



## Transportation Master Plan

**Connecting Our Community for All** 

Final Plan for Adoption | February 2025

## How to read this plan

If you only have a few minutes, start with the first few pages. If you have more time, continue reading as the plan becomes increasingly detailed.

## Acknowledgments

The District recognizes that Squamish is in the core unceded territory of Skwxwú7mesh Úxwumixw. We offer gratitude to the Skwxwú7mesh People who have lived on these lands since time immemorial and reassert our commitment to Truth and Reconciliation.

This plan was prepared by ISL Engineering and Land Services Ltd. with input from District of Squamish staff and Council, community members, partners, and stakeholders.

Additional information and supporting rationale for this plan can be found in the attached Background Report, What we Heard reports, and Traffic Modeling Memorandum.



(Pages 4-7) At a glance

Describes where we are today, the general direction, and desired outcomes of the plan.

### (Pages 8-13) Where we are

How people get around and the challenges faced in the community today.

## (Pages 14-19) Where we're going

Outlines planned growth and alignment with other community objectives.

## (Pages 20-85) How we get there

Documents the strategies and actions to achieve our aspirations.

### (Pages 86-101) Implementation

Sets out a list of priorities based on technical need, benefits, feasibility, and public input.

## Appendices

- A) Background Report
- **B) Traffic Modeling Memorandum**
- C) Round 1 What We Heard Report
- D) Round 2 What we Heard Report



Squamish is growing quickly and based on the direction from the Official Community Plan, continued growth is anticipated. Providing greater housing and transportation choices supports everyone that wants to live in the community.







It's not possible or desirable to accommodate all trips by car

If the population grows as planned and everybody continues to get around as they do today, the road network would become overly congested and impact the livability of the community. It is not possible to increase the capacity of roadways to match, either from a constructibility or a financial perspective.





The plan provides people with choices

The community has expressed a significant desire to have safer options to get around on foot, by bicycle, and other micromobility modes (i.e., scooters).

Not everyone in the community has the ability or desire to drive a car, walk or ride a bicycle. Transit is an essential service for many and the most space efficient way to travel.



Choices that work for all ages, incomes, and physical abilities





### Choices that consider sustainability

Reducing the climate impacts of transportation is one reason for mode shift. Electric vehicles will address some climate and air quality problems but do not solve the congestion and livability issues created when most people travel by car.

The plan adopts

quick build

techniques



The plan proposes a quickbuild approach where possible to build a safe and comfortable active modes network, enabling infrastructure to be built faster and in a more cost-effective manner.



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It's not about stopping people driving

The plan aims to find a balance. Many people want to drive less, and when they have the option to do that, it makes road space and parking more available for those that need or want to drive.



It's about a community that works for everyone



The community works well for people that drive today. Roads take them where they need to go but on many streets, if you want to walk, ride a bicycle, or take the bus, there are often no facilities for those modes. This plan provides the direction that will enable people to travel how they want.

## Where we are

How people get around and the transportation challenges faced in the community today.



#### A growing community

The 2021 census recorded a population of 23,800. More recently, Statistics Canada estimates that the population in 2023 has grown to 29,206, confirming that Squamish remains one of the fastest-growing communities in BC. As the District expands, it places increasing strain on various District-provided services, including the water supply, wastewater management, and the transportation system. If the community were to grow outward, residents would become more

#### How people get around

The most reliable estimate of travel within the community is the 2021 census mode share for trips to work. According to the census, 78.6% of trips to work in 2021 were made by driving, 6.5% as a passenger, 1.9% by transit, 5.5% on foot, and 4.4% by bicycle. These figures may be somewhat skewed due to the impact of the COVID-19 pandemic,

#### Other trips in the community

People make many non-car based trips throughout the day, such as for shopping, socializing, and recreation that can be neglected for consideration in plans like this because they are not captured in the census. However, they can be among the most critical trips for some individuals, such as taking children to school, accompanying elderly parents to medical appointments, or volunteering. To estimate mode share for all trips in Squamish, a factor was derived car-dependent to get around. By offering a variety of housing options for both new and existing residents, many can choose to live in denser infill housing located near existing amenities. This approach facilitates shorter trips that are less reliant on cars. Land use is a critical factor in managing transportation demand within the community. Increasing density in planned neighbourhood nodes and along transit routes will help achieve many of the District's strategic objectives.

and a more accurate picture of trip patterns may not emerge until the 2026 census, which may reflect any lasting changes. Mode share varies across the town, with residents in denser mixed-use neighbourhoods making fewer trips by car. Car mode share ranged from 74.6% to 100% of trips, though sample sizes may be smaller in certain neighbourhoods.

using Metro Vancouver Household Survey data for trips to work and all trips and then compared with Squamish. The factors derived and applied to Squamish data suggest that approximately 69% of all trips within Squamish today are made by driving, 15% as a car passenger, 1% by transit, 8% on foot, and 3% by bicycle. It is reasonable to expect that more social trips involve family members, resulting in an increase in trips as passengers and fewer trips by other modes.



#### Access to a personal vehicle

During the first round of engagement, we asked residents about the modes of transportation they had access to 81% reported having access to a vehicle. However, it is important to note that 19% do not have access to one, along with the limited responses from younger residents that also don't drive. Squamish needs to work for everyone. 80% of respondents reported having access to a bicycle, a figure significantly higher than the number who actually use bicycles for transportation. This may be influenced by the town's mountain biking culture, but it also highlights potential latent demand if cycling were made more comfortable and accessible. Additionally, 21% of respondents owned an electric bicycle, which helps mitigate challenges like hills and longer distances. Vehicle purchase decisions also provide insights into how the community might evolve. Among respondents, 55% indicated they were considering purchasing an electric vehicle (EV), while 37% were considering an electric bicycle. The shift toward EVs supports environmental objectives, while the growing interest in electric bicycles suggests that more residents will be less constrained by trip distances and steeper grades.

#### **Ease getting around**

We asked how easy it was to get around using each mode of transportation, which revealed some inequities in the current transportation network. While 85% of respondents felt it was easy to get around by car, only 19% said the same for transit, 58% for biking or rolling, and 38% for walking.

#### **Barriers to walking**

The primary factors discouraging people from walking more are the lack of sidewalks and distance. Other safety concerns include inadequate street lighting, poor maintenance, lack of safe crossings, and the risk of crime.

#### Cycling confidence and barriers

Cycling infrastructure is typically categorized by the level of comfort it provides, with comfort achieved through separation from traffic or traffic calming measures to make it safer and easier to share the road. Latent demand for cycling can only be realized where there is a connected network of infrastructure that is comfortable for most, also described as being suitable for all ages and abilities (AAA). In Squamish, residents selfcategorized as 12% fearless (happy riding anywhere), 61% confident (tolerate poor infrastructure but prefer separation), and 27% concerned (will only ride on facilities separate from traffic). Combined, the 27% and 61% represent significant latent demand for cycling if the network were safer and more comfortable. The biggest challenges for people cycling or rolling include a disconnected network at 58%, weather conditions at 55%, traffic safety at 54%, lack of secure bike parking at 43%, and inadequate street lighting at 37%. The plan can address most of these barriers, except for the weather.

#### Access to transit and barriers

We asked people if they felt they had reasonable access to transit within a comfortable walking distance, and 87% noted they do from their home. However, only 31% felt they had good access to transit from their place of work. Both are essential to capture latent demand for transit. Neighbourhoods that reported the poorest access to transit include Brackendale, Garibaldi Highlands, and Valleycliffe. Squamish Nation also noted poor transit access for their community. The biggest challenges for people using transit are trip length and infrequent bus schedules (60%), schedules that don't align with needs (51%), long transfers (48%), circuitous routing (43%), transit routes that don't go where they need (39%), and bus stops that are not weather-protected (36%).



#### Driving challenges and interest in driving less

The biggest challenges for those who drive include parking downtown (63%), congestion downtown (54%), and congestion on the highway (43%). Drivers also expressed concerns about safety, particularly distracted driving (35%), speeding (31%), and others not following the rules (30%). Respondents were asked if they were interested in driving less. Of those who drive, 66% noted they would like to drive less. The reasons people provided for choosing to drive include convenience (76%), no worries about weather (60%), longer

trips being easier (59%), the need to carry equipment or materials (57%), and the need to drop off or pick up others (47%). Additionally, many cited reasons related to other modes having too many barriers, as outlined previously.

## How people would like to get around

We asked people if they could commute to work or school using any mode (e.g., bike, transit, car, scooter, car share, etc.), and if there were no barriers, which mode they would choose. Almost half (47%) said they would prefer to bike. Some respondents indicated they would choose a vehicle (17%), walk (15%), or take a bus (8%). This indicates potential mode shift and even mode share targets to some extent, if safe and connected transportation networks are provided for each mode.



#### Overview of today's transportation challenges by mode

The transportation network currently works well for those who drive; the road network is well-established, and while there may be some delays during peak times, people can get where they need to go by car with reasonable certainty. For those who don't or can't travel by car, the transportation system is less favourable. While the Corridor and Discovery trails are great assets, they don't connect well to all major destinations. There are too many missing connections in the network for people walking and rolling, discouraging many from using these modes of travel. For those who rely on the bus, the network provides reasonable coverage, but the frequency is not

at a level that makes it convenient and still requires planning. In some neighbourhoods, walking to the bus stop and waiting for the bus is often inaccessible unless one is ablebodied and willing to stand on grass, dirt, or gravel at the side of the road. The transportation network needs to work for everyone in the community, not just those who drive.

# Where we're going

Outlining planned growth and alignment with other community objectives.

#### The community will continue to grow

#### The OCP (Official Community

**Plan**) reflects the community's values and priorities through its vision, presenting community-wide goals, objectives, policies, and guidelines. The **OCP** outlines the 'big picture' for Squamish and helps manage change while reconciling the community's diverse interests, including collaboration with Squamish Nation and alignment with their interests. The **OCP** also provides greater

certainty for residents, landowners, governments, agencies, community groups, and investors about the future growth of Squamish. The **OCP** forecasts that the community will continue to grow. This growth requires careful management of District infrastructure, including transportation, sewer, and water networks. Accessible and sustainable transportation is a cornerstone of a healthy, livable community. Through this plan, the District is working towards an efficient, balanced, and fully integrated multi-modal transportation system. Improving transportation network connectivity and promoting active and alternative low-emission modes while providing for commercial transportation needs and economic functions—are key to smart and sustainable growth, and reflected in the OCP hierarchy of transportation modes that guides decision making.

#### This plan aligns with other District documents and policies

This plan acknowledges past transportation recommendations and incorporates those from the **Multi-Modal Transportation Plan**, the **Active Transportation Plan**, and the **Downtown Truck Route Study**. In some cases, these recommendations are updated or expanded to reflect evolving best practices. Other District policy documents outline goals and objectives related to the transportation system. For example, the **Community Climate**  Action Plan envisions that "In 2030, emissions in the District of Squamish will be reduced by at least 45% from 2010 levels, and we will be on track to achieve netzero emissions by 2050." Since transportation accounts for 52% of community emissions, it plays a crucial role in achieving this vision. Two major initiatives include: Big Move 2 - Shift Beyond the Car, i.e., encouraging more people to travel by active transportation and transit; and Big Move 3 - Decarbonize Transportation, i.e., supporting increased adoption of electric vehicles. The District must not only reduce emissions but also adapt to the current effects of a changing climate and extreme weather events, ensuring that the community remains livable for everyone. Additionally, the District is completing an **Age-Friendly Community Plan** that addresses the needs of residents as they age and still require travel using various modes of transportation.





#### This plan aligns with provincial and federal objectives

The District doesn't simply set a direction; in many cases, policies flow from federal and provincial strategies that must be supported and often implemented at the municipal level. For example, both the provincial and federal governments have road safety strategies that address the safety challenges of today's transportation system, such as the need to reduce deaths and serious injuries from motor vehicle crashes. This is why road network improvements in this plan focus on road safety. Similarly, active transportation strategies highlight the many benefits that enabling more people to travel actively provides at all levels of government, and for that reason, they actively support and fund such improvements. Most recently, the Province has begun addressing the housing crisis by mandating municipal changes to increase housing supply. This **Transportation Master Plan** must support this new housing in a sustainable manner.

#### We must plan for all modes going forward

Transportation planning is at a turning point in how growth is accommodated. In past decades, as cars gained popularity, municipalities widened roadways and intersections to make driving easier for more people. This approach worked for a time, but soon congestion returned, and there was nowhere left to widen without impacting the community's fabric. While congestion may not be as significant an issue in Squamish as in Downtown Vancouver, the principles are similar. Squamish is at a point where it needs to make decisions about how to accommodate growth. Widening roads is not feasible in many locations. For example, Downtown streets are constrained by property and building lines, and even where widening is an option, it often provides only short-term benefits at an extremely high cost. As a community, more people need to travel on foot, by bicycle, by transit, or through emerging micromobility options. This is the only way to accommodate an increasing population while maintaining a livable community that meets broader community, provincial, and federal objectives. No growth is not an option, especially today with provincial mandates for housing. New affordable housing options are needed so that the community can age in place and young adults can find affordable homes.



#### We're not asking everybody to stop driving

This plan may seem focused on active transportation and transit, but only because these modes have historically been under-invested. However, this is not a plan to have everyone stop driving; it is a plan to provide people with choices. The District fully recognizes that some individuals either want or need to drive. When more people choose other modes of transportation, it not only supports broader outcomes but also benefits those who want or need to drive by reducing strain on the road network and demand for parking. Many people have expressed a desire to drive less, and by enabling this through this plan, the road network will experience fewer delays as the community grows.

#### Connecting our community for all

Going forward, the District is planning a transportation system that enables everyone to get around town, contributes to broader community objectives, and is financially feasible and sustainable. Everyone means everyone, not just those with a driver's license. It includes young people who cannot yet drive, elderly individuals who can no longer drive, those with lower incomes who cannot afford to drive, individuals with disabilities that prevent them from driving, as well as those who simply do not want to drive. To enable everyone to get around town, there must be options that are safe, affordable, and accessible to all. The broader objectives include community health, where increased activity can improve individual physical and mental health and reduce strain on the healthcare system. It must support environmental and air quality objectives. While electric vehicles support this goal, they present traffic safety challenges, sometimes greater than gaspowered cars. Additionally, given their cost, they are not an inclusive solution for everyone, nor do they alleviate transportation costs for people with lower incomes or mitigate the effects of congestion. This plan will provide people with choices—whether to continue driving, walking, cycling, rolling, or taking the bus.



# How we get there

The vision and goals, themes, strategies and actions.

#### **The Vision**

During the first round of engagement, we invited people to share what elements they would like to see included in the **Transportation Master Plan's** vision statement. They were asked to select up to five key elements for the vision statement. The top five elements were: Bikeable (59%), Walkable (53%), Safe (46%), Sustainable (34%), and All Ages and Abilities (34%). The following tagline and vision statement capture this sentiment with general statements that encompass all modes. The tagline is intended to provide a

shorter, more digestible message for social media messaging and campaigns. For example, "Connecting our community for all, the District is building protected bike lanes on Third Avenue."

## The Tagline: Connecting Our Community for All

The Vision: In 2040 and beyond, everyone in Squamish has access to safe, sustainable, affordable and reliable transportation options that contribute to our quality of life and the vibrancy of our community.

#### The Goals

The vision is guided by four overarching goals outlined below. These goals will be achieved through recommendations grouped into themes related to policy, infrastructure, collaboration, and monitoring. Specific strategies and actions are identified under each theme, including maps for each mode of planned infrastructure. Many strategies supporting multiple goals. For example, providing

frequent transit service and enhancing the waiting experience supports both transportation choices and sustainability goals. The Implementation section outlines the funding assumptions and priorities.

Choices	The layout of our town and the design of our streets create a range of safe, comfortable, accessible and affordable options for everyone to get where they need to go.	<ul> <li>Mixed land use and complete neighbourhoods will reduce trip lengths and enable more trips to be made actively.</li> <li>Street design will prioritize safety of all transportation modes.</li> <li>Decisions will support community health, social connection and quality of life.</li> </ul>
COJ Economy	Our local street network supports efficient goods movement and vibrant spaces where businesses can flourish.	<ul> <li>The truck network supports goods movement while minimizing impacts.</li> <li>The curbside is managed to support deliveries, parking for all modes, and placemaking.</li> <li>Personal transportation costs are reduced in the community, enabling more local spending.</li> </ul>
Sustainability	The decisions we make about transportation have a positive impact on our environment and GHG emissions.	<ul> <li>Green space will be a priority element of street designs.</li> <li>Stormwater management will consider how to reduce run-off to mitigate increased rainfall.</li> <li>Transportation emissions will be reduced through both adoption of electric vehicles and mode shift.</li> </ul>
Regional Needs	There are a range of options for people and goods to move between Squamish and neighbouring areas.	<ul> <li>Regional transit will be pursued to reduce auto demand on the Sea to Sky Highway.</li> <li>Rail, air and marine transportation options will be embraced.</li> <li>The highway serves both local and regional trips and is critical to emergency response.</li> </ul>

Theme 1: Align and update policies and bylaws that guide transportation, land use and development initiatives



Policy provides the mechanism to embed good transportation decision making in District practices. Theme 1 provides recommendations for new and updated policies that will support the District's vision and goals.

Strategy 1.1: Update the Official Community Plan Bylaw (No. 2500)

Strategy 1.4: Update the Traffic Bylaw (No. 2220)

Strategy 1.2: Update the Subdivision and Development Control Bylaw (No. 2649) Strategy 1.5: Other Policy Updates to Support Community Goals

Strategy 1.3: Update the Zoning Bylaw (No. 2200)

Strategy 1.1: Update the Official Community Plan Bylaw (No. 2500)

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With land use and transportation being so intrinsically linked, it's important that the Transportation Master Plan and the Official Community Plan complement each other. Future updates should be aligned to better enable this coordination.

#### Action 1.1.1 Update the Official Community Plan

Building on the **Official Community Plan (OCP)**, rather than addressing only high-level elements of transportation and other community plans, update the **OCP** to more directly relate land use and transportation decisions. This includes considering all street functions (i.e., link and place functions), the transportation benefits of densification and transit-oriented development, and the need to support changing land use with sustainable modes of transportation. The **OCP** can support new design standards for streets to access land as well as the location of land use itself.



Strategy 1.2: Update the Subdivision and Development Control Bylaw (Bylaw No. 2649) The Subdivision and Development Control Bylaw influences the built environment, particularly the design of streets, more than any other regulation. Updating it to reflect best practices will support broader outcomes.





#### Action 1.2.1 Update cross-sections to reflect best practice

Street cross-sections should be updated to reflect best practices for all modes, including suitable through zones, placemaking, tactile surface materials, curbside functions, green infrastructure, trees, and facility widths, considerations for accessibility, age friendly features such as shade and places to rest. Consideration should be given to how each decision relates to the broader outcomes the District is striving to achieve.



#### Action 1.2.3 Update the street classification system to reflect both link and place functions

The road network classification system currently considers only the function of carrying traffic. The classification system should be updated to reflect a street's dual roles as both a link and a place. New crosssections (Action 1.2.1) should be developed for each unique combination of place and link. For example, a collector road may be designed differently depending on land use.



#### Action 1.2.2 Add traffic calming on all local streets

To date, traffic calming is typically provided as a reactionary measure to an identified speeding or traffic volume issue. Even where no issues are raised, there is potential for a single driver to drive faster than desired and cause a serious or fatal injury. To improve road safety, traffic calming measures such as speed cushions and curb extensions should be the default for such road classifications and documented within the Bylaw.



#### Action 1.2.4 Create user friendly design guidance

To support the consistent application of updated design principles, guidance should be clearly laid out in a public-friendly Complete Street Design Guide. This guide would set out the planning and design principles that the District strives to achieve. It should include guidance on determining trade-offs, preferred street elements, interim and ultimate design approaches, and provide practical examples of different scenarios. Strategy 1.3: Update the Zoning Bylaw (Bylaw No. 2200)

The Zoning Bylaw sets the rules regarding how land can and cannot be used and what can and cannot be built. Given that land use directly impacts our travel patterns, ensuring land use decisions support shorter trips is essential.



Action 1.3.1 Incorporate Provincial housing legislation as required

To address housing supply and affordability challenges, the Province has created housing legislation to reduce barriers to increased housing density. Increased density creates more trips, but when combined with mixed land uses and located in areas with good active transportation and transit connections, it provides a way to meet growth targets while maximizing trips by sustainable transportation modes.



Action 1.3.2 Update parking requirements for motor vehicles

It is recommended that the District remove any parking minimums, provided suitable alternatives are offered, allowing developers the opportunity to create less car-centric homes. Alternatives could include access to transit or transit passes, plentiful bicycle parking, funding of supporting infrastructure, and car share stalls, to name a few examples of alternatives that can be requested in place of personal car parking.



Action 1.3.3 Monitor parking requirements for bicycles

For multi-family homes, which should be located close to sustainable transportation connections, sufficient storage for bikes, scooters, and other micromobility modes is essential to encourage active travel. This should include communal bike rooms, secure and accessible bike storage (including for cargo bikes), and enforcement mechanisms. Strategy 1.4: Update the Traffic Bylaw (Bylaw No. 2220)

The Traffic Bylaw provides regulations on where a person can walk, cycle, drive, and park their vehicle. It also includes maps, such as cycling routes and truck routes. As the District aims to shift its transportation network towards more sustainable modes, this bylaw offers small nudges to encourage or discourage travel by each mode in alignment with District goals.

## 2 HR MAX 2 HR MAX NO PARKING BETWEEN 3 AM & 7 AM



#### Action 1.4.1 Update default speed limits on District roads

The District is currently completing a project exploring reduced posted speed limits on municipal roads. By improving safety, the project aims to support broader outcomes such as encouraging sustainable transportation options, enhancing neighbourhood connectivity, and supporting an equitable transportation network for all road users. Once complete, the findings should be integrated into District policy.



Action 1.4.3 Add Elephants Feet to legitimize bicycle crossings

"Elephants feet" are a common bicycle marking used to indicate a place where cyclists can cross without dismounting. As the Motor Vehicle Act has yet to catch up with such practices, the District should legitimize these crossings by including them in a bylaw update, using language from other municipalities that have enacted similar bylaws.



Action 1.4.2 Develop a No Right Turn on Red (NRTOR) policy to improve safety

NRTOR improves safety and accessibility for vulnerable road users by preventing drivers from creeping forward into the crosswalk to find a gap in the cross-traffic, which often blocks access to curb ramps. Furthermore, as drivers typically look left, they can miss people walking or rolling from the right. The District should consider implementing NRTOR at all District signals to improve road safety.



Action 1.4.4 Develop policy around AT facilities during construction

The District should establish practices to maintain suitable and accessible active transportation connections for people walking and rolling around construction sites. Priority should be given to maintaining all existing functions over traffic capacity.



Strategy 1.5: Other Policy Updates to Support Community Goals

The above bylaws are the most critical to supporting the goals of the transportation plan. There are also other smaller policy moves that can support these goals.



#### Action 1.5.1 Update the Frontage and Sidewalk Maintenance Bylaw (Bylaw No. 2669)

The bylaw sets requirements for maintaining the sidewalks in front of property lots. As the District builds more active transportation (AT) infrastructure, the bylaw should clarify whether these new facilities will be cleared by adjacent property owners or by the District. It is recommended that strategic AT connections be maintained by the District to ensure a functional network during poor weather conditions.



#### Action 1.5.2 Develop a small, safe and clean vehicle procurement policy

The District will continue to electrify its fleet including electric bicycles for staff to get around town, electric fleet and maintenance vehicles to reduce functional emissions, and vehicles that reduce collision risks for vulnerable road users. Over time, as feasible, smaller vehicles will be considered to allow narrower streets or tighter geometries to be serviced.



#### Action 1.5.3 Complete an AT Spot Improvement Strategy

This plan includes many major transportation infrastructure improvements. However, as weak links in the network can suppress demand, it's important to identify all such requirements and, over time, create capital improvement projects to address them. This strategy would identify issues, potential solutions, and high-level capital costs.



Action 1.5.4 Ensure adequate staff resources to deliver and maintain projects

As the District grows, greater staff resources are required to plan, coordinate, manage, and maintain new transportation infrastructure. With an increasing tax base, such changes can be absorbed without a significant increase in the property tax rate. However, this resourcing should be planned in advance to ensure the District can continue serving the community reliably.



Action 1.5.5 Incorporate Diversity, Equity and Inclusion (DEI) into all policies

The District has completed its Accessibility Strategy, and the findings should be applied to all transportation projects. Accessibility is core to this plan and all elements of the transportation network should be viewed and assessed through a DEI lens. Recommendations going forward should consider the needs of everyone in the community and how they get around town.



Action 1.5.6 Adopt a Vision Zero Policy and Embed in Decision Making

A Vision Zero initiative would confirm the District's commitment to reducing deaths and serious injuries on its streets. It would outline a safe system approach to street design and provide rationale and recommendations for changes to infrastructure and operations, some of which are outlined in this plan. Examples include no right turns on red, leading intervals, and protected turns, to name a few.

## Theme 2: Build and maintain transportation infrastructure that accommodates everyone



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To meet the evolving needs of the community, the transportation network must adapt to accommodate growth while also achieving the broader outcomes the District strives to realize. Theme 2 provides recommendations for infrastructure improvements that support the District's vision and goals. Where feasible, it seeks to add new infrastructure in a quick-build manner, allowing the network to be constructed faster and at lower cost.

Strategy 2.1: Enable more comfortable and accessible trips by walking and rolling	Strategy 2.6: Reduce reliance on the automobile
Strategy 2.2: Design streets and develop programs to support vibrancy	Strategy 2.7: Explore opportunities for other modes
Strategy 2.3: Support transit service through improved access and reduced delays	Strategy 2.8: Fund the plan in a sustainable way
Strategy 2.4: Improve the safety of everyone traveling in town	Strategy 2.9: Maintain the network in a good state of repair

Strategy 2.5: Support the movement of goods

Strategy 2.1: Enable more comfortable and accessible trips by walking and rolling

The OCP recommends a hierarchy of transportation modes as a general approach to guide transportation decisions. Priority (in order) is walking; cycling; transit; commercial vehicles; highoccupancy vehicles/taxi; then private automobile. As walking and rolling are high priorities in the District's modal hierarchy. Traveling in these ways for short and medium-length trips supports all of the District's desired outcomes, including improving health, environment, affordability, and equity. Walking and rolling upgrades are identified in Map 1.



## Action 2.1.1 Add sidewalks and protected bike lanes on all major roadways

To improve network connectivity, comfort, safety, and accessibility for people walking and rolling, the District will construct (or require from developers) pedestrian and bicycle infrastructure (sidewalks and protected bike lanes or multi-use pathways) along all major roadways with appropriate grades, curb ramps, and tactile surfaces wherever possible.



## Action 2.1.2 Add safe crossings for people walking and rolling

To improve safety when pedestrians have to cross the roadway, crosswalks will be provided that could include marked crosswalks, flashing beacons, pedestrian signals, full signalization, plus design enhancements including curb extensions, continuous sidewalks or raised crosswalks or intersections.



Action 2.1.3 Add pedestrian orientated streets in neighbourhood nodes

Pedestrian-oriented streets are intended to reduce traffic volumes and slow any remaining traffic to walking pace, making the street safer for people walking and rolling. Such streets typically also create additional pedestrian realm space that can be used for patios, landscaping, and public seating, drawing people to the street and adding vibrancy to the neighbourhood.



Action 2.1.4 Adopt continuous sidewalks and bike paths

An emerging technique in Canada involves maintaining the sidewalk of a collector or arterial street intersection at the same elevation across the local street. This design better conveys priority and mode hierarchy, improves safety for people walking, cycling, and rolling, and emphasizes the driver's responsibility as they cross the active modes realm, rather than the other way around.



## Action 2.1.5 Remove door zone bike lanes where opportunity arises

Door zone bike lanes present a significant risk of serious injury or death if a car driver opens their door as someone is passing on a bicycle, either from the door strike or from swerving into traffic. They should no longer be considered a suitable solution, and on streets where there are legacy door zone bike lanes, they should be actively designed out.



Action 2.1.6 Create safer local streets for people walking

The District has many local streets without sidewalks, but it is not feasible to provide sidewalks on all such streets in the near term due to costs. A quicker solution is to use advisory shoulders or similar techniques to allocate space for people walking and rolling, with a central drive aisle. Drivers may move into the advisory shoulder to pass if it is clear to do so.



## Action 2.1.7 Incorporate bicycle street principles into neighbourhood ways

Today, the District's neighbourhood streets are signed at 30 km/h and should be comfortable enough to share the road. However, without formal traffic calming, traffic can easily exceed the posted speed. A Bicycle Street would incorporate design elements to enforce slow speeds, such as curb extensions, speed cushions, continuous sidewalks to slow down traffic turning on and off the street, and stronger messaging to drivers.



Action 2.1.8 Extend the paved trail system and connections to it

The paved trail system includes the Corridor Trail and Discovery Trail. It is proposed that, over time, these trails be extended to the District limits on both sides of the highway, with improved east-west connections from residential, commercial, and employment areas, as well as trailheads. Improving access to these spines of the active transportation network will enhance accessibility for more people in the community.



## Action 2.1.9 Widen bridge crossings used by active modes

There are many river crossings in the District that currently have minimal width active transportation facilities, making them weak links in the network. Bridge retrofits are costly, but as bridges come up for replacement or rehabilitation, wider active transportation facilities that align with upstream and downstream facilities should be provided and included in the cost.



Action 2.1.11 Provide supporting amenities for active modes

People can have more confidence and be encouraged to use the active transportation network if it is clear that the District has considered their needs. This includes providing rest areas, shaded places, washrooms, street lighting, waste receptacles, and tool stations, among other amenities. These enhancements along key active transportation corridors demonstrate a commitment to supporting people using the network.



## Action 2.1.10 Provide more regular and secure public bicycle parking options

People in Squamish own a variety of bicycles, from low-cost town bikes to high-cost mountain bikes and e-bikes. Providing secure parking is essential to enable these trips. Plentiful regular bike racks as well as new solutions such as app-controlled locking stations (e.g., Bikeep), could be one way to provide secure parking at strategic locations. Solutions should also consider the size and shape of cargo bikes.



Action 2.1.12 Improve wayfinding for people walking, rolling, and cycling

Wayfinding provides a visible message that the District has considered people's needs and indicates the presence of a continuous route to a destination. As the network expands, new wayfinding signs to key destinations should be clearly added at route decision points, including information on distance, amenities along the route, possibly travel times, and District and/ or Squamish Nation designs.





Strategy 2.2: Design streets and develop programs to support vibrancy Our downtown and neighbourhood nodes should be places for people, where they can shop or socialize in comfort without worrying about traffic safety, noise, or air pollution.



Action 2.2.1 Create attractive public spaces where possible

Urban design should be at the forefront of decisionmaking. Attractive places draw people to them, while poorly designed places can discourage visitors. This does not have to involve expensive materials and surfaces; tactical urbanism approaches, green spaces, furniture and trees can work equally well to create inviting areas, as seen through various parklets and food truck options around town.



Action 2.2.3 Maintain partnerships with local non-profit groups

The District already has partnerships with local nonprofit organizations. Regarding transportation and urban design, these partnerships should continue or even expand to support bike valets, open street days, Squamish Art Walk, and similar events.



Action 2.2.2 Implement open street days on a more frequent basis

Squamish closes Cleveland Avenue to traffic for events such as Open Street Day. Attendance indicates a demand for more such events and an ultimate street design that is less car-oriented. The District should consider more car-free days, possibly a regular scheduled closure as a precursor to future pedestrianization, and explore other areas around town to give people a taste of car-free streets.



Action 2.2.4 Promote sustainable transportation and placemaking

Not everyone is aware of the reasons for the changes happening in their town. The District should actively promote new projects, explain the reasons for them, and highlight their benefits through social media, traditional news media, and the District eNewsletter. Strategy 2.3: Support transit service through improved access and reduced delays Transit is the most efficient mode of transportation from a space utilization perspective. As the population grows, increasing transit use can help reduce the demand for road space. Map 2 highlights potential transit exchange locations, transit stops and level of infrastructure at each. For all transit related issues and solutions, the District will collaborate with BC Transit.





## Action 2.3.1 Create mobility hubs to support local and regional transit

As identified in the **Transit Future Action Plan**, build mobility hubs in Downtown and Garibaldi Estates. These hubs could include layover stops, high-quality shelters with real-time information, seating, lighting, waste receptacles, washrooms, secure bicycle parking, a drop-off facility (i.e., Kiss and Ride), park-and-ride where possible, mixed-use commercial/residential development, and EV charging for buses.



Action 2.3.3 Monitor intersection operations and address congestion that impacts transit

If bus services begin to experience delays due to congestion, the District should explore opportunities for transit priority where feasible. Where capacity is underutilized, explore opportunities for transit priority, and consider the benefits of transit priority in areas where there may be space within the right-of-way that is easily constructible. Additional service hours may be required to maintain service as congestion increases.



## Action 2.3.2 Increase comfort and safety for people using local transit services

To support a shift to transit, stop upgrades will improve accessibility and comfort to encourage increased use. Proposed stop upgrades should include paved waiting areas, sidewalks, crosswalks, and shelters with information, seating, lighting, and waste receptacles. Map 3 identifies paved waiting areas and shelters at transit stops. The District should first focus on the frequent transit corridor, then key community nodes.



Action 2.3.4 Support frequent transit service between Downtown and Garibaldi Estates

The District can work with **BC Transit** to improve access to and the experience of waiting at frequent transit stops. The District may add high-quality shelters with lighting, seating, and waste receptacles; improve access including sidewalks, street lighting, and crosswalks; collaborate on branding and real-time information; and construct in-lane stops rather than pull-outs to reduce bus delays.





## Strategy 2.4: Improve the safety of everyone traveling in town

Road safety will be a higher priority than traffic capacity, with decisionmaking favouring conflict reduction and management as well as the safety of vulnerable road users. Map 3 highlights the top locations for vehicle collisions within the District.



## Action 2.4.1 Undertake a road safety network screening review

The District will undertake a road safety network screening study to review the latest available ICBC crash data, identify locations with the highest collision rates, and determine possible causes and feasible countermeasures. This will include applying safe system principles to support the proposed adoption of a Vision Zero Strategy.



## Action 2.4.2 Review and implement street lighting improvements

The District will undertake a review of street lighting to identify target areas and priorities for specific lighting improvements that support road safety and crime prevention through environmental design principles. On all capital projects, the District will include a lighting review of the project extents and where feasible upgrade lighting on a project by project basis.



Action 2.4.3 Change to No Right Turn on Red (NRTOR) at existing District traffic signals

A policy is proposed under Theme 1 to include NRTOR at all District signals. This action suggests the District explore changes at the following signalized locations to understand the impacts of such a change:

- Cleveland Avenue/Buckley Avenue/Hunter Place
- Cleveland Avenue/Pemberton Avenue
- Mamquam Road/Glenalder Place



## Action 2.4.4 Review methods of prioritizing people walking and rolling at District signals

Collisions between turning motor vehicles and pedestrians or cyclists often occur where people walk or roll with traffic. By providing those waiting for a walk signal with a head start over motor vehicles, conflicts are reduced, and driver awareness is increased. This results in a safer system at the cost of a slight increase in delay for motor vehicles.



## Action 2.4.5 Add slow roll zones where conflicts are higher on active transportation facilities

Where people walking and rolling share space, such as on multi-use pathways, there are opportunities for conflict. At locations where sight lines are restricted or activity is high, the District will install "Slow Roll Zone" messaging to encourage slower speeds through these areas without the need to dismount and walk your bike or other micromobility device.



Action 2.4.6 Provide network redundancy to support emergency access and evacuation

In the District, particularly on the downtown peninsula, many homes and businesses rely on a single intersection for access. Should a closure occur, it poses a risk to public safety and challenges for evacuation. The District should continue to review network redundancy needs and provide suitable route options to and from all neighbourhoods where possible.



Action 2.4.7 Create enhance safety zones near schools, hospitals, and community facilities

The District has already reduced the posted speed to 30 km/h and added centerline calming in school zones as shown above. Such improvements could be added at other locations with higher proportions of vulnerable road users and could include visually creative solutions such as decorative crosswalks, and traffic calming elements like speed humps and raised intersections to enforce the lower posted speed.

## 2018-2022 Crashes

#### Advocate with MOTT

Cleveland Ave & Hwy 99 & Loggers Lane (236) Hwy 99 & Mamquam Rd (92) Garibaldi Way & Hwy 99 (78) Alice Lake Rd & Hwy 99 & Squamish Valley Rd (60) Finch Dr & Hwy 99 & Industrial Way (57) Clarke Dr & Hwy 99 (40) Commercial Way & Hwy 99 (29) Hwy 99 & Stawamus Rd & Valley Dr (27) Depot Rd & Hwy 99 (25) Darrell Bay Rd & Hwy 99 & Shannon Falls Pk (13) Hwy 99 & Mamquam River Fsr & Stawamus Creek Bridge (7) Centennial Way & Hwy 99 (6)

~

North Yards

**Dentville** 

Brackendale

Tantalus

Garibaldi Estates

Valleycliffe & Hospital Hill

Brennan Park Garibaldi Highlands &

**University** Heights

#### **Highest District Priority**

Buckley Ave & Cleveland Ave & Hunter PI (53) Commercial Way & Discovery Way (25) Cleveland Ave & Pemberton Ave (24) Glenalder PI & Mamquam Rd (19) Industrial Way & Progress Way (15) Garibaldi Way & Government Rd (13) Bailey St & Cleveland Ave (13) Garibaldi Way & Tantalus Rd (12) Industrial Way & Queens Way (11) Cleveland Ave & Winnipeg St (11)

#### **Medium District Priority**

Government Rd & Mamquam Rd (10) Depot Rd & Government Rd (10) Commercial Pl & Commercial Way & Queens Way (10) Centennial Way & Government Rd & Mamquam Bridge (9) Second Ave & Winnipeg St (7) Government Rd & Queens Way (7) Eagle Run Dr & Government Rd (7) Government Rd & Squamish Valley Rd (6) Mamquam Rd & Willow Cres (5) Loggers Lane & Victoria St (5) Loggers Lane & Victoria St (5) Guilford Dr & Westway Ave (5) Finch Dr & Loggers Lane (5)

 Downtown

 Safety Improvements Legend

 • Advocate for Safety Improvements with MOTT

 • Highest District Priority (Top 10)

 • Medium District Priority (Top 20 and ties)

 • Existing Roads (width varies by classification)

 • Railway

 • Squamish Nation Reserves

 • Parks Boundaries

 • Squamish Airport (YSE)

Map 3: Transportation Safety Upgrade Hot Spots



# Strategy 2.5: Support the Movement of Goods and Key Industries

Goods movement is vital to the Squamish economy, whether for distribution-based businesses, residential and business deliveries, or truck routing through the community. Examples of key industries include the forestry sector and Squamish Terminals. Ensuring the efficient movement of goods is important for Squamish's economic success, but it's also crucial to manage the impacts of truck traffic to avoid affecting livability.

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## Action 2.5.1 Manage the curbside to include loading zones for deliveries

Providing an adequate supply of loading zones for delivery drivers on each block supports the delivery of goods to residents and businesses, improves business efficiency, and reduces the challenges of double parking or blocking bike lanes. The District should develop a plan for on-street loading zones, as well as a requirement for off-street loading zones where possible.



Action 2.5.2 Provide designated truck routing to all industrial locations

There are currently limited designated truck routes, and several industrial areas cannot technically be reached via a truck route. The District will update it's designated truck routes to provide suitable routes to access all industrial areas. Designating these areas as truck routes will guide future upgrades, access management, and design and control vehicle requirements. See Map 4.



Action 2.5.3 Monitor truck routing and it's impacts

The District has previously studied alternative truck routes through Downtown, concluding that the impacts are not substantial at this time. However, as land use changes in Downtown, truck routing can have increased livability impacts. It is recommended that the District undertake classified counts (or request updated truck volumes as part of development-related traffic studies) on roads through Downtown.



Action 2.5.4 Advocate for truck safety and efficiency improvements

The National Safety Code (NSC) is a set of national standards that establishes minimum safety standards for commercial vehicles and drivers. Compliance is checked by Commercial Vehicle Safety and Enforcement (CVSE) in BC. The District will advocate for truck safety improvements including features such as side guards to improve safety for other road users when in the vicinity of trucks.





## Strategy 2.6: Reduce reliance on the automobile

Transportation investment has historically favoured the motor vehicle, an approach that no longer aligns with the District's broader goals. Going forward, decisions related to automobile based infrastructure will focus on how to sustainably accommodate motor vehicle use at a level that works with the existing network, at a level that can be maintained in a financially sustainable way, while investing in other modes to manage automobile demand.





## Action 2.6.1 Implement the Downtown paid parking program

Continue to implement the **Downtown Parking Management Plan**. Installing pay parking in the commercial area Downtown will increase the availability of parking spaces, create an added incentive for people interested in traveling by other modes, and better support transportation funding.



## Action 2.6.2 Explore off-street parking options near downtown

To support a vibrant downtown with more space on the streets for people and to reduce conflicts with motor vehicles, the District will continue exploring opportunities for off-street parking for downtown visitors. This includes providing excellent connections to downtown by walking, cycling, other micromobility options, and transit.



## Action 2.6.3 Make other modes time competitive with the automobile

People's travel choices are largely based on time, cost, and the availability of options. The District acknowledges that delays for car traffic, traditionally considered undesirable, can support a shift to sustainable modes of transportation. A little congestion now is better than more congestion on wider roads. Examples include traffic calming, and re-purposing excess vehicle capacity for other modes.

## Action 2.6.5 Develop a Transportation Assessment Framework

Vehicle Level of Service (LOS) or delay has historically been the primary metric for evaluating the feasibility of road and street improvements. It is recommended that, to disincentivize automobile use and support broader outcomes, vehicle delay should no longer be considered a priority in evaluating such projects. A new Transportation Assessment Framework will be created to guide appropriate improvements.



## Action 2.6.4 Horizon year considerations be reevaluated

The District has historically been diligent in ensuring future capacity is provided for any road network improvements, often adding road space today at the expense of other modes. It is recommended that the importance of vehicle capacity in 15 years play a lesser role compared to accommodating all modes safely today.

## Action 2.6.6 Continue to monitor motor vehicle delays and mitigation needs

While the intent of the plan is to encourage modeshift, if delays become a problem for the community, the District will investigate solutions that could include measures such as changes to intersection controls, changes to signal timing and phasing, new road connections or river crossings, disincentives, or other mitigation measures as considered appropriate. Map 5 identifies where upgrades may be required.

## Action 2.6.7 Work with developers to add new road connections to serve development

It is not the District's intent to fund new road construction to facilitate development. However, the District acknowledges that several planned developments will benefit from the addition of new roadways, and will work with developers to approve the design of new infrastructure that works for all modes of transportation.



**Government Road/Airport Access** 

Government Road/Depot Road Hwy 99/Depot Road

**Brackendale** 

Hwy 99/Dowad Drive

Hwy 99/Newport Ridge Drive

Garibaldi Way/Tantalus Road Hwy 99/Garibaldi Way Garibaldi Highlands &

Tantalus

Government Road/Mamquam Road

**Estates** Hwy 99/Mamquam Road

Garibaldi

#### North Yards Brennan

Queens Way/Commercial Way

Park Hwy 99/Industrial Way/Finch Drive

Queens Way/Industrial Way

Loggers Lane/Finch Drive

Dentville

Cleveland Ave/Loggers Lane/Pemberton Avenue Loggers Lane/Winnipeg Street Downtown

Cleveland Avenue/Vancouver Street

Hwy 99/Valley Drive

Map 5: Potential **Future Road Network Needs** 

# Hwy 99/Mamquam FSR

Hwy 99/Cleveland Avenue Valleycliffe & **Hospital Hill** 

Laurelwood Road/Channel Road

HHAH Railway

NOTE: Potential road network changes are based on traffic volume forecasts and comparison within Exhibit 17 in the National Cooperative Highway Research Program (NCHRP) Report 825 Planning and Preliminary Engineering Applications Guide to the Highway Capacity Manual. The District will continue to monitor road network delays over time, and as needed, undertake further analysis to confirm future intersection control types and geometry, while balancing trade-offs with the need of other modes and available space

Existing Roads (width varies by classification)

**University Heights** 

**Road Network Legend** 

Proposed Development Related Road Proposed All Way Stop Control or Roundabout

Proposed Signal or Roundabout

Proposed Ministry Upgrade

**Squamish Nation Reserves** 

**Parks Boundaries** Squamish Airport (YSE)

Proposed New Road



Strategy 2.7: Explore opportunities that expand transportation choices

**Transportation choices are** expanding with technology and new investments in many communities. However, new choices often depend on mobility providers bringing such services to the community when they determine there is a viable business case. The District will continue to support new choices when possible, and be cognisant of unintended outcomes that these new options can present. For example, people on shared scooters using the sidewalk and parking them indiscriminately can impact accessibility.

STERID!

we share cars

modo

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## Action 2.7.1 Support multi-modal access to float plane services

Float plane service to Squamish is planned as part of the Oceanfront development and will bring new travel options for people coming to and from Squamish. The District should strive to ensure that sustainable modes of transportation have high-quality connections to the float plane terminal.



## Action 2.7.2 Support future ferry service

The possibility of a passenger ferry continues to be a topic of conversation regarding new transportation services. While this service would be provided by others, if it does materialize, the District should work with the provider to ensure it is located in the most accessible area with active transportation connections, bicycle and vehicle parking, and transit connections.



Action 2.7.3 Continue to support shared cars

Car share exists in Squamish in limited numbers. However, when available at a larger scale, it allows people to reduce their personal car ownership. This reduces overall car trips, as users typically rely on car share for essential trips and use sustainable modes for other trips. The District will review provision of on-street parking as needed and consider relaxations to parking requirements if car share is included.



Action 2.7.4 Support shared bicycles and scooters

Bike or scooter share does not currently exist in Squamish, but if provided, it would give people new options for getting around the community without worrying about bike theft or, if electric, the effort involved to reach higher areas of Squamish. As the District builds out its bike network, providers may be more inclined to enter the market.

# Strategy 2.8: Fund the plan in a sustainable way

Roads are expensive to build and maintain, and widening or adding new roads only increases that financial burden. By focusing on infrastructure that is cheaper to build and maintain, the District creates a network that supports broader outcomes, and is financially sustainable without substantial tax increases.





## Action 2.8.1 The District will require developers to fund access improvements

The District will create a policy to guide transportation assessments of proposed development to ensure appropriate transportation infrastructure is constructed for all modes of transportation within, to and from new developments, and suitable Development cost charge contributions to fund essential infrastructure.



## Action 2.8.2 Develop a capital plan that reflects priorities

It has been said that the best indicator of a community's vision is its budget, not its vision statement. The District will assess the extent of funding for each mode in its capital plan and adjust as necessary to meet the objectives of encouraging trips by walking, rolling, and transit.



## Action 2.8.3 Pursue all available grant funding opportunities

The District can reduce the cost burden of transportation investment by applying for grants that align with Provincial and Federal priorities and are documented as part of a clear strategy to improve active transportation, transit, and road safety.



## Action 2.8.4 Use low cost construction techniques where possible

In the pursuit of providing value for money and implementing active transportation improvements as soon as possible, the District will consider quick-build options where feasible. For example, if there is sufficient width to protect a bike lane with a concrete curb, this will be preferred over building a new curb and gutter.

# Strategy 2.9: Maintain the network in a good state of repair

Transportation infrastructure must be kept in a good state of repair to provide the intended functionality. The District will address maintenance in a coordinated manner to support this outcome.





## Action 2.9.1 Review maintenance resources and adjust funding as needed

On an annual basis, the District will review upcoming maintenance needs, including staff, equipment, and materials, with the intent of staying on top of the District's maintenance obligations. Maintenance requirements and costs for new infrastructure types should also be monitored to support ongoing financial planning.



Action 2.9.2 Procure the necessary equipment in pursuit of Action 2.9.1

As quick-build techniques may result in unique maintenance needs, new equipment should be procured to maintain new elements such as bike lanes and pathways with curbs on either side. The cost of such equipment will be quickly offset by the reduced construction costs.



## Action 2.9.3 Design solutions that can be easily maintained

Techniques such as the flex posts used above, provide an opportunity to roll out a more complete network in a shorter period of time. When planning such solutions, the District Engineering staff should verify with Public Works that solutions can be reasonably maintained, and if not, either adapt the design as necessary or purchase suitable equipment to maintain the design.

## Action 2.9.4 Maintain a list of network maintenance issues and prioritize

The District should maintain a list of maintenance issues and have a suitable process for prioritizing repairs to the transportation system. This is a transportation-focused to-do list and may include requests for new infrastructure. However, it could be integrated into an asset management strategy per **Action 2.9.5.** 

## Action 2.9.5 Provide the public with an improved mechanism to report issues

Through a website form, phone number, or app-based system, the District should have a clearer and better advertised way to receive, log and prioritize complaints so that issues such as root heave and broken street lights can be reported and quickly addressed. Advertising could include signage on pathways, a QR code, and reminders in other District communications, such as the eNewsletter.

## Action 2.9.6 Update and maintain asset management strategy

The District will update its list of transportation assets, including roads, bridges, pathways, and drainage infrastructure. This list will provide information on the state of repair, alignment with best practices, issues, and lifespan for replacement or upgrade. This process will inform the District's long-term investment plan and, when applied to all District assets, will offer a comprehensive understanding of the District's infrastructure deficit.

# Theme 3: Work with partners and neighbouring jurisdictions



The District has jurisdiction over certain parts of the transportation network and must collaborate with other agencies to provide an integrated transportation system. Examples of infrastructure that must be integrated include the highway, railway, and transit service. Other important partners include Squamish Nation and the Regional District. Theme 3 provides opportunities for collaboration that can support the District's vision and goals.

Strategy 3.1: Collaborate with the BC Ministry of Transportation and Transit

Strategy 3.4: Collaborate with Squamish Nation

Strategy 3.2: Collaborate with BC Transit

Strategy 3.3: Collaborate with Canadian National Railway Strategy 3.5: Collaborate with others that contribute to or rely on the transportation network

# Strategy 3.1: Collaborate with the BC Ministry of Transportation and Transit

Highway 99 runs through the District, somewhat severing it in two. It carries essential traffic to and from Squamish, but also through traffic that does not contribute to Squamish. However, as one of the primary north-south corridors, it is used for local trips and includes critical active transportation connections within the highway right-of-way.



## Action 3.1.1 Coordinate new development with access improvements on the highway

Even with planned mode-shift targets, new development will add traffic to the local road network, potentially increasing congestion. The District will work with the Ministry to accommodate vehicle traffic in a manner that aligns with current priorities.





Action 3.1.2 Advocate for intersection safety improvements

Most of the highway intersections feature multi-lane cross-sections with left-turn lanes and channelized right turns and have the highest number of collisions in Squamish. The District will advocate for improvements to enhance safety, reduce traffic congestion, and support safe active transportation



## Action 3.1.3 Advocate for upgrades to existing AT highway infrastructure

The highway corridor includes some dedicated active transportation infrastructure, such as multi-use pathways, multi-use bridge crossings, and active modes overpasses. Often, these facilities do not meet best practices and are awkward to navigate. In ongoing discussions with the Ministry, the District will advocate for upgrades to meet best practices.



## Action 3.1.4 Advocate for lower posted speed limits through Downtown and Garibaldi Estates

Speed is the biggest contributor to serious injuries and fatalities and places design constraints on urban solutions necessary to support the growing District. To improve safety and facilitate better access to and from the highway, the District will advocate for lower posted speed limits through Downtown and Garibaldi Estates.



Action 3.1.5 Advocate for overpasses suitable for all active modes

There are many existing overpasses. However, the highway crossings at some key locations are challenging from both a personal safety perspective and due to the risk of climate change and sea level rise. Furthermore, they don't always work well for people rolling. The District will advocate for overpasses or underpasses that meet best practices where any new highway crossings are proposed.



## Action 3.1.6 Advocate for greater speed limit enforcement along the highway

The Ministry has introduced technologies such as variable speed limits on the highway to improve safety, but without enforcement, the posted speed limits are not well obeyed. The District will advocate for improved enforcement through the RCMP, as well as the use of spot location speed cameras and potentially average speed cameras.



## Action 3.1.7 Advocate for extensions to the corridor trail along the highway

The highway plays a key role in enhancing active transportation connectivity to the north and south, including popular tourist destinations such as Alice Lake, the Sea to Sky Gondola, and Shannon Falls. The District will advocate for and contribute resources, as feasible, to extend paved trails along the highway corridor.



## Action 3.1.9 Advocate for lighting improvements along the highway

There are sections of the highway corridor that are frequently used by pedestrians that have resulted in fatalities, in part due to a lack of illumination. The District will advocate to the Ministry to review roadway lighting requirements to improve the safety of everybody traveling along or crossing the highway corridor.



## Action 3.1.8 Advocate for Modernization of the Motor Vehicle Act

The British Columbia Motor Vehicle Act regulates road use, vehicle licensing, traffic safety, and enforcement for drivers, cyclists, and pedestrians, but in many cases, it has not caught up to the rapidly evolving changes to our streets. The District will advocate for updates such as recognition of Elephants Feet and the use of new controls such as "Stop as Yield' condition for micromobility devices.




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Strategy 3.2: Collaborate with BC Transit As the primary provider of transit service in the District, BC Transit is an essential tool for mode shift, supporting outcomes such as reduced automobile use, improved mobility options, and transportation affordability. People must be able to access transit easily, and the District can facilitate access to bus stops and exchanges while also making the wait more comfortable.



# Action 3.2.1 Support the Transit Future Action Plan with District infrastructure

While transit service is provided by BC Transit, its passengers use District infrastructure, including streets, sidewalks, and bus stops, to access the service. The District can improve access to transit and the waiting experience by investing in the quality of bus stops and ensuring safe routes to and from them.



#### Action 3.2.2 Support transfers between local, frequent, and regional transit through exchanges

As the transit system evolves, collaborate with BC Transit to provide transfers between local and regional services whether private or public, serving destinations such as Whistler or the Lower Mainland. Transit exchanges Downtown and in the Garibaldi Estates neighbourhood will facilitate transfers, offering convenient, accessible, and comfortable waits with appropriate amenities.



Action 3.2.3 Advocate for BC Transit to improve integration with other services

Recent pilot projects like RideLink allow people to use Evo car share, Mobi bike share, and TransLink services with the same payment system. If BC Transit were to join this service, it could provide considerable value for Squamish residents and employees traveling to and from the Lower Mainland by bus, providing more last mile travel choices.



Action 3.2.4 Advocate for funding and implementation of regional transit service

Regional transit service has been discussed in the Sea to Sky Corridor for many years. With population shifts to the Sea to Sky area and many people still working occasionally in the Lower Mainland, regional transit could support new work patterns and reduce the load on highway capacity for tourism-based trips.



# Strategy 3.3: Collaborate with Canadian National (CN) Railway

Canadian National Railway tracks run through the District as well as enter the industrial park and railway museum. Rail is primarily used for goods movement, albeit the track does serve the Rocky Mountaineer service to Whistler and the Rocky Mountains. Passenger service is often mentioned but understood to be a challenge.



Action 3.3.1 Keep rail crossings in line with federal requirements

As a road authority, Squamish must meet Transport Canada regulations for grade crossings. As determined by the District, Squamish must design road approaches, implement traffic control systems, and maintain sight lines that meet the grade crossing regulations.



Action 3.3.2 Reduce rail crossing barriers and improve crossing safety along the rail corridor

To access Downtown Squamish and some other neighbourhoods, people walking, cycling and driving have to cross the railway tracks. To improve access throughout the community, the District will work with Canadian National Railway to identify necessary rail crossings to support the growing community that can be safely implemented.



# Action 3.3.3 Restrict pedestrian use of the Mamquam River rail bridge

The existing rail bridge across the Mamquam River is frequently used as an active transportation connection to continue along the river pathways, compared with the Government Street crossing, which would add about 500 meters to a trip. The District will work with Canadian National Railway to consider solutions to this concern.



# Action 3.3.4 Support industrial land uses that utilize rail transportation

While trains cause short-term congestion and delays to the road network, goods movement by rail has fewer impacts on road safety, mobility, and congestion compared to truck-based goods movement. The District will support any initiatives to shift goods movement to rail and reduce transportation GHG emissions. However, if a time comes when it negatively impacts the District, grade separation may be necessary.



Action 3.3.5 Continue to consider passenger rail service options to the Lower Mainland

The District does not have the means or jurisdiction to implement such a rail service, but it can support higher levels of government in exploring the feasibility of such a service. This rail service could serve as an alternative to regional transit or supplement it during peak times. Strategy 3.4: Engage with Squamish Nation where possible

Skwxwú7mesh Úxwumixw (Squamish Nation) people are descendants of the Coast Salish Aboriginal people who have lived in this area since before recorded time. Squamish Nation Council provides support and services to its people including family services, education, employment and training, housing and health services. It also works to celebrate Squamish Nation traditions, arts, and culture by promoting its artists, dance groups, singers, and drummers. The following Squamish Nation Reserves are located in Squamish with residents: Wíwk'em (Waiwaikum), St'á7mes (Stawamus), Ch'iyákmesh (Cheakamus), Kaw tín (Kowtain), Yékw'apsem (Yekwaupsum), Siýích'em (Seaichem)





# Action 3.4.1 Partner with Squamish Nation on transportation projects

Skwxwú7mesh Úxwumixw (Squamish Nation) and District of Squamish have signed a new protocol agreement reflective of the principles, values, and traditions of the Squamish People. The **Wa lyim ta Skwxwú7mesh (Squamish Strong)** Protocol Agreement provides guidance on how Skwxwú7mesh Úxwumixw and District of Squamish meaningfully engage in advancing reconciliation. It commits both parties to the following Skwxwú7mesh principles to guide the reconciliation process:

- tkwáya7n iy nexwnewítm Listen & Engage
- wa nexwniwnen chet ta nexwniw tl'a Skwxwú7mesh
   Follow the Ways of the Squamish
- texwlám ns7eyx Genuinely Care
- chet wa telnexw tina tl'a snewiyelh tl'a Skwxwú7mesh – Learn the Advice of the Squamish
- na wa nelhnilhtway ta úxwumixw The People Go Through It Together
- we7us chet ta Skwxwú7mesh siyảmin Protect the Rights and Title of the Squamish

The agreement lays the groundwork for the development of a **Memorandum of Understanding** (**MOU**) that both the Nation and District are working together on. This important first step will help guide the relationship between our two governments going forward. To implement the MOU, the District and Squamish Nation will identify priorities to help incorporate the protocol commitments through action into plans and strategies.

The Squamish Nation is developing the Squamish Nation Low Carbon Transportation Plan (LCTP). Once completed, the District will explore opportunities to advance the initiatives from the LCTP that align with the goals from the Transportation Master Plan. The District will also seek opportunities to promote Squamish Nation culture through transportation projects as mutually agreed. Strategy 3.5: Collaborate with others that contribute to or rely on the transportation network

Many non-transportationfocused local groups and orders of government either have a role to play in the transportation system or are reliant on it. This strategy includes those groups not directly involved in transportation services or infrastructure provision.



# Action 3.5.1 Collaborate with local groups to improve transportation

Work with local groups interested in transportation to support complementary plans and programs that promote sustainable transportation, such as the bike valet, placemaking initiatives, and inclusivity through engagement with diverse community groups.



## Action 3.5.2 Collaborate with the Ministry of Environment and Climate Change Strategy

To support more sustainable trips in the community, the District will advocate for improved active transportation connections to BC Parks destinations which are the jurisdiction of the Ministry of Environment and Climate Change Strategy including Alice Lake Provincial Park, Stawamus Chief Provincial Park, Shannon Falls Provincial Park, and Murrin Provincial Park.

#### Action 3.5.3 Collaborate with TransLink to explore regional transit

Transport 2050 notes "Our government is working with our transit agencies to explore opportunities to improve and expand interregional service to the Fraser Valley and Sea-toSky regions to reduce congestion and make transit a preferred option for more people travelling longer distances". The District will collaborate as needed to support such a service.

# Action 3.5.4 Collaborate with Squamish Lillooet Regional District (SLRD)

The District can support its transportation mode shift goals, as well as other objectives, by advocating for improved services, such as transit or paved trail connections to and from neighbouring communities like Britannia Beach, which is growing at a high rate.

# Action 3.5.5 Collaborate with commercial and industrial transportation initiatives

While the District is not in the position to pursue such alternatives, where opportunities arise for barge related short sea shipping options to reduce the transportation impacts on the community, the District should support such services in principal whilst being subject to appropriate regulatory reviews. Theme 4: Monitor and learn from our projects and evolving technologies and best practices



The Transportation Master Plan must be updated periodically. District priorities will change over time, best practices will evolve, and new technologies or services may change people's travel patterns or preferences. With each project, the District will learn more about what works and what doesn't and should adapt as needed to continue pursuing the vision and goals. Theme 4 provides recommendations for monitoring, learning, and evolving as needed to build a transportation system that supports the needs of the community as it continues to grow.

Strategy 4.1: Monitor plan progress and update when necessary Strategy 4.1: Monitor plan progress and update when necessary Monitoring transportation trends can help confirm project successes and inform any adaptations or corrections that may be necessary for past or future projects.



# Action 4.1.1 Record progress by tracking actions in this plan

As the District completes projects, a record should be kept of both completed actions in this plan and new construction. This record could include the date of design and construction completion, cost compared with planning estimates, and the length of new infrastructure. The intent is to demonstrate progress and potentially compare with other metrics such as mode share.

# Action 4.1.2 Track census trends every five years

The District will track census travel-to-work metrics. An increasing trend toward active modes can highlight the success of the plan and its implementation. However, it should be acknowledged that other factors, such as gas prices and land use changes, can affect mode share. Demographic and socioeconomic changes should also be considered in addition to the extent of the transportation network.

### Action 4.1.3 Install permanent count technologies to monitor all modes

The District should invest in technologies such as signal video detection, radar, or loops for all modes to better understand how travel patterns are changing. Ideally, these will be set up to form screenlines and capture changes in routing due to new infrastructure. As noted above, counts can be influenced by external factors such as gas prices, so caution is urged in drawing conclusions from such data.

# Action 4.1.5 Monitor and adapt to accommodate beneficial transportation technologies

The transportation landscape is evolving with technologies like ride-hailing, ride-sharing, new micromobility options, and connected and automated vehicles. These innovations have both advantages and disadvantages. The District will monitor these developments and adapt as necessary to integrate them in ways that support District objectives.

## Action 4.1.4 Conduct surveys to understand user experience

Volume counts are a useful metric, but since one project alone can't achieve the desired mode shift, they can be slow to show progress. The District should consider intercept or observational surveys before and after a project is completed to provide a more reliable understanding of its real benefits on people's experiences, such as feeling safer and having fewer conflicts and near misses.

# Action 4.1.6 Update the Transportation Master Plan as necessary

The Transportation Master Plan provides a strategy to achieve the transportation objectives of the community. Priorities are set out in the plan, but implementation is intended to be flexible and align with other local priorities that may change over time. This plan should be reviewed every five to ten years and updated as necessary to meet best practices, local priorities, and evolving needs.

# Action 4.1.7 Track Key Performance Indicators (KPIs)

The District will continue to track plan progress using the Squamish 2040 OCP indicators as primary KPIs, and consider a secondary list of KPI's and methodologies to collect such data including:

#### **Primary KPIs:**

- Kilometres of new infrastructure by type, i.e., bike lane, sidewalk, vehicle lanes, etc.
- Spot improvements by type, i.e., bus stop upgrades, intersection upgrade, etc.
- Transit metrics by BC Transit, i.e., ridership, delay hot-spots.
- Mode share for trips to work from Census.
- Mode share for trips to school via Middle Years Development Instrument survey.
- Spot location volumes for vehicles, micromobility and pedestrians via various count methods.
- Parking data including occupancy, revenue, etc.
- Collision data from ICBC including frequency and severity.

#### Secondary KPIs:

- Vehicle kilometres traveled if big data reliability improves.
- Congestion effects, i.e., travel times and queue lengths on key routes.
- Greenhouse gas emissions, i.e., CO2 levels at key nodes.
- Capital and maintenance costs.
- Commuter data, i.e., number of people working within town versus Lower Mainland as an indicator of self sufficiency.
- Resident satisfaction via surveys.

# Implementing the Plan

Funding assumptions, construction techniques, major projects, developer led projects, other capital projects, quick wins and priorities

# A note about cost estimates in this plan

Class 'D' cost estimates are based on previous tender prices and adjusted to 2024 Dollars, and include a 50% contingency and 15% engineering and design costs.

In cases where preliminary stages of planning and design have already begun and, based on engineering judgement, an appropriate level of certainty had been reached, existing Class 'C' estimates complete with a 40% contingency and 15% engineering and design have been used instead.

Cost estimates are for proposed infrastructure and associated planning and design only. Real estate acquisition has not been included.



# **Construction Approaches**

Implementation of the plan involves constructing some facilities to a permanent standard and others using 'quick-build' techniques. Historically, new infrastructure has been built to a permanent standard to avoid future reconstruction. However, in recent years, 'quickbuild' approaches have been increasingly adopted for active transportation infrastructure to maximize the construction of more kilometres of infrastructure for a given budget.

The 'quick-build' approach is pragmatic and essential for creating an interconnected active transportation network as quickly as possible. Some projects, however, require a permanent standard approach, influenced by factors such as the type of infrastructure needed, constrained right-of-ways, and the scale of improvements planned along a route.

# **Project Prioritization Framework**

Projects identified in the plan were prioritized using a weighted scoring system. The scoring system included six categories: critical infrastructure, mode shift potential, value, cost, equity, and public priority. Each project was assigned a score between 0 and 3, with higher scores indicating that the project better fulfilled the criteria.

While the intent is to deliver projects in general order of priority, actual implementation may vary. Projects may be completed out of sequence to respond to funding opportunities, align with other parties such as Squamish Nation or the Ministry of Transportation and Transit, the scale of planning and design required, proposed budgets, other phases of corridor improvements, and other factors requiring strategic planning and engineering judgement. All projects should be assessed through a lens of the mode hierarchy when considering tradeoffs.

Weighting was applied to further

prioritize recommendations that align with District needs, as follows:

- 1. Critical Infrastructure (30%)
- 2. Mode Shift (30%)
- 3. Value (20%)
- 4. Cost (10%)
- 5. Equity (5%)
- 6. Public Priority (5%)

# **Funding Assumptions**

Proposed projects were categorized into short-, medium-, and long-term projects based on the outcomes of the project prioritization. In some cases, priorities have been slightly adjusted to ensure alignment with existing capital plans and projected funding.

These priorities focus on major projects, excluding those requiring planning and funding coordination with the Ministry of Transportation and Transit (MoTT), lower-cost initiatives such as traffic safety improvements and traffic calming, which may be delivered through alternative funding streams. Traffic capacity improvements will be continually monitored and advanced as appropriate, subject to funding availability and balance with other priorities.

The following annual expenditure targets were established: Major

transportation project expenditures would begin at \$5 million in the first year of the plan, with annual expenditures increasing by \$500,000 (in 2024 dollars) to reach \$10 million annually by 2035, and continuing to grow to \$12.5 million annually by 2040 (in 2024 dollars).

# **Education and Promotion**

The plan focuses on the physical infrastructure improvements and policy changes needed to address shortcomings in the transportation network for all modes. In addition to these recommendations, there are softer measures that can support the District's goals to achieve a mode shift.

# **Education:**

Education related to or supporting the Transportation Master Plan can take many forms. Some examples include:

- Teaching young children road safety principles so they can safely cross the road.
- Educating the public on the health and affordability benefits of using more sustainable modes of transportation.
- Highlighting the dangers of using cell phones while driving.

These are just a few areas where education plays a vital role. As the physical infrastructure network expands and it becomes more feasible for more people to travel by sustainable modes, the District should identify opportunities internally or with partners to educate residents of all ages and abilities about their transportation options and how to safely navigate the system.

# **Promotion:**

Closely related to educational initiatives is the need to promote new infrastructure. Some examples include:

- People can now safely cycle between [A] and [B] on the new [insert street name][insert facility type].
- Open street days is happening soon, check them out on [insert street name][insert date].

In all public-facing materials, the District's branding and messaging should link the plan to the projects, using the tagline "connecting the community for all" to clearly communicate the initiative's purpose.

# **Short-Term Priorities**

# Timeline: Projects beginning within five years of plan endorsement

These projects are the most critical to supporting community and District goals. Given that these projects are those that will contribute the most toward successful implementation of this plan, they generally reflect significant new facilities that must be constructed to a permanent standard. Although construction completion is not expected for some projects in the short-term, planning and design must begin during this time-frame to expedite delivery.

# **Table 1: Short-Term Priorities**

חו	Project	Approach	Estimated Costs
שו		Арргоаст	(2024 Dollars)
А	Victoria Street Active Transportation Improvements (Third Avenue - Loggers Lane)*	Quick-build	\$1,795,000
В	Depot Road Active Transportation Improvements (Highway 99 - Government Road)*	Quick-build	\$1,525,000
1	Government Road Active Transportation Bridge Widening at Mamquam River	Permanent	\$3,650,000
2	Pemberton - Laurelwood Bridge*	Permanent	\$20,000,000
3	Corridor Trail Widening (South of Highway 99 & Scott Crescent)	Permanent	\$426,000
T1	Frequent Transit Network Bus Shelters & Amenities	Permanent	\$2,976,000
		Total	\$30,372,000

\*Project included in 2025-2029 Financial Plan

# **Medium-Term Priorities**

# Timeline: Projects beginning within ten years of plan endorsement

These projects are important to supporting the community's growth and goals. Many of these projects support the development of transit and active transportation networks to improve competitiveness with the existing network available for private vehicles. While some facilities must be constructed to a permanent-standard, others can take advantage of quick-build construction techniques to deliver projects at lower-cost.

# Table 2: Medium-Term Priorities

ID	Project	Approach	Estimated Costs (2024 Dollars)
4	Loggers Lane Urbanization (Pemberton Avenue - Peninsula Main Road)	Permanent	\$8,925,000
5	Government Road Active Transportation Improvements (Depot Road - Eagle Run Drive)	Quick-build	\$2,500,000
6	Government Road Active Transportation Improvements (Garibaldi Way - Mamquam River)	Quick-build	\$2,625,000
7	Third Avenue Active Transportation Improvements (North Section: Bailey Street - Victoria Street)	Permanent	\$4,470,000
8	Westway Avenue Active Transportation Improvements (Valley Drive - Cherry Drive)	Quick-build	\$2,250,000
9	Downtown Entrance Realignment	Permanent	\$10,178,000
10	Government Road Active Transportation Improvements (Eagle Run Drive - Garibaldi Way)	Quick-build	\$5,750,000
T2	Downtown Mobility Hub	Permanent	\$5,000,000
Т3	Garibaldi Mobility Hub	Permanent	\$5,000,000
		Total	\$46,698,000

# **Long-Term Priorities**

# Timeline: Projects beginning within fifteen years of plan endorsement

Projects may be advanced sooner if opportunities arise. Actual implementation timelines and the order to which projects are delivered are therefore anticipated to fluctuate.

# **Table 3: Long-Term Priorities**

ID	Project	Approach	Estimated Costs (2024 Dollars)
11	Third Avenue Active Transportation Improvements ( <b>South Section:</b> Victoria Street - Vancouver Street)	Permanent	\$2,644,000
12	Cleveland Avenue Active Transportation Improvements (Highway 99 - Bailey Street)	Permanent	\$2,239,000
13	Unnamed Pathway (Laurelwood Road - Totem Drive)	Permanent	\$1,456,000
14	Industrial Way Active Transportation Improvements (Queens Way - Highway 99)	Quick-build	\$613,000
15	Pemberton Avenue Active Transportation Improvements (Laurelwood bridge - Fourth Avenue)	Quick-build	\$1,600,000
16	Third Avenue to Buckley Avenue Connection	Permanent	\$5,450,000
17	Mamquam Road Active Transportation Improvements (Highlands Way South - Highway 99)	Quick-build	\$2,242,000
18	Finch Drive West Active Transportation Improvements (Highway 99 - Loggers Lane)	Quick-build	\$1,150,000
19	Garibaldi Way Active Transportation Improvements (Mamquam Road - Government Road)	Quick-build	\$3,487,000
20	Diamond Road Active Transportation Improvements (Garibaldi Way - end)	Quick-build	\$1,285,000
21	Diamond Head Road Active Transportation Improvements (Mamquam Rd - Garibaldi Way)	Quick-build	\$1,600,000
22	Government Road Active Transportation Improvements (Ross Road - Brackendale Elementary)	Quick-build	\$1,500,000
23	Pioneer Way & Centennial Way Protected Roundabout	Permanent	\$2,658,000
VC1	Pioneer Way Extension (Discovery Way - Centennial Way)	Permanent	\$4,104,000
T4	Regional Transit Shelters & Amenities	Permanent	\$594,000
Т5	Local Transit Shelters & Amenities	Permanent	\$5,301,000
24	Valleycliffe Trail (Westway Avenue - Clarke Drive)	Quick-build	\$2,011,000

### Table 3: Long-Term Priorities (Continued)

ID	Project	Approach	Estimated Costs
25	Discovery Way Active Transportation Improvements (Pioneer Way - Industrial Way)	Quick-build	\$2,125,000
26	Discovery Trail (Industrial Way - existing extents of Discovery Trail)	Permanent	\$1,420,000
27	Government Road, Queens Way, Bowen Avenue, & Buckley Avenue Active Transportation Improvements (Centennial Way - Carson Place)	Quick-build	\$8,125,000
28	Commercial Way Active Transportation Improvements (Queens Way - Highway 99)	Quick-build	\$1,150,000
		Total	\$52,754,000

# **Full Project Recommendations List**

There are more projects identified to support community growth and goals that cannot be delivered within by the 2040 horizon year identified for this plan. These projects are still important, and evolving development trends or funding opportunities may occur that brings implementation of such projects forward in the Districts priorities.

The full list of recommended projects have been categorized into six general types of improvements, although project benefits will typically extend beyond simply one category. These six categories are:

- Active Transportation: Improvements to walking and biking infrastructure, with particular emphasis on enabling and attracting use among people of all ages and abilities.
- Complete Streets: A combination of improvements to walking, biking, transit, and motor vehicle infrastructure.
- Road Safety & Minor Active Transportation Projects: Improvements aimed at reducing both the the incidence and severity of collisions, with particular emphasis on making the transportation network more forgiving to mistakes.
- Transit: Improvements enabling greater transit service and ridership.
- Vehicle Capacity: Improvements to intersection level of service.
- Ministry of Transportation & Transit (MoTT): Improvements along MoTT rights-of-way which will require coordination with and possible funding from the MoTT.

Projects are listed in descending order of priority based on the evaluation using the prioritization framework previously described. Like the short-, medium-, and long-term priorities, actual implementation time lines will depend on funding opportunities, the scale of planning and design required to deliver the project, how proposed projects may align with projected budgets, how proposed projects tie-into other phases of corridor improvements, and other factors that necessitate planning and engineering judgement in determining when projects can be strategically advanced. The timing and priority of traffic capacity related projects are anticipated to fluctuate based on evolving needs and will be confirmed through traffic monitoring.

# Table 4: Active Transportation Full Recommendation List

ID	Project	Approach	Estimated Costs (2024 Dollars)
AT1	Government Road Active Transportation Bridge at Mamquam River	Permanent	\$2,500,000
AT2	Corridor Trail Widening South of Highway 99 & Scott Crescent	Permanent	\$426,000
AT3	Government Road Active Transportation Improvements (Depot Road - Eagle Run Drive)	Quick-build	\$2,500,000
AT4	Government Road Active Transportation Improvements (Garibaldi Way - Mamquam River)	Quick-build	\$2,625,000
AT5	Third Avenue Active Transportation Improvements (Bailey Street - Vancouver Street)	Quick-build	\$7,114,000
AT6	Westway Avenue Active Transportation Improvements (Valley Drive - Cherry Drive)	Quick-build	\$2,250,000
AT7	Downtown Bicycle Shelter	Permanent	\$150,000
AT8	Brennan Park Bicycle Shelter	Permanent	\$150,000
AT9	Government Road Active Transportation Improvements (Eagle Run Drive - Garibaldi Way)	Quick-build	\$5,750,000
AT10	Cleveland Avenue Active Transportation Improvements (Highway 99 - Bailey Street)	Permanent	\$2,239,000
AT11	Unnamed Pathway (Laurelwood Road - Totem Drive)	Permanent	\$1,456,000
AT12	Industrial Way Active Transportation Improvements (Queens Way - Highway 99)	Quick-build	\$613,000
AT13	Pemberton Avenue Active Transportation Improvements (Laurelwood bridge - Fourth Avenue)	Quick-build	\$1,600,000
AT14	Mamquam Road Active Transportation Improvements (Highlands Way South - Highway 99)	Quick-build	\$2,241,000
AT15	Finch Drive West Active Transportation Improvements (Highway 99 - Loggers Lane)	Quick-build	\$1,150,000
AT16	Garibaldi Way Active Transportation Improvements (Mamquam Road - Government Road)	Quick-build	\$3,487,000
AT17	Diamond Road Active Transportation Improvements (Garibaldi Way - end)	Quick-build	\$1,285,000
AT18	Diamond Head Road Active Transportation Improvements (Mamquam Road - Garibaldi Way)	Quick-build	\$1,600,000
AT19	Government Road Active Transportation Improvements (Ross Road - Brackendale Elementary)	Quick-build	\$1,500,000
AT20	Valleycliffe Trail (Westway Avenue - Clarke Drive)	Quick-build	\$2,011,000
AT21	Discovery Way Active Transportation Improvements (Pioneer Way - Industrial Way)	Quick-build	\$2,125,000

# Table 4: Active Transportation Full Recommendation List (Continued)

ID	Project	Approach	Estimated Costs
			(2024 Dollars)
AT22	Discovery Irail (Industrial Way - existing extents of	Permanent	\$1,420,000
	Discovery Itali)		
4722	Government Road, Queens way, Bowen Avenue, &	Quiek build	¢0.125.000
AIZ3	Buckley Avenue Active Transportation Improvements	Quick-bulla	\$8,125,000
	(Centennial Way - Carson Place)		
AT24	Commercial way Active Transportation Improvements	Quick-build	\$1,150,000
4705	(Queens way - Highway 99)		<b>*</b> 2.004.000
AI25	Discovery Irail (Pioneer Way - Industrial Way)	Permanent	\$3,094,000
AT26	Finch Drive East Active Transportation Improvements	Quick-build	\$1,588,000
/ 0	(Loggers Lane to Raven Drive)		<i><i><i>ϕ</i></i>,<i><i>ϕ</i>,<i>ϕ</i>,<i>ϕ</i>,<i>ϕ</i>,<i>ϕ</i>,<i>ϕ</i>,<i>ϕ</i>,<i>ϕ</i>,</i></i>
AT27	The Boulevard Active Transportation Improvements	Quick build	\$1.250.000
AIZ/	(Highlands Way - Kintyre Drive (East))	Quick-build	\$1,230,000
4720	Perth Drive Active Transportation Improvements (The	Democrat	¢4.055.000
AI28	Boulevard - Pia Road)	Permanent	\$4,655,000
4720	Yékw'apsem (Yekwaupsum) Active Transportation		¢1145.005
AT29	Improvements	Quick-bulla	\$1,115,625
AT30	Wíwk'em (Waiwaikum) Active Transportation Improvements	Quick build	¢1 500 000
	(Axen Road from Government Road to Wíwk'em)	Quick-bulla	\$1,500,000
		Total	\$64,014,625

# Table 5: Complete Street Full Recommendation List

ID	Project	Approach	Estimated Costs (2024 Dollars)
CS1	Pemberton - Laurelwood Bridge	Permanent	\$20,000,000
CS2	Loggers Lane Urbanization (Pemberton Avenue - Peninsula Main Road)	Permanent	\$8,925,000
CS3	Downtown Entrance Realignment	Permanent	\$10,178,000
CS4	Pioneer Way & Centennial Way Protected Roundabout	Permanent	\$2,658,000
CS5	Pioneer Way Extension (Discovery Way - Centennial Way)	Permanent	\$4,104,000
CS6	Government Road Realignment at Kowtain 17 IR	Permanent	n/a
CS7	Peninsula Main Road Urbanization (Sp'awk'us Feather Park to beginning of interim road)	Permanent	\$9,775,000
		Total	\$55,640,000

# Table 6: Road Safety & Minor Active Transportation Full Recommendation List

ID	Project	Approach	Estimated Costs (2024 Dollars)
RS1	Squamish Elementary & Howe Sound Secondary School Zone Traffic Calming	Quick-build	\$310,000
RS2	Mamquam School Zone Traffic Calming	Quick-build	\$236,000
RS3	Cleveland Avenue & Pemberton Avenue Safety Improvements	Permanent	\$300,000
RS4	Brackendale Elementary & Don Ross Middle School Zone Traffic Calming	Quick-build	\$440,000
RS5	Garibaldi Highlands Elementary School Zone Traffic Calming	Quick-build	\$600,000
RS6	Mamquam Road & Willow Crescent Safety Improvements	Permanent	\$300,000
RS7	Stan Clark Park Traffic Calming	Quick-build	\$80,000
RS8	Junction Park Traffic Calming	Quick-build	\$168,000
RS9	Cleveland Avenue & Buckley Avenue & Hunter Place Safety Improvements	Permanent	\$300,000
RS10	Glenalder Place & Mamquam Road Safety Improvements	Permanent	\$300,000
RS11	Garibaldi Way & Government Road Safety Improvements	Permanent	\$300,000
RS12	Brennan Park Traffic Calming	Quick-build	\$196,000
RS13	Guilford Drive & Westway Avenue Safety Improvements	Permanent	\$300,000
RS14	Commercial Way & Discovery Way Safety Improvements	Permanent	\$300,000
RS15	Industrial Way & Progress Way Safety Improvements	Permanent	\$300,000
RS16	Willow Park Traffic Calming	Quick-build	\$100,000
RS17	Cleveland Avenue & Winnipeg Street Safety Improvements	Permanent	\$300,000
RS18	Government Road & Mamquam Road Safety Improvements	Permanent	\$300,000
RS19	Second Avenue & Winnipeg Street Safety Improvements	Permanent	\$300,000
RS20	Stawamus Elementary School Zone Traffic Calming	Quick-build	\$220,000

# Table 6: Road Safety & Minor Active Transportation Full Recommendation List (Continued)

п	Project	Approach	Estimated Costs
		Αρρισαστι	(2024 Dollars)
RS21	Valleycliffe Elementary School Zone Traffic Calming	Quick-build	\$356,000
RS22	Eagle Run Drive & Government Road Safety Improvements	Permanent	\$300,000
RS23	Cottonwood Park Traffic Calming	Quick-build	\$144,000
RS24	Government Road & Queens Way Safety Improvements	Permanent	\$300,000
RS25	Government Road & Squamish Valley Road Safety Improvements	Permanent	\$300,000
		Total	\$7,050,000

# Table 7: Transit Full Recommendation List

ID	Project	Approach	Estimated Costs
			(2024 Dollars)
T1	Frequent Transit Network Transit Shelters & Amenities	Permanent	\$2,976,000
T2	Downtown Mobility Hub	Permanent	\$5,000,000
Т3	Garibaldi Mobility Hub	Permanent	\$5,000,000
T4	Regional Bus Shelters & Amenities	Permanent	\$594,000
T5	Local Bus Shelters & Amenities	Permanent	\$5,301,000
		Total	\$18,871,000

# Table 8: Vehicle Capacity Full Recommendation List

ID	Project	Approach	Estimated Costs (2024 Dollars)
TC1	Third Avenue to Buckley Avenue Connection	Permanent	\$5,450,000
TC2	Government Road & Depot Road Intersection Reconfiguration	Permanent	\$2,658,000
TC3	Government Road & Mamquam Road Intersection Reconfiguration	Permanent	\$4,600,000
TC4	Cleveland Avenue & Vancouver Street Intersection Reconfiguration	Permanent	\$2,658,000
TC5	Government Road & Airport Access Intersection Reconfiguration	Permanent	\$2,658,000
TC6	Queens Way & Commerical Way Intersection Reconfiguration	Permanent	\$2,658,000
TC7	Queens Way & Industrial Way Intersection Reconfiguration	Permanent	\$2,658,000
TC8	Tantalus Road & Newport Ridge Drive Intersection Reconfiguration	Permanent	\$1,280,000
TC9	Loggers Lane & Finch Drive Intersection Reconfiguration	Permanent	\$2,658,000
TC10	Garibaldi Way / Tantalus Road Signalization	Permanent	\$4,595,000
TC11	Laurelwood Road & Channel Road Intersection Reconfiguration	Permanent	\$2,658,000
TC12	Westminster (Cattermole Creek) Bridge	Permanent	\$10,000,000
		Total	\$44,531,000

# Table 9: Ministry of Transportation and Transit Full Recommendation List

ID	Project	Approach	Estimated Costs (2024 Dollars)
MOTI1	Highway 99 Mamquam River Active Transportation Bridge	Permanent	\$15,437,000
MOTI2	Highway 99 & Cleveland Avenue Intersection Reconfiguration	Permanent	\$9,117,000
MOTI3	Highway 99 & Commercial Way Intersection Reconfiguration	Permanent	\$2,067,000
MOTI4	Highway 99 & Mamquam Road Highway Widening & Intersection Reconfiguration	Permanent	\$12,885,000
MOTI5	Highway 99 Active Transportation Overpass (Adventure Centre - Third Avenue)	Permanent	\$5,233,000
MOTI6	Highway 99 & Darrell Bay Road Intersection Reconfiguration	Permanent	\$86,000
MOTI7	Highway 99 & Alice Lake Road Intersection Reconfiguration	Permanent	\$12,000,000
MOTI8	Highway 99 & Depot Road Intersection Reconfiguration	Permanent	\$11,669,000
MOTI9	Highway 99 & Industrial Way Intersection Reconfiguration	Permanent	\$11,548,000
MOTI10	Highway 99 & Garibaldi Way Highway Widening & Intersection Reconfiguration	Permanent	\$12,520,000
MOTI11	Corridor Trail Northern Extension (existing extent - Alice Lake)	Permanent	\$19,110,000
MOTI12	Corridor Trail Southern Extension (existing extent - Darrell Bay / Shannon Falls)	Permanent	\$11,648,000
MOTI13	Highway 99 & Dowad Drive Intersection Reconfiguration	Permanent	\$13,128,000
MOTI14	Highway 99 & Newport Ridge Drive Intersection	Permanent	\$6,682,000
MOTI15	Highway 99 & Valley Drive Intersection Reconfiguration	Permanent	\$1,824,000
MOTI16	Highway 99 Active Transportation Overpass Replacement (Diamond Road - Mamquam Road)	Permanent	\$5,233,000
MOTI17	Highway 99 Active Transportation Overpass Replacement (Tantalus Road - Eagle Run Drive)	Permanent	\$5,233,000
MOTI18	Highway 99 & Mamquam FSR Intersection Reconfiguration	Permanent	\$821,000
		Total	\$156,241,000

# **Implementation Checklist**

This list is intended to serve as a checklist for any projects constructed under the plan to ensure that key elements are not overlooked, should staff change over the course of the plan, should council wish to ask questions about inclusion of such elements, or as a resource for designers to use when evaluating project options to address come commonly overlooked elements of design.

#### **Active Transportation Considerations**

#### **Facility Considerations**

What users are being considered? (i.e., scooters, electric variants, one wheels, mobility devices, etc)
Does it provide sufficient width to pass or ride side-by-side?
Is uni- or bi-directional a more appropriate option?
If a shared facility, is there an alternative option, or are high conflict areas well managed?
If unpaved trails, is this the only route option? Can it be paved?
How are active modes separated? (i.e., paint, buffer, barrier, elevation)
Does the proposed facility align with adjoining facilities?
What construction approach is preferred? (i.e., pre-cast and extruded curbs, planters, flex posts, etc)

#### **Intersection Options**

□ Is the intersection protected and allows two-stage left turns (i.e., through corner islands, turn boxes)

- Do active modes have priority at crossings? (i.e., marked crosswalks, RRFB's, half signals, full signals)
- □ Has conflict reduction been considered? (i.e., turn restrictions, unique phasing, turn signals, LPI and LBI)

□ Has accessibility been considered? (i.e., TWSI's, ramps, grades)

- Do active modes have priority at local street crossings? (i.e., continuous sidewalks and bike paths)
- Does the design include bicycle and pedestrian signals (i.e., to provide certainty and efficiency benefits)
- □ Has detection been considered? (i.e., push button, loops, video)
- □ Do ramps have flat gutters to improve cyclists comfort?
- □ Can someone on a cargo bike or bike with trailer negotiate corners safely?

#### Other elements

□ How is stormwater managed?

□ Has user comfort and security been considered? (i.e., separation from traffic, shade, rest areas, CPTED)

□ Has bicycle parking been included? (i.e., plentiful public racks, secure options, home and work based) □ Is their integration with transit hubs

□ How will the design be maintained (i.e., sweeping, snow clearing and storage, root heave)

Does the design include street or pathway lighting (both vehicle and pedestrian scale lighting)

- □ Have signage and pavement markings been well thought out? (i.e., yield to bikes)
- $\Box$  Are there any constrained sections? (i.e., to preserve trees, avoid relocates, etc)
- $\Box$  Are their any property impacts?
- □ Can traffic calming improve safety and comfort? (i.e., modal filters, vertical deflections, etc)
- □ Are there any active modes amenities? (i.e., lean rails, stairway bike channels, tool stations)

# **Transit Considerations**

#### **Transit Stops**

- □ Is there suitable access to bus stops? (i.e., sidewalks to and from the bus stop)
- □ Can people access a bus stop from the opposite side of the street? (i.e., crosswalks)
- Does the design include stop amenities? (i.e., seating, lighting, shelter, information, waste receptacles)
- Does the stop have layover needs? (i.e., a pullout or higher capacity stop may be needed)
- Does the design include pull-out or in-lane stops (i.e., in-lane typically preferred by transit)
- □ Is the stop adjacent to bicycle facilities and does design me current guidance? (i.e., floating stops)
- □ Are tactile treatments provided and are they designed to be easily detectable? (i.e., TWSI's to back of sidewalk)

#### **Mobility Hubs**

Does the design include: layover stops, high-quality shelters, real-time information, seating, lighting, waste receptacles, washrooms, secure bicycle parking, a drop-off facility (i.e., Kiss and Ride), park-and-ride where possible, mixed-use commercial/residential development, or EV charging for buses?

#### **Transit Priority**

□ Are there opportunities for transit priority? (i.e., bus lanes, queue jumps, signal priority)

# **Motor Vehicle Considerations**

#### **Traffic Calming**

□ Is speed reduction sufficient to enforce the posted speed? (i.e., vertical deflection, horizontal deflection) □ If desired, are volume reduction measures sufficient? (i.e., access restrictions, one-way conversion)

#### **On-street Parking**

- □ Is parking suitably set-back from intersections and driveways?
- $\Box$  Is the adjacent sidewalk accessible from on-street parking spaces?
- □ Should on-street parking spaces be replaced with a loading zone?

#### Safety v Capacity Trade-Offs

- $\Box$  Does the design reflect the mode hierarchy?
- □ Has safety been prioritized over capacity?
- □ Has No Right Turn on Red been included?
- □ Are left turns protected?
- □ Can another form of intersection control address safety issues?
- □ Are the horizon year assumptions appropriate?
- □ Have all other modes been accommodate before additional capacity is given to motor vehicles?

#### **Goods Movement**

- □ Are loading considerations accounted for?
- $\Box$  Is it a truck route?
- □ What are the design and control vehicles?



# Appendix A

# **Background Report**





# Transportation Master Plan

**Connecting Our Community for All** 

**Background Report** 

# **A1. Executive Summary**

#### A1.1. Overview

Given the considerable growth Squamish has experienced in recent years, the District is developing a Transportation Master Plan that will provide a longterm strategy for transportation investments. The plan aims to align with the values and planning horizon year (2040) of the community's Official Community Plan. This background report provides an overview of Squamish's current transportation context and will, in conjunction with community and stakeholder engagement, inform the recommendations of the Transportation Master Plan.

#### A1.2. Policy Review

Relevant plans and policies, both internal and external (i.e., regional, provincial, federal), were reviewed to understand existing policies influencing travel patterns and transportation demand, create an inventory of previous recommendations, and highlight overarching goals and objectives that the 2040 Transportation Master Plan should align with.

#### A1.3. Community Profile

An analysis of demographic and travel pattern trends was conducted, taking into account a variety of available data, including metrics related to the community's population, diversity of dwellings, age, household formation, employment, income, mode share, traffic volume variations, and trip origins, destinations, and lengths. A review of available data and an analysis of trends for recorded collisions is provided for incidents involving pedestrians, cyclists, and motor vehicles.

#### A1.4. Existing Conditions

Existing conditions are summarized for the different networks available to pedestrians, cyclists and micromobility users, transit, personal vehicles, the movement of goods, and rail, marine, and air transportation. Network maps and an inventory of a range of existing facilities are provided for each mode.

Pedestrian infrastructure in Squamish is mostly concentrated in Downtown Squamish and other

commercial areas. Although additional facilities are provided on other roadways throughout the District, several popular collector roadways lack sidewalks. Other aspects of the pedestrian network include the Corridor Trail, which provides a protected facility for pedestrians traveling between some areas of the community, as well as several gravel trails that improve connectivity but limit comfort for some users.

For those traveling by bicycle or micro-mobility, the network that is comfortable for most users is identified. This network accommodates 'strong and fearless' cyclists but also provides safe and comfortable routes for 'confident and enthused' and 'interested but concerned' users who represent the latent demand for these facilities. Overall, the existing network for those using bicycles or micro-mobility devices has a good spine in the Corridor Trail; however, the lack of connectivity between this facility and commercial and residential areas reduces the attractiveness of traveling actively as a comfortable and convenient transportation option. Comfortable facilities are not available along several popular transportation routes, and this absence of safe connections to and from residential areas creates 'islands' of neighbourhoods with no safe connectivity to each other.

The transit network is accessible to most of the community, with only the rural Paradise Valley and Cheekeye neighbourhoods lacking service. Pedestrian access to transit stops is critical for a functioning transit network. In some locations, however, pedestrian facilities are either lacking or inadequate, including on several high-volume and high-speed roadways. This limits the attractiveness of transit as a comfortable transportation option.

Squamish's vehicle network is primarily made up of the arterial Highway 99, collector roads, and lower-traffic local roads. Background analysis of traffic performance is addressed in a separate document.

# **A2.** Introduction

#### A2.1. Plan Purpose

Accessible and sustainable transportation is vital for creating healthy and livable communities. To achieve this goal, the District of Squamish is working to establish an efficient, balanced, and fully integrated multimodal transportation system. This system will provide access to an active transportation network, an efficient transit system, and shared roadways that connect neighbourhoods to employment and activity centers. By offering a variety of efficient regional transportation options, the District aims to reduce dependence on single-occupancy vehicles and promote smart and sustainable growth.

In response to these challenges, the District's Official Community Plan (OCP) emphasizes the need for complete, compact, and connected neighbourhoods that support walking, cycling, and the use of public transit. The plan aims to reduce reliance on singleoccupancy vehicles and minimize GHG emissions by prioritizing practical, safe, and accessible alternative transportation options. It also encourages the growth of local employment to reduce commuting and supports integrated land use and transportation planning, sidewalk and cycling infrastructure funding, and trail network improvements to foster greater connectivity within and between local neighbourhoods and key destinations. Improving access, efficiency, and reliability of local transit and encouraging transit-oriented development to increase viability and ridership are necessary. To further enhance the transportation system, the District is partnering with other communities in the Sea to Sky Corridor and beyond to improve regional multi-modal transportation options and undertake long-range transportation planning.

Squamish is one of the few communities in Canada with access to rail, road, air, and ocean transportation. The port facilities at the Squamish waterfront are critical to local and Western Canadian economies, especially in supporting the movement of goods within the Asia-Pacific region.

The District's Multi-Modal Transportation Plan (MMTP), completed in 2011, identified priorities for providing an effective transportation system that meets community objectives, considering planned community growth until 2031. The plan considered transportation from private passenger vehicles, car-pooling, commercial vehicles, public transit, cyclists, and pedestrians. However, given the significant growth and changes in the community since the plan's preparation, the District is now developing a new Transportation Master Plan (TMP) that considers the new community context and extends the planning horizon to 2040, in line with the OCP.
# A2.2. Plan Objectives

The District have outlined 10 primary objectives that will guide the project and any decisions made. These objectives are utilized during the option evaluation and prioritization phase of the project to ensure that projects prioritized in the plan best contribute to these objectives.

- Develop a long-term, multi-modal transportation strategy determining needs and priorities to provide a safe and efficient transportation system within the District of Squamish.
- Encourage and prioritize affordable and accessible transportation options and alternatives.
- Support economic growth and new development including the efficient transportation of people and goods to meet resident, industrial, and commercial needs.
- Pursue options to increase local road and trail connectivity, minimize reliance on Highway 99 and connect all new and future neighbourhoods, employment areas, commercial districts and recreation and tourism destinations.
- Consider the District's declared climate emergency and transportation approaches to meet the community's greenhouse gas reduction targets including reducing the reliance on single occupancy vehicle use and transitioning away from fossil fuels.

- Balance criteria such as funding/affordability, timing (need or value) and ability to support mode shift, GHG reductions, connectivity gaps and avoid impacts on environmentally sensitive areas wherever possible.
- Employ a hierarchy of transportation modes as a general approach to guide transportation decisions.
- The priorities, in order, are walking, cycling, transit, commercial vehicles, high-occupancy vehicles, and single occupancy vehicles.
- Understand the District's current mode share for all trips and develop a vision, strategy, and targets for shifting to more sustainable modes.
- Understand the cost and timing of recommended major capital projects over a 10-year outlook

# **A3. Policy Overview**

Overall, the direction of the Transportation Master Plan is not new, the District has been working towards cleaner, healthier and more efficient modes of transportation for many years. Overall, these policies collectively aim to support sustainable growth, enhance safety, and promote active and multi-modal transportation options within Squamish and beyond, ensuring a comprehensive approach to the community's transportation future. An overview of past and current planning documents is provided below.

# A3.1. District of Squamish Official Community Plan (OCP) (2018)

The District of Squamish Official Community Plan (OCP) from 2018 outlines a comprehensive vision for the future of transportation within the community. This plan provides decision-making guidance on all aspects of community planning, including transportation. The OCP identifies six major areas of transportation: enhancing and sustainably funding the transportation network for the safe and efficient movement of people and goods; improving connectivity and safety throughout Squamish; enhancing multi-modal transportation for convenient travel to and within Downtown Squamish; reducing single-occupancy vehicle use and transitioning away from fossil fuels; sustainably funding and improving the accessibility and safety of walking and biking infrastructure; and increasing transit ridership with progressive targets set for 2020, 2025, and 2040. Additionally, it considers long-term inter-modal needs for marine and rail connections and promotes the Squamish Municipal Airport as a general aviation airport.

# A3.2. District of Squamish 2031 District Wide Multi-Modal Transportation Study (2011)

The 2031 District Wide Multi-Modal Transportation Study, completed in 2011, emphasizes sustainable transportation. Its goals include developing a longterm strategy that supports economic growth and new development while promoting a connected and accessible community. Significant findings from this study highlight the adequacy of the local road network until 2031, the latent demand for interregional commuting options, and the need for annual investments in cycling and pedestrian infrastructure.

# A3.3. District of Squamish Active Transportation Plan (2016)

The Active Transportation Plan from 2016 identifies gaps in existing networks and proposes improvements to foster a culture of active transportation. It encourages more walking and cycling trips and ensures these modes are safe and accessible. This plan aims to build and maintain infrastructure that supports active living.

# A3.4. District of Squamish Parking Strategy 2016-2020 (2016)

The Parking Strategy for 2016-2020 focuses on balancing the support for parking infrastructure with the transition to alternative modes of transportation. It emphasizes the importance of maintaining relevant parking data, updating regulations, and managing parking in Downtown Squamish and recreational areas. The strategy also includes plans for future parking developments and adjustments to accommodate increasing tourism and local needs.

# A3.5. District of Squamish Downtown Truck Route Study (2017)

The Downtown Truck Route Study from 2017 provides recommendations for both short-term and long-term improvements to truck routes in Downtown Squamish. These recommendations include intersection improvements, lane widening, and noise mitigation measures. The study also considers the potential benefits of electric trucks in mitigating health and noise concerns related to diesel-fueled trucks.

# A3.6. District of Squamish Community Climate Action Plan (2020)

The Community Climate Action Plan, introduced in 2020, includes transportation-related "Big Moves" aimed at promoting sustainable transport. These goals include doubling the trips made by active transportation and transit by 2030 and decarbonizing transportation with low carbon fuels for 90% of passenger vehicles and 25% of commercial vehicles by 2030, with a vision of achieving zero carbon fuels for all vehicles by 2050. This plan supports the broader vision of making active transportation and transit the preferred modes of travel.

# A3.7. District of Squamish Subdivision and Development Control Bylaw (2018)

This bylaw outlines the standards for the geometric design of roadways and the development of transportation infrastructure within Squamish. It references key documents such as the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads, the Master Municipal Construction Document Design Guidelines, and the BC Ministry of Transportation and Transit Pedestrian Crossing Control Manual. The bylaw specifies standards for road classifications, including arterial, major collector, and minor collector roads, as well as design speeds and other requirements like pedestrian refuge islands and bike lane buffers. It also includes provisions for sidewalks, stairs, and ramps, emphasizing safety and accessibility.

# A3.8. BC Transit Sea to Sky Transit Future Plan (2015)

The Sea to Sky Transit Future Plan outlines recommendations for developing local and regional transit networks in the Sea to Sky area. It includes a detailed proposal for four distinct transit networks: the Core Transit Network, which links major destinations within communities; the Local Transit Network, which connects neighborhood destinations; the Custom Transit Network, designed for individuals with physical or cognitive impairments; and the Targeted Transit Network, encompassing both regional and interregional services. For Squamish, the plan targets a transit mode share of 5% by 2025 and 10% by 2040. Recommendations include expanding service frequency, developing new transit exchanges, creating a new Park & Ride facility in downtown Squamish, and improving customer amenities at bus stops.

# A3.9. BC Transit Sea to Sky Corridor Regional Transit Study (2017)

This study assesses the market demand for regional and interregional transit along the Sea to Sky Corridor, including Pemberton Valley, Whistler, Squamish, and Metro Vancouver. The analysis revealed a significant latent demand for transit services, estimating a daily ridership of 575 along the corridor. The study proposes a short-term service plan requiring eight buses and 15,100 annual service hours, with a total cost of \$3.31 million, shared among participating localities. Implementation steps include selecting a governance model for decision-making, confirming service levels, fares, cost-sharing, and securing funding from local partners and the province.

# A3.10. BC Transit & District of Squamish Transit Future Action Plan (2022)

This action plan outlines future initiatives for Squamish's transit network, based on engagement feedback and current service assessments. It sets network service standards, performance guidelines, and priorities for service and infrastructure improvements from 2022 to 2027. Key infrastructure priorities include bus stop improvements, a new operations and maintenance facility, and the establishment of a Garibaldi Village transit exchange. The plan proposes a transit mode share target of 5% by 2025, with considerations for increasing the target to 15% by 2040. It also aligns with broader BC Transit initiatives such as a low-carbon fleet program, digital on-demand service, and enhanced customer service tools.

# A3.11. Provincial and Federal Policies

Provincial and federal policies also play a crucial role in shaping transportation strategies. BC's Active Transportation Strategy, launched in 2019, aims to double the percentage of trips made by active transportation by 2030 and build integrated and accessible active transportation systems. Canada's Road Safety Strategy 2025, aligned with the Vision Zero approach, focuses on eliminating road fatalities and serious injuries by promoting safe road users, roads, speeds, and vehicles through collaborative efforts and data-informed decisions. Additionally, the Federal Active Transportation Strategy, announced in 2021, provides a \$400 million fund to support active transportation infrastructure across Canada. This strategy aims to raise public awareness, coordinate investments, adopt targets, and ensure the value and benefits of active transportation investments.

# A4. Community Profile

Squamish was a community of around 24,000 residents int he 2021 Census, but more recent 2023 estimate place that population at around 29,000 and makes Squamish one of the fastest growing communities in BC. Located on the Sea to Sky Highway, nestled between Vancouver and Whistler, the town is bordered by Howe Sound and surrounding mountain ranges and is a popular location for outdoor enthusiasts seeking a wide range of recreational activities.

The town boasts several attractions, such as the Sea to Sky Gondola, Stawamus Chief, Shannon Falls, Murrin Park, Alice Lake, Squamish Spit, and an extensive network of walking, hiking, and mountain biking trails. Squamish is divided into ten distinct neighbourhoods, ranging from Paradise Valley & Cheekeye to the north to Squamish South. Most of these neighbourhoods contain residential lands, while the commercial spaces are primarily concentrated in Downtown Squamish, the North Yards & Business Park, and the Garibaldi Estates.

Squamish residents enjoy access to six elementary schools, a middle school, a high school, and several private schools for children and youth of all ages.

The Brennan Park Recreation Centre and Downtown Squamish are popular destinations for both residents and visitors.

The town's economy is diverse and includes several industries and businesses, including green technology and innovation, craft food and beverages, agriculture, outdoor recreation technology, performance apparel, and adventure-based film and media. In 2023, Squamish was named B.C.'s most economically resilient city by BCBusiness magazine, highlighting its success in attracting businesses across a range of sectors.

Squamish has a moderate coastal climate, with summer highs averaging 24 degrees Celsius and winter lows averaging 3 degrees Celsius. The town is part of B.C.'s temperate rainforest and the larger Pacific temperate rainforest ecoregion, the largest coastal temperate rainforest in the world. Due to its location, Squamish receives significant rainfall and snowfall, with an average annual rainfall of 213 cm and snowfall of 235 cm, making it one of the wettest non-tropical areas in the world. Much of the community is low-lying and situated on floodplains.

# **A5. Neighbourhoods**

# A5.1. Paradise Valley & Cheekeye

Paradise Valley is the northernmost area of Squamish, primarily rural, with residential properties, resource land, ecological reserves, and limited commercial spaces. It includes the Chekamus and Poquiosin & Skamain reserves, an outdoor school, a campground, and the Federal Tenderfoot Creek Hatchery. This area is known for its recreational facilities, such as hiking trails, lakes, rivers, and climbing areas. Access to Paradise Valley is via Squamish Valley Road, which connects from the Sea to Sky Highway or Government Road, and by the Sea to Sky Trail for active users.

#### A5.2. Brackendale

Brackendale forms the northern extent of Squamish's urban land, featuring low-density residential properties, multi-unit residences, resource lands, parks, commercial spaces, and two reserves—Seaichem and Waiwakum. The area includes an elementary school, a middle school, and an outdoor school. Brackendale offers several mountain biking trails and access to Alice Lake Provincial Park and Campground. The main access routes to Brackendale are Government Road, the Sea to Sky Highway via Depot Road, and Squamish Valley Road.

# A5.3. Garibaldi Estates & Tantalus

This neighbourhood includes low-density and multi-unit residential properties, institutional lands, commercial spaces, and ecological reserves. Key features include a municipal public works facility, a fire hall, several gas stations, elementary schools, a golf course, and various commercial amenities like grocery stores. Recreational facilities here include Squamish's walking and mountain bike trail network and riverbanks. Access to Garibaldi Estates and Tantalus is provided via Government Road and the Sea to Sky Highway, with connections to the Garibaldi Highlands via Skyline Drive, Highlands Way South, and Mamquam Road.

# A5.4. Garibaldi Highlands & University Highlands

Comprising mainly low-density residential properties, resource lands, institutional properties, and neighbourhood parks, this area also includes a university and student housing. The Garibaldi Highlands has an elementary school, while the University Highlands hosts a private high school and a university. Recreational access through this neighbourhood includes mountain biking trails, walking and hiking trails, and backcountry skiing. Access routes include Skyline Drive, Highlands Way South, and Mamquam Road from Garibaldi Estates.

#### A5.5. Loggers East

Situated east of the Sea to Sky Highway, Loggers East consists of low-density and multi-unit residential properties, recreational facilities, institutional properties, resource lands, and industrial properties. Brennan Park Recreation Centre is a major destination here, offering a variety of sports facilities, parks, and trails. Access to Loggers East is via Centennial Way, Finch Drive, and the Sea to Sky Highway, with the Corridor Trail providing additional connectivity.

### A5.6. North Yards & Business Park

North Yards and Business Park are characterized by low-density and multi-unit residential properties, resource lands, commercial spaces, institutional properties, and industrial lands. The area is connected to Squamish's dike system, which offers popular riverbank access. Access points include Government Road, Queens Way, and the Sea to Sky Highway, with the Discovery Trail connecting the Business Park to the Dentville neighbourhood.

### A5.7. Dentville

Dentville is located between North Yards and Downtown Squamish, featuring low-density and multi-unit residential properties, ecological reserves, commercial spaces, and institutional properties. It is home to Howe Sound Secondary School and Squamish Elementary School, as well as a private French language elementary school. Main access routes are Buckley Avenue and Queens Way.

### A5.8. Downtown Squamish

Downtown Squamish lies adjacent to the Mamquam Blind Channel, Howe Sound, and the Squamish Estuary, comprising residential, commercial, and industrial properties. This area includes several grocery stores, parks, marinas, and recreational facilities for water sports. Urban expansion into the Oceanfront and Waterfront Landing properties is ongoing. Access points include Buckley Avenue, Cleveland Avenue, and Loggers Lane, with additional future access planned from Pemberton Avenue via a bridge.

#### A5.9. Valleycliffe & Hospital Hill

Located east of the Sea to Sky Highway, this area includes low-density and some multi-unit residential properties, a small commercial area, institutional properties, parklands, and the Stawamus reserve. It houses Squamish General Hospital and both public and private elementary schools. Access routes include Clarke Drive and Valley Drive, with active transportation connections via the Corridor Trail and the Valleycliffe Trail.

#### A5.10. Squamish South

Extending from Valleycliffe to Darrell Bay, Squamish South comprises industrial lands, parklands, and limited residential properties. This area includes the Sea to Sky Gondola and is bordered by provincial parks, offering popular climbing and hiking areas. Access to Squamish South is via the Sea to Sky Highway, with trail connections for active users between the Stawamus Chief Apron parking lot and the Sea to Sky Gondola.

# A6. Demographics

# A6.1. Population & Dwellings

As of the 2021 census, Squamish recorded a population of 23,800, marking a significant increase of 22% from 2016. This growth rate places Squamish among the fastest-growing municipalities in British Columbia. Over the past two decades, the population has nearly doubled, with a substantial portion of the new housing development consisting of apartments, townhouses, and duplexes. While almost half of the residents live in single-detached homes, the majority of recent growth has been driven by multi-unit residential developments.



# A6.2. Age & Household Formation

The median age in Squamish is 38 years, reflecting a younger population compared to the provincial average. Fifty percent of residents fall within the 20 to 50 age range, while 27% are aged 50 or older. Household composition in Squamish is similar to the provincial averages, with 29% of adults living with children, 44% without children, and 27% children living with adults. Notable differences include a higher proportion of people living with non-relatives and a lower proportion of people living alone or children in one-parent families. The average household size in Squamish is slightly larger than the British Columbia average.





# A6.3. Employment & Income

Squamish boasts higher labor participation and employment rates compared to the provincial average, which can be attributed to its younger population. In 2021, the participation rate was 76.9%, and the employment rate was 71.7%. Personal incomes in Squamish are generally higher, with 51% of residents earning over \$50,000 annually, compared to 40% in British Columbia. Despite this, 6% of Squamish residents fall under the Low-Income Measure after tax, which, while lower than the provincial average of 11%, still represents a significant portion of the population requiring consideration in transportation planning.

#### **Employment Status**

LABOUR FORCE STATUS	DISTRICT OF SQUAMISH (2016)	DISTRICT OF SQUAMISH (2021)	BRITISH COLUMBIA (2021)
Participation Rate	75.5%	76.9%	63.3%
Employment Rate	71.2%	71.7%	57.9%
Unemployment Rate	5.6%	6.8%	8.4%

#### **Work Activity**

WORK ACTIVITY	DISTRICT OF SQUAMISH (2016)	DISTRICT OF SQUAMISH (2021)	BRITISH COLUMBIA (2021)
Full Year Full Time	37.8%	41.5%	32.1%
Part Year and/or Part Time	40.8%	35.3%	30.6%
Did not work	21.5%	23.2%	37.4%

# A6.4. Travel Patterns

In 2021, the mode share for commuting showed that 78.6% of Squamish residents drove personal vehicles to work, while 6.5% were passengers. Walking, cycling, and public transit accounted for smaller portions of commutes at 5.5%, 4.4%, and 1.9%, respectively. When considering all trip types, approximately 68.6% were made by drivers and 15.1% by passengers. Comparison with other similar municipalities shows Squamish has a higher bicycle mode share but lower walking and public transit shares. Municipalities like Whistler, Nelson, and Revelstoke, known for their focus on outdoor activities, exhibit lower vehicle use and higher alternative mode shares, providing insights for Squamish's future transportation planning.



# A6.5. Trip Lengths, Origins and Destinations

In Squamish, travel patterns reveal significant insights into trip lengths, origins, and destinations. Most trips within Squamish are relatively short, with a large proportion occurring within the community itself. The predominant origins and destinations are concentrated in key areas such as Downtown Squamish, Garibaldi Estates, and the North Yards & Business Park, reflecting the distribution of residential, commercial, and recreational activities. Many trips are made for work, shopping, education, and leisure, with Downtown Squamish serving as a central hub for many of these activities. There is also notable commuting activity to and from surrounding regions, particularly towards Metro Vancouver, highlighting Squamish's role as both a residential community and a gateway to larger urban centers.



#### A6.6. Traffic Volumes

Traffic volumes in Squamish are influenced by its unique geographic and economic characteristics. The primary arterial route, Highway 99, experiences significant traffic as it connects Squamish with Vancouver to the south and Whistler to the north. This highway serves as a critical corridor for both local and regional traffic, including commuter, tourist, and freight traffic. Within Squamish, local roads also experience varying traffic volumes, with higher concentrations in and around commercial areas and schools creating short peaks. Traffic data indicates peak periods during morning and evening commutes, as well as increased volumes during weekends and holiday seasons due to tourism and recreational activities.





# A6.7. Collisions

Collision data in Squamish provides valuable insights into traffic safety and areas that require attention. Analysis of collision history shows that incidents are more frequent at high-traffic intersections such as Highway 99. Collisions involving pedestrians and cyclists highlight the need for improved safety measures in areas with heavy foot and bike traffic.

Table 2.6: Intersections with	<b>Highest Number of</b>	<b>Collisions - District o</b>	f Squamish 2017 - 2021

INTERSECTION	2017 - 2021 COLLISIONS (NUMBER)
Highway 99 & Cleveland Avenue & Loggers Lane	247
Highway 99 & Mamquam Road	100
Highway 99 & Garibaldi Way	77
Highway 99 & Alice Lake Road & Squamish Valley Road	60
Cleveland Avenue & Buckley Avenue & Hunter Place	58
Highway 99 & Industrial Way & Finch Drive	52
Highway 99 & Clarke Drive	41
Highway 99 & Commercial Way	32
Highway 99 & Depot Road	30
Highway 99 & Valley Drive	24

# Table 2.7: Intersections Within District Jurisdiction with Highest Number of Collisions - District of Squamish 2017 - 2021

INTERSECTION	2017 - 2021 COLLISIONS (NUMBER)
Cleveland Avenue & Buckley Avenue & Hunter Place	58
Cleveland Avenue & Pemberton Avenue	21
Commercial Way & Discovery Way	20
Industrial Way & Progress Way	17
Glenalder Place & Mamquam Road	15
Commercial Place & Commercial Way & Queens Way	13
Cleveland Avenue & Winnipeg Street	12
Garibaldi Way & Tantalus Road	11
Garibaldi Way & Government Road	11
Industrial Way & Queens Way	11



# **A7. Existing Pedestrian Network**

# A7.1. Overview

Pedestrian infrastructure in Squamish is primarily concentrated in Downtown Squamish and other commercial areas, with additional facilities provided on other roadways throughout the District. Much of the existing pedestrian infrastructure in Downtown Squamish is legacy infrastructure and does not meet the current Downtown Streetscape Standards.

In general, Highway 99 lacks adjacent pedestrian facilities, leaving pedestrians to use the bicycleaccessible shoulder. Sidewalks are present near the Cleveland Avenue intersection; however, the extent of these facilities is limited. Furthermore, the Corridor Trail provides a protected facility along some parts of Highway 99, but although the multi-use pathway is quite long, it is not always adjacent to the highway.

Several collector roadways lack sidewalks, notably Mamquam Road (east of Highway 99), Garibaldi Way, Skyline Drive, Westway Avenue, and Government Road. Local roadways often require pedestrians to share the road with motor vehicles; however, posted speeds are often too high for pedestrians of all ages and abilities to feel safe, and there is rarely any traffic calming present. Squamish has several unpaved trails that provide both recreational routes and transportation connections. The District has taken steps to upgrade these trails with

improved surface materials, pathway lighting, and other

amenities. The Corridor Trail, Squamish's primary northsouth route for active modes, is an example of such an improvement.

New greenfield developments, such as detached housing units, include sidewalks throughout the newly developed areas. However, these sidewalks do not always connect to existing sidewalks, which may limit residents' comfort levels when walking beyond their neighbourhoods.

Squamish has several overpasses and underpasses across Highway 99. These include:

- an overpass connecting Tantalus Road with Kingswood Road (connecting the Garibaldi Estates/ Tantalus neighborhood with Brackendale);
- an overpass connecting Diamond Road with Government Road (connecting residents on either side of Highway 99 to Mamquam Elementary School and the commercial area of the Garibaldi Estates);
- an underpass along Centennial Way (connecting the North Yards and Loggers East neighborhoods);
- an underpass connecting Pemberton Avenue with the Corridor Trail multi-use pathway from both Loggers East and Valleycliffe/Hospital Hill;
- an overpass from Totem Drive (Stawamus 24 reserve land) to the casino (Stawamus 24 reserve land); and
- an overpass from Squamish Chief Provincial Park to The Malamute (connecting popular recreation areas to each other and parking).



### A7.2. Pedestrian Facility Types

Squamish features various pedestrian facility types that aim to enhance the safety and convenience of walking throughout the district. The primary pedestrian facilities include sidewalks, multi-use paths, and unpaved trails. Sidewalks are predominantly found in Downtown Squamish and other commercial areas. They provide a defined space for pedestrians, separated from motor vehicle traffic, which is crucial in commercial and high-traffic areas. Multi-use paths, such as the Corridor Trail, cater to both pedestrians and cyclists, offering a protected route that enhances connectivity across different parts of Squamish. These paths are especially important along major roads like Highway 99, where direct pedestrian facilities are limited. Unpaved trails serve dual purposes of recreation and transportation, with ongoing upgrades to improve their surface materials, lighting, and other amenities, making them more accessible and user-friendly.

#### A7.3. Crossing Types

The crossing types in Squamish are designed to ensure pedestrian safety at intersections and other critical points along the road network. These crossings include marked crosswalks, pedestrian signals, and grade-separated crossings such as overpasses and underpasses. Marked crosswalks are typically found in areas with high pedestrian traffic, providing clear visibility to both pedestrians and drivers. Pedestrian signals are integrated into traffic lights at busy intersections, offering safe crossing opportunities by stopping vehicular traffic. Grade-separated crossings, including overpasses and underpasses, are essential for navigating busy roads like Highway 99. They allow pedestrians to cross without interacting with high-speed vehicle traffic, significantly reducing the risk of accidents. Notable structures include overpasses at Tantalus Road and Kingswood Road, Diamond Road and Government Road, and underpasses along Centennial Way and Pemberton Avenue, which enhance connectivity between neighbourhoods and key destinations while ensuring pedestrian safety.



# **A8. Existing Bicycle Network**

### A8.1. Overview

Squamish's bicycle network features a central northsouth "spine" in the Corridor Trail, supported by the similarly comfortable but more limited Discovery Trail, as well as various facilities providing access to and from some neighbourhoods. Typically, infrastructure is provided on collector roadways, featuring bicycleaccessible shoulders and painted bicycle lanes without door-zone buffers or buffers between the facility and the adjacent motor vehicle lane. In recent years, however, Squamish has taken steps to improve existing bicycle lanes, including adding door-zone buffers, buffers between the facility and adjacent travel lanes, and raised facilities located behind curbs. Based on census data, these improvements have led to increased active use.

Squamish's Corridor Trail and Discovery Trail both provide north-south connections. The Corridor Trail has been upgraded from its original gravel surface to an asphalt surface with pathway lighting, creating a lit multi-use pathway that is separated from motor vehicle traffic for nearly seven kilometers, from Valley Drive (Valleycliffe neighbourhood) to where the pathway connects with Tantalus Road (Tantalus neighbourhood). The Discovery Trail is a much shorter pathway (approximately 2.75 km) that connects Pioneer Way (North Yards neighbourhood) with Cleveland Avenue (Downtown Squamish). The Discovery Trail is separated from traffic and in some sections is both paved and lit; however, in several other sections, it has a gravel surface and is unlit. Although these two routes are separated from vehicle traffic, opportunities exist to improve the safety, comfort, and directness of these multi-use pathways. In particular, there is potential to enhance surface material and lighting where appropriate, improve road design and crossings for active modes where roadways intersect with the pathway, and provide additional connections from these routes to other nearby active transportation infrastructure.

Mountain biking is popular in Squamish, particularly in the spring, summer, and fall. However, significant mountain biking trailheads are not well connected to the active transportation network. Users accessing trailheads must share travel lanes with motor vehicles, which is not comfortable or safe for all users. Alternatively, users may choose to drive and park near trailheads, contributing to higher motor vehicle and parking demand near popular destinations in Squamish.



# A8.2. Bicycle Facility Types

Squamish's bicycle network consists of various facility types aimed at providing safe and accessible routes for cyclists. The primary facility types include bike lanes, multi-use pathways, and bicycle-accessible shoulders. Bike lanes are typically found on collector roadways and are marked with paint, often without door-zone buffers or physical separation from motor vehicle traffic. Recent improvements have introduced door-zone buffers and raised facilities located behind curbs to enhance cyclist safety. The multi-use pathways, such as the Corridor Trail and Discovery Trail, are separated from motor vehicle traffic, offering a higher level of safety and comfort. These paths are essential for providing continuous and protected routes for cyclists across different parts of Squamish.

# A8.3. Bicycle Crossing Types

The crossing types for bicycles in Squamish are designed to ensure safe and efficient transitions across intersections and roadways. Key crossing types include marked bike crossings at intersections, signalized crossings, and grade-separated crossings such as overpasses and underpasses. Marked bike crossings typically accompany pedestrian crosswalks, providing clear visibility for both cyclists and drivers. Signalized crossings are integrated into traffic signals, allowing cyclists to cross safely during designated signal phases. Grade-separated crossings, including the overpasses and underpasses along the Corridor Trail and Discovery Trail, allow cyclists to cross busy roads like Highway 99 without interacting with vehicular traffic, significantly enhancing safety.

#### A8.4. Bicycle Parking

Bicycle parking is a critical end-of-trip facility, and a lack of it can significantly deter individuals from using bicycles or other forms of micro-mobility, reducing the attractiveness of these travel options. In Squamish, there are five types of bicycle parking available. Secure parking is crucial, especially as many residents own expensive mountain or road bikes and electrically-assisted bicycles. This type of parking provides the assurance needed to use these valuable bikes for commuting and errands. Sheltered parking offers weather protection and, although not secure, it enhances user confidence when located in busy, public areas. Bicycle racks are basic facilities that allow for bike locking and can be placed under canopies for some weather protection. Private commercial parking is provided by several businesses, typically in the form of bicycle racks, with some locations offering sheltered facilities. Lastly, informal parking occurs when there are not enough convenient parking spaces, leading people to leave their bikes and devices on sidewalks, in parking lots, and other public areas.

#### A8.5. Bicycle Rider Level of Comfort

The level of comfort for cyclists varies depending on the type of facility and crossing. Multi-use pathways like the Corridor Trail and Discovery Trail offer the highest level of comfort due to their separation from motor vehicle traffic, smooth surfaces, and pathway lighting. These facilities are suitable for cyclists of all ages and abilities. Bike lanes on collector roadways provide a moderate level of comfort, which has been improved with the addition of buffers and raised sections. However, the absence of physical separation in some areas still poses a risk. Bicycle-accessible shoulders on roads with higher speeds or traffic volumes offer a lower level of comfort, making them less suitable for less experienced cyclists or those seeking a safer, more relaxed riding environment.

Overall, the infrastructure in Squamish aims to improve safety and accessibility for cyclists, encouraging more people to choose cycling as a viable transportation option. Continued enhancements to facilities and crossings are essential to maintaining and increasing this trend, ensuring a comfortable and safe experience for all cyclists.



# A8.6. Bicycle Network Available to riders with Different Comfort Levels

**Strong and Fearless Cyclists:** The network available to "Strong and Fearless" cyclists in Squamish includes roadways with bicycle-accessible shoulders and standard painted bicycle lanes. These cyclists are confident in sharing the road with motor vehicles, even in areas without dedicated cycling infrastructure. They typically use major roads and collector roadways that provide direct routes, even if these routes lack physical separation from traffic. The presence of marked bike lanes on these roads enhances their safety, but they are generally comfortable navigating through traffic without additional protection.

**Confident and Enthused Cyclists:** "Confident and Enthused" cyclists benefit from the improved bicycle lanes and multi-use pathways that offer a moderate level of comfort. These cyclists prefer facilities with some level of separation from motor vehicle traffic, such as buffered bike lanes and raised pathways behind curbs. The Corridor Trail and Discovery Trail are ideal for this group, as they provide separated, lit, and paved routes. These pathways allow "Confident and Enthused" cyclists to travel longer distances safely and comfortably, connecting key areas within Squamish without the stress of interacting closely with traffic.

**Interested but Concerned Cyclists:** The "Interested but Concerned" group includes cyclists who prioritize safety and comfort and prefer routes with minimal interaction with motor vehicles. For these users, the multi-use pathways like the Corridor Trail and Discovery Trail are the most suitable. These trails offer a high level of comfort with their separated, well-maintained, and lit pathways, making them ideal for less experienced cyclists or those who prefer a leisurely ride. These routes connect residential areas with commercial and recreational destinations, providing a safe and enjoyable cycling experience. However, the challenge remains in enhancing connectivity between these comfortable routes and other parts of the city to make cycling a more viable option for this group.



# Map A4: BC Transit Route Map

# **A9. Existing Transit Network**

# **A9.1. Routes Overview**

BC Transit operates five regular transit routes and one seasonal route in Squamish. All transit routes pass through Downtown Squamish to access the on-street transit exchange located near Municipal Hall and the municipal library. During typical workday hours, most bus routes operate at 60-minute frequencies. However, some routes offer more frequent service during AM and PM peak travel periods, with 20 to 35-minute frequencies.

Of all the neighborhoods in Squamish, only Paradise Valley and Cheekeye lack transit service. These areas mainly consist of rural residential properties, with a few commercial, recreational, and institutional parcels. Although the Stawamus 24 Reserve lies outside the incorporated area of Squamish, it also lacks nearby transit service, despite housing facilities like the Squamish Nation Totem Hall and the casino that serve the wider Squamish community. Additionally, the Waterfront Landing and Oceanfront sites, which are currently undergoing development, currently lack transit service.

### A9.2. Bus Stop Infrastructure

Most bus stops in Squamish consist of only a flag and pole (88 stops), while a few are equipped with a shelter (28 stops) or an unsheltered bench (2 stops). The town has only one on-street transit exchange, which also has sheltered seating.

# A9.3. Access to Bus Stops

Pedestrian access to transit stops is critical for a functioning transit network. In some locations, however, pedestrian facilities are either lacking or inadequate, such as in areas with gravel or paved shoulders instead of proper sidewalks. Several high-volume and high-speed roadways, including Mamquam Road, Garibaldi Way, Skyline Drive, Diamond Head Road, Government Road, Westway Avenue, and Guilford Drive, lack adequate pedestrian access. The neighborhoods of Valleycliffe and Garibaldi Estates particularly need safe and comfortable pedestrian access routes to transit stops.



# A10. Motor Vehicle Network

# A10.1. Motor Vehicle Operations

Updates were made to the District's prior travel demand model to better reflect existing and anticipated future conditions. This update included new land use and network data, improvements to trip generation and mode split components, and calibration and validation of the model. The model assesses the existing network against future scenarios, to understand ways in which additional traffic delays can be mitigated amid projected population growth.

The model reveals two distinct approaches to accommodating future population growth. The historic approach generally has required considerable investment in auto infrastructure to sustain current levels of delay. Even today, there are several substantial new road connections planned such as Pioneer way and the Pemberton/Laurelwood Bridge and necessary changes as a result of those projects that will adsorb considerable amounts of District funds to support more trips by automobile.

An alternative approach acknowledges that traffic demand is not fixed, and that people can adjust and adapt to new conditions. Mode choice is indeed a choice, so if reliable options with low costs and competitive travel times are available, mode shift will occur. Investing in infrastructure that supports increasing transportation choices and affordability can have a significant impact on mode choice. In addition to mode choice, people can often choose to make non-essential trips at other times of the day, so as the peak period traffic gets worse, while some people will not be able to change travel time or mode choice, some people will.

Given the forecast population changes, the travel demand model indicates that the District would have to achieve a mode share of 50% auto trips by the horizon year. This is a substantial change from the 86% of trips made by auto today.

A high-level assessment of intersection control types for 41 municipal intersections identified potential upgrades needed by 2041. The target scenario with a 50% auto mode share highlighted the need for improvements, particularly at the proposed new roundabout at Loggers Lane/Pemberton Avenue.

The analysis demonstrates that reducing auto trips by half during peak hours is crucial to maintaining traffic performance as Squamish's population grows. Strategic investments in network improvements and intersection upgrades will be necessary to achieve these goals, ensuring a balanced and efficient transportation system for the future.

#### A10.2. Motor Vehicle Parking

Motor vehicle parking in Squamish is a critical component of the town's transportation infrastructure, addressing the needs of residents, businesses, and visitors. The parking strategy focuses on maintaining a balance between providing adequate parking spaces and encouraging alternative modes of transportation. There are different types of parking facilities, including on-street parking, off-street parking lots, and private commercial parking. On-street parking is managed to ensure turnover and availability, especially in high-demand areas like Downtown Squamish. Off-street parking lots provide additional capacity for longer-term parking needs. Private commercial parking is available at various businesses, offering both customer and employee parking options.

The strategy also addresses the need for parking in recreational areas, which see high usage during peak tourist seasons. This includes ensuring sufficient parking at trailheads and other popular destinations to manage the influx of visitors without overwhelming local infrastructure. Additionally, the strategy incorporates provisions for bicycle parking to support the growing trend of cycling and reduce reliance on motor vehicles.



# A10.3. Traffic Calming

Traffic calming measures in Squamish aim to enhance safety and livability within neighbourhoods by reducing vehicle speeds and encouraging safer driving behaviours. These measures include the installation of speed humps, raised crosswalks, curb extensions, and traffic circles. Speed humps and raised crosswalks are used to physically slow down traffic, making streets safer for pedestrians and cyclists. Curb extensions, also known as bulb-outs, reduce the crossing distance for pedestrians and improve visibility at intersections. Traffic circles are implemented at certain intersections to control traffic flow and reduce the likelihood of high-speed collisions. The traffic calming strategy also focuses on improving pedestrian infrastructure, such as sidewalks and crosswalks, to make walking a more attractive and safe mode of transportation. By integrating these measures into the overall transportation plan, Squamish aims to create a more balanced and user-friendly transportation network that supports a variety of travel modes while enhancing the quality of life for its residents.

# A11. Other Modes

# A11.1. Truck Network

The truck network in Squamish include Highway 99, which provides north-south connectivity, and various arterial roads that facilitate access to industrial and commercial zones. The Downtown Truck Route Study has provided both short-term and long-term recommendations to improve truck traffic flow and safety. Key improvements include intersection enhancements, widening of lanes, and potential new routes to reduce congestion and improve efficiency. The network aims to balance the needs of commercial transportation with minimizing the impact on residential areas.

### A11.2. Rail Network

The existing rail infrastructure supports the movement of goods, particularly linking the port facilities to the broader rail network across Canada. The railway is critical for industries such as forestry, mining, and manufacturing, providing a reliable means of transporting bulk goods. Although there are currently no regular passenger services, there is potential for future development in this area to enhance regional connectivity and provide an alternative mode of transport for residents and visitors.

#### A11.3. Marine Network

The marine network in Squamish includes the port facilities at the Squamish waterfront, which are essential for local and Western Canadian economies. These facilities support the movement of goods, particularly within the Asia Pacific region, contributing to the region's economic vitality. The port handles various types of cargo, including bulk materials and general freight. Additionally, the waterfront area provides opportunities for recreational boating and tourism activities, which are significant for the local economy. The strategic location of the port enhances Squamish's role as a key logistical hub in the region.

# A11.4. Air Network

Squamish is served by the Squamish Municipal Airport, a general aviation facility that supports a range of activities from private flying to commercial charters. The airport is a vital asset for emergency services, such as medical evacuations and firefighting operations, and also supports local tourism by providing access to the region for visitors. While it does not currently handle scheduled passenger services, the airport's infrastructure is crucial for regional connectivity and economic development. The airport's strategic development plans focus on maintaining and enhancing its facilities to support increasing demand and diversify its operational capabilities.

These networks collectively enhance Squamish's transportation infrastructure, supporting economic growth, regional connectivity, and local mobility. Continued investment and strategic planning are essential to optimize these networks for future needs.

# Appendix B

# Traffic Modeling Memorandum



# Memorandum



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To:	District of Squamish	Date:	January 14, 2025
Attention:	Brent McMurtry P.Eng.	Project No.:	33356
Cc:	David Roulston P.Eng., Dora Gunn		
Reference:	Squamish TMP Modelling R2		
From:	Billy Kwok, P.Eng.		

#### **Executive Summary**

As part of the Squamish Transportation Master Plan (TMP), the travel demand model was updated to better understand the performance of the existing and future network. The update included land use and network updates to the latest available data sources, improvements to the trip generation and mode split components, and new calibration and validation.

The model was utilized to understand the difference between the existing network and future network, existing mode share, and the mode share required to maintain reasonable performance on the road network as well as sensitivities to understand the effect of major new road connections.

To maintain existing traffic performance when more than doubling the population, the percentage of trips we make by vehicle during the PM peak hour must approximately reduce to half compared with trip choices today. Auto trips will need to be reduced by half to avoid significant delays.

Six model runs were undertaken to provide an understanding of potential sensitivities in the road network. The 2041 horizon year was tested with existing mode share (87% Auto) and sustainable mode share (50% Auto), with 50% Auto mode share being the target. A high-level assessment of intersection control types for municipal intersections within the District of Squamish was undertaken to assess if upgrades are required.

#### 1.1 Introduction

The travel demand model development and the analysis undertaken in this study used the VISUM 22 transportation planning software suite developed by PTV Group. This GIS-based travel forecasting model is a state-of-the-art transportation planning tool that can efficiently estimate changes in travel patterns and utilization of transportation systems in response to changes in land use, population, employment, and transportation infrastructure. It integrates mapping, land use planning, development projections, future traffic demand, and transportation networks to produce realistic traffic forecasts that can be interpreted easily and presented in effective visual format. The traditional four-step travel demand modelling process was used for this study, summarized as follows:

- Trip Generation residential, commercial, industrial, and institutional land uses are used to determine the number of peak hour trips being generated for the study area.
- Trip Distribution zone-to-zone trip distribution is based on the road network impedance (i.e., travel time) and determines a zone-to-zone origin-destination (OD) trip matrix.
- Mode Split the OD trip matrix is split into various travel modes, such as driving, walking, and transit.<sup>1</sup>
- Trip Assignment the estimated OD trip matrix is assigned onto the established road network to get link volumes for the existing and future traffic scenarios.

<sup>1</sup> Different mode splits are used for different zones, further explained in Section 1.5.

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The existing travel demand model captures the existing travel patterns, including trip generation, trip distribution, model split, trip assignment, and pass-by traffic through Squamish. With a model calibrated to existing conditions, these characteristics can then be applied to the future transportation model of Squamish to forecast the future traffic volumes based on future land use and transportation network. The future transportation demand model provides Squamish with a scalable, flexible platform that can be readily adapted over time to include additional scenarios or transportation complexity as Squamish grows and intensifies.

### 1.2 2022 Land Use and Network

The initial model was developed in VISUM by PTV in 2010. For this study, the model was updated to reflect the current land use, transportation network, and traffic data.

Minor changes were made on the zone boundaries. The changes in zone boundaries were made to better reflect natural and man-made constraints, as well as local access and egress. The model zone boundaries are shown in Figure 1.1.

Existing land use patterns were developed as part of this study. The District of Squamish provided property counts for residential units. Employee information was synthesized from business licenses, employment survey, employment space inventory. We worked closely with District staff to harmonize our approaches and overall control totals. The following are the totals for the key attributes that were used to describe 2022 conditions for the District of Squamish:

- 10,000 residential units
- 12,250 employees
- 530 hotel and motel rooms
- 420 students

The land use types used in the VISUM model are shown in Table 1.1.

#### Table 1.1 Model Land Use Type

Land Use Type	Unit
Single Family Dwelling Unit	Dwelling Unit
Multi-Family Dwelling Unit	Dwelling Unit
Retail	Employee
Service	Employee
Government	Employee
Industrial	Employee
Home-based <sup>2</sup>	Employee
Hotel	Room
University	Student

In terms of transportation network, minor changes were made on link capacity, speed, intersection control, etc. to reflect the existing condition.

<sup>&</sup>lt;sup>2</sup> Home-based employees make up a significant proportion of the labour force in Squamish. The creation of the Home-based employees was a comprehensive exercise of cross-checking and imputing business addresses in residential zoning, with Census place of work status for those worked at home and those with no fixed workplace address.

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# Figure 1.1 Model Zone Boundaries

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# 1.3 PM Peak Hour Calibration and Validation

Origin-Destination travel data was provided by StreetLight Data. The company specializes in collecting and processing travel characteristics from smartphone apps that use location-based services. The travel data collected during January and April of 2022 was used. A regression analysis was performed based on the 2022 StreetLight data to update the trip generation rates in the model, repeated three times for each of the trip purposes – Home-based Work (HBW), Home-based Other (HBO), and Non Home-based (NHB). Internal and external traffic were treated separately.

PM peak hour traffic counts along Highway 99 were collected in 2023 from BC Ministry of Transportation and Infrastructure. Additional traffic counts on municipal roads were collected in 2023 by CTS. In total, traffic counts collected at 34 intersections were used for model calibration.

Typical PM peak hour travel time along Highway 99 between the north and south extent is around 22 minutes in both directions according to Google Maps.

#### **Model Validation**

Using the updated transportation network, land use and traffic counts, the travel demand model was calibrated.



Figure 1.2 PM Peak Hour Modelled vs. Observed Intersection Turn Volume

Figure 1.2 is a scatterplot in which each point represents a turning movement and its location in the plot depicts model volumes (Y-axis) against observed volumes (X-axis).

The  $R^2$  is the coefficient of determination that indicates how well the model replicates observed outcomes.  $R^2$  values range from 0 to 1 with a value of 1 indicating that the model data matches the observed data perfectly. A model rarely ever provides an exact representation of observed conditions, the regression value  $R^2$  of 0.97 was obtained for the PM peak, which represents strong convergence with the existing traffic data. For reference, the typical  $R^2$  value for acceptance is 0.75 for a TMP in a small to medium size municipality. These statistics indicate that the model traffic volumes are very accurate.

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The model's travel times matched closely with observed travel times for these origins and destinations:

- 22 minutes along Highway 99 between the north and south extent.
- 9 minutes between Downtown Squamish and Garibaldi Village
- 8 minutes between Downtown Squamish and Valleycliffe

### **1.4 Future Land Use and Network**

There are three main categories of land use projections: residential, employment, and university enrollment. Each of them was treated differently. In general, the projections were estimates from District staff.

The number of residential units in Squamish is projected to increase from 10,000 in the year 2022 to 21,870 by the year 2041. Major new development areas include the following areas:

- Oceanfront (2360)
- Waterfront Landing (960)
- Crumpit Woods (800)

Employment in Squamish is projected to increase from 12,250 in the year 2022 to 27,730 by the year 2041. Major new development areas include the following areas:

- Oceanfront (2230)
- Garibaldi Estates Commercial (1460)
- Airport (1390)

Table 1.2 provides a summary of the total expected changes within Squamish.

#### Table 1.2Existing and Future Land Use

Horizon Year	Residential Units	Employees
2022	10,000	12,250
2041	21,870	27,730
Difference	11,870	15,480

Future road network elements that will provide new travel options are:

- Pioneer Way Extension Project
  - Road Extension to Centennial Way
  - o Roundabout at Government Road / Centennial Way
- Pemberton Bridge
  - Road Connecting Pemberton Avenue and Laurelwood Road
- Cleveland Avenue Realignment
  - o Cleveland Avenue Realigned with Loggers Lane
  - o Stop-controlled Cleveland Avenue / Bailey Street
  - o Roundabout at Loggers Lane / Pemberton Avenue
  - Right-in Right-out at Cleveland Avenue / Pemberton Avenue
  - The Bailey-Buckley connection along the Third Avenue alignment
  - Stop-controlled 3<sup>rd</sup> Avenue / Bailey Street
  - Stop-controlled 3<sup>rd</sup> Avenue / Buckley Avenue
- Garibaldi Estates Phase 1 & Phase 2 Improvements
  - Highway 99 3<sup>rd</sup> Northbound Lane
  - Road Connecting Highway 99 and Newport Ridge Drive
  - o Stop-controlled Highway 99 / Dowad Drive with new Left-out

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- Stop-controlled Highway 99 / Newport Ridge Drive with new Left-in
- o Signal at Tantalus Road / Newport Ridge Drive
- o Dual Westbound left turn from Mamquam Road to Highway 99
- o Right-in Right-out at Tantalus Road / Highlands Centre Access
- Signal at Tantalus Road / Garibaldi Way
- Valleycliffe-Finch Connector
  - o Road Connecting Cherry Drive and Finch Drive
  - Newport Ridge Extension to Perth
    - Road Connecting Newport Ridge Drive and Pia Road

### **1.5 Future Mode Share**

The 2041 horizon year was tested with existing mode share (87% Auto) and sustainable mode share (50% Auto). Inspired by the success of City of Vancouver's sustainable mode usage, the reduction in auto mode share was calculated based on City of Vancouver's current mode share data from TransLink's trip diary survey.

Walking and cycling are predominantly short distance trips. Therefore, mode shifts would occur in much higher proportion for short distance trips than for long distance trips. Based on TransLink's trip diary survey data, Table 1.3 shows the reduction of auto mode share that varies by trip distances for the three trip purposes. These are multiplication factors applied to the existing mode share of 87% Auto. The result of that is an overall auto mode share of 50%.

Trip Distance (km)	HBW	НВО	NHB
0-1	6%	28%	15%
1-3	35%	59%	53%
3-7	58%	70%	78%
7-15	81%	74%	95%
15+	80%	74%	100%

#### Table 1.3 Auto Mode Share Reduction in the Sustainable Mode Scenario

# 1.6 Scenario Tests

The model was utilized to understand the difference between the existing network and future network, existing mode share, and the mode share required to maintain reasonable performance on the road network as well as sensitivities to understand the effect of major new road connections including the Newport Ridge connection and Finch Drive connection.

When reviewing the traffic performance metrics, it's important to understand that the model represents just one hour in time, the Friday PM peak hour where traffic volumes today are known to be highest. This time period includes many different trip types, for example commutes home from work at the end of the day, shift change overs, socializing, and shopping to name a few.

It's important to acknowledge that traffic demand is not fixed. For example where the model predicts excessive delays (i.e., 2041 land use, existing network, existing mode share), this worst case would likely never occur because the effect of congestion would lead some people to change their trip habits, be that changing the time of their trip, changing the mode they use, avoiding it entirely if it is non-essential, or even over time, moving home or work to avoid the congestion and/or make other modes more practical.

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There is a balance in the network been inducing and suppressing demand for each mode, thus a certain amount of traffic congestion can positively induce demand for sustainable modes and suppress demand for single occupant vehicle trips.

What the following analysis demonstrates is that to maintain existing traffic performance when more than doubling the population, the percentage of trips we make by vehicle during the PM peak hour must approximately reduce to half compared with trip choices today. Auto trips will need to be reduced by half to avoid significant delays.

Even in that case, there may still be spot locations where delays are higher during peak hours, but it's also important to note that for the other hours in the day, there will be much less delay.

Six model runs were undertaken to provide an understanding of potential sensitivities in the road network:

- 1. 2022 Existing, 87% Auto Mode Share, Existing Network (the base line)
- 2. 2041 Future, 87% Auto Mode Share, Existing Network (the worst case theoretically)
- 3. 2041 Future, 87% Auto Mode Share, Future Network
- 4. 2041 Future, 50% Auto Mode Share, Future Network (The target)
- 5. 2041 Future, 50% Auto Mode Share, Future Network minus Valleycliffe-Finch Connector (sensitivity test)
- 6. 2041 Future, 50% Auto Mode Share, Future Network minus Newport Ridge Connector (sensitivity test)

Volume plots, volume difference plots, and volume-to-capacity (v/c) ratio plots are typical model outputs, presented in Figures 1.3-1.8. In theory, any link with a volume/capacity ratio of less than 1 or 100% is operating satisfactorily. Investment in improvements are only proposed for roadways with v/c ratio over 100%.





Figure 1.3 Model Scenario Volume (1 of 2)

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Figure 1.4 Model Scenario Volume (2 of 2)

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Figure 1.5 Model Scenario Volume Difference (1 of 2)

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Figure 1.6 Model Scenario Volume Difference (2 of 2)

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Figure 1.7 Model Scenario Volume-to-Capacity Ratio (1 of 2)

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Figure 1.8 Model Scenario Volume-to-Capacity Ratio (2 of 2)

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#### 1.6.1 Target Scenario: 2041 Future, 50% Auto Mode Share, Future Network

A high-level assessment of intersection control types for municipal intersections within the District of Squamish, excluding those along Highway 99, was performed using future traffic volumes from this scenario. The assessment used industry standard Exhibit 17 in the *National Cooperative Highway Research Program (NCHRP) Report 825 Planning and Preliminary Engineering Applications Guide to the Highway Capacity Manual.* Exhibit 17 can be used to determine the likely future intersection traffic control, using only peak hour two-directional volumes for the major and minor streets and directional distribution of volumes. A summary of the assessment for 41 identified intersections is reported in Table 1.4. Out of the 41 intersections, 12 of them (in red text) may require upgrades to the intersection controls by 2041.

It should be noted that Exhibit 17 provides a high-level guide to intersection control types and more detailed analysis would be needed to confirm control type and geometry. Furthermore, it is an analysis based purely on traffic volumes and does not consider constrains such as property lines or the requirements for other modes of transportation that are considered higher priorities within the modal hierarchy than the private automobile.



#### turns and 10% right turns on each approach, and a single lane on each approach as the base case. See text for an explanation of how boundaries between regions in the graphs were determined.

#### Figure 1.9 NCHRP Report 825 Exhibit 17

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#### Intersection Control Type Table 1.4

Major Street	Minor Street	Existing	Planned	Scenario 4 2041 Future Volumes
Government	Airport	2WSC		M-AWSC or 1-Rbt
Government	Ross	2WSC		2WSC or 1-Rbt
Government	Axen	2WSC		2WSC or 1-Rbt
Government	Depot	AWSC		M-AWSC or 1-Rbt
Depot	Ross	2WSC		AWSC or 1-Rbt
Depot	Reid	2WSC		2WSC
Newport Ridge	Tantalus	2WSC	Signal	M-AWSC or 1-Rbt
Newport Ridge	TBD	2WSC		2WSC or 1-Rbt
Newport Ridge	Perth	2WSC		2WSC or 1-Rbt
Government	Mamquam	2WSC		Signal or 1-Rbt
Government	Centennial	2WSC	1-Rbt	Signal or 1-Rbt
Pioneer	Discovery	2WSC		AWSC or 1-Rbt
Loggers	Centennial	AWSC		AWSC or 1-Rbt
Loggers	Bluejay	2WSC		2WSC
Loggers	Raven	2WSC		2WSC or 1-Rbt
Loggers	Finch	AWSC		M-AWSC or 1-Rbt
Queens	Commercial	2WSC		M-AWSC or 1-Rbt
Queens	Industrial	2WSC		M-AWSC or 1-Rbt
Queens	Enterprise	2WSC		2WSC or 1-Rbt
Buckley	Madill	2WSC		2WSC or 1-Rbt
Buckley	Wilson	2WSC		Restrict LT or 1-Rbt
Buckley	Carson	2WSC		Restrict LT or 1-Rbt
Third	Main	AWSC		2WSC
Third	Victoria	AWSC		2WSC
Third	Winnipeg	AWSC		2WSC or 1-Rbt
Third	Pemberton	AWSC		2WSC or 1-Rbt
Third	Access	2WSC		Restrict LT or 1-Rbt
Third	Bailey	2WSC		M-AWSC or 1-Rbt
Third	Buckley	2WSC		Signal or 1-Rbt
Cleveland	Vancouver	2WSC		M-AWSC or 1-Rbt
Cleveland	Main	AWSC		2WSC or 1-Rbt
Cleveland	Victoria	AWSC		2WSC
Loggers	Vancouver	2WSC		2WSC or 1-Rbt
Loggers	Main	2WSC		2WSC or 1-Rbt
Loggers	Victoria	2WSC		2WSC
Loggers	Winnipeg	2WSC		Signal or 1-Rbt
Loggers	Pemberton	2WSC	1-Rbt	Signal or 2-Rbt
Cleveland	Bailey	2WSC	Restrict LT	Restrict LT or 1-Rbt
Pemberton	Pemberton	2WSC		2WSC
Laurelwood	Coho Rock	2WSC		2WSC or 1-Rbt
Laurelwood	Channel	2WSC		M-AWSC or 1-Rbt

Legend:

•

- 2WSC Two-way Stop Control
- 1-Rbt / 2-Rbot Single-Lane / Dual-Lane Roundabout •
- AWSC – All-way Stop Control

- M-AWSC - Multi-Lane All-Way Stop Control (Note: ISL do not recommend M-AWSC)

islengineering.com





#### Scenario 4 Identified Issue

The 2041 Future Land Use, 50% Auto, Future Network has only one intersection with a v/c ratio over 100%, which is the proposed new roundabout at Loggers Lane / Pemberton Avenue.

The model volumes for the proposed Loggers / Pemberton single-lane roundabout were first assessed using Exhibit 4.6 in the *NCHRP Report 672 Roundabouts: An Informational Guide*. It includes equations for estimating the capacity of roundabouts using only entry and conflicting volumes. We then used these equations to calculate the volume-to-capacity (V/C) ratios of the roundabout approaches as shown in Table 1.5.

Approach	Entry Volume	Conflicting Volume	Entry Capacity	V/C Ratio
NB	403	673	577	0.70
SB	751	331	812	0.92
EB	652	833	491	1.33
WB	343	783	517	0.66

#### Table 1.5 Downtown Entrance Study Proposed Loggers / Pemberton Single-Lane Roundabout (NCHRP)

The model volumes for the roundabout were assessed again using Sidra, a traffic engineering software specialized in analyzing roundabouts. Delays, level-of-service (LOS), V/C ratios and queue lengths are reported in Table 1.6.

										APPR	OACH								
Horizon	Scenario	MOE	Eastbound			Westbound				Northbound				Southbound				OVERALL	
rear			EBL	EBT	EBR	Total	WBL	WBT	WBR	Total	NBL	NBT	NBR	Total	SBL	SBT	SBR	Total	OVERGEE
Av	ailable Storage / Lane	Length (Metres)				-							55	-				-	-
	EQ9/ Auto Mada	Applied Volume	400	286	5	692	266	93	13	373	5	438	295	738	23	616	177	816	2619
	50% Auto Mode	Delay (s / veh)	69	63	64	66	11	6	6	10	10	4	6	5	12	6	7	7	23
2041	2041 Notwork	LOS	F	F	F	E	В	А	Α	Α	В	Α	Α	Α	В	Α	Α	Α	C
	Reported Layout	Volume / Capacity Ratio	1.07	1.07	1.07	1.07	0.42	0.42	0.42	0.42	0.44	0.44	0.39	0.44	0.77	0.77	0.77	0.77	-
Proposed Layo	Proposed Layout	95th %ile Queue (m)	275	275	275		22	22	22		29	29	22		73	73	73		-

#### Table 1.6 Downtown Entrance Study Proposed Loggers / Pemberton Single-Lane Roundabout (Sidra)

This analysis does produce different issues compared with those identified during the Downtown Transportation and Entrance Study, likely as a result of model recalibration and land use updates.

The differences and solutions likely warrant further analysis to fully understand. For example, the eastbound congestion may move more traffic than the model predicts through the Third Avenue extension. In the model, the 30 km/h posted speed on Buckley Avenue in front of the school is thought to be discouraging traffic from this route, so congestion downtown may still be preferable to routing additional traffic along the school frontage.

This analysis highlights the importance of the Loggers / Pemberton intersection as the District makes changes to the Downtown entrance, as well as the need to redistribute some traffic to the Third Avenue Bailey-Buckley connection to maintain reasonable performance metrics.





#### APPENDIX A MODEL LAND USE

#### Memorandum



		_		Exis	ting (2	2022)		-		Future (2041)								
NO	SFDU	MFDU	Retail	Service	Gov	Industrial	Home	Hotel	University	SFDU	MFDU	Retail	Service	Gov	Industrial	Home	Hotel	University
101	0	4	166	40	16	10	4	0	0	0	220	208	206	48	10	143	0	0
102	0	83	186	82	0	7	26	0	0	0	148	226	267	0	7	47	0	0
103	0	0	1	9	39	0	24	0	0	0	0	1	9	78	0	0	0	0
104	0	0	13	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0
105	0	0	18	0	7	0	0	0	0	0	0	18	0	14	0	0	0	0
106	0	2	5	6	141	0	1	0	0	0	2	5	6	365	0	1	0	0
107	5	289	0	0	0	3	124	0	0	5	418	0	8	0	3	179	0	0
201	0	128	162	215	13	14	78	24	0	0	269	195	215	23	14	163	24	0
202	0	71	121	58	5	17	34	0	0	0	117	121	58	15	17	55	0	0
203	0	180	35	165	51	11	66	106	0	0	312	35	165	102	11	114	106	0
204	0	5	9	5	0	0	1	0	0	0	206	62	101	0	0	57	0	0
301	0	282	24	7	0	12	156	0	0	0	282	24	7	0	12	156	0	0
302	0	0	0	5	0	0	0	0	0	0	0	0	5	0	0	0	0	0
401	2	119	47	75	4	52	93	0	0	2	172	59	75	34	52	134	30	0
501	0	481	26	14	0	2	241	0	0	0	546	26	14	0	2	274	0	0
502	94	45	0	21	31	1	93	0	0	94	275	0	21	31	1	248	0	0
503	55	245	0	22	3	0	198	0	0	55	275	0	22	6	0	218	0	0
504	0	26	0	0	0	0	56	0	0	0	311	0	0	0	0	202	0	0
601	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
602	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
701	0	502	0	0	0	0	180	0	0	0	701	59	0	0	0	400	0	0
702	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
703	0	2	0	0	0	42	4	0	0	0	800	672	1562	0	42	520	200	0
704	0	8	0	0	0	0	0	0	0	0	1566	0	0	0	0	892	0	0
705	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
706	0	0	0	32	0	0	0	0	0	0	0	0	32	0	0	0	0	0
707	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0
708	0	0	7	1	0	0	0	0	0	0	0	7	1	0	0	0	0	0
709	0	0	0	0	0	9	0	0	0	0	0	0	0	0	29	0	0	0
710	0	1	0	11	0	4	0	0	0	0	960	59	11	0	4	547	0	0
711	0	0	2	0	0	9	0	0	0	0	0	2	0	0	9	0	0	0
801	36	61	36	9	0	2	99	0	0	36	121	36	9	0	2	102	0	0
802	5	0	79	8	44	16	2	0	0	5	0	79	8	88	16	2	0	0
803	28	331	0	0	0	0	199	0	0	28	331	0	0	0	0	199	0	0
804	2	176	0	6	0	2	148	0	0	2	176	0	6	0	2	148	0	0
805	69	289	0	20	18	0	214	0	0	69	386	0	20	18	0	272	0	0
806	0	112	7	57	0	0	34	111	0	0	362	7	57	0	0	206	111	0

#### Memorandum



				Exis	ting (2	2022)				Future (2041)								
NO	SFDU	MFDU	Retail	Service	Gov	Industrial	Home	Hotel	University	SFDU	MFDU	Retail	Service	Gov	Industrial	Home	Hotel	University
807	93	107	0	36	0	0	112	0	0	93	427	43	36	0	0	292	0	0
808	0	75	22	31	13	2	49	0	0	0	90	22	31	26	2	59	0	0
809	0	0	15	88	1	3	3	52	0	0	0	15	579	11	3	0	52	0
810	0	0	168	65	0	8	3	0	0	0	0	168	1013	10	8	0	0	0
811	138	97	30	62	1	2	193	1	0	138	571	80	62	10	2	582	1	0
812	146	96	35	42	0	0	145	0	0	146	241	64	42	0	0	232	0	0
813	206	14	0	29	0	0	155	0	0	206	44	0	29	0	0	176	0	0
814	181	13	0	3	0	1	217	0	0	181	43	0	3	0	1	146	0	0
815	710	91	0	8	60	0	672	0	0	730	560	23	8	120	0	1082	0	0
816	356	34	0	9	88	6	207	0	420	373	611	23	9	249	6	522	0	420
817	1	4	31	0	0	41	7	0	0	1	4	31	0	0	41	3	0	0
818	0	312	1	3	0	0	201	0	0	0	312	1	3	0	0	201	0	0
819	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0	0	0	0
901	0	0	0	9	0	0	0	27	0	0	0	0	9	0	0	0	27	0
902	0	0	0	8	0	0	0	0	0	0	0	0	8	0	0	0	0	0
903	0	6	0	0	0	0	0	0	0	0	291	26	0	0	0	166	0	0
904	113	8	0	0	0	0	81	0	0	113	8	0	0	0	0	81	0	0
905	435	48	20	32	44	5	357	0	0	435	73	20	32	88	5	375	0	0
906	223	189	0	1	0	0	278	0	0	223	514	0	1	0	0	497	0	0
907	51	6	0	3	137	0	43	0	0	51	6	0	3	274	0	43	0	0
908	0	2	37	3	40	0	1	0	0	0	2	37	3	80	0	1	0	0
1001	179	12	0	0	0	0	146	0	0	179	22	0	0	0	0	154	0	0
1002	104	7	10	11	124	0	129	0	0	364	337	43	11	248	0	456	0	0
1003	320	174	11	16	0	2	369	0	0	320	184	11	16	0	2	377	0	0
1004	345	66	9	16	0	1	278	0	0	380	112	9	16	0	1	333	0	0
2001	0	0	0	3	23	0	8	0	0	0	0	0	3	46	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	6	0	12	17	1	2	0	0	0	272	33	40	57	55	155	0	0
2004	13	245	0	15	0	0	201	0	0	13	445	0	15	0	0	357	0	0
2005	15	2	0	3	0	5	27	0	0	15	396	0	3	0	5	267	0	0
2006	109	9	0	0	0	0	81	0	0	179	739	23	0	0	0	632	0	0
2007	1	4	0	0	0	0	0	0	0	1	251	0	0	0	0	144	0	0
2008	0	1	0	0	0	15	4	0	0	0	1	0	0	0	15	1	0	0
3001	0	0	0	0	0	0	0	0	0	0	60	0	0	100	0	34	0	0
3002	96	456	11	20	0	3	388	0	0	96	736	11	20	0	3	585	0	0
3003	0	0	0	0	26	0	4	0	0	0	0	0	0	26	0	0	0	0
3004	0	0	0	0	44	79	3	0	0	0	0	0	0	88	403	0	0	0

#### Memorandum



	Existing (2022)									Future (2041)								
NO	SFDU	MFDU	Retail	Service	Gov	Industrial	Home	Hotel	University	SFDU	MFDU	Retail	Service	Gov	Industrial	Home	Hotel	University
3005	1	0	95	38	0	118	0	107	0	1	0	95	38	0	371	0	107	0
3006	0	0	186	112	0	226	11	0	0	0	0	186	112	0	300	0	0	0
3007	0	0	102	50	0	246	40	87	0	0	0	102	50	0	342	0	87	0
3008	169	43	0	3	7	0	225	0	0	169	83	0	3	14	0	164	0	0
3009	0	0	15	0	0	18	0	0	0	0	0	15	0	0	103	0	0	0
8001	1	0	0	0	0	15	0	0	0	1	0	0	0	0	15	0	0	0
8002	5	1	0	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0
8003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8004	0	0	0	0	0	0	0	0	0	16	305	0	0	0	0	183	0	0
8005	0	0	0	0	0	0	0	0	0	16	305	0	0	0	0	183	0	0
9001	86	25	0	3	17	4	69	0	0	86	25	0	3	34	4	69	0	0
9002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9003	1	0	3	0	0	51	22	10	0	1	0	3	0	0	1436	1	10	0
9004	9	1	0	0	0	1	6	0	0	9	1	0	0	0	1	6	0	0
9005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9006	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9007	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
9008	0	0	6	0	0	3	0	0	0	0	0	6	0	0	3	0	0	0
9009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9010	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0

# Appendix C

# Round 1 What we Heard Report

# WHAT WE HEARD REPORT





2023 Transportation Master Plan



# CONTENT

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# ABOUT THE TRANSPORTATION MASTER PLAN

Beginning in November of 2022, the District of Squamish and ISL<sup>1</sup> began a project to update the District's Transportation Master Plan. With this new plan, we want to improve different transportation choices by providing:

- · safe and comfortable active transportation networks for people who walk, wheel, and cycle
- · an accessible, affordable, and efficient transit system
- · appropriate road network improvements with a focus on safety and connectivity

#### Considerations to making the transportation system work for everyone

We are considering all modes of transportation:

- walking
- cycling
- rolling (i.e., skateboard/scooter, strollers etc.)
- We are seeking positive short- and long-term outcomes, such as:
- future growth
- transportation emission reductions
- community and individual health improvements

- taking the bus
- driving a car
- commercial transportation
- neighbourhood connectivity
- diverse transportation options
- fair access to transportation

The updated plan will guide the development of a safe, efficient, and balanced transportation system that meets the needs of everybody in the community. When the Plan is complete the District will have a list of recommended transportation infrastructure improvements and a plan to complete these capital projects.

For more information about the Transportation Master Plan, please see squamish.ca/transportation2040



<sup>1</sup> ISL is a locally based engineering firm that provides transportation planning services.

# INTRODUCTION

In the first phase of our engagement process, we heard from community members and representatives from community organizations and government agencies.

We invited everyone to share their transportation experiences and ideas to inform the development of a safe, efficient, and balanced transportation system that meets the needs of everybody in the community.

We heard about:

- transportation experiences, needs, and challenges
- · ideas for future improvements
- transportation priorities
- ideas for a future vision of transportation in Squamish

#### We heard from approximately 820 people!

Thank you to everyone who shared their experiences and ideas with us. Your feedback will help us update the Transportation Master Plan and inform our recommended transportation infrastructure improvements.

We held community pop-up events, individual meetings with community organizations and government agencies, a Community Advisory Group meeting, and created an online community survey. We also heard from people through email correspondence. This report shares everything that what we heard during the first engagement phase of this process.



# WHO IS THIS REPORT FOR?

# Do you care about transportation in Squamish? Are you interested in the community's experiences of transportation and ideas for improvements in Squamish? If so, this report is for you!

This report is for anyone who would like to learn about what we heard during our first phase of engagement (See below table that describes our different phases). The first phase of engagement is complete and this report shares what we heard from everyone. We heard a wide-range of community-identified transportation experiences, needs, challenges, priorities, and ideas. The project team will be considering this information in Phase 2 and the final Plan.

#### Project overview and process:

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This What We Heard Report was created in Phase 1

#### PHASE 1: UNDERSTANDING

- Review Background Documents
- Engagement: Carry out the first phase of engagement to learn about community ideas, needs, challenges, and priorities
- Data collection and transportation model development and analysis

#### PHASE 2: ENVISIONING

- Engagement: Carry out the second phase of engagement on preliminary recommendations and options
- Prepare cost estimates and funding options
- Potential transportation options
- · Costs and priorities
- engagement on technical review Transportation model analysis

Working group and stakeholder

 Draft report with options and longterm funding strategies

#### **PHASE 3: PLANNING**

 Working group and stakeholder engagement on a Draft Transportation Master Plan

#### **PHASE 4: IMPLEMENTING**

• Final Transportation Master Plan & Implementation

# HOW TO READ THIS REPORT?

There are five key sections in this report. Please check out any of these five sections that may interest you:

- 1. Snapshot of Key Findings
- 2. What We Heard
- 3. What We Did
- 4. Who We Heard From
- 5. Next Steps

The Snapshot of Key Findings section provides you with a summary of what we heard from everyone. If you would like to dive deeper, the What We Heard section gives you a detailed summary of each engagement activity and many key findings.

The What We Did section will tell you about the general questions we asked, what engagement activities we carried out, and how we communicated what we were doing.

The Who We Heard From section provides you with detailed information about what demographic groups we heard from. In this section, all information was gathered from the online survey.

We asked demographic information because this helps us know if we heard from diverse groups of people in our community. We recognize that transportation affects everyone, and people are affected in different ways. We want to lessen transportation challenges and better meet transportation needs.

The Next Steps section will tell you what we will be doing in the next phases!



# **SNAPSHOT OF KEY FINDINGS**

This snapshot of findings shares some overall key themes that emerged from phase 1 of engagement. We describe what people said about:

- active modes of transportation: walking, cycling, and rolling (i.e., skateboard/scooter, strollers etc.)
- transit
- driving

These are some key findings, but it is not an exhaustive list. Please see the What We Heard section if you would like to read a more detailed summary.

## **ACTIVE MODES OF TRANSPORTATION**

We heard that walking, cycling, and rolling matters in Squamish. The majority of people said that active modes of transportation are one of the most important things about the transportation network.

#### **Current and Future Use of Active Modes of Transportation**

The majority of people said that they walk and cycle and would like to walk/cycle more.

Many people walk for two top reasons:

- to reduce their carbon footprint
- · to save money

Many people cycle for two top reasons:

- to improve their health
- to save money

To find out more, see Walking (Page 18) or Cycling/Rolling (Page 23) in the What We Heard section.

#### **Active Modes Challenges**

People described many transportation challenges that prevent them from walking, cycling, and rolling (i.e., scooters, wheelchairs, strollers etc.) more. They said that, if they had the accesible and safer active transportation infrastructure, then they would walk, cycle, and roll more. The following are some of the key challenges that they described:

#### Sidewalks

- there is an absence of sidewalks in residential neighborhoods
- many sidewalks are not well-maintained, connected, or well-lit
- there is a shortage of accessible and inclusively designed sidewalks for people who use scooters, wheelchairs, strollers, and various mobility aids

#### **Walking Distances**

 retail areas and community facilities are not in comfortable walking distance, especially in residential neighbourhoods

#### Crossings

• pedestrian and cyclist crossings do not have proper signage and lighting

#### Multi-Use Pathways (MUPs)

- there is no division between cyclists and pedestrians on MUPs.
  - » people feel unsafe on MUPS and this prevents their frequent usage of MUPs

#### **Bike Lanes and Paths**

 narrow, unprotected, and disconnected bike lanes and paths in residential areas and downtown Squamish are a key challenge

#### **Bike Parking and Storage**

 there is an absence of secure bike parking (e.g., bike racks) and storage in key locations (e.g., Downtown Squamish) and in retail areas

#### Winter Weather

• especially during the winter, it's more difficult to walk and cycle due to inadequate snow removal on streets, sidewalks, crossings, and pathways

#### Ideas for Improvement and a Future Vision for Transportation in Squamish

Community members would like to see active transportation improvements to enable them to walk, cycle, and roll more in Squamish. They request improvements to sidewalks, crossings, MUPs, and bikes.

Almost half of community members stated that they would prefer to get around by bicycle as opposed to using other modes of transportation.



#### Future Vision of Transportation in Squamish

Through the online survey, most people said that the top three words that they would like to see in the Transportation Master Plan vision statement are: Bikeable, Walkable, and Safe. To see these results, go to: Community Vision (Page 45) in the What We Heard section.

## TRANSIT

#### **Current and Future Use of Transit**



Some people (42%) said that they use transit or would like to use transit more. And, some people said that they use transit for two top reasons:

to reduce their carbon footprint
 to save money

To find out more, see Transit (Page 29) in the What We Heard section.

#### **Transit Challenges**

Many people described transit-related challenges, such as infrequent bus service, an inconvenient bus schedule, and long wait times. The following are some of the key challenges that they described:

#### **Bus Routes**

 long bus routes are inconvenient and inefficient in Squamish, discouraging people from wanting to take transit

#### **Bus Schedules**

 Transit infrequency and the absence of bus service in the early morning and late evening prevent people from riding the bus

#### **Bus Shelters and Stops**

- people do not feel safe, protected, or able to wait for buses due to a lack of bus shelters and benches
- some people must walk long distances to get to a bus stop

#### **Regional Transit**

 there is a lack of affordable and efficient transit options to Whistler and cities in Metro Vancouver (e.g., West Vancouver, North Vancouver, Horseshoe Bay, and Vancouver) preventing people from commuting to work by transit

#### Ideas for Improvement and a Future Vision for Transit

People shared a range of ideas to improve their experiences using transit and enable them to use transit more. The majority of participants requested improvements to local and regional bus routes, schedules, stops, and shelters. For more information, see Community Priorities (Page 42) in the What We Heard section.

### DRIVING

#### **Current and Future Use of Vehicles**



Over half of people said that they drive. However, the majority of people also said that they would be willing to drive less. Many people drive for two top reasons:

- · convenience when running errands and being able to make multiple trips
- · driving is easier in poor weather conditions

To find out more, see Driving (Page 34) in the What We Heard section.

#### **Driving Challenges**

People identified many challenges that impact their driving experiences. The following are some of the key challenges that they described:

#### Parking

- there is a shortage of parking in downtown Squamish and in newly developed areas
- seniors and people with mobility and accessibility challenges lack permitted parking stalls, especially downtown Squamish
- drivers inappropriately park on roadsides and over bike lanes

#### Traffic Safety and Traffic Calming Measures at Intersections

- there is a lack of appropriate signage, traffic signals, left hand turns, and safe crossings at many intersections
- traffic calming measures, such as roundabouts and speed humps, are needed at intersections where drivers roll through stop signs and do not comply with traffic signals

#### **Traffic Congestion & Volume**

- due to new developments, population growth, and commuter traffic, there has been an increase in traffic congestion and volume
- there are traffic flow issues in Downtown Squamish, at key intersections, and along Highway 99

#### **Driver Compliance**

- vehicles roll and speed through stop signs and intersections, and drivers disobey signage and traffic light signals
- vehicles speed in and around school zones and neighbourhoods

#### Ideas for Improvement and a Future Vision for Driving

Most participants requested increased parking options and improvements to intersection safety and capacity. They asked for improved traffic flow and traffic calming and safety measures to encourage driver compliance. For more information, see Community Priorities (Page 42) in the What We Heard section.

#### The Overall Snapshot of Tranportation in Squamish

This Snapshot of Key Findings provides an overall picture of current and future transportation uses, transportation challenges, ideas for improvement, and a future vision for transportation that community members shared with us! If you want to dive deeper into what we heard, go to the next section which describes findings in more detail.

# WHAT WE HEARD

This section summarizes what we heard from the public and representatives involved in community organizations and government agencies. We held community pop-up events, meetings with organizations and government agencies, a community advisory working group, and an online community survey.

# COMMUNITY POP-UP EVENTS

We held three community pop-up events and talked to approximately 89 community members. We went to:

- the Squamish Farmers Market on Saturday, February 26th, 2023, from 10:00AM 1:00PM
- the District's Budget Event at City Hall on November 28th from 5:00PM 8:00PM
- the Westwinds Senior Living Building on January 17, 2023 from 12:00PM 1:00PM

The table below summarizes comments from the Pop-Up events about how we can improve transportation in Squamish. People shared their suggested focus areas for transportation improvements:

KEY IMPROVEMENT	DESCRIPTION
Active Transportation Infrastructure	<ul> <li>improve active transportation infrastructure (See Page 40 for a list of key areas) and traffic calming measures to improve safety</li> <li>increase funding to improve walking and biking experiences in Squamish.</li> </ul>
	<ul> <li>active transportation improvements should occur with a new pedestrian bridge and connecting to the Pemberton Avenue highway underpass</li> </ul>
	<ul> <li>upgrade sidewalks with lighting and crosswalks to enhance pedestrian safety</li> </ul>
	<ul> <li>install protected bike lanes and paths, as well as bike racks at key locations</li> </ul>
Driving	<ul> <li>improve intersections with proper signage and traffic signals in and around school zones and key areas (See Page 40 for a list of key areas).</li> </ul>
	<ul> <li>develop a second emergency route out of Downtown</li> </ul>
Parking	<ul><li>create more parking spots and build parkades</li><li>improve parking regulations</li></ul>
Transit	<ul> <li>increase transit options for youth and people with mobility challenges</li> <li>» increase service hours and frequency of HandiDart</li> <li>» more affordable bus fares</li> </ul>

# MEETINGS

#### Meetings with Community-Based Organizations and Government Agencies

We held a total of 9 individual meetings with representatives from a range of community organizations and government agencies, including 8 individual meetings with the Ministry of Transportation and Infrastructure, BC Transit, BC Parks, the Squamish School District (SD48), the RCMP, CN Rail, and a joint meeting with Squamish Economic Partners Forum and Economic Leadership Team. In addition, we held one Community Advisory Meeting with representatives from the Downtown Business Improvement Association, Squamish River Watershed Society, Squamish Terminals, Squamish Offroad Cycling Association, Urban Development Institute, Community Futures Howe Sound, Chamber of Commerce, Our Squamish, Vital Signs Project, Squamish Trails Society, and Squamish Environmental Society

Community leaders and organization representatives identified the following focus areas for transportation infrastructure and service improvements:

KEY IMPROVEMENT	DESCRIPTION
Active Transportation Infrastructure	<ul> <li>install sidewalks to improve neighborhood connectivity, accessibility, and safety</li> <li>upgrade bike lanes and paths</li> <li>install bike racks at key locations</li> <li>develop safe and paved MUPs for all ages and abilities along key roadways and highways</li> <li>upgrade intersections and crossings, including installation of adequate traffic lights</li> <li>install active mode infrastructure at key intersections and crossings</li> </ul>
Climate Friendly Transportation Options	<ul> <li>increase access to electric vehicles (EV) and improve EV infrastructure to decrease single occupancy trips</li> <li>create more park and ride options</li> <li>establish complete communities and active mode infrastructure to incentivize walking, biking, and rolling to and from community facilities, workplaces, and retail nodes, parks, and recreational facilities</li> </ul>
Transit	<ul> <li>add bus shelters at key locations</li> <li>improve the frequency of bus routes to support an accessible regional and local transit network</li> <li>» consider the needs of the School District when assessing bus service improvements</li> </ul>
Road	<ul> <li>improve road design, upgrades to intersections and crossings, including traffic light upgrades.</li> <li>add roundabouts and speed humps where appropriate</li> </ul>

KEY IMPROVEMENT	DESCRIPTION
Accessibility	<ul> <li>improve HandyDart and on-demand service for people who are not able to cycle, walk, or use public transit due to mobility and disability challenges</li> </ul>
	<ul> <li>ensure equitable options for people who experience mobility and disability challenges, as well as people on low incomes.</li> </ul>
Other Considerations	<ul> <li>consider commercial transportation options for rail, shipping, and freight companies</li> </ul>
	need for more emergency access roads

### **Squamish Youth Council**

We held a meeting with representatives from the Squamish Youth Council.

#### Youth Council respresentatives identified the following:

<ul> <li>Squamish Valley/Paradise Valley</li> <li>Valleycliffe</li> <li>Garibaldi Highlands</li> <li>Recreation &amp; Park Areas: The Gondola (outside of the summer season), and Brohm, Alice, and Cat Lake</li> <li>Brackendale (in the evening)</li> <li>Boulevard Area</li> <li>Quest Campus (the new neighborhood)</li> <li>Highlands to Downtown or Brennan Park</li> <li>Commercial areas (i.e., London Drugs)</li> <li>Whistere</li> </ul>	HARD TO REACH PLACES	CHALLENGES	IDEAS
• Whistler	<ul> <li>Squamish Valley/Paradise Valley</li> <li>Valleycliffe</li> <li>Garibaldi Highlands</li> <li>Recreation &amp; Park Areas: The Gondola (outside of the summer season), and Brohm, Alice, and Cat Lake</li> <li>Brackendale (in the evening)</li> <li>Boulevard Area</li> <li>Quest Campus (the new neighborhood)</li> <li>Highlands to Downtown or Brennan Park</li> <li>Commercial areas (i.e., London Drugs)</li> <li>Whistler</li> </ul>	<ul> <li>lack of a frequent bus schedules and long routes</li> <li>shortages of parking spaces and drop off areas at Alice Lake</li> <li>congestion downtown</li> <li>challenges to arrive downtown or at Brennan Park</li> </ul>	<ul> <li>increase the frequency of buses, especially early in the morning and late evenings</li> <li>add bus routes in Paradise Valley and Valley Cliffe</li> </ul>

#### **Squamish Youth Council's Transportation Vision Statement**

We asked Squamish Youth Council, via Mentimeter, to tell us what words best describe their vision for transportation in Squamish. The top three words highlighted were: Affordable, Safe, and Reliable.





# **COMMUNITY SURVEY**

Through an online community survey, we heard from a total of 609 people. This section summarizes eight focus areas of the survey:

- 1. Access to Transportation
- 2. Walking

4. Transit

3. Cycling/Rolling

- 5. Driving
  - 6. Transportation Challenges
- 7. Community Priorities
- 8. Community Vision
- The following sections provide a detailed summary of survey responses.

# **1.0 ACCESS TO TRANSPORTATION**

#### 1.1 Access to different modes of transportation

People shared with us their diverse experiences of access to transportation. We asked people what are the different modes of transportation that they have access to. The top two modes were a gas car or SUV (81%) and bicycle (80%).



#### Other

- wheelchair
- walking
- bus
- taxi

- camper van
- modo
  - mobility scooter
  - Squamish shuttle
- intercity commuter bus
- sailboat
- airplane

rollerblades

moped

#### 1.2 Access to different modes of transportation by income

Based on the survey data gathered, we generated a snapshot of access to different modes of transportation by level of personal income.



#### **1.3 Intentions to purchase different modes of transportation**

We asked people what modes of transportation they are considering to purchase soon. The top two modes of transportation that they expect to purchase were electric vehicle (55%) and electric bicycle (37%).



<sup>308</sup> People Responded

#### Other

- cargo bike
- hydrogen car
- another vehicle

#### 1.4 Access to a transit stop within comfortable walking distance

We asked people if they have a transit stop within comfortable walking distance. The majority (87%) of people said that they have a transit stop within comfortable walking distance from their home. Some people (31%) said they have a stop within comfortable walking distance from their place of work. A small percentage (8%) said that they do not have a stop within comfortable walking distance.



# 1.4 No access to a transit stop within comfortable walking distance by neighbourhood

Based on the survey data gathered, we found that many people said that they had no access to a transit stop within comfortable distance in their neighbourhood. The highest percentage (20%) of people, who said that they have no access to a transit stop within comfortable walking distance, live in:

- · Brackendale, Ch'iyákmesh, Siyich'em, Wiwk'em
- · Garibaldi Estates, Tantalus Road, Skyridge, Kowtain
- · Hospital Hill, Valleycliffe, Crumpit Woods, St'á7mes



41 People Responded

#### 1.5 Feelings about getting around Squamish by each mode

We asked people if they feel that getting around by foot, bike or scooter, bus, or motor vehicle is easy. Almost half (45%) of people said that the strongly agree that getting around by motor vehicle is easy. Almost half (46%) of people said that they somewhat agree that getting around by bike or scooter is easy. Also, many community members (38%) said that they somewhat agree that getting around by motor vehicle is easy.



#### Getting around by...



## 2.0 WALKING

The following section summarizes community members' experiences of walking:



# 2.1 People who walk or would like to walk more

We asked if people walk or would like to walk more in Squamish. The majority (85%) said that they walk or would like to walk more. Some (15%) said that they do not walk or would not like to walk more in Squamish.

#### 2.2 Frequency of Walking

We asked people how often they walk to get around Squamish (e.g., to go to work, shop, do errands, go to school etc.). Some people said that they walk daily (25%). While others (29%) said that they walk a few days per week or a few times per month (24%). A small percentage (9% - 13%) said they walk less often or never.
# 2.3 Reasons for Walking

We asked people to tell us the reasons why they walk or want to walk more often. The majority of people (78%) said that they walk for the environment and to reduce their carbon footprint. Many people (69%) said that they walk to save money or for other reasons (56%).



- reside downtown Squamish
- to get exercise
- proximity to work and shopping areas
- no safety cycling options in the downtown area
- have a pet
- able bodied
- · walking with small children
- preference to walk to the grocery store
- for mental health and wellbeing
- · lack of access to a vehicle
- winter related cycling challenges
- hard to find parking downtown
- to take my children to school

# 2.4 Barriers to Walking

We asked people what barriers they experience when walking in Squamish. People said that the lack of sidewalks was a top barrier to walking. The majority (68%) of people said that there are no sidewalks or there are missing sidewalks where they are walking. Also, over half (53%) of community members said that the places they need to go are not within comfortable walking distance.



Sidewalks are poorly maintained

There are not enough crosswalks or pedestrian crossings signals

I worry about my personal safety (i.e., risk of crime)

- poor lighting
- absence of proper crosswalks
- lack of safety due to traffic volume, animals, and . crime
- unsafe highway crossings
- disability or mobility challenges
- walking takes longer on the safe walkable routes
- lack of connected neighborhoods
  - neighborhoods separated by the highway »
  - disconnected sidewalks from residential streets » to commercial areas
- absence of sidewalks
- ack of driver compliance (i.e., vehicles rolling through stop signs or do not obey traffic lights)

- lack of pedestrian safety near school zones
- off leash dogs
- e-bikes speed on sidewalks
- steep road grades
- lack of curb cuts
- neighborhood is close to the highway
  - no pedestrian bridge from sea and sky » neighborhood
- busy roads
- winter weather and flooding
  - lack of snow removal »

## 2.5 Barriers to walking by gender

Based on the survey data gathered, we found that a large percentage of women responded to the survey and identified many barriers to walking. Over half of women (57%) and men (53%) who responded said there are no sidewalks or missing sidewalks where they are walking. Many women (48%) said the places that they need to go are not within comfortable walking distance. A top barrier for men (43%) is that they worry about traffic safety. We also acknowledge that two community members who identify as non binary/genderqueer stated that there are no sidewalks of missing sidewalks where they are walking, and they worry about personal safety (i.e., risk of crime). One non-binary/genderqueer said that sidewalks and walking routes are not well lit.



# 2.6 Barriers to walking based on age

Based on the survey data gathered, we found that across all ages, people experience various barriers to walking. Many people said that they are concerned that there are no sidewalks or missing sidewalks where they are walking. Notably, many youth (83%) (16 to 19 years old and 15 years of younger) are concerned that the places they need to go are not within comfortable walking distance.





# 3.0 CYCLING/ROLLING

The following section summarizes experiences of cycling/rolling in Squamish.



# 3.1 Community Members who cycle or roll or would like to cycle or roll more

We asked people if they currently cycle or would like to cycle more. The majority of people (71%) said that they currently cycle or would like to cycle more. Some people (29%) said that they do not cycle or would not like to cycle more.

# **3.2 Frequency of cycling or rolling**

We asked people how often they cycle or roll to get around Squamish (e.g., to work, to shop, do errands, go to school etc.). A small percentage of people (10%) said that they cycle daily. Some people (28%) said that they cycle or roll a few days per week. Some people (32%) said that they cycle or roll a few times per month, and others less often (24%).

# 3.3 Reasons why community members' cycle

We asked people why they cycle or are interested in cycling more to get around Squamish. The top two reasons why people said that they cycle or are interested in cycling more were to improve their health (74%) and walking would take too long (70%).



- bike paths are good for getting around
- an affordable transportation options
- avoidance of traffic congestion issues
- for exercise

- · to be outdoors and on trails
- · feeling of safety
- to carry groceries verses walking
- unable to drive or do not have access to a vehicle
- · to get to school
- to go to the playground with my children
- · to give my dog exercise



3.4 Level of Confidence

We asked what statement best describes people's level of confidence when riding a bicycle or rolling with a scooter or a skateboard. The majority of people (61%) said that they are confident riding a bicycle or rolling. Some people (27%) feel concerned when riding a bicycle or rolling. A small percentage of people (12%) feel fearless riding a bicycle or rolling

# 3.5 Level of confidence cycling or rolling by gender

We asked people if they felt:

- Concerned: Riding next to traffic concerns me. I only like to ride on pathways or bike lanes physically separated from traffic.
- Confident: I'll ride on most streets but prefer pathways and bike lanes physically separated from traffic.
- · Fearless: I'll ride anywhere regardless of infrastructure, traffic volumes and speeds.

Notably, women are less confident compared to men. Non-binary people and women are more concerned than men. More men and non-binary people said they were fearless compared to women.



420 People Responded

# 3.6 Barriers to Cycling

We asked people what barriers they face cycling in Squamish. Over half of people (58%) said that bikes paths are not linked or have missing links to other areas. Many people (55%) said that weather conditions are not appealing for cycling. Also, many people (54%) said that they worry about traffic safety.



- winter weather and lack of snow removal
- lack of time
- shortage of bike routes, bike lanes, and secure racks, and storage
- lack of safe crossings (i.e., highway crossings)
- lack of streetlights
- vehicles inappropriately parking on bike lanes
- poor signage
- conflicts between pedestrians and bikers on multi-use pathways

# 3.7 Barriers to cycling by gender

Based on the survey data gathered, we found that a large percentage of women responded to the survey. Women and men identified many barriers to cycling. Many women (41%) shared that weather conditions are not appealing for cycling and they worry about traffic safety. Many men (46%) said that bike paths are not linked or have missing links to other areas. We also acknowledge that one community member, who identified as non-binary, shared that lighting is poor along bike routes, bike paths are not linked or have missing links to other areas, they worry about traffic safety, and weather conditions are not appealing for cycling.



557 People Responded

# 3.8 Barriers to cycling by age

Based on the survey data gathered, we found that across all ages, people experience diverse barriers to cycling. Many people of all ages are concerned about not enough bike parking, bike paths are not linked, traffic safety, and that weather conditions are not appealing for cycling.



# 4.0 TRANSIT

The following section summarizes peoples' experiences of transit.



# 4.1 People who take transit or would like to take transit

We asked people if they take transit or would like to take transit more. Many people (42%) said that they use public transit or are interested in using public transit more. Over half of people (58%) said that they do not use public transit or are not interested in using public transit more.

# 4.2 Frequency of Transit Use

We asked people to tell us how often they use public transit (e.g., to work, to shop, to do errands, or to to school etc.). A small percentage said that they use public transit daily (6%), a few days per week (10%), or a few days per month (15%). Some people (36%) said that they never use public transit or they (33%) use transit less often.

# 4.3 Reasons for Using Transit or Interest in Using it More

We asked people their reasons for using transit or their interest in using it more. Many people said that they use transit for the environment and to reduce their carbon footprint (51%) or low-cost relative to other modes (45%). Another reason why people (35%) said they take public transit because walking or cycling would take too long.



- a good option in winter or rainy weather conditions
- · for safety reasons
- unable to drive or do not have
  access to a vehicle
- to commute across Squamish
- · to get to school
- avoidance of traffic issues
- to meet friends

- an affordable transportation options
- to be able to commute with many children

# 4.4 Barriers to transit

We asked people what the barriers are to using public transit in Squamish. Many people (60%) said that trips take too long due to an infrequent bus schedule. Half of people (51%) said that the bus schedule doesn't align with their schedule. Almost half of people (48%) said trips would take too long on transit due to long transfers.



- unable to take pets on transit
- infrequent bus service and inconvenient schedules (i.e., early morning, late evenings, weekends etc.)
- not a convenient option for commuting with children
- passenger congestion at peak times
- · not an affordable option

# 4.5 Barriers to transit by gender

Based on the survey data gathered, we found that a large percentage of women responded to the survey and identified many barriers to transit. Some women (28%) shared that their trips would take too long due to an infrequent bus schedule and some (22%) said that the bus schedule doesn't align with their schedule. Some men (19%) said that their trips would take too long on transit due to long transfers. We also acknowledge that one to two community members, who identified as non-binary, shared that bus stops are not weather protected, they do not have access to a transit schedule, cost is a barrier, trips take too long, and the bus schedule doesn't align with their schedule.



557 People Responded

# 4.6 Barriers to transit by age

Based on the survey data gathered, we found that, across all ages, people experience barriers to transit. Notably, many youth (16-19 years old and 15 years of younger) said the bus schedule does not align with their schedule, trips would take too long on transit due to circuitous routing, and trips would take too long on transit due to long transfers.



# **5.0 DRIVING**

The following section summarizes peoples' experiences of driving.



Frequency of travel by car

We asked people how often they travel by car as a driver or passenger (e.g., to go to work, to shop, do errands, go to school etc.). Over half (55%) of people said that they drive daily, and some people (37%) drive a few days per week.



# 5.1 Reasons for Driving

We asked people why they drive. Most people (76%) said they drive because driving is convenient for running errands or multiple stops. Over half of people (60%) said they don't have to worry about the weather, and they (59%) need to drive for longer trips.



- quicker than other modes
- · easier to commute with children
- an affordable mode compared to transit
- · lack of secure bike storage and parking
- long distances to get to and from different neighborhoods
- need a vehicle for work
- winter weather conditions make it difficult to use alternative modes
- enjoyment

- · easier to commute with a pet
- · unsafe to bike because vehicles speed
- easier to run errands
- · unfriendly bus drivers
- · disability and mobility challenges
- retail nodes are not located in neighborhoods
- lack of an adequate transit schedule to other cities close by
- · steep grades make it hard to use alternative modes



# 5.2 Interest in Driving Less

We asked people if they would be interested in driving less. Many people (66%) said that they would be interested in driving less.



# 5.3 Driving concerns

We asked people what concerns they had when driving in Squamish. Many people said that the lack of or limited parking downtown (63%) and congestion downtown (54%) are key concerns.



- lack of parking downtown
- increase in congestion and volume on highways and residential roads
- lack of cyclist and driver compliance
- · large trucks
- · lack of street maintenance
- single occupancy vehicles and increasing carbon emissions
- new developments overtaking pathways
- · lack of affordability
- · no access to a vehicle

- driving conditions during the winter and inclement weather
- · lack of visibility at crosswalks and on highways
- poor lighting on streets
- · lack of police enforcement
- · inability to run errands without a car
- · lack of sidewalk connectivity
- no second egress out of downtown
- · poorly designed intersections

# 5.4 Driving concerns based on gender

Based on the survey data gathered, we found that a large percentage of women responded to the survey and identified many driving concerns. Many women (61%) said that there is a lack of or limited parking downtown. Both women (48%) and men (43%) shared that congestion downtown and on the highway is a key concern. We also acknowledge that two people, who identified as non-binary and two-spirit, shared that there is congestion downtown, lack of or limited parking downtown, and roads are poorly maintained.



**557 People Responded** 

# 5.5 Driving concerns based on age

Based on the survey data gathered, we found that, across all ages, community members experience barriers to driving. Many people said that congestion (e.g., downtown and on the highway) is a key barrier. Also, people are particularly concerned about lack of or limited parking downtown.



# **6.0 TRANSPORTATION CHALLENGES**

The following section summarizes peoples' experiences of transportation challenges.

# 6.1 Challenging Areas in Squamish

Through the Let's Talk Squamish Mapping Tool, we asked people to show us where there are transportation challenges in Squamish. We received a total of 433 pins on locations in Squamish. There were many challenges identified in downtown Squamish, as well as North and South Squamish.

Comments about locations were made on map locations and in the survey. Some of the following neighborhoods were identified by people as having transportation challenges:

- Downtown, Sea and Sky
- Valleycliff Neighborhood
- Garibaldi Highlands Neighborhood
- Brackendale Neighborhood

Some of the key locations that were identified by people on the Let's talk Squamish Mapping Tool:

- · Sea to Sky Highway
- Government Road
- Loggers Lane
- Mamquam Road

- Tantalus Road
- Buckley Avenue
- Cleveland Avenue
- Garibaldi Way

- - Skyline Drive
    - Westway Avenue

# 6.2 Biggest transportation challenges

We asked people what were the three biggest challenges getting around Squamish. People shared a wide range of walking, cycling, transit, and driving issues. The following summarizes some of the overall themes that we identified from a total of 545 responses.

#### Walking

- · lack of sidewalk and pathway connectivity
- · inadequate sidewalk maintenance
- inadequate lighting
- lack of accessible sidewalks for people with mobility issues

### Cycling

- lack of adequate bike lanes and paths and maintenance of bike lanes and paths.
- inadequate bike parking and safe storage
- · vehicles parked on bike lanes
- cyclists and drivers of electric scooters speed on bike routes
- unsafe crossings along the highway

#### Transit

- unaffordable bus fares
- infrequent and unreliable bus service and long wait times especially in residential neighbourhoods
- not enough bus stops in Squamish
- lack of bus shelters with proper lighting when waiting for buses.

#### Driving

- lack of parking options in Squamish
- high traffic volume and congestion, especially going to and from the Downtown area
- lack of driver compliance such as vehicles speeding through or not stopping at intersections

#### **School Zone**

- vehicles speed in and around school zones which compromises school children safety
- · lack of law enforcement in schools' zones
- high traffic congestion in school zones at peak times
- lack of sidewalks in key areas where school children walk to school
- inadequate bus service for school children and youth

#### Accessibility barriers

- lack of ability to walk due to missing sidewalks or inaccessible sidewalk design
- poorly designed curb cuts to get on and off sidewalks
- · inadequate sidewalk maintenance
- · lack of sidewalks
- inadequate snow removal of accessible parking spots
- · lack of accessible and handicap parking
- · poor maintenance of roads and pathways
- infrequent bus service
- no bus stops near my home

# 7.0 COMMUNITY PRIORITIES

The following section summarizes community-identified priorities gathered from the online survey.

# 7.1 Important things to consider for transportation improvements

We asked people what were the three most important things that we can do to improve transportation in Squamish. People had many ideas to share with us!

Most people shared that they would like to see improvements focused on active transportation, transit, and road infrastructure. The following summarizes the overall themes that we have identified from a total of 544 responses.

# 7.2 Active transportation

- many poeople said that active transportation improvements are important to them
- they said that we should focus on improvements to:
  - » multi-use pathways
  - » sidewalks and paths
  - » snow removal service
  - » lighting of sidewalks
  - » pedestrian and bike crossings
  - » bike lanes and paths
- people recommend planning complete neighborhoods to incentivize active transportation to and from local shops and businesses

# 7.3 Transit and ridership

- many people requested that we focus on transit and ridership in the following ways:
  - » create more frequent, reliable, and sustainable bus service
  - » make shorter bus routes
  - » add bus shelters with benches
  - » incentivize transit by creating more affordable fares and monthly passes

## 7.4 Road and traffic safety

- people recommended an increase of parking options, especially for people with mobility challenges and disabilities
- many people said traffic flow improvements, traffic calming measures, a second egress out of downtown, and road upgrades are some of their top priorities

## 7.5 School safety and transportation

- some people shared that traffic safety should include a focus on school safety, such as setting appropriate speed limits where pedestrians, especially school children, walk, ride, and roll
- people recommended installing traffic calming measures to improve safety in school zones
- some people recommend free bus passes and more affordable bus fares for school children and youth

## 7.6 Ride share and hailing

 some people requested improvements to car sharing (e.g., Evo, Modo etc.) and ride hailing options (e.g., Uber, taxi etc.)

# 7.7 Mode preferences

We asked people if they could commute to work or school using any mode (e.g., bike, transit, car, scooter, car share etc.), and if they did not have any barriers, what mode would they choose. Almost half of people (47%) said that they would prefer to bike. Some people said that they would prefer to use a vehicle (17%), walk (15%), or take a bus (8%). This is an indicator of mode shift if safe and connected transportation networks are provided for each mode.



# 7.8 People shared reasons for mode preference

Following up on people's mode preferences, we asked why they chose a specific mode over other modes. Overall, most people preferred one mode over another mode because it was efficient to get to a destination (see table on Page 44). People who used active modes of transportation shared that they preferred walking, cycling, or rolling because it helped them reduce their carbon footprint.

People, who said that their mode preference was a vehicle, had unique reasons why this was their mode of choice. They shared that vehicles are:

- · helpful when doing errands
- · convenient when driving with children
- · convenient during the winter and poor weather conditions
- · do not have to adapt to the bus schedule and infrequent bus service
- · need a vehicle for work purposes

The following table shows the various reasons why community members prefer specific modes over others:

	Walking	Cycling	Transit	Train	Vehicle	Electric Vehicle	E-bike	E-scooter
Efficient to get to a destination								
An opportunity to exercise and improve my health and wellbeing								
Safer than other modes								
Inexpensive								
A way to reduce my carbon footprint								
Enjoyable								
Helpful during the winter and poor weather conditions								
A way to commute to other cities								
A way to get around in Squamish								

# **8.0 COMMUNITY VISION**

We invited people to tell us what elements they would like to see included in the Transportation Master Plan's vision statement. They were asked to prioritize five elements that we can include in the vision statement. The top five vision statement elements were as follows: Bikeable (59%), Walkable (53%), Safe (46%), Sustainable (34%), and All Ages and Abilities (34%).



In addition to vision statement elements provided in the community survey, people shared other elements that they would like to include in our transportation vision.

# WHAT WE DID

From November 2022 to February 2023, we heard from people in various online and in-person engagement activities.

# **Engagement activities**

In Phase 1, we began our conversations by carrying out the following engagement activities:

- 3 Community Pop-Up Events
  - » Squamish Farmers Market on Saturday, February 26th, 2023
  - » District's Budget Event at City Hall, November 28th, 2023
  - » Westwinds Squamish Senior Living Building, January 17, 2023
- 1 Online Survey, including an Ideas Board and a Community Mapping Tool
  - » November 21, 2022 January 18th, 2023
- 8 Individual Meetings
  - » December 2022 February 2023, we met with the Squamish Youth Council, Squamish Economic Partners, Economic Leadership Team, Ministry of Transportation and Infrastructure, BC Parks, RCMP, Squamish School District (SD48), CN Rail, and BC Transit
- 1 Community Advisory Meeting
  - » Council Chambers on March 1, 2022

We also heard from people via email correspondence. Their feedback has been accounted for in the detailed summaries.

# What we asked

The purpose of this first phase of engagement was to ask questions and learn about walking, cycling, rolling, transit, and driving in Squamish. We asked questions regarding:

- Access to transportation
- · Current and future transportation behaviors and preferences
- Transportation challenges and barriers
- · Community ideas and priorities for transportation improvements



### 89 COMMUNITY MEMBERS STOPPED BY 3 COMMUNITY POP-UP EVENTS



### **8** COMMUNITY LEADERS AND GOVERNMENT

REPRESENTATIVES ATTENDED MEETINGS



609 COMMUNITY MEMBERS COMPLETED THE ONLINE SURVEY



### 33 COMMUNITY MEMBERS

MADE COMMENTS AND PINNED LOCATIONS ON THE MAPPING TOOL



# **Communications Tactics**

We spread the word about our engagement activities and the update to the Transportation Master Plan through:



# WHO WE HEARD FROM

We recognize that many people have distinct experiences and barriers to transportation. The following sections describe specific demographic information. We thank everyone who shared their perspectives with us. People who participated in this section of the survey were anonymous. The intention behind collecting demographic information is to understand who we are hearing from. We want to make sure that we are hearing from diverse groups in Squamish.



## Age

Most people said they were between the ages of 30 and 49.

# Number of Household Members

Most people said that they had either 2 people (34%) and 3-4 people (44%) in their household.

# Gender

Most people who we heard from identified as women (57%). Some (35%) identified as men. We asked if people identified as transgender woman, transgender man, two spirit, non-binary (gender queer), not listed gender, and don't know. One person identified as two-spirit, three people identified as non-binary and three people said that they did not know their gender identity.



# Indigenous, recent immigrant to Canada, LGBTQ2S+, and ethnic or racial minority

Some people who participated and shared their perspectives with us identified as Indigenous (1%), recent immigrants (5%), LGBTQ2S+ (5%), and visible ethnic and racial minorities (7%).



Some community members shared their identities as follows:

- · Indigenous: Métis
- Sexuality: Asexual, Bisexual
- Gender: Two-Spirit, Queer, Transgender, Gay, Lesbian, Female, and Male
- Age: Senior

- Ethnicity: Punjabi, Pakistani Iranian, Indo-Canadian, East Asian, Chinese, Asian, Filipino
- · Race: Mixed race
- · Mobility: Disabled
- Immigration Status: Immigrant



# People who experience accessibility barriers

Some people (11%) identified as a person who experiences accessibility barriers to transportation.

# **Squamish residents**

100% of people identified as someone who lives in the District of Squamish. Only two people said that they do not live in Squamish.

# Squamish residents' neighborhoods

We heard from people who live in all neighbourhoods of Squamish. We heard from people across all neighbourhoods.



603 People Responded

#### Other

• Klahanie



# Length of time living in Squamish

Approximately, the majority of people have lived at least 5 years in Squamish.

# **Housing situation**

In total, 75% own a home or condo. Some people (21%) said that they rent a home, condo, or unit.



#### Other

•

Student Housing . Hilltop House

- Market Rental housing •
- Townhouse •
- Live with parents
- Live in an RV •

# Employment

Most people (80%) who we heard from were employed.





# Neighbourhoods that people work in

The top five neighbourhoods that people work in was: Downtown (including Sea And Sky) (22%), other areas (15%), Lower Mainland (15%), Garibaldi Highlands and University Heights (7%), and North Yards, Industrial Park and Yekw'ápsem (7%).



- Work from home
- Whistler
- Vancouver
- West Vancouver
- Oceanfront
- South Parks Area
- Sea to Sky Area

- Northern BC
- North Vancouver
- Garibaldi Estates, Downtown
  and around Squamish
- Pemberton
- Government Road
- Furry Creek Squamish Valley

- Sea to Sky Corridor
- Downtown Squamish
- Burnaby
- Britannia Beach
- Alice Lake

# Frequency of working from home before the covid-19 pandemic

Most people (65%) rarely or never worked from home before the pandemic. Some people (12%) worked full time at home. Also, some people (4 - 5%) worked part time.



# Frequency of working from home

Currently, many people (43%) rarely or never work from home. Some people (21%) work full time at home. Also, some people (6% - 9%) work part time at home. This is an increase in people working from home after the pandemic.


# Personal income per year

Approximately, half of people (54%) made a yearly personally income between \$50,000 and \$149,000. The living wage of the Lower Mainland is 20.52 per hour. According to the 2020 Census, the median after-tax household income sits at \$96,000 per year in Squamish.



592 People Responded

# Ways that community members heard about the survey

The top four ways that community members heard about the survey was from a District mailed postcard (27%), District E-Newsletter (22%), Facebook (16%), and through word of mouth (13%).



### Other

- Squamish reporter
- Squamish Youth Council
- Found out through a colleague
- Chamber of Commerce
- Relative

School

# **NEXT STEPS**

Thank you to everyone who participated in this first phase of the Transportation Master Plan! We will be considering what we heard to help inform preliminary recommendations for the Plan. We will be asking the community for feedback on preliminary recommendations and options to refine in the Transportation Master Plan later in the process.

For updates and more information about this project, please see: squamish.ca/transportation2040

# **APPENDICES**

# TRANSPORTATION CHALLENGES SUMMARY

WALKING		
KEY ISSUE	DESCRIPTION	
Sidewalks and pathways	<ul> <li>Missing or no sidewalks and paths</li> <li>Lack of accessible sidewalks for people with mobility aids</li> <li>Inadequate sidewalk maintenance (i.e., snow removal)</li> <li>Lack of sidewalks near retail nodes</li> <li>Poor lighting</li> </ul>	
Pedestrian Crossings	<ul> <li>Inappropriate pedestrian crossings at key intersections and stops</li> <li>Need for a pedestrian bridge over the blind channel</li> <li>Inadequate signage</li> </ul>	
Speeding	<ul> <li>Drivers speed on roads where there are no sidewalks compromising pedestrian safety</li> </ul>	

CYCLING	
KEY ISSUE	DESCRIPTION
Lack of adequate bike lanes and paths	<ul> <li>Lack of protected and separated bike lines</li> <li>Inadequate bike path connectivity to recreational and community facilities and areas</li> <li>Lack of appropriate lighting</li> <li>Blind spots at key crossings and intersections</li> </ul>
Maintenance	<ul><li>Lack of adequate snow removal of bike lanes and paths</li><li>Bike lanes are not well maintained</li></ul>
Bike Parking and Storage	<ul><li>Vehicles park over bike lanes</li><li>Not enough secure bike parking and storage</li></ul>
Speeding	Electric scooters and bikes speed on bike routes
Bike Crossings	Crossing the highway is a safety concern

TRANSIT	
KEY ISSUE	DESCRIPTION
Bus Routes & Services	<ul> <li>Infrequent bus service and long wait times</li> <li>Circuitous routes</li> <li>Lack of reliable or no service in residential neighborhoods</li> <li>Confusing and hard to read bus schedules and inadequate bus schedules (i.e., no service after 10pm)</li> <li>Need for improved regional transit (i.e., Whistler – Squamish-Vancouver transit)</li> <li>Lack of safety on buses</li> </ul>
Bus Stops	<ul> <li>Not enough bus stops or stops placed at inconvenient locations</li> <li>Need for bus shelters</li> <li>Lack of proper lighting at bus stops</li> </ul>
Lack of affordability	Lack of affordable bus fares

DRIVING	
KEY ISSUE	DESCRIPTION
Lack of Parking Options	<ul> <li>Lack of parking options:</li> <li>» For residents and tourists during weekdays and weekends</li> <li>» For people with mobility challenges</li> <li>» For overnight parking</li> <li>» For larger vehicles and inability to enter parkades (i.e., trucks)</li> <li>» Near local businesses</li> <li>Issue of vehicles parked on the side streets, roads, and bike lanes</li> <li>Inadequate parking hours (i.e., 2 hours limits)</li> </ul>
High Traffic Volume & Congestion	<ul> <li>Congestion on/at:</li> <li>» Local streets</li> <li>» Weekends and at peak times during the week</li> <li>» Highway 99</li> <li>» Intersections with left turns</li> <li>Difficulty getting in and out of the downtown core</li> <li>The closing of Baily Street has caused traffic congestion</li> <li>Congestion caused by a high increase in population growth and lack of proper infrastructure</li> <li>Trains impede traffic flow</li> </ul>
Intersections	<ul><li>Lack of three way stops</li><li>Drivers rolling through or not stopping at stop signs and intersections</li></ul>

SCHOOL ZONE	
KEY ISSUE	DESCRIPTION
Speeding	<ul> <li>Drivers speeding in and around school zones comprises school children's safety</li> <li>Lack of law enforcement of speed limits</li> </ul>
Traffic Congestion	High traffic congestion in school zones at peak times
Intersections	School children walk along the sides of roads
Lack of sidewalks	Inadequate snow removal
Lack of appropriate public transit and school bus service	Need for bus schedule improvements for school children and youth

DRIVING	
KEY ISSUE	DESCRIPTION
Weather	Inadequate snow removal
Driver Compliance	<ul> <li>Vehicles speeding on local streets and speeding limit issues (i.e. downtown)</li> </ul>
	Distracted driving (i.e., use of cellphones)
	<ul> <li>Cyclist and pedestrian safety and accessibility is compromised by lack of driver compliance</li> </ul>
Proper Lighting	Poor lighting in the evening hours
	<ul> <li>Lack of visible Highway and street lines</li> </ul>
	Inadequate traffic lights

# COMMUNITY PRIORITIES SUMMARY

KEY ISSUE	DESCRIPTION
Multi-Use Pathways (MUPs)	<ul> <li>Create MUPs and a connected inter-City network for all active modes, including MUP design for people with mobility challenges and disabilities</li> <li>Preserve trails that might be eliminated from development</li> <li>Improve MUP design with plants, trees, and lighting</li> <li>Upgrade MUPs for use in all seasons (i.e., winter)</li> </ul>
Sidewalks	<ul> <li>Maintain sidewalks and install wheelchair friendly and inclusive sidewalk design</li> <li>Install sidewalks on busy pedestrian routes and major roads</li> <li>Upgrade and maintain existing sidewalks (i.e., widen sidewalks)</li> <li>Enhance sidewalk connectivity</li> <li>Improve downtown curb slopes for accessibility purposes</li> </ul>
Pedestrian Crossings	<ul> <li>Add proper signage at key pedestrian crossings</li> <li>Establish safer pedestrian crossings to prevent j-walking</li> <li>Install a pedestrian bridge crossing when the highway is completed</li> </ul>
Snow Removal	Improve snow removal of pedestrian crossings, sidewalks, and pathways
Lighting	Proper lighting for pedestrian crossings, sidewalks, trails, and pathways
Neighborhood Retail Nodes	Plan complete neighborhoods to incentivize active transportation to and from local shops and businesses
Bike Routes, Paths, and Lanes	<ul> <li>Improve signage along bike routes and paths</li> <li>Install protected bike lanes and add more bike lanes</li> <li>Enhance the cycling network throughout Squamish, especially to and from parks and recreational facilities</li> <li>Upgrade bike routes to accommodate e-bikes and e-scooters</li> <li>Implement e-bike sharing and incentive programs</li> <li>Install safe parking for all types of bikes, including e-bikes</li> <li>Install bike racks and secure bike parking and storage</li> <li>» Install charging stations for e-bikes and scooters</li> </ul>

TRANSIT & RIDERSHIP		
KEY ISSUE	DESCRIPTION	
Bus Routes & Service	<ul> <li>Less circuitous local routes</li> <li>Increase frequency of regional and local buses (i.e., day and nighttime hours and 24/7 service)</li> <li>» Increase commuter bus services to and from Squamish</li> <li>» Install a passenger train (i.e., a sky train)</li> <li>Separate bus lanes from other modes</li> <li>Utilize low carbon buses</li> </ul>	
Bus Shelters	<ul> <li>Add protected bus stops in a wide range of residential neighborhoods</li> <li>» Include benches</li> </ul>	
Incentivize Transit	<ul><li>Improve the affordability of fares and monthly passes</li><li>Include credit card scanners to pay bus fares</li></ul>	

ROAD & TRAFFIC SAFETY		
KEYISSUE	DESCRIPTION	
Parking	<ul> <li>Increase parking options for people with mobility challenges and disabilities (i.e., a multi-level parkade and for mobility scooters)</li> <li>Increase parking options for visitors and residents (i.e., off street parking) close to local businesses and in new residential developments and downtown</li> <li>Prevent cash in lieu of parking policies</li> <li>Do not permit drivers to park in bike lanes or on roadsides</li> </ul>	
Traffic Flow	<ul> <li>Enhance traffic infrastructure to decrease congestion and volume, especially on Highway 99 and downtown</li> <li>Create alternate local traffic routes to mitigate congestion at peak traffic times</li> <li>Upgrade lights and signals at busy intersections</li> <li>Improve sightlines for drivers to enhance traffic safety (i.e., at pedestrian crossings)</li> </ul>	
Traffic Calming Measures	<ul> <li>Add one-way streets where appropriate</li> <li>Install roundabouts and sidewalks</li> <li>Apply traffic calming measures at key intersections and neighborhoods</li> </ul>	
Second Egress	Develop a second egress out of downtown	
Road Upgrades	<ul> <li>Improve signage</li> <li>Widen streets</li> <li>Improve visibility and blind spots (i.e., street and highway lighting and lines)</li> <li>Pave roads and maintain streets (i.e., fill potholes)</li> </ul>	
Driver Compliance & Change Speed Limits	<ul> <li>Increase speed limits above 30km to improve traffic flow</li> <li>Lower speed limits to 30km in neighborhoods with no sidewalks</li> <li>Enforcement of: <ul> <li>Speed limits and distracted driving laws (i.e., school zone, highway, and e-bike speed limits)</li> <li>Do not permit drivers to roll through or ignore stop signs and traffic light signals</li> </ul> </li> </ul>	
Snow Removal	Improve	
Access to Electric Vehicles (EV)	Enhance EV infrastructure and EV car sharing opportunities	

SCHOOL SAFETY	
KEY ISSUE	DESCRIPTION
Traffic Safety improvements	<ul> <li>Set speed limits where pedestrians, and especially school children, walk, ride, and roll</li> <li>» RCMP enforcement is required near schools</li> <li>» Change speed limits to 30km in and around school zones</li> <li>Enhance active transportation infrastructure near schools (i.e., sidewalks)</li> <li>Install bus shelters and stops for school children</li> <li>Divert commuter traffic away from school zones</li> </ul>
Traffic Calming Measures	Install speed bumps in school zones
Transit	Free bus passes and more affordable bus fares

RIDE SHARE AND HAILING	
KEY ISSUE	DESCRIPTION
Car Share	Improve car sharing options (i.e., Evo, Modo etc.)
Ride Hailing	Improve ride hailing options (i.e., Uber, taxi etc.)

# **VERBATIM FEEDBACK – IDEAS TOOL**

### What are your ideas for improving transportation in Squamish?

#### Remove slip lanes and extend sidewalks

Providing sidewalk extensions reduces pedestrian crossing distances and increases th e pedestrian space. Sidewalk extensions physically and visually narrow the roadway w hile increasing the available waiting space and provide areas for street furniture and be nches, transit stops, trees, and landscaping. https://globaldesigningcities.org/publicatio n/global-street-design-guide/designing-streets-people/designing-for-pedestrians/sidew alk-extensions/

#### Raised crossings as the default downtown

https://www.toronto.ca/wp-content/uploads/2021/01/8f22-ecs-specs-roaddg-raised-cro sswalk-intersection-guideline-Jan2020.pdf

#### Bicycle detectors for crossings

Push buttons for crossing forces cyclists to the side of the road, which leads motorists t o pull up beside them, which creates a dangerous and stressful situation in which they may turn right into the cyclist. Bicycle detectors can keep them in the center of the lane where there is less ambiguity for all road users. https://nacto.org/publication/urban-bik eway-design-guide/bicycle-signals/signal-detection-and-actuation/

#### Curved ramps for elevated crossings

Where elevated crossings must be used over Highway 99 ramps with gradual curves a re much more comfortable for cyclists of all ages and abilities over the current switchba ck style https://www.mtlblog.com/montreal/montreals-rev-bike-lane-extension-to-the-w est-island-will-include-a-new-bridge-over-the-a-40 Plan for fast personal electric devices in the future. I e E-Bikes, e-scooters etc. don't make any more dan gerous dual direction bike paths.

Close Cleveland Ave (Winnipeg --> Main) to Vehicle s

### Parklets for the Corridor Trail

The Corridor trail is a bit tight if you need to stop for any reason. Some pull outs with be nches would be nice for trail users to be able to step off and chat or rest or relax and sp end more time outside without blocking the flow of traffic

#### Parking is difficult and needs a serious plan

This builds off of parklett idea suggested on the list. The concept is to move parking out side downtown in combination with shuttle service. One could even try trollies to enhan ce the image. The advantage is a series of parking lots could be purchased cheaper ou tside downtown where land is a premium. This also helps connect more people. Perha ps retail can help such as Walmart that has excess capacity. This could also help conv ert downtown area into a walker/biker friendly town by say eliminating traffic on Clevela nd Ave.

More bus' in the early morning to support for exampl e the industrial area. People start early. More often 3 bus' an hour in prime time 9-5.

Frequency

By Bylaw prohibit other than class 1 E-bikes. They a re a hazard to others on the Valley trail etc. even wh en they have power choices

Provide bus shelter, even if temporary, at the critical bus stop at Westway and Spruce.

Add a connection for bus only from Northridge Drive to Plateau Drive in order to extend bus service to Cr umpit Woods.

This will allow for servicing a bigger part of Valleycliffe as well & on the way back to Sq uamish could also take Valley Drive to come out at those lights. This would avoid Behrn er & Clarke which is already dangerous & will become much worse once Redbridge is completed.

bike lane in the industrial area that is safe (barrier b etween biker and traffic) and connected to other bik e lanes

Eg: connect up the (awesome) Loggers Land and Discovery trail bike paths with a bike path lane that crosses these and goes up to Govit St, plus a bike path along Gove stre et that is safe. Currently a line on the road that cars cross in order to park is hazardous . Many people commute along govt street - connects north yards, brackendale and bus inesses in industrial section as well as connects the existing bike paths.

### I hope part of the transportation plan is also thinking about amenities in areas that we currently need to d rive/bike/bus to get to shops

Eg: Small grocery store, deli, coffee shops in places like Valleycliffe and Garibaldi High lands. How much traffic/transportation would be reduced if you could get basic decent groceries, coffee, pub, restaurant in your neighbourhood? Rezone and rethink neighbo urhoods that are currently residential only (think Portland Oregan for examples.)

# I've heard that parking is a big problem for people in the downtown area.

How can we future proof that? Maybe car sharing services, bike programs, parking lots ...

### Transit exchange: Improved bus connections betwe en intercity and local routes

A multi-modal transit exchange would improve transfers and reduce dependence on ca rs. Currently, there are no good connections between local buses and routes to Vanco uver/Whistler. -Skylynx, Squamish Connector, and The Shred Shuttle stop at the Adve nture Centre, which isn't served by a local bus. -Squamish Connector at Garibaldi Villa ge stops at the middle of the mall, the main local bus stop is at the north end. -Whistler has their intercity bus loop next to a sheltered stop served by all local routes. -Pembert on is building a multi-modal transit hub.

#### Fixed pedestrian bridge and marina move

It would great to connect the newly developed area on the east side of the Mamquam c hannel to the downtown with a pedestrian bridge. The town should purchase or try to g et a deal with the owner of the marina that would be limited by the bridge. Maybe a lan d swap? The Brit could be tall enough to allow small boats, but taller boats would have to stay on the ocean side of the bridge. Locking the town into paying for a bridge that ra ises or pivots is to expensive

#### Extend Corridor Trail out to our lakes

I'd love to see an extension of the Corridor Trail out to Alice Lake, Cat Lake and Brohm Lake with a pedestian/bike overpass between Brohm and Cat Lake. A bike path out to the lakes would give many locals better access to our lakes in the summer and would a lso benefit Squamish Tourism. If Tofino and Ucluelet can Connect their towns via a pat h, I don't see why we can't connect our town to our lakes via a bike path.

Speed limit reduced to 40km/hr throughout all reside ntial areas of Squamish. Terrible sidewalk infrastruct ure = terrified pedestrian.

Reduce speed limits

#### Physical traffic calming

Raised pedestrian and cycle crossings along with the addition of a wide sidewalk with a bike lane that physically narrows the street. These physical additions have a far great er impact on vehicle speeds than speed limits. This should be done to Buckley/Bowen/ Queensway, Westway, Government Rd, Mamquam Rd, Garibaldi Way and Tantalus R

#### Parking lot requirements

For any parking lot with more than 20 spaces create a safe travel space for pedestrian s and bikes. Parking lots like Chieftain Center (Save On'Shoppers), Squamish Station (Nesters/Valhalla Pure) and Independent to Canadian Tire have very little accommodat ion for a pedestrian or cyclist to survive the journey from the street to the bike rack.





# Appendix D

# Round 2 What we Heard Report

# WHAT WE HEARD REPORT





# PHASE TWO ENGAGEMENT DISTRICT OF SQUAMISH TRANSPORTATION MASTER PLAN



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The District is grateful to all the participants who took the time to provide their detailed feedback during the second round of engagement. This report shares a detailed summary of the feedback gathered, which helps inform the final Transportation Master Plan.

# What's a "What the District Heard Report"?

A "What the District Heard Report" communicates the feedback and insights gathered during community engagement activities. Its purpose is to summarize the key points raised by participants, reflect their concerns and suggestions, and demonstrate how their input will influence future actions and decisions.



# **ABOUT THIS PROJECT**

The District of Squamish began developing a Transportation Master Plan in November 2022 and completed a first round of community engagement in January 2023. A second round of community engagement was carried out to determine if the draft plan was on the right track.

### What the District did

The District heard from a total of 661 participants. From January to September 2024, there were several opportunities for participants to participate and provide feedback. Participants were invited to drop by and speak with us at a pop-up or open house:

- Squamish Nation Engagement Fair: January 25, 2024
- **Pop-Up at Open Street Day:** Saturday, July 27, from 10am to 3pm (Cleveland and Winnipeg)
  - 136 participants

- Junction Park Pop-Up: Saturday, August 10, from 10am to 2pm
  - 179 participants
- Brennan Park Open House: Thursday, September 11, from 5pm to 7:30pm in the Tantalus Room
  - · 23 participants

In addition to the community events, participants were invited to take the online survey to provide feedback. The survey was open from July 25 to September 15, 2024.

- Online Survey: Thursday, July 25 to Sunday, September 15, 2024
  - 287 participants

The District also reached out to key interested parties such as the RCMP, SD48, MoTI, VCH, Squamish Nation, BC Parks, BC Transit, CN Rail, Tourism Squamish and the Community Advisory Committee to discuss the draft plan and hear feedback.



For a more detailed summary of what the District heard from the public and interested parties, go to What the District Heard section on page 9.

### How the District got the word out

We spread the word through:



### How participants heard about the survey



### What the District asked

In this second round of engagement, the District asked about participants' level of support for the draft vision, goals, and priorities, for additional thoughts participants had, and much more!

# **OVERALL KEY THEMES**

Below is a summary of the main themes and key statistics from the Phase 2 engagement process. For a more in-depth look at participants' feedback, please visit the "What the District Heard" section for further details.

# **Draft vision**

### Strong support with focus on feasibility

81% of participants supported the draft vision for Squamish's transportation future, which focuses on safety, affordability, sustainability, and reliability.

Participants highlighted the need for better transportation options like public transit, biking, and walking. Some, however, raised concerns about whether the vision was realistic and called for more specific timelines and measurable goals.

### **Active transportation**

# High support for safe and connected routes

80% of participants agreed with the proposed active transportation routes. They liked the focus on routes that are safe and accessible.

Suggestions included better lighting, more pedestrian overpasses and underpasses, and safer bike lanes. Participants also appreciated the environmental benefits and the focus on making it quick and cost effective to implement.

# **Public transit**

8

# Requests for more frequent and accessible services

67% of participants supported the proposed upgrades to public transit stops, including more frequent buses and better shelters to protect the public from the weather.

Many participants also asked for more transit stops in underserved areas like Valleycliffe and Brackendale, and for buses to run more often, especially in the evenings and on weekends.

# **Road network**

# Focus on improving safety and traffic flow

71% of participants agreed that the proposed road network improvements would help reduce traffic delays and improve safety.

Participants suggested better management of intersections, such as adding roundabouts and clearer signage. They also called for safer pedestrian crossings, improved bike lanes, and intersection improvements to busy intersections like Cleveland Avenue and Highway 99.

### **Investment priorities**

### Focus on safety and connectivity

When asked where to prioritize transportation investments, participants chose safer and betterconnected active transportation routes and road safety improvements as their top priorities.

### Key themes across feedback

- Environmental and sustainability goals: Many participants stressed the importance of reducing pollution and noise in supporting a more sustainable transportation network.
- Equity and accessibility: Participants raised concerns about how affordability and accessibility would be measured, calling for better accessible infrastructure and the aging population.
- Implementation: There was a strong desire for clear timelines, realistic goals, and collaboration between Squamish's local government and other organizations to ensure success.

### **Next steps**

This feedback will shape the final version of the Transportation Master Plan. The plan aims to balance economic growth, environmental sustainability, and equal access to transportation for all community members.

# WHAT THE DISTRICT HEARD

Below is a detailed summary of what participants shared through the online survey, at the two pop-up events, and during the open house. The summary reflects how often certain themes came up and the variety of opinions expressed throughout the process.

# **Squamish Nation Feedback**

The District engaged with the Squamish Nation, including an engagement fair where the Squamish Nation members hosted District staff at Totem Hall and provided feedback on a number of ongoing District projects and initiatives including the Transportation Master Plan (TMP). The following is an overall summary of what the Nation members shared with District staff. Key themes identified are highlighted below.

- Need for improved active transportation connections between Squamish Nation Reserves and the District's existing active transportation network.
- Need for improved transit access to Squamish Nation Reserves, including increased frequency and new stops near Squamish Nation Reserve lands.
- Safety improvements at Valley Road and Highway 99 for Squamish Nation members traveling to and from St'á7mes using all modes.
- Improved emergency access to St'á7mes.

# **Interested Party Feedback**

The District hosted meetings with several interested parties. While we did not meet directly with all organizations, we held a Community Advisory Committee workshop, where a range of organizations were invited to participate.

- RCMP
- SD48
- BC Transit
- MoTI
- VCH
- Squamish Natio
- BC Parks
- BC Transit
- CN Rail

- Chamber of Commerce
- BIA
- Tourism Squamish
- the Community Advisory Committee.

Below are some of the key themes the District heard from these groups:

**Vision and themes:** Participants emphasized the importance of thoughtful land use and creating neighbourhood centres where people can work, live and play. They also suggested adding the word "accessible" to the vision statement.

**Coordination with MoTI:** There was a focus on setting up meetings and translating higher-level goals into actionable projects, with an emphasis on identifying important projects for Squamish. Discussions touched on funding opportunities for partnerships to improve connections to Highway 99 that support housing projects.

**Speed Enforcement and Highway Use:** Discussions covered speed enforcement on the highway, the role of RCMP, and the potential need for parallel road options as Squamish grows. The challenges of enforcing speed limits on certain stretches were also mentioned. Conversations included a preference not to lower speed limits artificially where compliance is unlikely, particularly on the highway through Squamish.

Active transportation: Key points included the need for bike share programs, proper maintenance and lighting for biking and walking in winter, and safe pedestrian zones for seniors. There were also concerns about visibility at crosswalks, secure bike parking, and separating pedestrian and bike paths. Some participants were worried about cyclists riding the wrong way on bike lanes and the opportunity to improve the pathways along the dikes.

**Transit**: Participants shared that fuel pricing impacts regional transit operations and costs. They commented that while the plan supports rail service connections if opportunities arise, it does not actively pursue them due to previous challenges. They mentioned that the intersection at Cleveland/99 was highlighted as a potential area for improvement to benefit transit operations. Participants suggested including the

adventure center or finding an alternative location for regional buses to connect with local buses for frequent transit service. They emphasized the importance of having covered shelters for transit users and expressed anticipation and a positive outlook towards the development of the Garibaldi exchange.

**Policy and Enforcement:** Discussions included the Idaho stop, no right turn on red, and highway speed limits, with considerations on how these policies would be enforced and their impact on safety.

Road safety: There were various suggestions and concerns about improving road safety through design changes, such as adding chicanes, speed humps, and more lights in certain areas. The discussion included several suggestions for improving road safety and design. These suggestions focused on enhancing lighting at downtown crosswalks, upgrading Loggers Lane to provide dedicated active transportation infrastructure, and addressing issues with the timing of traffic lights at Highway 99 and Cleveland Avenue. Additionally, there were various concerns and proposals for improving road safety through design changes, such as adding chicanes, speed humps, and more lights in certain areas. These measures aim to create a safer and more efficient transportation system.

**Goods movement and vehicles:** There were discussions about supporting continued rail service, providing more off-street parking downtown, and concerns that pay parking could push more cars into residential areas. Terminal operators also expressed a desire to transport more goods by train.

**Emergency Response:** Considerations were made about how road design changes, like speed humps, would affect emergency response times.

**Additional comments:** The importance of connecting with underserved neighborhoods and proactively planning for changing demographics, including future young populations, was emphasized.

# **Public Engagement Feedback**

# Level of support for the Plan's Vision and Goals

### Vision

The District asked how much participants supported the draft vision.

### The Draft Vision:

In 2040 and beyond, everyone in Squamish has access to safe, affordable, sustainable, and reliable transportation options that contribute to our quality of life and the vibrancy of our community.

Most participants (a total of 81%) said that they generally support the vision. The following data is reflective of participant feedback from the survey and in-person engagement activities.



<sup>323</sup> participants

The District asked participants to share their thoughts on the vision, and several key themes emerged:

**Support for the Vision:** Many participants liked the draft vision, appreciating its focus on safety, affordability, sustainability, and reliability. They felt it set a good direction for future growth and community involvement. **Concerns About Feasibility and Specificity:** Some participants were concerned about whether the vision could realistically be achieved. They thought it might need to be more ambitious or specific and emphasized the need for clear details and realistic timelines to ensure it succeeds.

**Transportation and Accessibility:** Participants stressed the importance of improving transportation options like public transit, bike lanes, and pedestrian paths. They also pointed out, however, that accessibility —including those with disabilities and those who rely on cars, needs more attention.

**Environmental and Community Impact:** Many participants appreciated the vision's focus on reducing traffic and pollution. They also emphasized the need for community input and making sure the vision reflects the actual needs and preferences of residents.

**Parking and Traffic Management:** A common theme was the need for better parking options and traffic management.

**Equity and Inclusivity:** Some participants questioned how equity and affordability would be measured. They stressed the importance of considering the needs of all community members, especially vulnerable groups.

**Implementation and Collaboration:** Participants emphasized the need for clear plans on how to implement the vision and called for collaboration between different District departments. They wanted more communication on how progress will be made.

### Goals

The District asked how much participants supported each goal. Most participants generally supported all goals. The following data is reflective of participant feedback in the survey and in-person engagement activities.



### Up to 310 participants

The District asked participants to share their thoughts on the goals and several important themes emerged:

**Affordability and Accessibility:** Many participants stressed the need to make transportation options affordable and accessible. There were concerns, however, about how affordability would be measured and whether the solutions would be fair for all.

**Safety and Congestion:** Safety was a major concern, particularly for people walking and biking. Participants called for safer, more comfortable facilities. There were also worries about traffic congestion, especially downtown, and how new housing developments might make it worse.

**Parking and Transportation Options:** Many participants emphasized the desire for enough parking, especially near shops and businesses. Some were worried about new developments that have reduced parking. Some stressed the desire for more alternative transportation options like bike paths and better public transit.

### Sustainability and Environmental Impact:

Sustainability was a key focus, with strong support for reducing carbon emissions and promoting eco-friendly transportation. Some participants, however, were concerned about the practicality and cost of achieving these goals. **Regional Transportation Needs:** Some participants highlighted the desire for better regional transportation, such as more affordable and efficient ways to travel to nearby cities like Vancouver and Whistler. They also called for improved public transit and new routes to ease traffic congestion.

### **Community and Economic Development:**

Participants noted the importance of supporting local businesses and ensuring that transportation plans help the community's overall economic growth. They also wanted more community involvement and attention to the needs of different groups.

# Active Transportation Routes

The District asked for feedback on the proposed active transportation routes shown on the Active Transportation Routes Map (see below map).

### **Active Transportation Route Map**



The District asked if participants agreed with the proposed active transportation routes (see Active Transportation Routes Map for more information). Most participants (80%) generally agreed with the proposed routes.



### 283 participants

### What Participants Liked About the Active Transportation Routes

**Connectivity:** Many participants liked that the paths are well-connected and can take you anywhere in Squamish without suddenly ending on a car road. They felt the routes connect homes, workplaces, business centers, schools, and hospitals, making daily travel easier.

**Safety and Accessibility:** Many participants appreciated that the routes are designed to be safe and accessible for all ages and abilities. They liked the protected bike lanes and separation of pedestrians and cyclists from cars.

**Quick-Build Practicality and Convenience:** Many participants liked that the routes could be implemented quickly and cost-effectively. They appreciated how the proposed network accommodates various transportation options, including walking, biking, and e-bikes/e-scooters. They also liked the direct routes to main business areas and the focus on making downtown pedestrian-friendly.

**Specific Improvements:** Many participants liked the improvements downtown and the connections with Valleycliffe and Brackendale. They appreciated the Corridor Trail extension towards Alice Lake and better access to Valleycliffe from downtown. The focus on Government Road was seen as necessary since it's a central and direct route for pedestrians and cyclists.

**Environmental and Community Benefits:** Some participants liked that the routes help build community by making it easier to reach schools, stores, and parks.

### **Suggested Changes**

**Infrastructure Improvements:** Some participants suggested better lighting for bike lanes, creating sidewalks where there are none, and improving intersections to make them safer for biking. They also wanted more pedestrian overpasses and underpasses for safe crossings of Highway 99.

**Safety Concerns:** Many participants were concerned about safety and recommended speed bumps, clear signage, and better separation of electric transportation from slower, self-propelled modes.

**Biking:** Some participants emphasized the need for protected bike lanes and better connections between neighborhoods and downtown. They also wanted routes to be accessible for all ages and abilities.

**Environmental Impact:** Some participants stressed the importance of environmentally friendly travel and reducing pollutants by encouraging walking, biking, and using electric bicycles. Some suggested integrating natural landscapes and public spaces into route planning to enhance the overall experience.

Accessibility: Some participants wanted the routes to be accessible for those with disabilities and those using strollers or wheelchairs. They also suggested adding rest areas along trails and improving access to key locations like hospitals and schools.

**Safety and Weather-Related Concerns:** Some participants were worried about the practicality of active transportation in a city with a lot of rain.

### **Active Transportation Priority Routes**

The District asked participants to select up to three routes that they felt were the highest priority. The top three routes selected by participants were Queens Way and Buckley Avenue, Government Road (between Garibaldi Way and the Mamquam River bridge), and Cleveland Avenue (between Highway 99 and Bailey Street).



265 participants

### **Future Travel by Active Transportation**

The District asked if participants would choose to travel by active transportation more when these routes are completed. Most participants (85%) would travel more or possibly travel more.



283 participants

# Public Transit Stop Upgrades

The District asked for feedback on the proposed public transit stop upgrades shown on the Public Trasit Stop Map (see below map).

### **Public Transit Stop Map**



The District asked participants if they agreed with the stop upgrades and priorities on the public transit upgrades map. Most participants (67%) generally agreed. The significant number of 'not sure' responses (25%) may be attributed to the fact that many survey participants (78%) said they do not use public transit (see section below on Current Transit Use)



Strongly agree Somewhat agree Not sure Somewhat disagree Strongly disagree

### 281 participants

The District asked participants what their thoughts were on the proposed public transit stop upgrades. The following are the top themes that arose:

### What Participants Liked About the Proposed Transit Stop Upgrades

**Convenience and Accessibility:** Many participants appreciated the frequent transit route, with buses arriving every 15 minutes or less. The convenience of transfer stations and transit exchanges would make travel between neighborhoods easier.

**Safety and Comfort:** Many participants liked the safe and protected areas for waiting, with upgraded facilities including transit shelters, seats, and waste bins. The focus on lighting, weather protection, and real-time bus arrival times was also appreciated.

**Transit Exchanges:** There are mixed views on transit exchanges. Some participants see them as a good idea for consolidating and clarifying bus routes, while others are concerned about their location and the space they occupy.

### **Suggested Changes and Additions**

**Transit Stops and Shelters:** Some participants emphasized the need for more transit stops, especially in underserved areas like Valleycliffe, Brackendale, and Paradise Valley.

**Transit Exchanges:** Some suggested having transit exchanges, making it easier for passengers to navigate the transit system.

**Frequency and Convenience:** Many expressed the need for more frequent bus services, especially during evenings and weekends. They wanted buses to run every 15 minutes or less to make transit a more viable option for daily commutes.

Accessibility and Safety: Some participants expressed the need for improved accessibility for seniors and those with disabilities. There is also a focus on creating safe and protected waiting areas with proper lighting and weather protection.

### Service Optimization and Facility Improvement:

Suggestions included optimized routes, and improved facilities like transit shelters, seats, and waste bins. These improvements aim to enhance the overall waiting environment and make transit more convenient and comfortable.

### **Current Public Transit Use**

The District asked participants if they regularly use transit today. Most participants (78%) do not regularly use transit.



### 285 participants

### **Future Travel by Public Transit**

The District asked participants if they would travel by public transit more when these upgrades are completed. Most participants (74%) would or possibly would travel by public transit more.



286 participants

# **Truck Routes**

The District asked for feedback on the proposed truck routes upgrades shown on the Truck Routes Map (see below map).

### **Truck Routes Map**


The District asked participants what their thoughts were on the proposed truck routes shown on the truck route map. The following are the top themes that arose:

# What Participants Liked About the Proposed Truck Routes

Efficiency and Congestion Reduction: Many participants appreciated that the proposed routes aim to decongest main traffic areas, particularly downtown. They believe these routes will help streamline traffic flow and reduce bottlenecks, especially at key intersections like Cleveland Avenue and Highway 99.

**Operational Benefits:** Some participants shared that truck routes are seen as beneficial for reducing operating costs. They said that there is a need for efficient delivery routes and to avoid blocking driveways and congesting streets.

# **Suggested Changes and Additions**

**Truck Routes and Traffic Management:** Participants had multiple suggestions and concerns regarding establishing truck routes. They expressed the need for specific routes to avoid residential areas, the importance of emergency access routes, and the necessity of roundabouts at key intersections. Some participants highlighted the need for improved traffic flow and reduced congestion, particularly in downtown areas and near major intersections.

**Safety Concerns:** Many participants emphasized the need for safety measures such as reflective signs and clear guidance at intersections and bends. Some had concerns about the safety of bike lanes and pedestrian paths, especially where they intersect with truck routes.

**Environmental Impact:** Some participants mentioned minimizing noise and air pollution, particularly in residential areas. Some suggested that truck routes be planned with environmental protection in mind, such as reducing emissions and avoiding routes through green spaces.

**Community Impact:** Many participants worried about increased traffic, noise, and safety risks in residential neighborhoods. Some participants suggested avoiding routing trucks through areas with high pedestrian traffic, such as downtown and residential neighborhoods.

**Infrastructure Improvements:** Some participants suggested improvements, such as repairing and upgrading roads to accommodate truck traffic and building new bridges or alternate routes to alleviate congestion. Some called for better integration of truck routes with active transportation routes, ensuring that bike lanes and pedestrian paths are safe and wellmaintained.

# **Road Network**

The District asked for feedback on proposed road network and safety improvements and road network and traffic delay improvements (see both maps below).

# **Road Network and Traffic Delay Map**



### **Road Safety Improvements Map**



The District asked participants if they felt that these improvements capture motor vehicle issues related to traffic delays and safety. Most participants (71%) generally agreed.



Strongly agree
Somewhat agree
Not sure
Somewhat disagree
Strongly disagree

#### 275 participants

The District asked participants for their thoughts on road network improvements to improve safety and reduce delays shown on the road safety and traffic delay maps. The following are the top themes that arose:

# What Participants Liked About Proposed Road Network Improvements

**Road Network Expansion:** Some participants support the idea of adding new connections, such as a second road to Valleycliffe and the Highlands, to accommodate growth and improve safety.

**General Approval with Concerns:** While many people support the proposed improvements, there are concerns about the effectiveness and practicality of some measures. For example, some respondents are worried about the impact of new truck routes on residential areas and the need for better planning and coordination with the Ministry of Transportation and Infrastructure (MOTI).

#### Suggested Changes and Additions

**Traffic and Intersection Improvements:** Many participants highlighted improving traffic flow and safety at various intersections. They suggested the need for roundabouts, traffic signals, and better signage to reduce congestion and accidents. Specific intersections mentioned included Cleveland Avenue/ Vancouver Street, Alice Lake/Highway 99, and the exit from the Sea-to-Sky Gondola.

**Pedestrian and Cyclist Safety:** Some participants highlighted the need for safer pedestrian crossings and better infrastructure for cyclists. This included adding more crosswalks, improving visibility at intersections, and creating protected bike lanes. They also wanted better protection for vulnerable road users, such as children and other pedestrians near schools.

#### **Community Concerns and Suggestions:**

Participants expressed concerns about specific areas, such as the intersection of Bailey Street and Cleveland Avenue and the desire for an alternative route to Valleycliffe and the Garibaldi Highlands.

#### **Environmental and Sustainability Considerations:**

Some participants emphasized the importance of considering the environmental impact of road improvements. They focused on sustainable road improvements that are effective and long-lasting.

**Specific Requests and Feedback:** Participants had specific requests for changes, such as adjusting signal timing at busy intersections, adding dual left turn lanes, and addressing perceived issues with highway on-ramps. They also commented on the desire for better planning and optimization of road design to reduce traffic delays and improve safety. Many participants shared a range of specific requests (see Appendix A to read more).

# **District Priorities for the Highway Corridor**

The District asked what the District should advocate for as a priority with the BC Ministry of Transportation and Infrastructure and for participants to choose their top 3 priorities for the highway corridor. The top 3 priorities were general road safety improvements at highway intersections, pedestrian and bike safety at intersections, and more pedestrian overpasses and underpasses.



#### 281 participants

The District asked if they had any other thoughts on priorities for the highway corridor.

**Traffic Flow and Congestion:** Many participants suggested improving traffic flow and reducing congestion by increasing the number of lanes, adding overpasses and underpasses for pedestrians and cyclists, and generally improving intersections. Specific areas mentioned include Murrin Park, Cleveland Avenue, Alice Lake intersections, and Mamquam Road.

**Safety Enhancements:** Participants recommended better line painting, road markings, lighting, safer crossings, and dedicated paths for pedestrians and cyclists. Some called for more RCMP resources to enforce speed limits and winter tire regulations, and for the installation of speed-averaging cameras.

**Public Transportation and Alternative Routes:** Many participants want improved public transportation options, such as regional transit, connections to Vancouver and Whistler, and reduced dependency on Highway 99. **Environmental and Noise Concerns:** Some participants addressed the desire to reduce noise, dust, and emissions, as well as to protect the surrounding ecological environment. Participants suggest including the installation of noise barriers and taking effective environmental protection measures during planning and construction.

**Technological Innovations:** Some participants want intelligent traffic control systems, real-time information displays about accidents or highway closures, and the use of speed cameras for automatic traffic law enforcement.

**Community and Accessibility:** Improving access to recreational areas, schools, and other community facilities was a recurring theme. Some participants called for better parking facilities and more accessible routes.

## **Priority Areas for Investment**

The District asked if participants had to choose how to prioritize investment in transportation, what their top two areas for investment would be. The top two priorities were safer and better-connected active transportation routes and improvements to road safety. The following data is reflective of participant feedback in the survey and in-person engagement activities.



# WHO THE DISTRICT HEARD FROM

The District wanted to hear from all members of the public and diverse groups. The District asked participants more about them to know who the District were hearing from.

A note about why we ask demographic information: Collecting demographic information in a transportation master plan survey is essential to ensure that diverse voices are heard and that the plan equitably considers all community members' needs. Understanding demographics—such as age, income, ethnicity, mobility needs, and location—helps planners identify groups that may have unique perspectives, such as seniors needing accessible transit, young families requiring safe, walkable routes, or low-income residents who may rely on public transit.

# Age

We asked participants to share their age.



# Household

286 participants

We asked participants to share how many people lived in their household.



# Gender



We asked participants to identify their gender. Participants were able to select all the options.

#### 275 participants

# Equity Deserving Groups - Indigenous, LGBTQ2S, Recent to Canada, Visible Minorities

We asked participants to share if they belonged to the following groups. Participants were able to select all the options.



# Equity Deserving Groups - Participants Who Identify as Having Accessibility Issues or Barriers

Participants were asked if they had any accessibility issues or barriers that impacted on their ability to travel in the District.



282 participants

The most common reasons provided by participants who responded "Other" include:

- Families with children and youths
- Seniors with some varying accessibility barriers
- · Family members with accessibility needs

#### **District of Squamish Residents**

Participants were asked if they lived in the District of Squamish.



### **Neighbourhood Residents**

#### Participants were asked what neighbourhood they lived in.



286 participants

#### Years in Squamish

Participants were asked how long they lived in the District of Squamish.



# **Current Housing Situation**

Participants were asked to describe their housing situation in the District of Squamish. Participants were able to select all the options.



285 participants

#### **Neighbourhood Where Participants Work**

#### Participants were asked which neighbourhood they work in.



#### Other:

Some participants shared that they work from home/remotely.

# **Employment/School**



Participants were asked if they are currently employed or in school.

### **Family Income**

Participants were asked what their family income was.



<sup>285</sup> participants

# **NEXT STEPS**

Your feedback is important to us at this stage of the project. Your feedback and main themes will inform our final revision of the Transportation Master Plan. Stay tuned to see the final Transportation Master Plan at <u>Transportation Master Plan | Let's Talk Squamish (letstalksquamish.ca)</u>

# APPENDIX A – SPECIFIC REQUESTS FOR ROAD NETWORK IMPROVEMENTS

Participants shared many specific requests in regard to the Road Network. The following provide some of the specific requests shared by participants:

- **Mamquam River Bridge Intersection:** There is no roundabout or signal planned at this intersection, making it difficult for both bikers and drivers. Roundabouts are preferred along Queens Way for reducing delays and facilitating easy left turns.
- **Highway 99 and Alice Lake Intersection:** Better-controlled intersections with traffic lights are suggested for improved safety.
- Loggers Lane Downtown: The cross streets on Loggers Lane downtown should have stop signs to indicate that they are not 4-way stops. Additionally, the intersection of Loggers Lane and the highway near the adventure center is confusing and needs clearer lane markings.
- Clark Dr and Behrner Dr (Hospital), 2nd Ave and Pemberton, and Exit from Murrin Park: These intersections are missing and need to be addressed.
- **Signal Timing at Busy Intersections:** Adjusting signal timing at a few of the most used intersections to give more time to cross-traffic is suggested to improve traffic flow.
- Cleveland Avenue/Vancouver Street: This intersection needs to be clearer as it is currently dangerous.
- Westway and Guilford, 3rd and Pemberton: These intersections need roundabouts to handle traffic congestion.
- **Government Road:** Improvements are needed along Government Road, including dual left turn lanes from Mamquam Road and Garibaldi Way to Highway 99 for southbound traffic.
- **Cleveland Avenue and Bailey Street:** This intersection needs safer pedestrian crossings and roundabouts to handle traffic, especially during rush hours and peak grocery shopping times.
- **Skyline Drive and The Boulevard:** These areas in the Highlands are problematic and need improvements.
- **Highway On-Ramps:** Many highway on-ramps are very short and difficult to merge onto, requiring attention.
- **Bailey Street onto Cleveland:** This intersection needs improvement as it often takes a long time to turn onto Cleveland due to traffic.
- **Garibaldi Way Intersection:** The intersection getting into the Independent from Garibaldi Way is problematic and needs a redesign for safety.
- **Government and Judd Road Intersection:** This intersection should be flagged for improvement as Judd Road is a major artery for a large neighborhood with more development coming.





