **Council** adopt guidelines

A2 Road standards

What is intended A Subdivision & Development Servicing Bylaw is an important tool for a proactive approach to integrated transportation. This Bylaw may require a proposed development with significant traffic impact potential to submit a transportation impact study to help determine the type of transportation infrastructure needed within and connecting to the development. This Bylaw also specifies the road standards to which the new infrastructure is built. Standards should comply with Transportation

HIGH PRIORITY ELEMENTS

Association of Canada's *Geometric Design Guide for Canadian Roads*. Road standards should align with best practices to reallocate more road space to pedestrians and cyclists. Standards should also consider improvements for safety of active modes on the roadway, including signage, pavement markings, and intersection treatments.

Key actions

1. 2017/18 Winter – **Planning & Public Works** draft Bylaw
2. 2018 Spring – **Council** adopt Bylaw

A3 Multi-use path

What is intended

A cross-island multi-use path was a top priority for investment and infrastructure improvement from the ITMP engagement. The path routing was based on community feedback and feasibility. The phasing was based on highest need in terms of safety and network connection.

As of 2017, this path has been included in the North Shore Spirit Trail. Path standards have been included in A2 Roads Standards taking into consideration safety and inclusivity, expected usage, environmental impacts, available resources, and the Spirit Trail standards.

New developments along the identified multi-use path route must contribute their portions of the path (i.e. Grafton Lake Lands development). Portions may also be constructed by utility companies as part of their infrastructure upgrade projects.

Wherever possible, pedestrian or cyclist counters should be installed to evaluate usage. In addition, wayfinding elements such as signage and pavement markings should be incorporated into the multi-use path to improve safety, efficiency, user experience, and sense of place. Refer to Appendix A for the Bowen Island Spirit Trail Wayfinding Strategy.

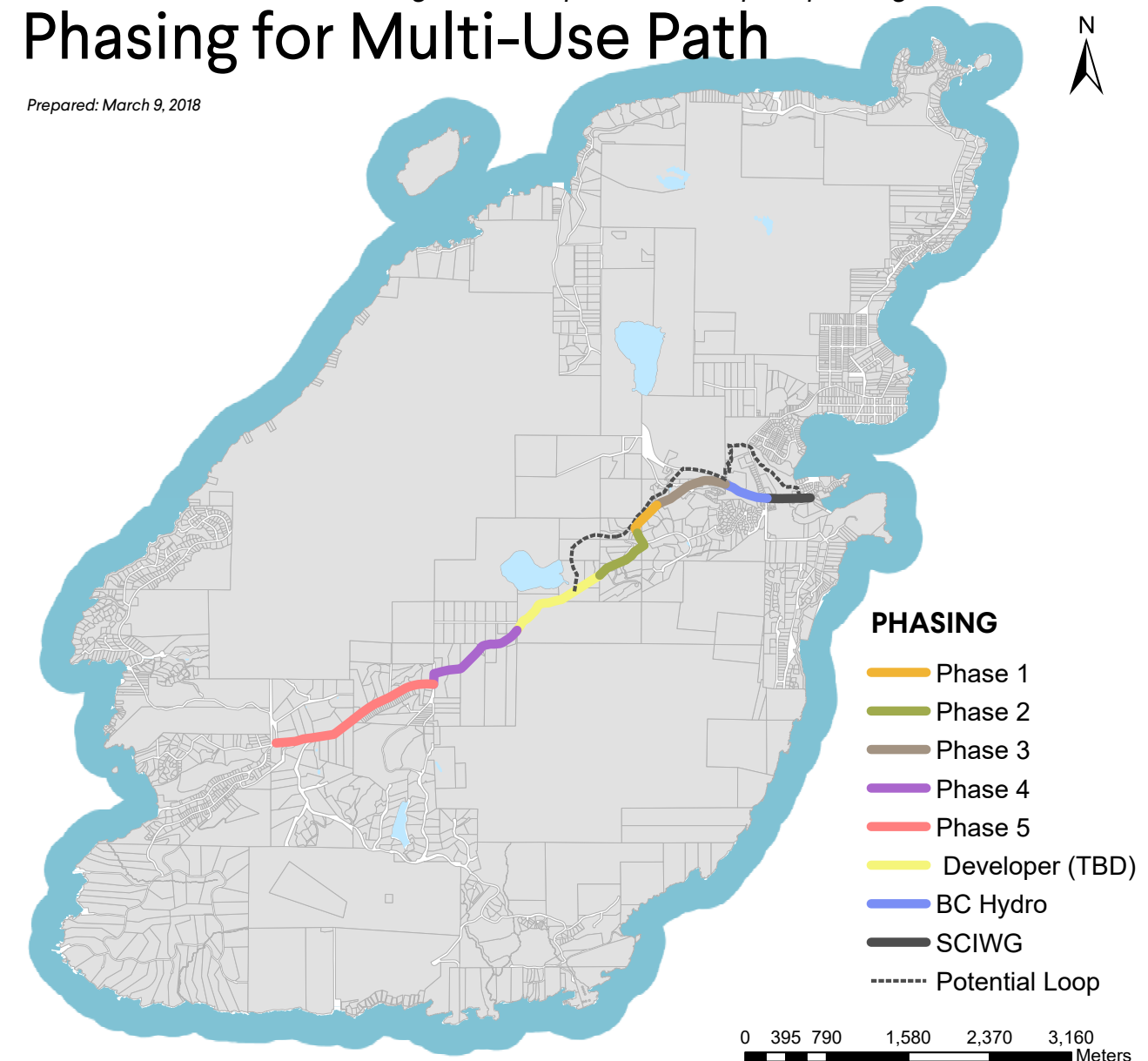
The estimated operational budget is for spot repairs and line painting. It does not include any snow removal, sanding or sweeping, which are costly and research has shown that similar rural municipalities have not needed to provide these services.

HIGH PRIORITY ELEMENTS

Key actions (annually)

1. Q1 - TAC initiate Phase
2. Q2 - **Public Works** preliminary design
3. Q4 - **Planning** apply for funding (e.g. TransLink BICCS/WITT, BikeBC, FCM)
4. Q1 - **Council** approve budget
5. Q2 - **Public Works** construct and maintain

Figure 15 - Map of multi-use path phasing





HIGH PRIORITY ELEMENTS

Table 8: Multi-use path phasing details

PHASE	EXPECTED START DATE	START	END	LENGTH EXISTING (km)			COST ESTIMATE
				NONE	SHOULDER	TRAIL	
BC Hydro	2018	Bowen Island Trunk Rd/Miller Rd	Bowen Island Trunk Rd/Mount Gardner Rd	433	-	-	\$216,500
1	2018	Grafton Rd/670 Cates Ln	Grafton Rd/Charlie's Ln	361	-	-	\$361,000
2	2020	728 Grafton Rd	800 Grafton Rd	136	228	-	\$215,800
Developer	2020	800 Grafton Rd	Grafton Rd/Harding Rd	-	998	-	\$349,300
3	2023	Bowen Island Trunk Rd/Mount Gardner Rd	Grafton Rd/670 Cates Ln	-	732	-	\$256,200
SCIWG	2025	Ferry Terminal	Bowen Island Trunk Rd/Miller Rd	331	-	88	\$183,100
4	2026	Grafton Rd/Harding Rd	Grafton Rd/Adams Rd	-	932	106	\$347,400
5	2030	Grafton Rd/Adams Rd	Adams Rd/Tunstall Blvd	-	869	806	\$465,350

A4 Pedestrian network

What is intended

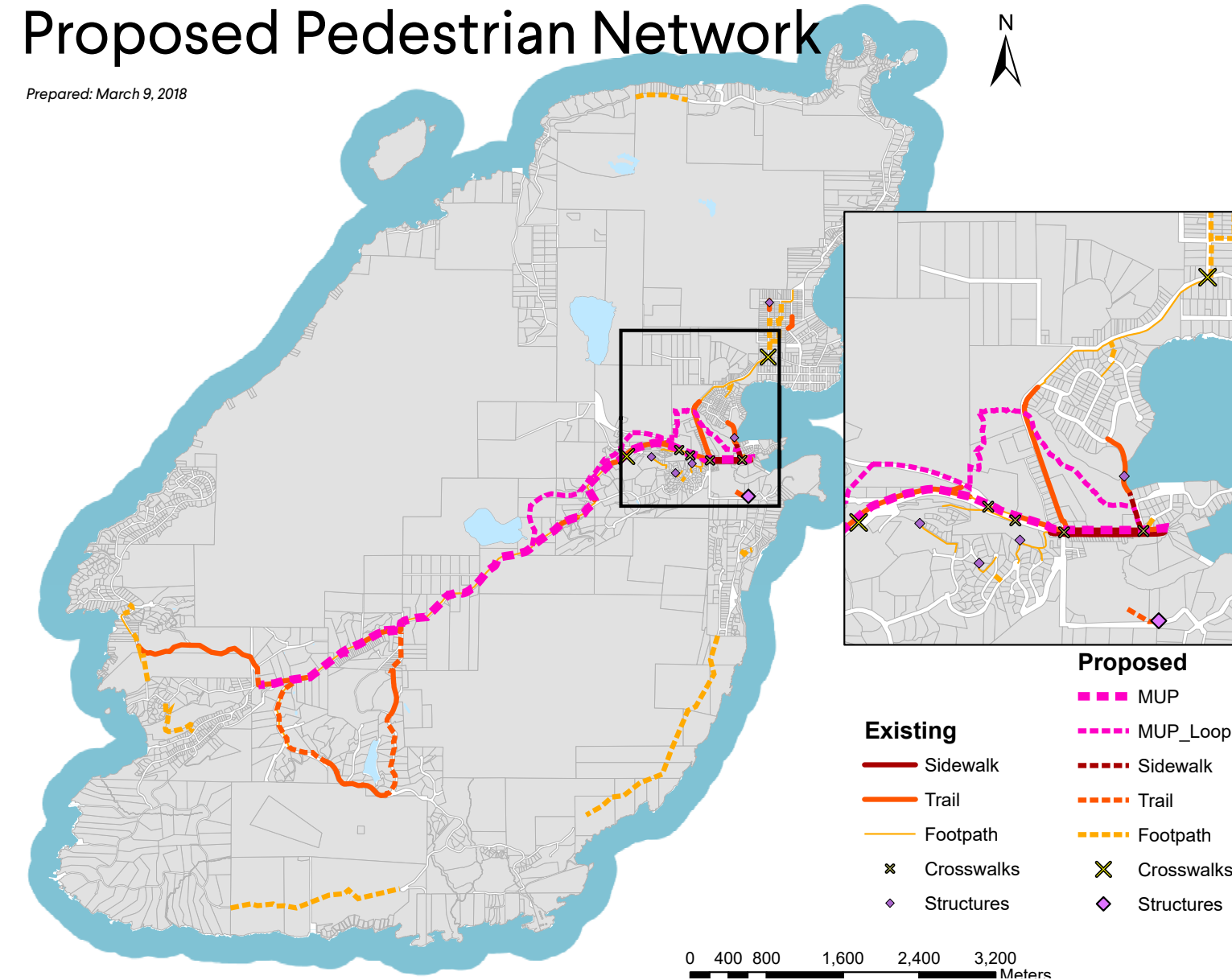
The multi-use path will be the spine of the pedestrian network, with connections to neighbourhoods and key destinations via trails, footpaths, sidewalks and structures such as stairways and bridges. Community feedback has identified several high priority areas, as shown in the following map. New development along a proposed route must contribute that portion of the network. Budget should be allocated annually for the development and maintenance of the network.

Key actions (annually)

1. Q1 - **TAC** establish on-road priority projects
2. Q1 - **Parks, Trails & Greenways Advisory Committee (PTGAC)** establish off-road priority projects
3. Q2 - **Public Works** preliminary design
4. Q4 - **Planning** apply for funding (e.g. TransLink WITT)
5. Q1 - **Council** approve budget
6. Q2 - **Public Works** construct and maintain on-road portions
7. Q2 - **Parks** construct and maintain off-road portions

HIGH PRIORITY ELEMENTS

Figure 16 - Map of proposed pedestrian network



HIGH PRIORITY ELEMENTS

A5 **Cycling network**

What is intended The multi-use path will be the spine of the cycling network, with facilities to enable access and transition to other modes. Secondary bikeways will be clearly marked shared lanes. These will generally be on uphill lanes. New development along a proposed route must contribute that portion of the network. Budget should be allocated annually for the development and maintenance of the network.

- Key actions (annually)**
1. Q1 - **TAC** establish on-road priority projects
 2. Q1 - **Parks, Trails & Greenways Advisory Committee (PTGAC)** establish off-road priority projects
 3. Q2 - **Public Works** preliminary design
 4. Q4 - **Planning** apply for funding (e.g. TransLink WITT)
 5. Q1 - **Council** approve budget
 6. Q2 - **Public Works** construct and maintain on-road portions
 7. Q2 - **Parks** construct and maintain off-road portions

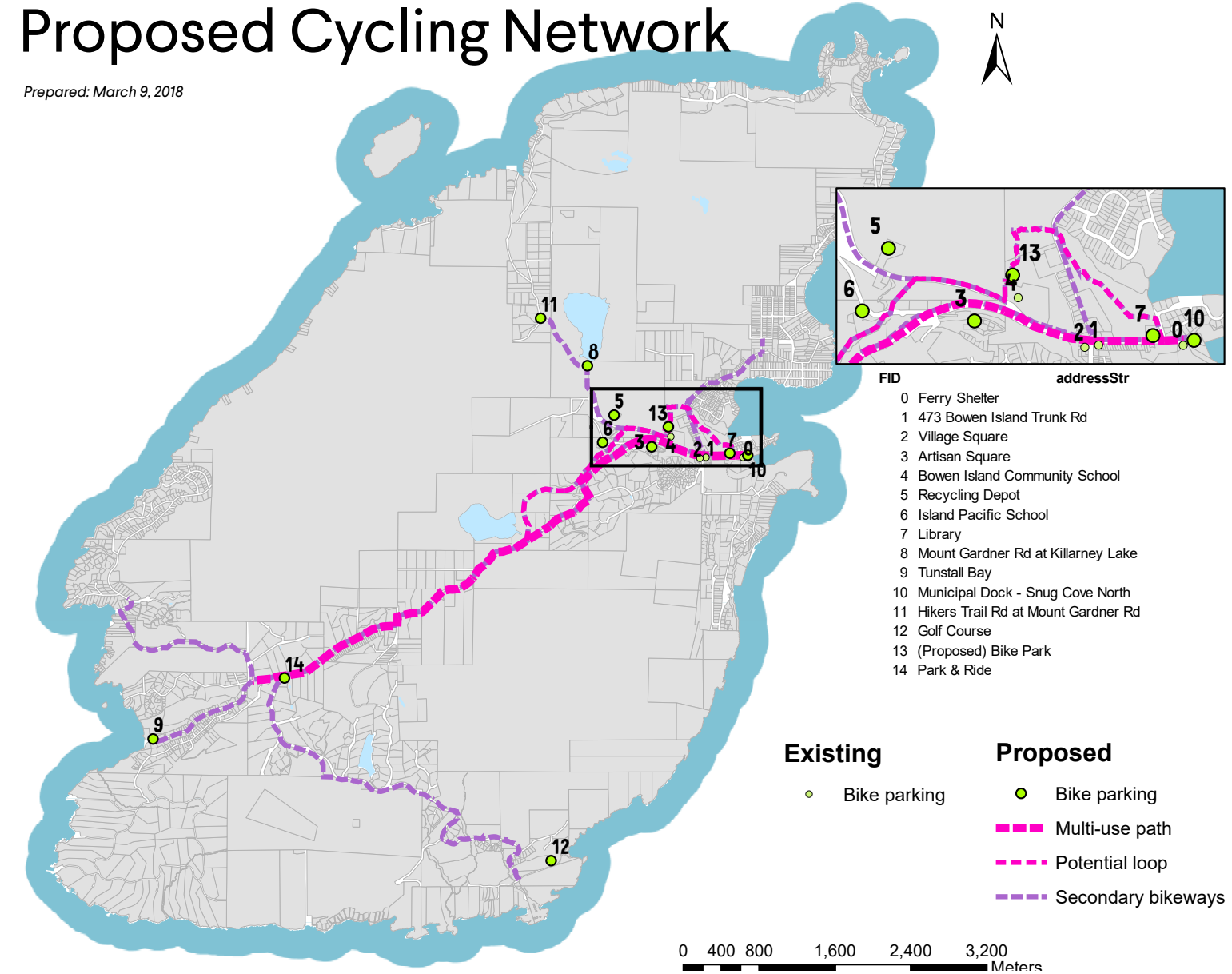
A6 **Major Road Network**

What is intended In 2017, TransLink approved plans for expansion of its Major Road Network (MRN). Roads in the MRN receive annual funding for operation, maintenance and rehabilitation (currently about \$20,000 per lane-km). The section of Bowen Island Trunk Rd from the ferry dock to Mount Gardner Rd is approximately 3.3 lane-km. MRN funding would help facilitate many road improvements, including those for active transportation that would otherwise not be possible due to budget constraints.

- Key actions**
1. 2017/18 Winter –**Planning** submit application
 2. 2018 Spring – **TransLink** shortlist
 3. 2018 Fall – **TransLink** decision

HIGH PRIORITY ELEMENTS

Figure 17 - Map of proposed cycling network



HIGH PRIORITY ELEMENTS

A7 **Coordinate schedules**

What is intended A top priority for Bowen transportation is coordination between various modes to reduce waiting times and improve convenience. This will be an ongoing TAC effort as different service providers change schedules over time. Service providers may include: BC Ferries, TransLink, First Transit, Cormorant Marine, English Bay Launch, Peter King, CMBC, Blue Bus and BC Transit.

- Key actions (annually)**
1. **TAC** establish regular meeting schedule with Service Providers
 2. **Service Providers** collaborate and implement improvements
 3. **Communications** promote improvements

A8 **Speed reduction**

What is intended A speed reduction program will provide a clear process and criteria for evaluating and addressing speeding concerns on the island. This program will also require establishment of robust speed regulation, including amendments to the Traffic & Use of Streets Bylaw.

- Key actions**
1. **Public Works** inventory and map speed regulation signs
 2. **Planning** prepare Traffic & Use of Streets Bylaw amendment
 3. **Council** adopt amendment
 4. **Planning** research and draft program policy
 5. **TAC** review policy
 6. **Council** adopt policy
 7. **TAC** implement policy (review speed reduction applications)
 8. **Planning** apply for funding, if applicable (ICBC CGP/RIP)
 9. **Public Works** construct and maintain traffic calming measures, if applicable

HIGH PRIORITY ELEMENTS

A9 **Cardena pedestrian safety**

What is intended An engineering review of the Cardena Dr area identified deficiencies for pedestrian safety, including lack of landing pads at bus stop, lack of connecting sidewalks, lack of pedestrian area at intersection crossings, and sight line obstructions at crossings (Appendix B). Designs should be referred to BC Ferries to identify potential opportunities and challenges.

- Key actions**
1. 2017 - **Public Works** preliminary design
 2. 2017 - **TAC & Snug Cove Improvement Working Group (SCIWG)** review designs and refer to BC Ferries
 3. 2017/18 Winter - **Public Works** apply for funding (TransLink WITT)
 4. 2018 Spring- **Council** approve budget
 5. 2018/19 - **Public Works** construct and maintain

A10 **Cardena passenger exchange**

What is intended Construction of Cove Commons has removed space for safe bus turnaround on Cardena Dr. There is enough room at the northern end of Cardena Dr for a roundabout to facilitate safe vehicle turnaround. There is also at least 3 metres of right-of-way past the eastern edge of pavement for road widening to create a safe ferry passenger pick-up/drop-off area. A curb bulge at the northwest corner of the intersection will help keep the bus lane clear for more efficient departures and arrivals. This will also be an opportunity to provide shelter and transit information.

- Key actions**
1. 2017 - **Public Works** preliminary design
 2. 2017 - **TAC & SCIWG** review designs and refer to BC Ferries
 3. 2017 Fall - **Public Works** apply for funding (e.g. CMBC TRIPP, ICBC CGP/RIP)
 4. 2019 Spring- **Council** approve budget
 5. 2019/20 - **Public Works** construct and maintain



HIGH PRIORITY ELEMENTS

A11 Bus yielding

What is intended Utilizing the yield priority for buses should reduce waiting times and increase the rate of on-time departures for the bus from the Cardena Dr stop. This should make transit a more enjoyable and attractive experience for users.

To further improve on-time departures, bus circulation should be considered in any redesign plans for the Cardena intersection area. This may include relocation of the bus stop and/or turnaround area.

- Key actions**
1. **TAC** coordinate with Service Provider and RCMP
 2. **Service Provider** implement; **RCMP** enforce
 3. **Communications** awareness campaign

A12 Alternative ferries

What is intended To encourage greater transportation options and lower transportation costs for Bowen residents, the Bowen Island Ferry Advisory Committee (FAC) should strongly encourage consideration for electric ferries, foot passenger traffic, and the integration of foot passenger ferry and bus connections, especially when BC Ferries is planning the redevelopment of Horseshoe Bay Terminal.

- Key actions**
1. **FAC** advocate for and help develop improvements
 2. **BC Ferries** consider feedback and incorporate in terminal redevelopment

MID PRIORITY ELEMENTS

B1 Support alternative options

What is intended Encourage alternative transportation enterprises, such as taxis, scooter rentals and sharing rides. Reducing ferry fares for alternative modes will also help encourage increased use of such modes.

- Key actions (annually)**
1. **TAC** identify existing and potential Service Providers
 2. **TAC** coordinate meeting with Service Providers
 3. **Service Providers** help identify opportunities and challenges
 4. **TAC** determine viable support initiatives, recommend to Council
 5. **Council** direct staff to implement

B2 Real-time transit tracking

What is intended Support development and implementation of technology to access real-time transit information, such as location and ETA.

- Key actions**
1. 2017/18 Winter - **TAC & TransLink** collaborate on technology development
 2. 2018 Summer - **TransLink** select and implement technology

B3 Regional partnerships

What is intended Advocate and foster regional transportation planning partnerships, which play an important role in facilitating active transportation, improving transit service, coordinating regional connections, fostering alternative modes, and integrating different modes and systems in the greater area. Regional initiatives that further the goals of the Transportation Plan should be pursued.

These partnerships may include: BC Ferries, TransLink, Vancouver Coastal Heath, ICBC, local municipalities/regional districts/First Nations, and local MLA/MP.



MID PRIORITY ELEMENTS

- Key actions (annually)**
1. **TAC** identify key contacts for existing and potential Partners
 2. **TAC** establish regular communications with Partners
 3. **TAC** collaborate improvements with Partners; organise transportation forum (optional)
 4. **Partners** consider and implement improvements

B4 Footpath lighting

What is intended A cost sharing program would be a cost-effective way to incrementally improve pedestrian lighting, which was one of the top safety concerns received from the community. The Municipality could supply lights and ongoing maintenance and the community can establish need and contribute installation labour.

The program should require type and placement of lighting to be in accordance with Night Sky Bylaw No. 272. Applicants should also collect data on usage of footpath before and after installation of lighting to help evaluate effectiveness of program.

- Key actions**
1. **Council** approve budget
 2. **Planning** acquire lights; develop program
 3. **TAC & PTGAC** review program; implement (review applications)
 4. **Communications** promote program
 5. **Applicant** identify need; collect before/after data; install lighting
 6. **Parks** inspect and maintain lighting

MID PRIORITY ELEMENTS

B5 Cycling promotion

What is intended Emphasis should be placed on cycling promotion at the completion of each phase of the multi-use path. This work may consider e-bike trends, mountain biking, alternative modes to transition on/off island, advocacy for inclusion in maps developed by regional partners, driver education for sharing the road, as well as showing how cycling may benefit economic development. Examples of cycling promotion initiatives include ‘car-free days’, bike-to-school week, bike maintenance workshops, family/community cross-island cycle rides, and education campaigns.

- Key actions**
1. **TAC** determine and coordinate initiatives; consider partnerships
 2. **Planning** apply for funding (e.g. TransLink TravelSmart)
 3. **Communications** promote initiatives

B6 Commuter parking

What is intended Construction of a commuter lot was completed in 2017. New funds may help to improve or expand commuter parking in the periphery, or improve and expand pedestrian connections between the periphery and the core.

- Key actions**
1. **TAC** identify improvements
 2. **Council** approve budget
 3. **Public Works** construct and maintain

B7 Electric vehicle infrastructure

What is intended For Bowen’s projected population, one to two charging stations in the village should be sufficient to address needs on the island. Station design should also consider electric bikes. Stations may be a source of municipal revenue.

MID PRIORITY ELEMENTS

- Key actions**
1. **TAC** research stations and site selection
 2. **SCIWG** and **Environment and Climate Action Committee** (ECAC) review design
 3. **Planning** apply for funding, if available (e.g. Fraser Basin Council, Plug In BC, BC Hydro)
 4. **Council** approve budget
 5. **Public Works** coordinate installation

B8 Safe transit access

What is intended Capital improvements should be coupled with an ongoing partnership with ICBC to champion pedestrian road safety through awareness and education. May consider a Bowen-branded safety campaign.

- Key actions**
1. **TAC & Service Provider** establish priority projects
 2. **Planning** apply for funding (e.g. TransLink WITT, CMBC TRIPP, ICBC CGP/RIP)
 3. **Council** approve budget
 4. **Public Works** construct and maintain
 5. **Communications** promote road safety

B9 Bike & scooter parking

What is intended The north municipal dock has been identified as a suitable location. Inclusion of bike parking would allow for external funding. According to counts in 2016, the parking capacity should be at least 20 scooters and 10 bikes. Additional bike and scooter parking may be incorporated into the Snug Cove Terminal redevelopment.

MID PRIORITY ELEMENTS

- Key actions**
1. **Parks** preliminary design
 2. **SCIWG & TAC** review design
 3. **Planning** apply for funding (e.g. TransLink BICCS)
 4. **Council** approve budget
 5. **Parks** construct and maintain

B10 Accessible ferry connection

What is intended BC Ferries has a joint committee dedicated to reviewing accessibility issues for BC Ferries. This partner should be a valuable resource in universal design improvements for ferry loading/unloading in Snug Cove. Improvements would ideally be incorporated into the Snug Cove Terminal redevelopment.

- Key actions**
1. **Planning** research best practices; consult with Partners (e.g. BC Ferries, Caring Circle)
 2. **Planning/BC Ferries** preliminary design
 3. **TAC** review design
 4. **Planning** apply for funding (e.g. Knick Knack Nook Social Sustainability Grant)
 5. **Council** approve budget, if needed
 6. **Public Works** construct and maintain, if needed

B11 School Active Transportation Plan

What is intended Partner with local schools to develop a School Active Transportation Plan. A comprehensive step-by-step “Canadian School Travel Planning Facilitator Guide” is available at no cost at www.saferoutestoschool.ca.



MID PRIORITY ELEMENTS

- Key actions**
1. 2017/18 Winter - **Planning** apply for funding (TransLink TravelSmart)
 2. 2018 Spring - **Council** approve budget
 3. 2018 Summer - **Planning** retain consultant
 4. 2018 Fall - **Planning** launch project
 5. 2019 Spring - **Consultant, Planning & Schools** coordinate engagement
 6. 2019/20 Winter - **Consultant** deliver plan

B12 Service to regional destinations

What is intended Advocate for more frequent and better coordinated connections to key regional destinations (i.e. Rockridge Secondary, Ambleside, Park Royal, Lions Gate Hospital, Lonsdale Quay, Capilano University, Downtown Vancouver, Olympic Village, and YVR Airport). This initiative may be paired with A7 Coordinate Schedules as they both involve regular meetings with many of the same partners, which may include: BC Ferries, TransLink, Cormorant Marine, English Bay Launch, Peter King, CMBC, Blue Bus and local municipalities.

The TransLink Mayors' Council 10-Year Vision includes opportunities for service improvements to regional destinations. Efforts should be taken to advocate for these improvements during the engagement phases of the 10-Year Vision.

Also, a rail line proposed for the Sea-to-Sky corridor provides opportunities to connect Horseshoe Bay with Squamish and Whistler.

- Key actions (annually)**
1. **TAC** establish regular meeting schedule with Service Providers
 2. **Planning** public consultation, if needed
 3. **TAC** identify potential improvements
 4. **Service Providers** collaborate and implement improvements
 5. **Communications** promote improvements

LOWER PRIORITY ELEMENTS

C1 Transit service area expansion

What is intended Service expansion can take various forms, including a new route, an extension of an existing route, seasonal service, or a “demand-response”/ HandyDART type system. TransLink is preparing to launch a pilot project for a dynamic shuttle service on Bowen Island in 2018, which has potential to serve a greater area using existing operating hours.

- Key actions (dynamic shuttle pilot project)**
1. 2017/18 Winter - **TAC & TransLink** collaborate on pilot project
 2. 2018 Spring - **TransLink** implement pilot project

- Key actions (new development)**
1. **Planning** determine expected demand
 2. **Planning** collaborate with TransLink and developers
 3. **TransLink** implement expansion

C2 Horseshoe Bay accessibility

What is intended The redevelopment of the Horseshoe Bay ferry terminal will be a great opportunity for addressing many universal design issues. Improvements may include designing for all ages and abilities, non-motorized wheeled devices such as wheelchairs and bicycles, as well as alternative modes such as scooters and motorcycles. Access for vehicle re-entry needs to be improved. And, affordability should also be consideration.

Engagement should involve compiling case studies and suggestions for improvement from affected users.

- Key actions**
1. 2018 - **BC Ferries** engagement and plan development; **TAC** identify key issues and potential solutions
 2. 2021 - **BC Ferries** engagement and detailed design; **TAC** review design
 3. 2023 - **BC Ferries** engagement and construction; **TAC** help develop service impact mitigation measures



LOWER PRIORITY ELEMENTS

C3 Options to/from high school

What is intended Develop additional options for high school students to travel between West Vancouver and Bowen Island, especially for after-school activities.

- Key actions**
1. **Planning** engage students to identify demand and supply gaps
 2. **TAC** develop solutions with Partners (e.g. TransLink, Blue Bus, School District 45, West Vancouver PACs)
 3. **Partners** consider and implement solutions
 4. **Communications** promote solutions

C4 Car sharing

What is intended The existing conditions on Bowen and Horseshoe Bay may not be conducive for current car sharing business models. However, the car sharing industry is very dynamic and growing, as are the surrounding communities and businesses. Collaboration efforts are key to develop viable car sharing opportunities in the area.

- Key actions**
1. **TAC** identify viable opportunities with Partners (e.g. car sharing companies, local municipalities/regional districts, BC Ferries, FACs)
 2. **Planning** research and data collection
 3. **Council** support implementation, if needed
 4. **Partners** implement

C5 Park & Ride incentives

What is intended A Park & Ride was one of the top requests from the ITMP public engagement. As a result, a Park & Ride lot was constructed in 2016 on Adams Rd near Sunset Dr. However, counts have shown that it is under-utilized. Possible incentives for increasing usage could be free Compass Cards, water taxi passes, or high-visibility gear. The focus is to encourage or reward using more transit and driving less, especially onto the ferry.

LOWER PRIORITY ELEMENTS

- Key actions**
1. **TAC** identify suitable incentives
 2. **Planning** apply for funding (e.g. TransLink TravelSmart)
 3. **Communications** promote incentives

C6 Pay parking

What is intended The library lot and Cardena Dr are potential candidates for a pay parking system because of their proximity to the ferry dock. The library lot is currently surfaced with gravel, which regularly suffers damage from each freeze-thaw cycle resulting in high maintenance costs.

A thoughtfully designed parking lot would provide more spaces and may require less maintenance. A pay parking system will help recoup any improvement costs, as well as defray maintenance and enforcement costs. Any cash-in-lieu of on-site parking contributions may also be applied towards this initiative.

- Key actions**
4. **Planning** research suitable pay parking systems
 5. **Public Works** site selection; preliminary design
 6. **Planning** public consultation
 7. **TAC** review design
 8. **Council** approve budget
 9. **Public Works** construct and maintain
 10. **Bylaw Enforcement** enforcement strategy
 11. **Communications** awareness campaign

LOWER PRIORITY ELEMENTS

C7 School-transit partnership

What is intended A partnership between TransLink and School District 45 may provide greater area coverage and service levels for the island. There are significant policy and liability issues that need to be addressed for such a partnership to be possible.

- Key actions**
1. **TAC** research case studies and policies/legislation
 2. **TAC** coordinate Partners
 3. **Partners** develop and implement partnership

C8 Accessibility Committee

What is intended Similar to a recommendation from the Bowen Island Age Friendly Community Report (Appendix C), a dedicated committee may be instrumental in identifying and implementing accessibility improvements throughout the community. This committee would be involved with a number of elements in this Plan, including A1 Active Transportation Design Guidelines, A3 Multi-Use Path, A9 Cardena Pedestrian Safety, A10 Cardena Passenger Exchange, B8 Safe Transit Access, B10 Accessible Ferry Connection, C2 Horseshoe Bay Accessibility.

- Key actions**
1. **TAC** develop Accessibility Committee Terms of Reference
 2. **Council** establish Accessibility Committee
 3. **Accessibility Committee** advise on accessibility improvements and policies

EVALUATION

KEEPING ON TRACK...

A successful plan is one that is effecting the desired changes. Progress of the Transportation Plan will be measured against the three strategic goals:

1. **CONNECTIONS** – Shorter trips, fewer trips
2. **CHOICES** – When you want, how you want
3. **HEALTH** – Fewer emissions, better health

Metrics for these goals will be compiled in an annual public progress report prepared by TAC and Planning staff. Some sources of data will be the municipal Island Survey, pedestrian/cyclist counters, federal census, community profiles, CEEI, TransLink, and BC Ferries.

In addition to the annual report, a travel survey should be conducted every five years to gather more detailed information on changes in travel behaviour.

The Transportation Plan is a living document that should reflect lessons learned, best practices, as well as changes in the needs of the community over time. While the annual progress report will help inform minor adjustments to better achieve Plan goals, the foundation of the Plan itself should be revisited in 10 years to capture any significant changes in the community vision for Bowen transportation.

TARGETS

Targets for each metric should be determined by TAC and some community engagement.

PROGRESS REPORT

The report should be organized in a consistent structure and format each year for easy comparisons over time. Each report should contain: 1) Summary, 2) Introduction, 3) Metrics, 4) Conclusion, 5) Next Steps. The report should be brief and concise, about three pages in length with a full-page infographic to present the metrics.

Summary

Provide a general statement on the key changes from the previous year as they relate to the strategic goals of the Plan.

Introduction

Provide context information such as population and demographic changes, and a general overview of Plan elements implemented over the year.

Metrics

Present metrics along with targets and a quantification of change from the previous year and the value at the start of the plan (2018), if available.

Conclusion

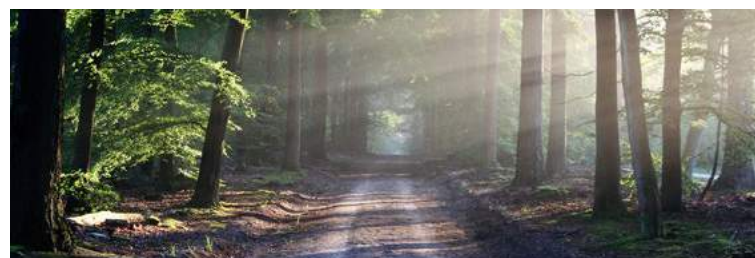
Discuss changes in metrics as they relate to implemented elements of the Plan. Highlight any lessons learned from implementation that seemed particularly effective or problematic.

Next Steps

Present key actions for the next year to build upon the progress made and lessons learned.

Table 9: Summary of plan metrics for Progress Report

METRIC	BASELINE	SOURCES
CONNECTIONS		
Length of multi-use path	0 km (2017)	BIM GIS
Length of bus routes	16.0 km (2017)	TransLink
# of express bus routes	2 (2017)	TransLink, Peter King
CHOICES		
Community satisfaction	3.21/5 (2018)	BIM Island Survey
# of bike parking locations	4 (2017)	BIM GIS
Total bike parking capacity	33 (2017)	BIM GIS
Commuter parking availability	N/A (2017)	BIM GIS
# of Park & Ride spaces	4 (2017)	BIM GIS
# of electric vehicle charging spaces	0 (2017)	BIM GIS
# of routes crossing Howe Sound	3 (2017)	BC Ferries, water taxis
% of electric vehicles	N/A (2017)	TBD
Mode share of alternative modes:		BIM Island Survey, BIM Travel Survey
On-island Commute	2.0%	
Off-Island	0.6%	
HEALTH		
Mode share:	Refer to data sources, show for driving, walking, cycling and transit	Census, community profile, BIM Island Survey, BIM Travel Survey
On-island Commute		
Off-Island		
Annual Island transit ridership	Estimated 13,000 (2016)	TransLink
Annual ferry foot-passenger ridership (from Snug Cove)	Refer to data source	BC Ferries
Pedestrian counts at key locations	N/A (2017)	Counters, if available
Cyclist counts at key locations	N/A (2017)	Counters, if available
Vehicle kilometres traveled (VKT)	243,100 (2012)	CEEI
GHG emissions from transportation	8,532 t (2012, road-only)	CEEI BC Ferries
# of traffic accidents by type	Refer to data source	ICBC



TRAVEL SURVEY

This survey should be administered per household to collect information on trip patterns and travel choices, including trip origin and destination, purpose, modes, time of day, and duration. Smartphone applications, such as ItinerumTM, may be a low-cost option to improve data accuracy and help increase response rate.

Data from this survey will help make the Transportation Plan more effective by giving a better understanding of why people choose certain modes. These insights will help support funding applications, and focus efforts where they will be most effective in achieving the community vision for Bowen Island transportation.

PLAN REVIEW

In 10 years, a comprehensive review of the Transportation Plan should be undertaken to determine any need to revise the community vision, goals, or targets. The review would also capture new plan elements that may be more relevant, or remove old ones that are no longer applicable.

Similar to the ITMP project, the review should summarize background data, engage stakeholders, and develop Plan amendments for public discussion and Council approval. Community engagement will be an important component throughout the process to ensure proper representation in the Plan and public support for any changes.





APPENDICES

Appendix A: Multi-Use Path Wayfinding Strategy

Appendix B: Cardena Safety Report, 2016

Appendix C: Age-Friendly Community Report, 2009

Appendix D: Annual Work Plan Template



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