MAPLE RIDGE

Strategic Transportation Plan Summary

MAPLE RIDGE
British Columbia

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City of Maple Ridge

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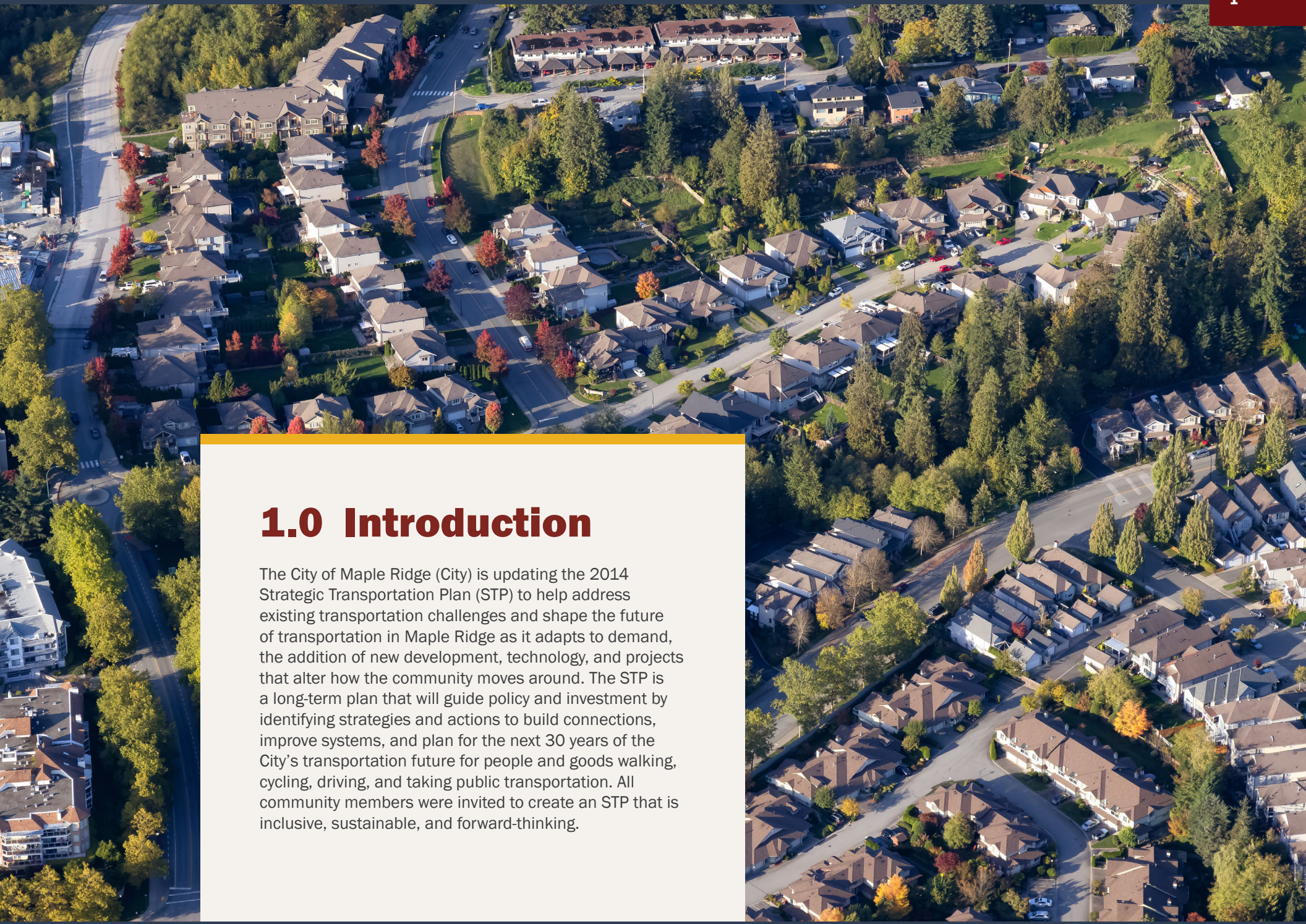
MAPLE RIDGE
British Columbia



1.0 Introduction

The City of Maple Ridge (City) is updating the 2014 Strategic Transportation Plan (STP) to help address existing transportation challenges and shape the future of transportation in Maple Ridge as it adapts to demand, the addition of new development, technology, and projects that alter how the community moves around. The STP is a long-term plan that will guide policy and investment by identifying strategies and actions to build connections, improve systems, and plan for the next 30 years of the City's transportation future for people and goods walking, cycling, driving, and taking public transportation. All community members were invited to create an STP that is inclusive, sustainable, and forward-thinking.

1.1 Background

Maple Ridge has more than doubled its population over the last 30 years and is projected to sustain a steady growth rate to nearly 125,000 people by 2050. The City has transformed from a rural community to a regional hub. Employment is expected to grow at a faster rate than population, and there is a high percentage of younger residents. These are the main drivers for the City to revise its strategy for shaping its transportation future.

The last STP was adopted in 2014 and resulted in improvements to the City's transportation network, but the community has grown and evolved, along with the transportation context. The City is due for an update to accurately inform capital planning, policy and programming, ongoing operations, and maintenance, as well as respond to policy directions in the Official Community Plan (OCP) and facilitate communication with regional partners. The STP's connection to the City's planning and policy framework is displayed in **Figure 1-1**.

WHAT IS THE STRATEGIC TRANSPORTATION PLAN?

- Update to the 2014 Strategic Transportation Plan
- Long-term plan for multi-modal transportation in Maple Ridge
- Identifies infrastructure projects
- Identifies policy and programming recommendations
- Provides an implementation plan and cost estimates

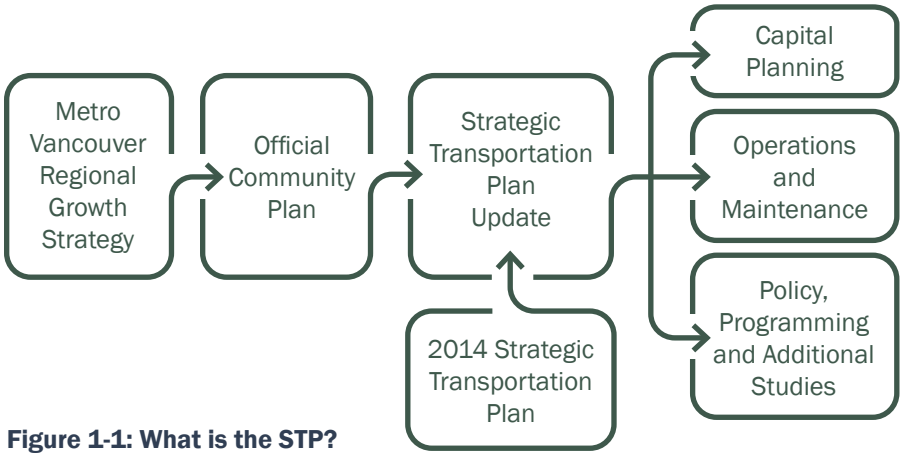


Figure 1-1: What is the STP?

1.2 Study Process

The STP update commenced in April 2021 with Council endorsement. The STP process includes five phases as illustrated in **Figure 1-2**. More details on the study process can be found in **Appendix A**.

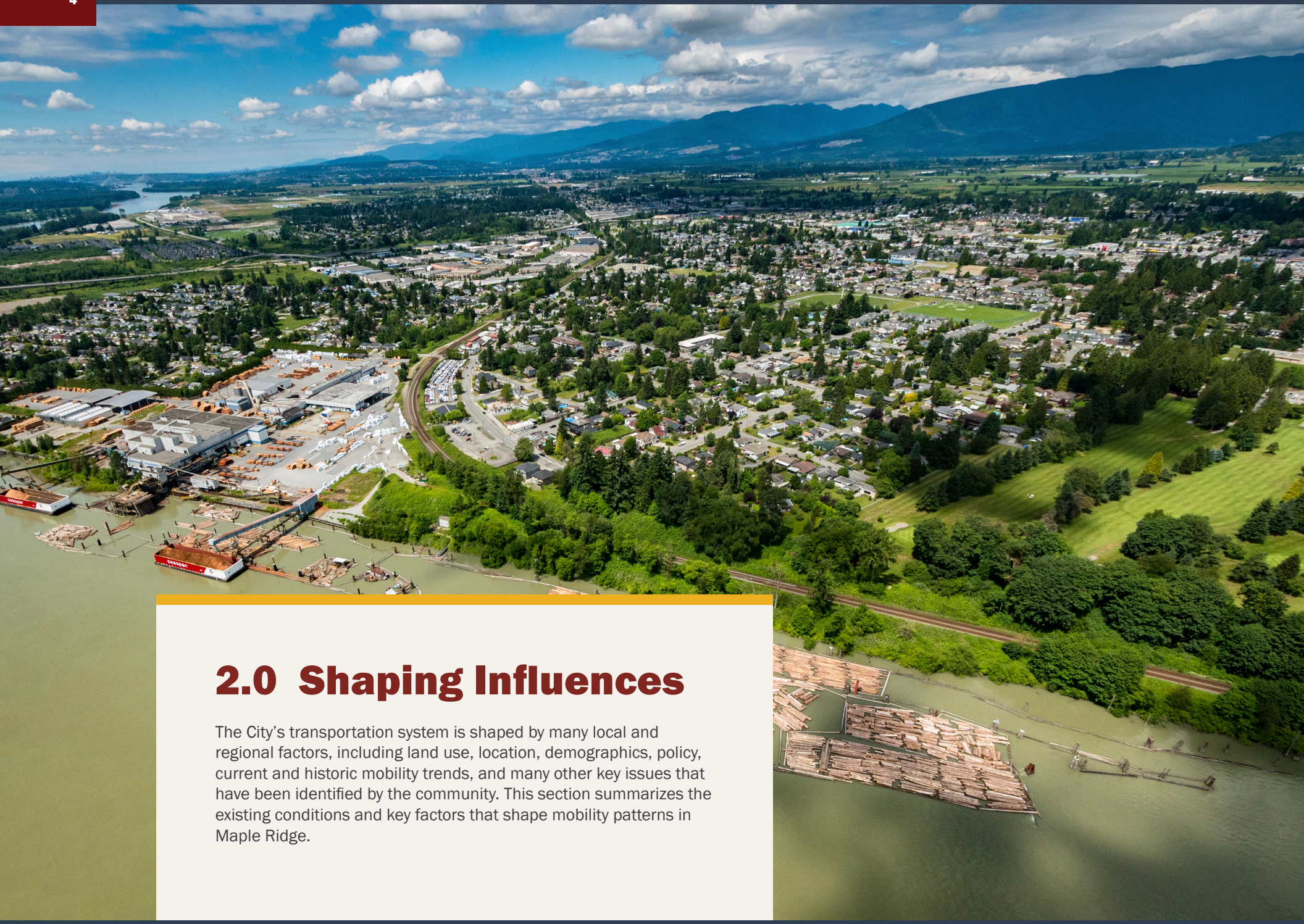
Figure 1-2: STP Study Process

1.2.1 Community Engagement

The STP is grounded in consultation with the community. The City sought feedback from a range of voices in three rounds of engagement, using the findings to shape the strategies and actions. The engagement activities are summarized in **Table 1**.

Table 1: STP Engagement Activities

Round 1	Round 2	Round 3
Identify challenges and opportunities, and understand priorities for the future	Obtain public input on the draft vision, goals, and directions	Meet with stakeholders to discuss direction, potential for partnerships, and identify gaps
• Online consultation (mapping tool and survey May 17-31, 2021) • Stakeholder groups contacted by letter • Hard copies of surveys at City Hall and distributed to difficult to reach groups • Consulted Transportation Advisory Committee	• Online consultation (mapping tool and survey November 17-December 8, 2021) • Advertised on social media, the City's website, and print • Meetings with MOTI, Fraser Health, HUB Cycling, and TransLink • Consulted several of the City's Advisory Committees	• Meetings with MOTI, Fraser Health. HUBC Cycling, TransLink, and School District 42 • Consulted Transportation Advisory Committee



2.0 Shaping Influences

The City's transportation system is shaped by many local and regional factors, including land use, location, demographics, policy, current and historic mobility trends, and many other key issues that have been identified by the community. This section summarizes the existing conditions and key factors that shape mobility patterns in Maple Ridge.

2.1 Why Transportation Matters

Transportation networks play a significant role in our daily lives as they influence what mode we choose, how far we need to travel, how long or convenient our trips are, how safe it is, how much it costs, and the experience we have while travelling. Transportation challenges can impact a community in a number of ways, especially surrounding health, sustainability, and safety. The STP can help the City respond to a number of intersecting and critical challenges, including:

2.2 Integration With Other Plans

The STP will replace the 2014 STP and will help further inform transportation decisions at different levels of planning, including the vision, goals, strategies, and actions of the City's OCP and area plans. As a result, the STP is closely linked to several other Acts, plans, and policies at the local, regional, provincial, and federal levels. These documents set the overarching goals, visions, and objectives for land use, transportation, and other key long-term planning considerations in the City and beyond. The STP looks to make recommendations in the City within these parameters.

2.3 Community Profile

The City of Maple Ridge is a community of 90,990 (Statistics Canada 2021 Census) residents in ten neighbourhoods and historic centres that span over more than 260 km^2 of land area in the northeastern corner of Metro Vancouver between the Fraser River and the Golden Ears Mountains. The City is located on the traditional, ancestral territories of the Katzie and Kwantlen First Nations.

The City is located between the growing communities of the City of Pitt Meadows and the City of Mission, and serves as a regional hub for both Metro Vancouver and the Fraser Valley due to its amenities, job opportunities, and transportation connections.

Population growth

Over the last thirty years, Maple Ridge has been one of the fastest growing municipalities in the region, more than doubling its population. It is projected this rapid growth sustain will continue to reach nearly 125,000 people by 2050 (**Figure 2-1**).

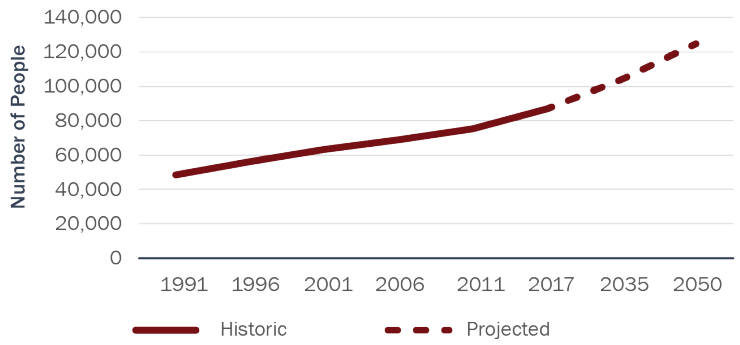


Figure 2-1: Population Growth
Source: Statistics Canada Census Data (Historic), Regional Transportation Demand Model (Projection)

Employment

Employment in Maple Ridge is expected to grow at a faster rate than population, meaning directionality of traffic could be lessened but more pressure will be placed on the local transportation network.

Density

Density is increasing in the City, especially in the Town Centre, Central Maple Ridge, West Maple Ridge, and Cottonwood areas (**Figure 2-2**). Half of the projected growth will be in the Town Centre alone.

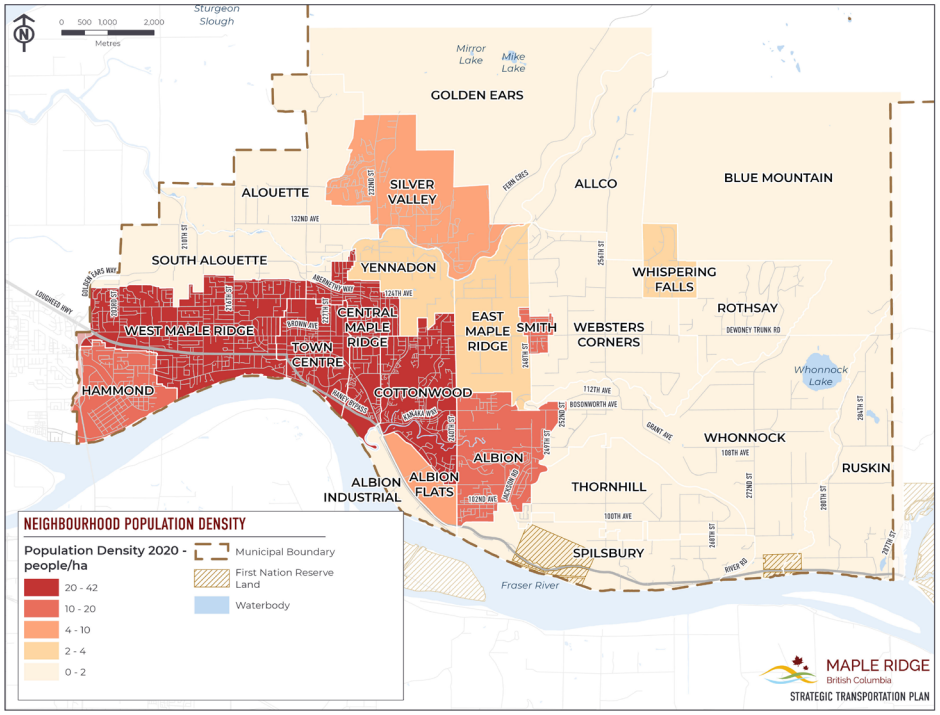


Figure 2-2 Current Population Density by Subarea
Source: Statistics Canada Census Data

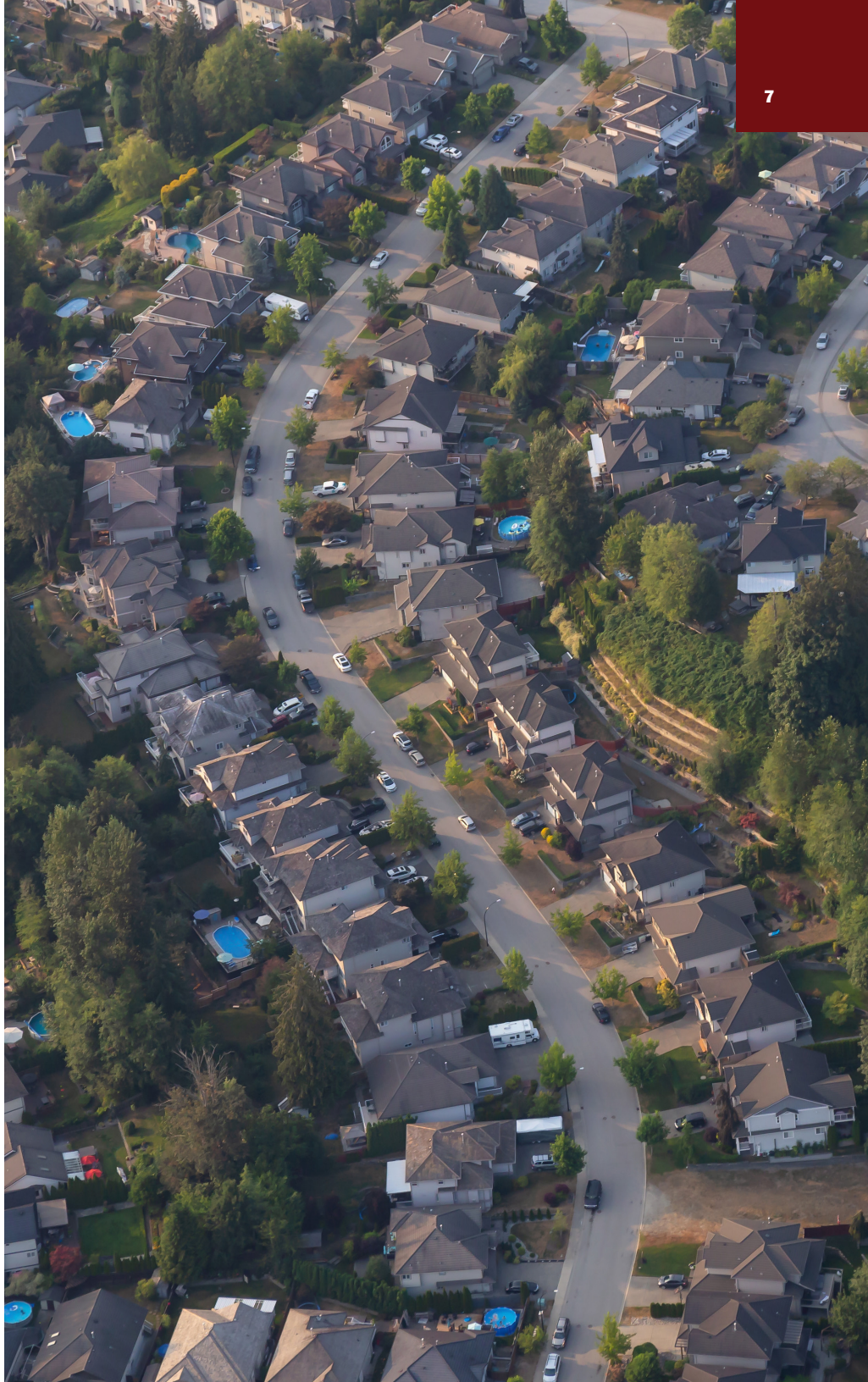
Demographics

Maple Ridge has attracted many young families and 18% of the population was 14 years old or younger in 2021; this is higher than the Metro Vancouver regional proportion of 15% of residents 14 years old or younger. The transportation network should connect schools and transit with the densest parts of the City to serve young families.

The City's current largest adult population cohort is between the ages of 50-54 years. This age cohort, along with others from the 'Baby Boom' generation are likely to require enhanced transportation options in the coming years.

Geography

Despite its growth, the City has retained its agricultural and small-town roots with 15% of its land base Agricultural Land Reserve and 60% forested area. Changing terrain and grades, especially those in the north and east, can be challenging for active transportation, transit, and heavy vehicles.

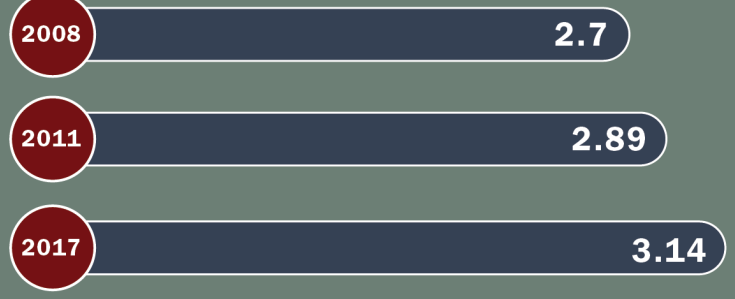


TRANSPORTATION PATTERNS

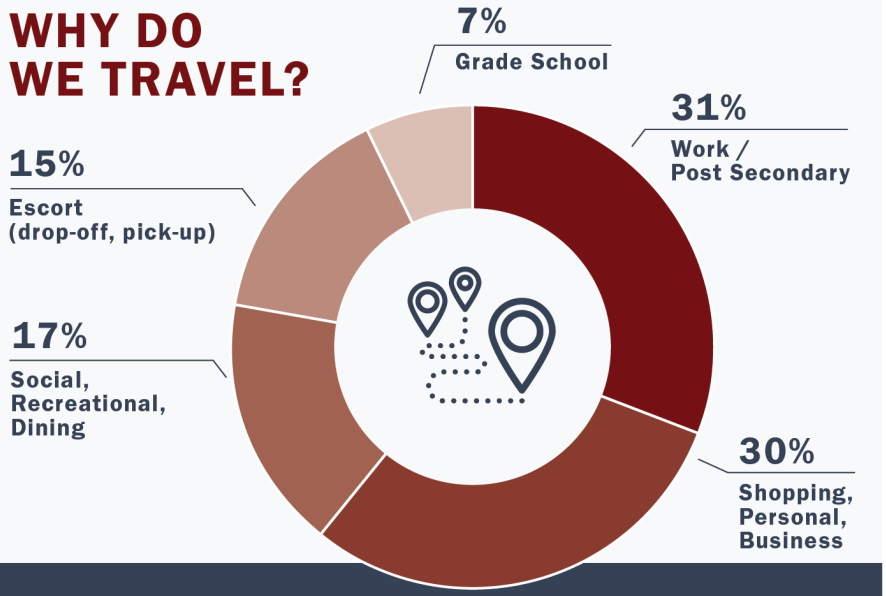
Understanding the way Maple Ridge residents travel is an important step in developing future directions, strategies, and actions.

HOW MUCH DO WE TRAVEL?

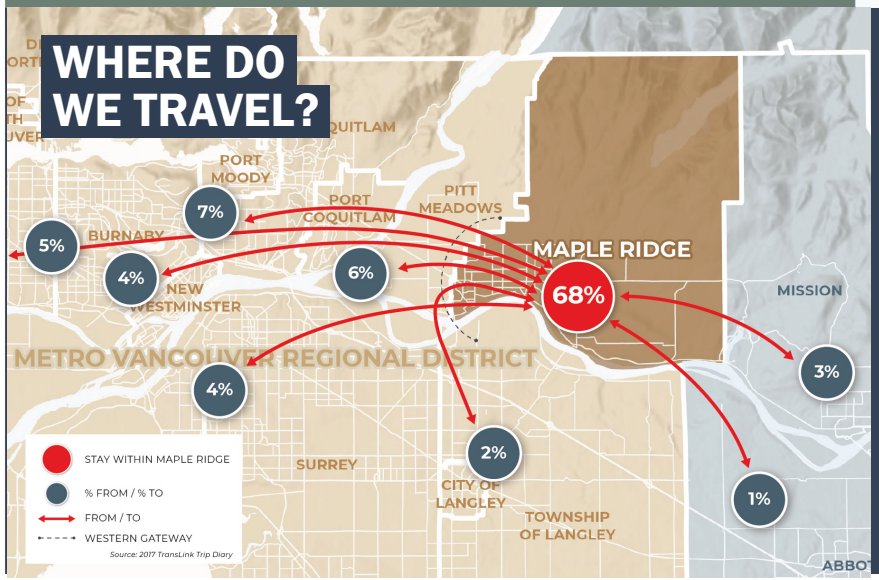
Trips per person, per day



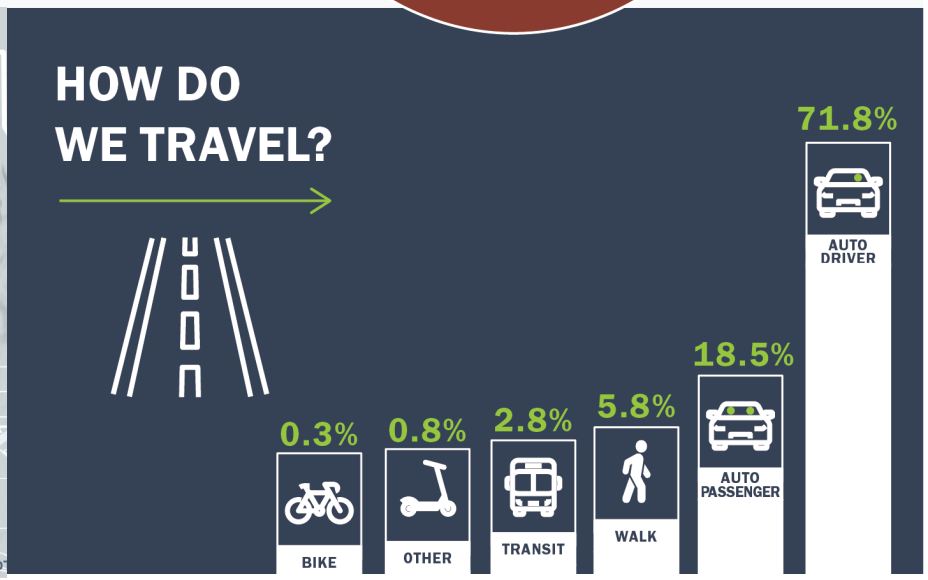
WHY DO WE TRAVEL?



WHERE DO WE TRAVEL?



HOW DO WE TRAVEL?



Source: Based on data from TransLink's 2017 Regional Trip Diary Survey.

2.4 Key Issues and Opportunities

Community Aspirations
A transportation network that meets the needs of people of all ages and abilities and all modes that creates more connectivity and reliability, safer roads for vulnerable users, and livability through integrated land use, connections to nature, and less pollution and noise.

Population & Employment Growth
Growth, combined with high driver mode share, has increased pressure on roads. New development is an opportunity to provide safe, comfortable walking and cycling infrastructure, to facilitate transit priority, and to right-size roadways and parking to improve the transportation system for everyone.

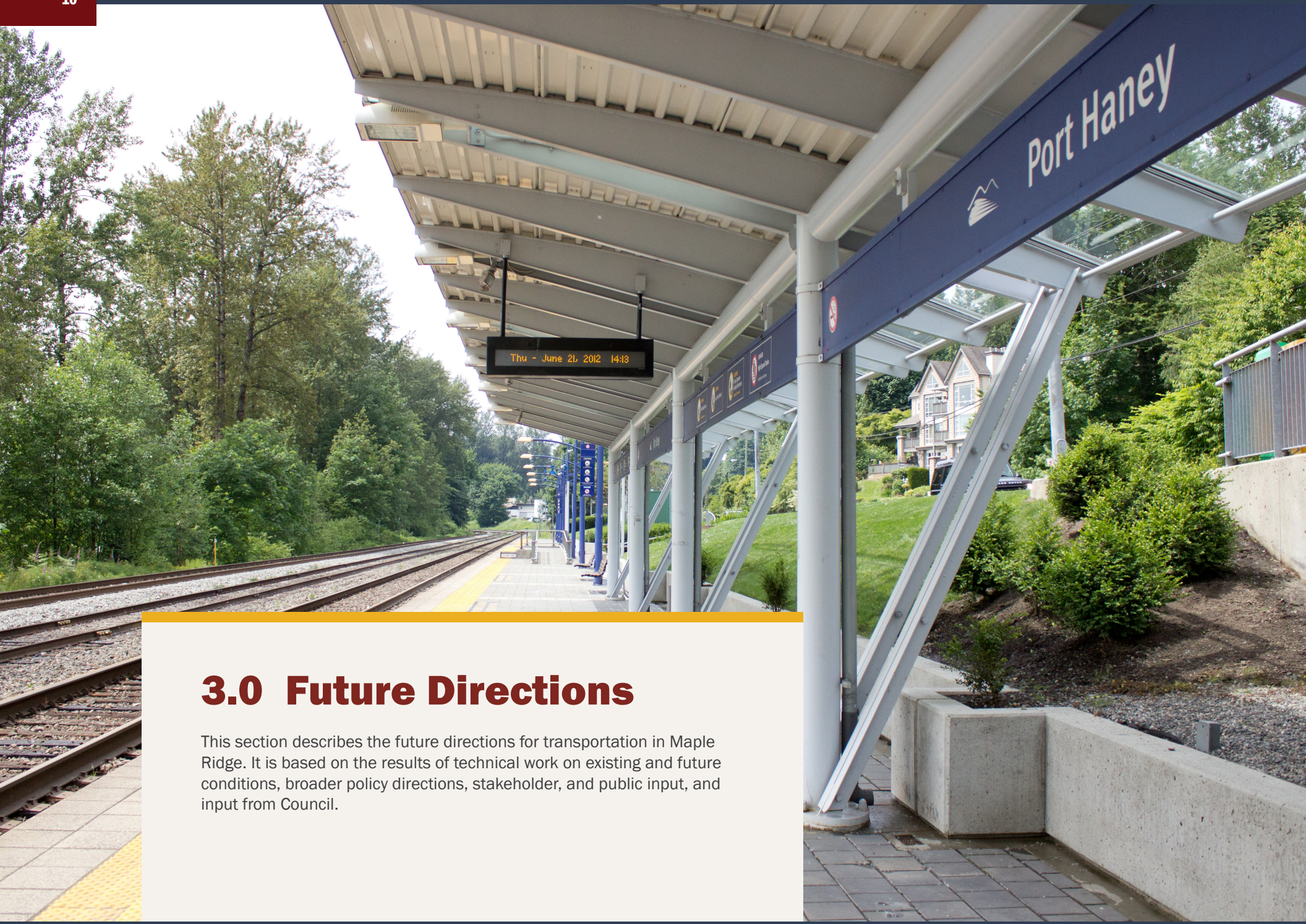
Evolving Town Centre
Home to many of Maple Ridge's senior and low-income households, the Town Centre is an important focus for investment in safe and comfortable networks that meet the needs of people of all ages and abilities.

Western Gateway
Traffic congestion and queues have increased at the western boundary of the City, creating delays for transit, drivers, and goods movement. Investments in all modes will be needed to move more people across the western gateway.

Emissions Reduction
To reduce transportation emissions, the number of vehicle kilometres traveled must be reduced and a greater share of those trips must be made by electric vehicles.

Focused Improvements
Maple Ridge has a large land mass with drainage constraints. Focusing improvements in higher density areas, and / or serving seniors, youth and other vulnerable populations can make the City's investments more effective.

Changing Technology
Transportation technology and infrastructure is changing, meaning policies and regulations need to be responsive and integrate new modes such as ridehailing, automated vehicles, and micromobility.



3.0 Future Directions

This section describes the future directions for transportation in Maple Ridge. It is based on the results of technical work on existing and future conditions, broader policy directions, stakeholder, and public input, and input from Council.

3.1 Vision

A vision statement is an inspirational framework for the City's future. A vision statement will influence how and where the City allocates its resources. The vision for the STP is:

By 2050, Maple Ridge's transportation system is safe, efficient, connected, accessible, and sustainable. Residents, visitors, and businesses can meet their daily transportation needs reliably and comfortably using their mode of choice.

3.2 Goals

Goals provide the STP more specific direction to understand which strategies, actions, and investments best align with the community's desired outcomes and address pressing existing issues.

Figure 3-1: Goals & Themes

A safe, connected, reliable, accessible, sustainable, and cost-effective transportation system is expected to have a lower proportion of trips by driving, reduce vehicle kilometres travelled per person, and to produce fewer GHGs. Decreasing driving mode share is a key lever to improving efficiency and reliability, as well as achieving other STP goals.

Transportation outcomes and GHG emissions are influenced by multiple factors, including land-use, policy, economics, public infrastructure, and human behaviour. The City is taking a comprehensive approach to address climate change as part of the Climate Action Plan, which is under development at the time of publication of the STP.

3.3 Themes, Strategies, and Actions

The strategic directions and long-term networks are organized into seven themes, all of which will be advanced in service of the goals.

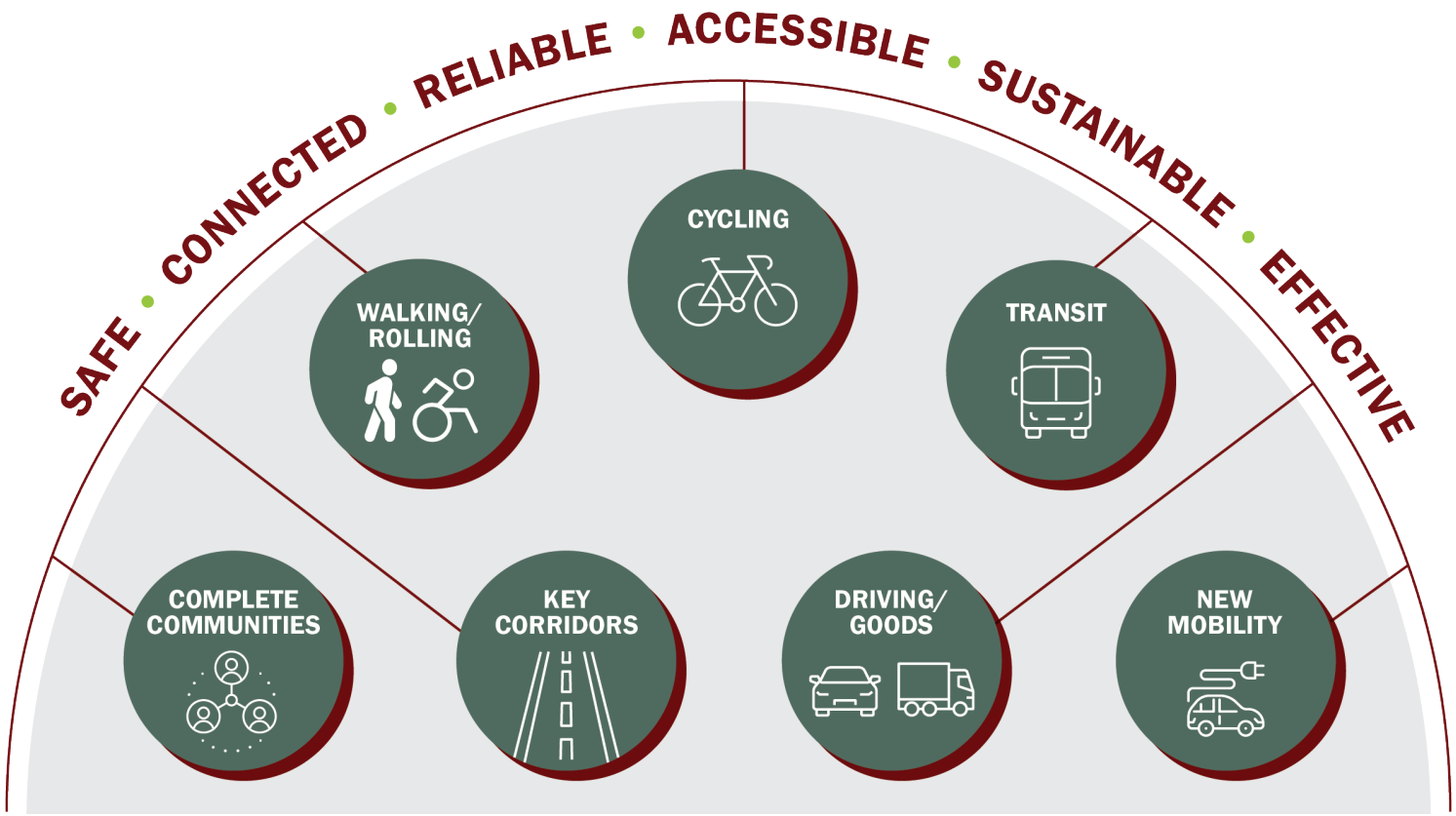
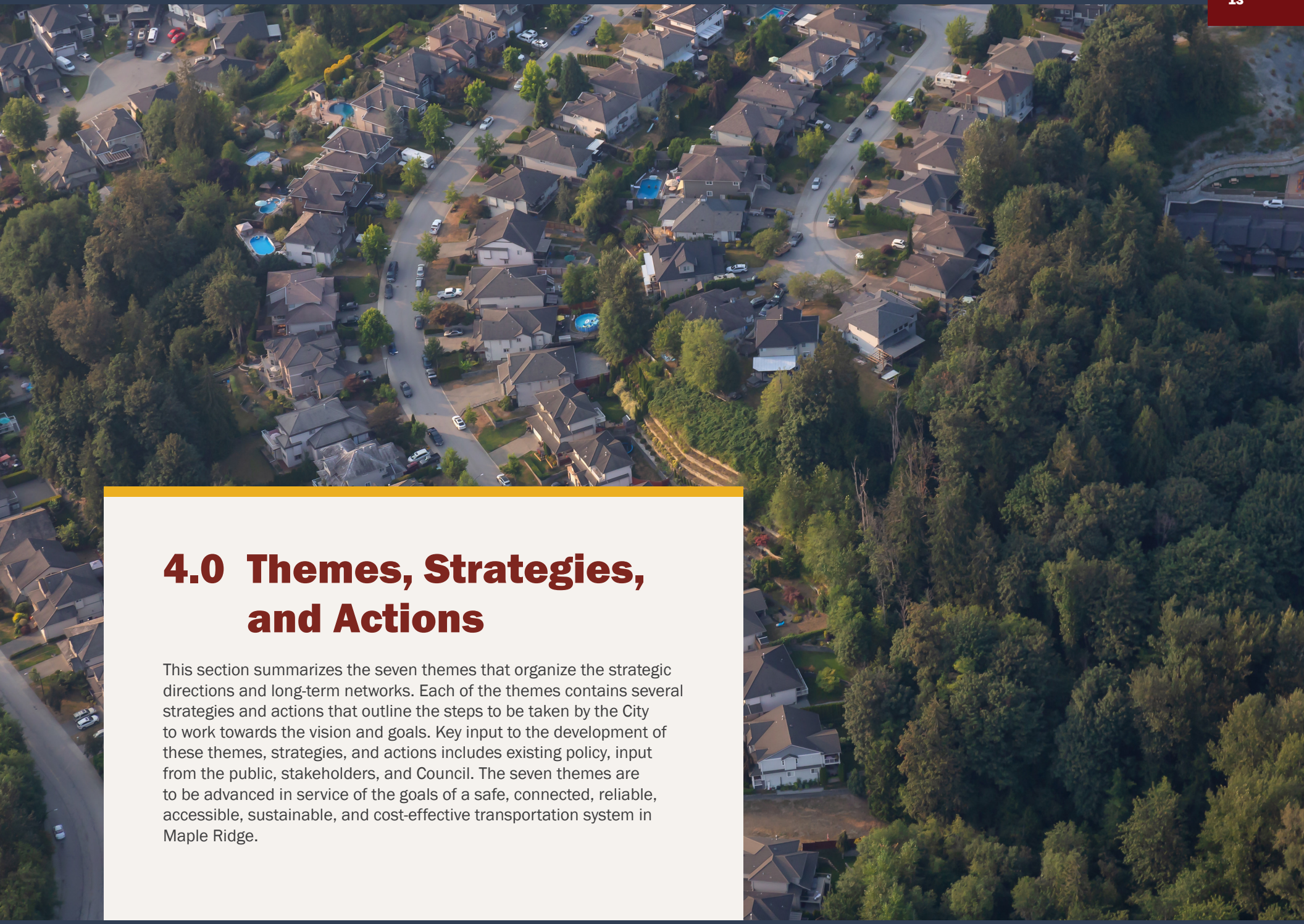


Figure 3-2: Thematic Areas & Goals



4.0 Themes, Strategies, and Actions

This section summarizes the seven themes that organize the strategic directions and long-term networks. Each of the themes contains several strategies and actions that outline the steps to be taken by the City to work towards the vision and goals. Key input to the development of these themes, strategies, and actions includes existing policy, input from the public, stakeholders, and Council. The seven themes are to be advanced in service of the goals of a safe, connected, reliable, accessible, sustainable, and cost-effective transportation system in Maple Ridge.

THEME 1
Complete Communities

In a complete community, residents can meet most of their basic needs within their neighbourhood. Complete communities[1] are places where community schools, meeting places, grocery stores, jobs, and services are close and connected enough that people living in all types of housing can choose to walk, roll, or bike. The STP's goals of a safe, connected, efficient and reliable, accessible, sustainable, and cost-effective transportation system can best be met by starting with the foundation of complete and connected communities.

People-First Streets

The Transformative Actions in Transport 2050 include transforming roads that have been designed primarily for private cars into people-first streets that are designed for everyone. These streets feature reduced motor vehicle speeds and greater separation of different modes and speeds.

People first streets complement complete communities by creating places where all people – including people with disabilities and people using transit, cycling, walking, or rolling – feel safe, comfortable, and connected.

– Adapted from *Transport 2050*

1 Complete communities are also known by other names, including 15 minute communities.

Strategy 1.1: Link land use, transportation, livability, and climate actions to support a complete, communities.

Land use and transportation are inherently linked and influence the way people travel. This strategy connects land use changes and multi-modal transportation improvements to ensure there are a range of convenient and comfortable travel choices close to where people live, work, and play. This will contribute to improved livability, vibrancy, and reduced greenhouse gas emissions, while allowing the City to invest in transportation infrastructure in a cost-effective way. The City has been implementing complete communities through policies such as the OCP, area plans, and Council's Strategic Plan and recognizes that growth needs to be concentrated near community amenities and services, and along rapid and frequent transit corridors.

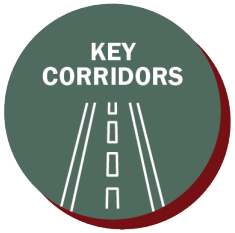
Action 1.1.1 In accordance with current City planning documents, concentrate growth and density along the Lougheed Transit Corridor and within the Town Centre to create opportunities to walk, cycle, and use transit.

Action 1.1.2 Continue to investigate opportunities for infill commercial and institutional development, as well as advocating for improved internet connectivity in existing predominately single-family neighbourhoods.

Action 1.1.3 Update Subdivision and Development Servicing Bylaw No. 4800-1933 to ensure new and improved streets follow Complete Streets principles, all ages and ability cycling practices, and Universal Design practices for pedestrians.

Action 1.1.4 Partner with the development community to deliver complete, comfortable, and connected walking and cycling facilities, high-quality transit amenities, and high-quality urban design and placemaking features, particularly in higher density, mixed-use areas.

Action 1.1.5 Ensure that City capital projects, including utility improvements and civic institutions work towards comfortable walking and cycling infrastructure.



THEME 2
Key Corridors

Road corridors are the framework that support the movement of people and goods in Maple Ridge. Within each road corridor, space is assigned to different functions, including mobility for goods and people, access to property, gathering spaces, landscaping, stormwater management, and parking. The combination of functions on each roadway and the specific design of the space is guided by the roadway classification, historic build outs, transit networks, access needs, and physical constraints. There are key corridors that will play a central role in meeting the goals of the STP. These corridors require improvements across multiple modes of transportation and more detailed consideration of opportunities, and challenges. This theme brings together improvements and needs identified through the walking, cycling, transit, and driving themes to provide unified approaches for key corridors.

Strategy 2.1: Design and deliver multi-modal transportation and public realm improvements along key corridors that will move the City towards its overall goals and objectives.

This strategy is focused on infrastructure improvements along key corridors to deliver a complete and connected transportation network. Each of the actions focuses on a specific corridor and outlines the long-term intent for that corridor, recommended cross-section elements, key trade-offs and challenges, partnerships, and next steps. The actions also identify locations and types of intersection improvements to be included in the design of improvements along the key corridors. These intersections were identified through the roadway work described in Theme 6. The changes identified are subjected to future design and may be delivered all at once or in stages by the City or key partners, including MOTI, TransLink, or through development. The key corridors are illustrated in **Figure 4-1**.

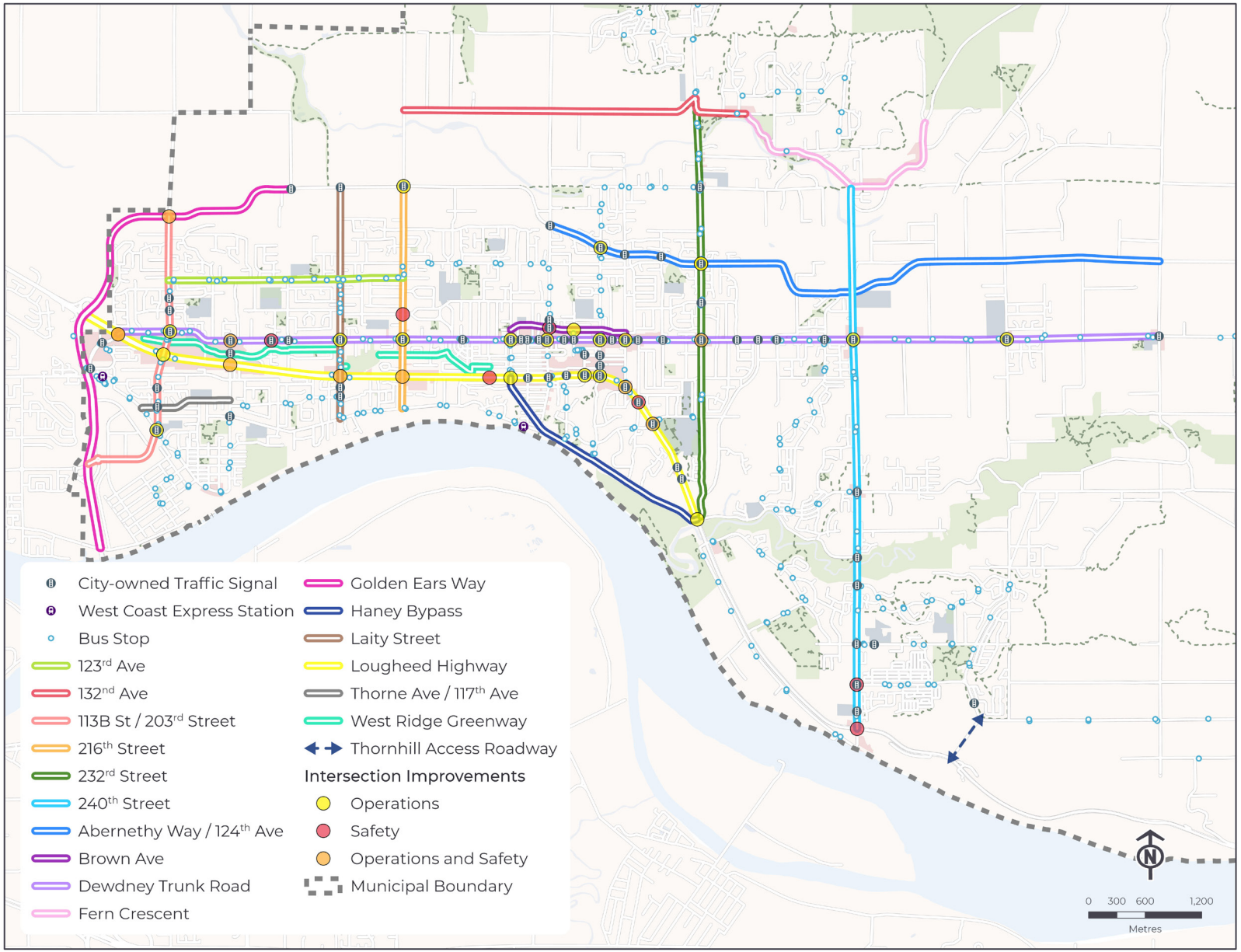


Figure 4-1: Key Corridors

THEME 3
Walking & Rolling

Walking and rolling[2] (i.e., using a personal mobility device designed for use by an individual with limited or impaired mobility) is the most fundamental form of transportation. Providing complete and accessible pedestrian connections – particularly within complete communities – reduces automobile dependence, congestion, and emissions, and improves community health and livability. Approximately 17 % of trips made by Maple Ridge drivers[3] are less than 2 km long and may be suitable for walking. This theme includes strategies and actions to create a more walkable community for people of all ages and abilities, focusing on the areas where people are most likely to walk for transportation.

Strategy 3.1: Complete community connections to ensure residents can walk to important destinations like schools, commercial areas, community centres, and transit.

Community connections allow people to comfortably walk or wheel to daily destinations in their neighbourhoods, like schools, shops, and services. Maple Ridge is geographically large compared to many other cities in the lower mainland, with many historic neighbourhoods where roadways were not built with sidewalks. Approximately 35% of roadways have pedestrian facilities (sidewalks or multi-use pathways) on one or both sides of the street. Given the scale of sidewalk gaps in the City, this strategy focuses on completing pedestrian connections to schools, commercial areas, and community centres which are key destinations that are likely to serve the most walking trips, resulting in cost-effective investment in walking that is aligned with the focus on complete communities explored in Theme 1.

Action 3.1.1 Fill in the gaps in the pedestrian network, prioritizing pedestrian facility investments in locations with the highest potential for use.

Action 3.1.2 Ensure new developments provide active transportation connections that shorten walking distances and provide a safe, comfortable, and pleasant public realm.

Action 3.1.3 Work with public agencies and other institutions (e.g. schools, hospitals, etc.) to ensure that new projects are designed and oriented to prioritize walking to community destinations and that new and existing sites provide pathway connections whenever feasible.

Action 3.1.4 Enhance trails and pathways, identifying greenway corridors and formalizing connections between community destinations and creating opportunities to recreate within the City.

What is 'Universal Design'?

Universal design refers to the design of products, environments, programs, and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized modifications. Universal design ensures that the built environment is accessible to people of all ages and abilities, regardless of any type of physical or cognitive challenge.

Universal design is a fundamental design principle that has been applied throughout the Plan. It is specifically embedded in changes to overall design guidance (Action 1.1.3) and a comfortable and accessible pedestrian network (Action 3.2.1).

2 In the context of the walking network, rolling refers to the use of wheelchairs, mobility scooters, and powered wheelchairs to travel as a pedestrian. Other rolling modes include bicycles (electric, human-powered, cargo, and / or velomobiles (addressed in Section 3.3.2), and scooters, e-scooters, electric mopeds, and other micromobility devices (addressed in Section 3.3.5).

3 According to the 2017 TransLink Trip Diary.

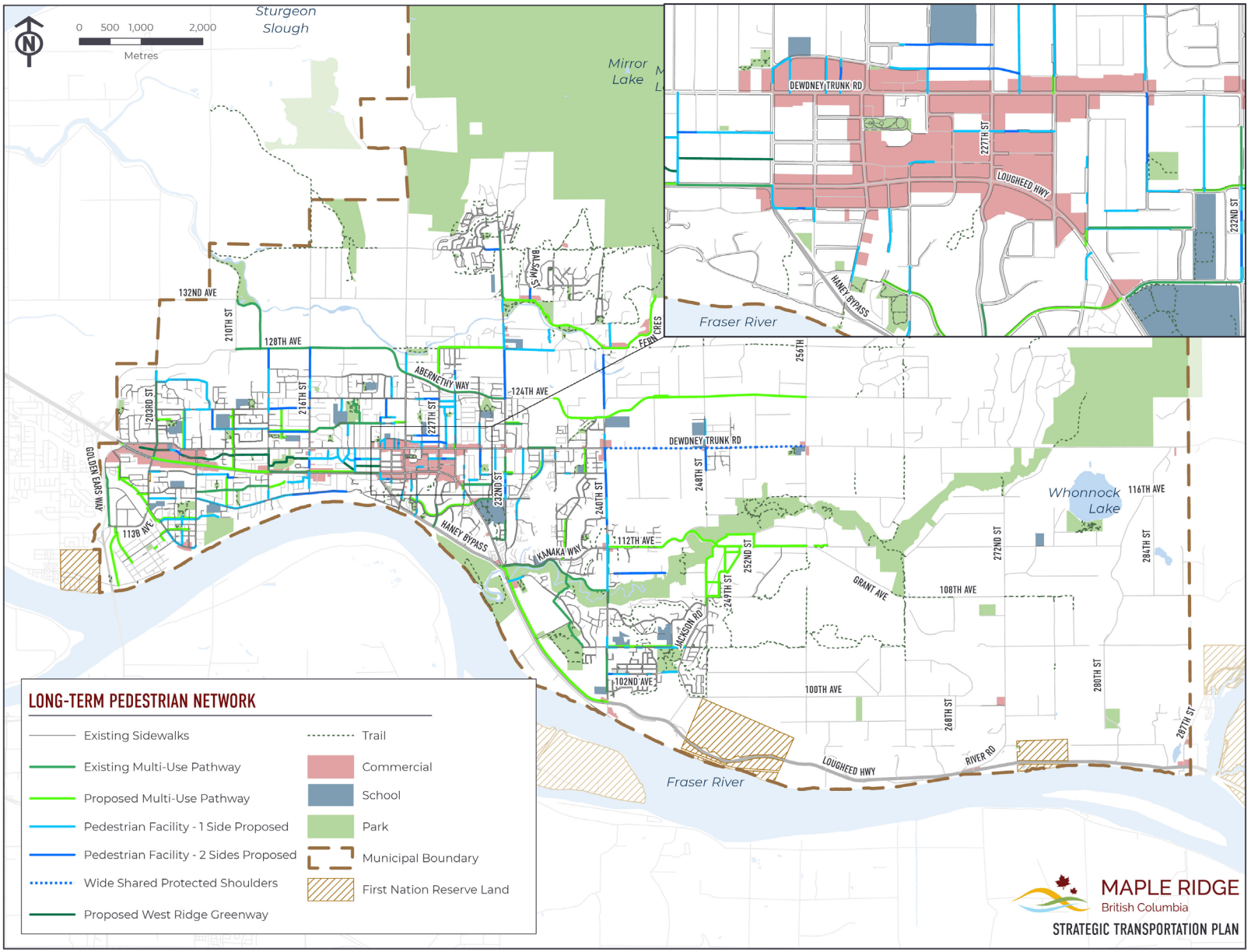


Figure 4-2: Long-Term Pedestrian Network

Strategy 3.2: Prioritize personal safety and comfort by ensuring walking infrastructure is comfortable and accessible, including improved crossings and lighting.

Addressing linear gaps in sidewalks and pathways is one component of improving the pedestrian network. A comfortable and accessible pedestrian network also follows Universal Design principles for accessibility. This strategy focuses on actions the City can take to improve the comfort and accessibility of walking in Maple Ridge.

Action 3.2.1 Implement Universal Design, including accessible curb ramps, detectable warning surfaces, and audible pedestrian signals.

Action 3.2.2 Provide new crossing opportunities to support a connected pedestrian network where warranted.

Action 3.2.3 Continue to support community and regional organizations in their initiatives to promote walking, such as Safe Routes to Schools, walking clubs and pedestrian safety education.

Strategy 3.3: Invest and partner for a walkable Regional City Centre and Lougheed Transit Corridor Area to ensure most trips in these areas can be comfortably and safely made by walking.

People are most likely to walk where there is both a complete community of homes and destinations, and a complete and connected walking network. Existing historic neighbourhoods of Maple Ridge have a high potential for walking; however, the sidewalk network in these neighbourhoods is often discontinuous. Investment in these areas will benefit existing residents and businesses while also leveraging development to create complete, connected, and walkable communities. The Town Centre and Lougheed Transit Corridor are important locations to provide comfortable and accessible walking facilities to address existing equity gaps, as well as create opportunity to walk to transit.

Action 3.3.1 Address sidewalk gaps and improve and accessibility in the Town Centre and the Lougheed Transit Corridor Area.

Action 3.3.2 Work with the Ministry of Transportation and Infrastructure and developers to construct new pedestrian infrastructure and enhance existing infrastructure on Lougheed Highway.

CYCLING

THEME 4
Cycling

Cities with safe, comfortable, and connected cycling networks are more likely to have a higher proportion of cycling mode share. In any given community, approximately 51% of the population is interested in cycling, but have concerns over their safety. In Maple Ridge and Metro Vancouver, cycling is a growing mode of transportation, and stakeholders at the local, regional, and provincial levels have expressed the need to grow the City's cycling network to increase its mode share and reach climate goals. Regionally, *TransLink's Regional Cycling Strategy* and *Transport 2050* identify a Major Bikeway Network (MBN) that connects Urban Centres and major destinations across the region, as well as a Regional Greenways Network, which connects to parks, open spaces, natural areas, and scenic pathways. These networks were considered in the development of strategies and actions within this theme. The following strategies and actions to build out a network of complete, connected, and comfortable cycling facilities to encourage more cycling trips by people of all ages and abilities.

Strategy 4.1: Complete connections to community destinations to ensure that most residents and visitors can easily and comfortably access amenities across the City by bicycle.

Facilitating cycling trips requires a network of comfortable cycling routes that connect people to the places they want to go. A complete and connected network of primary cycling routes that are comfortable for most, and suitable for people of All Ages and Abilities (AAA) where feasible will increase the mode share of cycling and enable the City to meet the broader goals of the STP. The City's cycling network will combine facilities that are AAA facilities that are comfortable for most and supporting cycling facilities. **Figure 4-3** illustrates different types of bicycle facilities.

Beyond facility type, a range of other factors influence the comfort and accessibility of cycling, including intersection treatments, multimodal connections, and end of trip amenities.

Figure 4-3: Bicycle Facility Types

Action 4.1.1 Develop a complete and connected cycling network, focusing on connecting community destinations such as commercial areas, schools, community centres, natural areas, and transit.

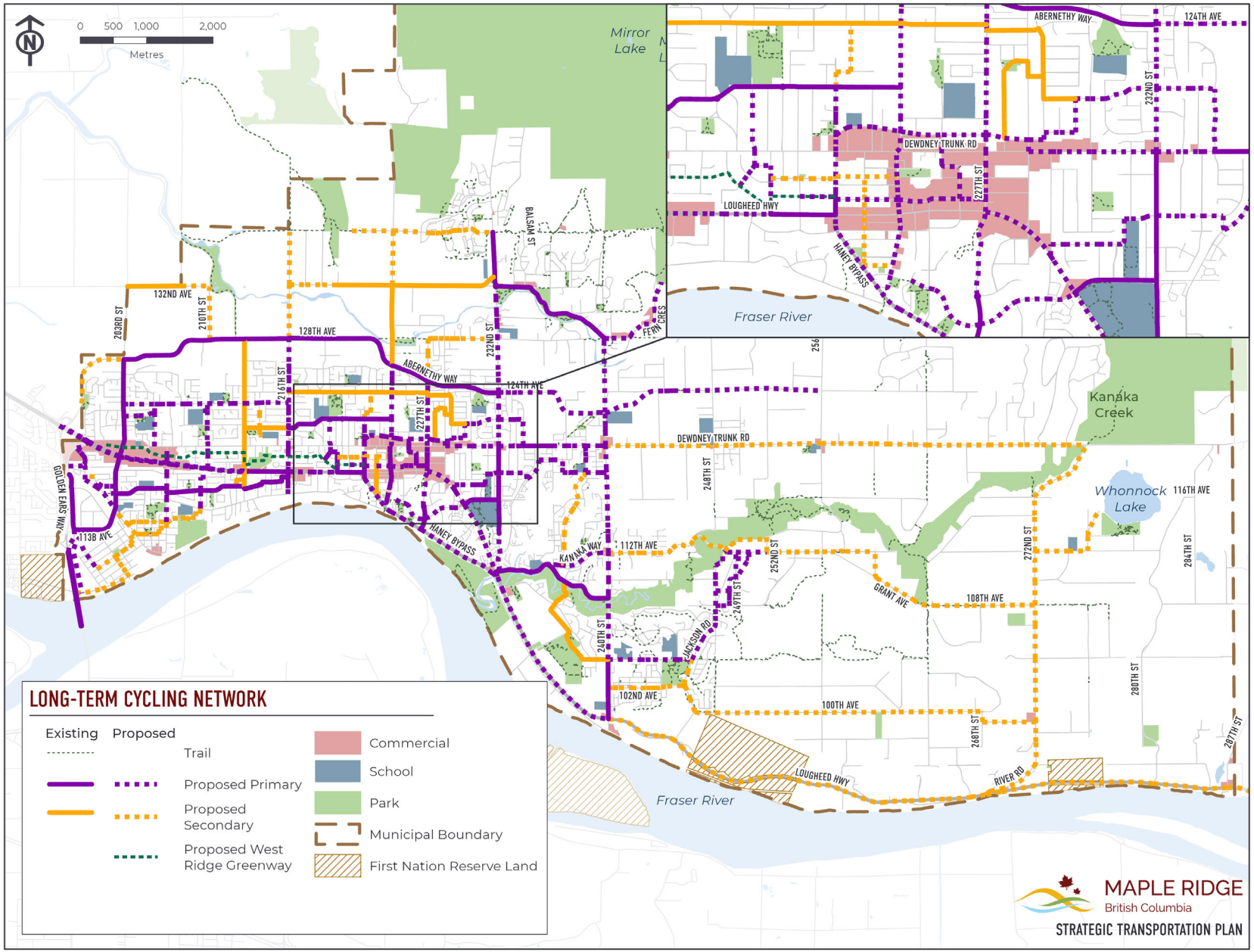


Figure 4-4: Long-Term Cycling Network

Action 4.1.2 Work towards upgrading existing cycling infrastructure on the Primary network towards All Ages and Abilities and improving the comfort of cycling on the secondary network.

Action 4.1.3 Implement support facilities such as wayfinding, secure bicycle parking and end-of-trip facilities to make cycling convenient.

Action 4.1.4 Work with developers to implement high quality cycling infrastructure.

Strategy 4.2 - Partner to complete regional cycling network that connects to neighbouring municipalities and to grow local and regional cycling.

The City is part of a broader region and area with the potential for growth in both regional and local cycling for transportation and recreation. Regional coordination is essential to best leverage local investments.

Action 4.2.1 Work with the Ministry of Transportation and TransLink to deliver All Ages and Abilities (AAA) cycling infrastructure along Lougheed Highway from the City of Pitt Meadows boundary into the Town Centre.

Action 4.2.2 Work with the City of Mission, City of Pitt Meadows and Township of Langley to implement and enhance cycling connections to neighbouring municipalities.

Action 4.2.3 Work with Metro Vancouver to revise the Regional Greenways Network within the road right-of-way and to make key connections to the Primary and Secondary cycling networks.

Action 4.2.4 Work with the B.C. Ministry of Transportation and Infrastructure to construct new cycling infrastructure and enhance existing infrastructure on Haney Bypass and Lougheed Highway east of the Town Centre.

Action 4.2.5 Continue to support cycling education and promotion programs like Safe Routes to School, Everyone Rides 4/5, Learn2Ride, and events like Bike to Work Week and Bike Valet.

Rapid Implementation Design Guide for Bikeways in Metro Vancouver

In certain contexts, the City may consider using rapid implementation approaches when building out the cycling network. Rapid implementation is a fast and cost-effective method of implementing active transportation projects that use adjustable, low-cost materials.

TransLink's Rapid Implementation Design Guide provides guidance for the planning, design, implementation, maintenance, and monitoring of bikeways through rapid implementation lens.

Figure 4-5: Bicycle Maintenance Station

THEME 5
Transit

Public transit has the highest people moving capacity of all modes, and fast, reliable, and convenient transit systems are more likely to attract high levels of ridership. Shifting trips to transit can improve the efficiency of the road network, reducing congestion, collision rates, and emissions, while also increasing affordability, livability, and equity in our community. Currently 68% of trips starting in Maple Ridge stay in Maple Ridge, and 28% travel through the western gateway of the City via Lougheed or Golden Ears Way / Golden Ears Bridge. These longer distance trips are currently mostly served by private vehicles and investment in the MTN. Frequent transit along these routes has the potential to shift these long-distance trips to transit. The recent introduction of the R3 along Lougheed Highway is an initial step towards improved service along this route and MoTI.

The Strategies and Actions in the STP focus on the City's role in improving the reliability and efficiency of the transit network and amenities, as well as aligning density, land use, and transportation, to make taking transit a competitive option for medium and long-distance trips.

Transport 2050, together with regional and municipal land use planning actions, aim for 55% of Metro Vancouver's residents to live within walking distance of the MTN.[4] Regional investments outlined within the 10-year priorities include planned Rapid Bus from Haney Place to Langley and Bus Rapid Transit from Haney Place to Coquitlam Central Station.

4 Walking distance is defined as 800 m from the MTN.

Maple Ridge-Pitt Meadows Area Transport Plan (2021)
The Maple Ridge-Pitt Meadows Area Transport Plan (ATP) establishes a "blueprint" for improving the transportation network in Pitt Meadows and Maple Ridge over the next ten years in a way that is responsive to local needs and consistent with regional objectives in Metro 2040 and ***Transport 2050***. The plan makes recommendations around transit service and infrastructure, walking, cycling, and regional roads and goods movement, ensuring that municipal land use and transportation plans support existing and expected land use and travel patterns.

Strategy 5.1: Continue pursuing land use planning that supports transit to ensure that the community and transit are oriented around one another, promoting transit use.

Transit-oriented development increases the number of people, jobs, and services within walking distance of transit and improves the effectiveness of investments in transit frequency and bus priority. This strategy echoes Theme 1 and includes actions focused on aligning land use and transit.

Action 5.1.1 Support TransLink and Metro Vancouver priorities to align the transit network with residential populations, ensuring that most residents live within 400m of the transit network.

Action 5.1.2 Continue to align mixed use land uses, density and transportation within the Town Centre and Lougheed Transit Corridor.

Action 5.1.3 Leverage development to identify a new location for the Town Centre transit hub, which will replace and update the Haney Transit Exchange.

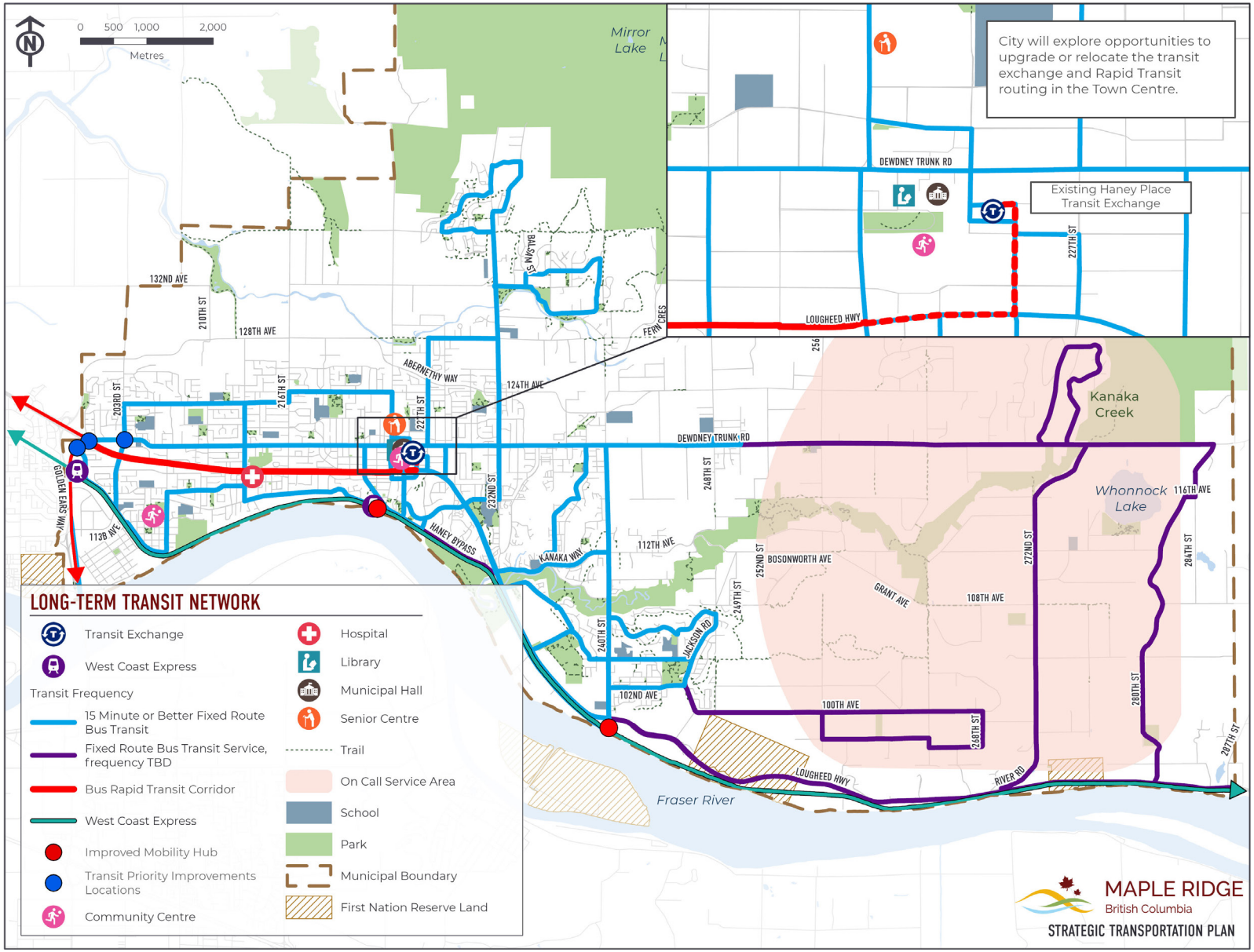


Figure 4-6: Long-term Transit Network (based on recently approved ATP)

Strategy 5.2: Partner for a more efficient transit system through bus speed and reliability road network improvements.

Reliable and efficient transit service increases ridership and provides better service to residents and businesses. Transit service in Maple Ridge currently includes the R3 RapidBus, West Coast Express, conventional buses operating on fixed routes as part of the Frequent Transit Network, conventional and community buses offering less frequent fixed route service, on-demand transit, and handy-dart service. The 2019 Bus Speed and Reliability Report identified that 80% of bus routes in Metro Vancouver were slower in 2019 than they were in 2014. This strategy identifies actions the City can take to increase bus speed and reliability.

Action 5.2.1 Work with TransLink and MOTI to work towards on-street bus rapid transit along Lougheed Highway.

Action 5.2.2 Continue to promote West Coast Express improvements, including frequency and hours of service improvements, to all levels of government, TransLink, and rail companies.

Strategy 5.3: Complete connections to community destinations to ensure that all residents and visitors can easily and comfortably access amenities across the City and the region.

Most transit trips begin with another mode – people walk, cycle, drive, take a taxi, ride-hail, or use a micro-mobility device to reach transit stops and stations and continue on with their trip. A complete and connected network that is oriented towards transit services improves the comfort and attractiveness of transit as a mode of transportation, particularly for longer trips. Many of the actions that improve this connectivity are within municipal jurisdiction, while others require partnership with other agencies and developers. This strategy identifies actions to improve the ease and comfort of transit access.

Action 5.3.1 Improve walking access to transit stops and stations.

Action 5.3.2 Improve bus stop, transit exchange, and West Coast Express passenger amenities, enhancing accessibility of bus stops.

Action 5.3.3 Improve multi-modal connections at bus stops, transit exchanges and West Coast Express stations.

THEME 6
Driving / Goods Movement

Driving is currently the most common mode of transportation in Maple Ridge and the use of the road network for commercial vehicles is important to the local economy. By encouraging a safe, connected, and efficient road network, driving and goods movement trips can avoid long, circuitous routes to their destinations, reducing congestion, greenhouse gas emissions, and the risk of collision. The City is expected to continue experiencing rapid growth, and the road network needs to sufficiently accommodate growth to ensure residents, visitors, and businesses can continue to thrive. Beyond building and expanding roadways, the City also has the opportunity to work to shift some of these trips to transit, cycling, rolling, and walking to promote a safe and efficient road network through Transportation Demand Management initiatives to simultaneously support addressing congestion. This theme includes strategies and actions that create new connections and improvements to reduce inefficiencies and accommodate growth, improve safety, and to manage the demand for the road network.

Strategy 6.1: Completing the road network to ensure that neighbourhoods and destinations are connected to one another in an efficient way.

Since 2014, the City has advanced the design of some new roadway connections identified in the STP. These connections were reviewed based traffic volumes to confirm the recommended road cross-sections and potential timing for these changes to reduce delay and congestion on parallel roadways, create network redundancy, and increase the City's resilience to climate change and natural disasters. The completed roadway network will also include transportation networks within developments, which are specified by Bylaw 4800-1993, as discussed as part of Action 1.1.3.

Action 6.1.1 Complete the arterial road network in developing areas, including completing the Abernethy Way, 240 Street Bridge, Grant Avenue, 248 Street, and the Thornhill Access Roadway.

Action 6.1.2 Work with developers to ensure that greenfield developments feature multi-modal collector and local road networks that meets the City's needs.

Action 6.1.3 Close gaps in the existing collector and local road networks.

Action 6.1.4 Create a Dangerous Goods Route Network.

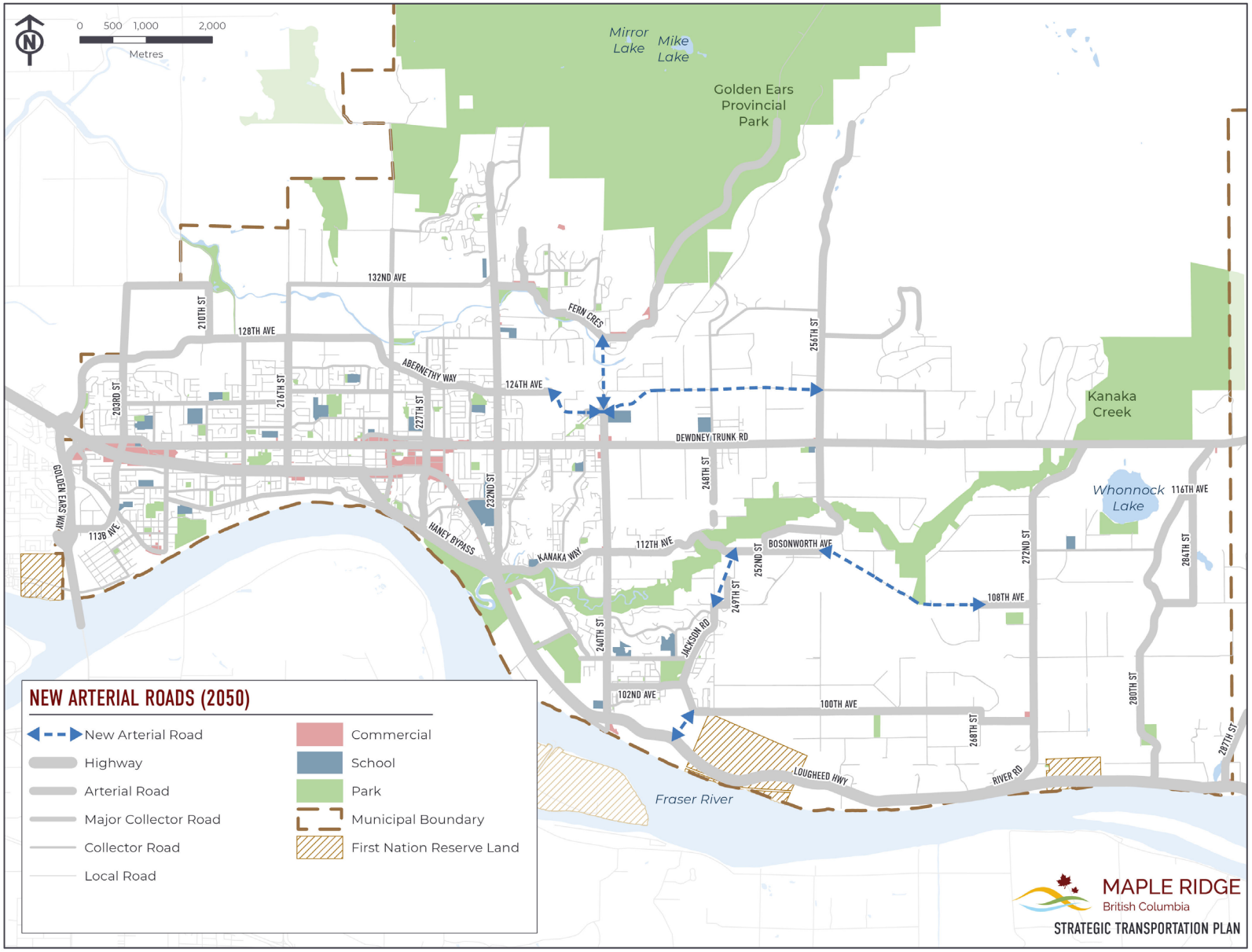


Figure 4-7: New Arterial Roads (2050)

Strategy 6.2: Widen and improve major roadways to accommodate recent and future growth in Maple Ridge and neighbouring municipalities.

East-west roadways within Maple Ridge serve local, regional, and provincial trips. In particular, Lougheed Highway is the provincial corridor for regional east-west travel, as well as being an important part of the local transportation network. Existing MRN roadways also provide regional connectivity, including to existing and future industrial land. This strategy identifies actions to improve efficiency and accommodate growth.

Action 6.2.1 Work with the Ministry of Transportation and Infrastructure and TransLink to implement improvements to major roadways

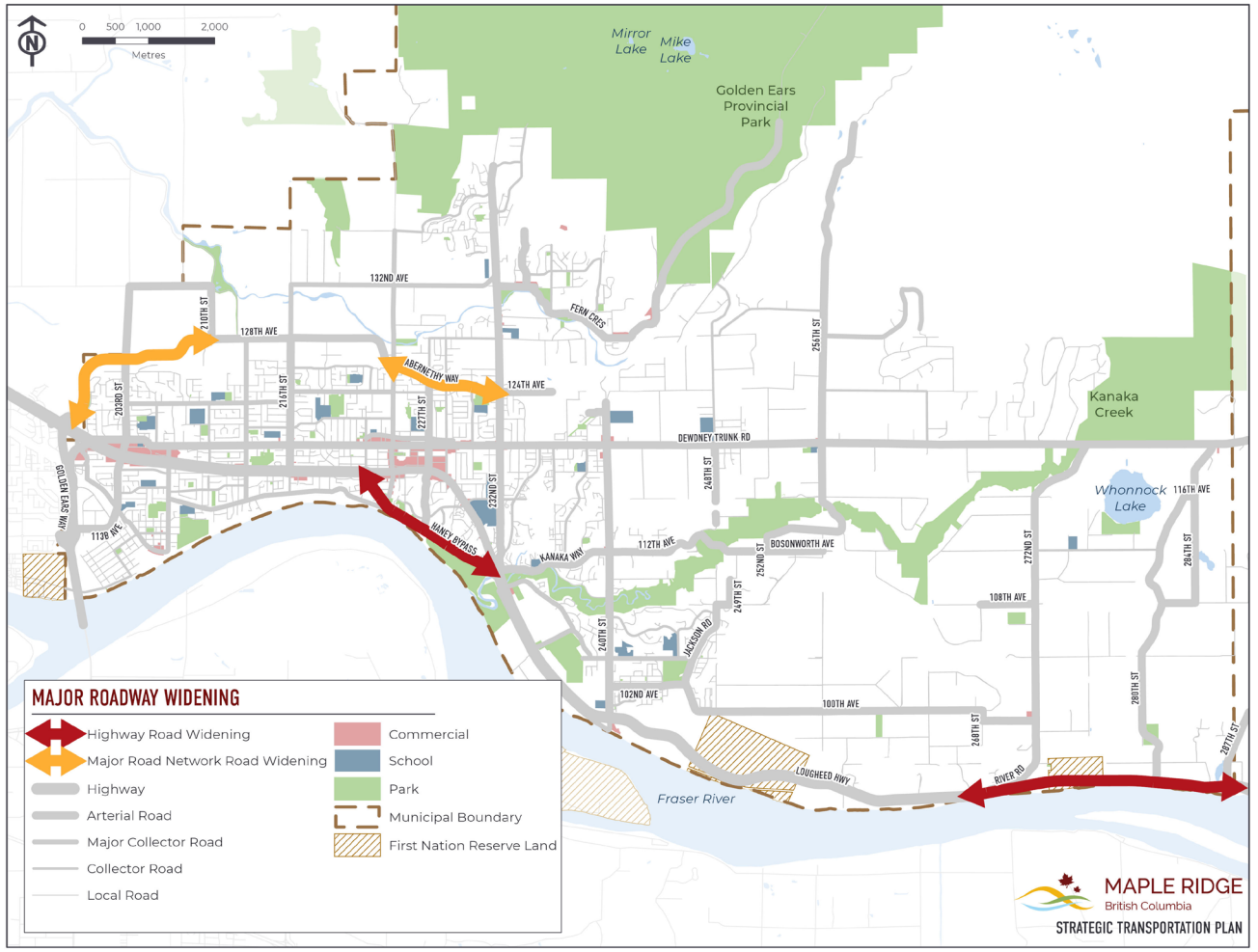


Figure 4-8: Major Roadway Widening by 2050

Action 6.2.2
Update the City's Street classification network.

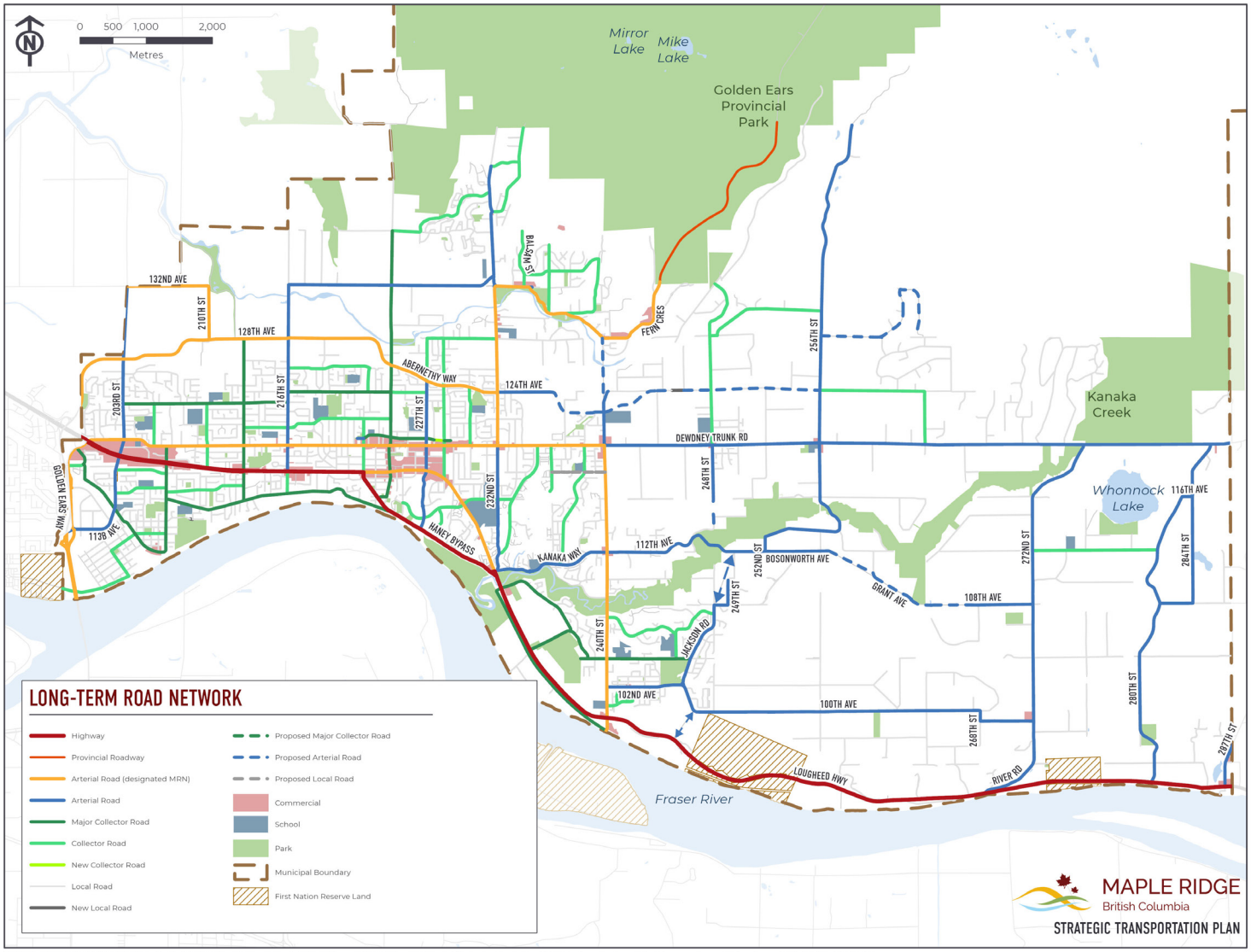


Figure 4-9: Proposed Roadway Classification

Strategy 6.3: Improve the safety, efficiency, and reliability of operations at key intersections.

Intersections are the source of most delay, low reliability, and collisions on the transportation network. This strategy includes actions that focus on intersections.

Action 6.3.1 Address capacity and operational issues at key intersections.

Action 6.3.2 Continue the intersection safety program.

Action 6.3.3 Continue traffic control warrant assessment and investment program.

Action 6.3.4 Consider traffic operational systems improvements.

Strategy 6.4: Ensure proactive steps are taken to improve safety for vulnerable road users and motorists.

Recent studies indicate collisions with motor vehicles travelling at speeds greater than 40 km/hr have a less than 70% survival rate, compared to a more than 90% survival rate at 30 km/hr or less. Vehicle speed also contributes to both the rate and severity of collisions involving two or more vehicles.[5] Higher vehicle volumes increase risk by increasing exposure.

As explored in Strategy 6.3, the STP seeks to improve safety by investigating and addressing safety challenges at locations with a relatively high rate and/or severity of collisions.[6] Beyond improvements to individual intersections, programs that reduce traffic speeds in key conflict locations and updates to design standards can reduce transportation-related injuries and fatalities.

Action 6.4.1 Continue the existing Traffic Calming Policy approach.

Action 6.4.2 Collaborate at a regional level to explore opportunities to introduce people first neighbourhoods.

Strategy 6.5: Use transportation demand management to reduce the demand on the road network, increasing efficiency.

Transportation demand management (TDM) seeks to reduce the demand on the road network by reducing the number of vehicle trips during times of peak congestion and the overall vehicle kilometers travelled (VKT) per person. TDM focuses on shifting trips from driving alone to carpooling and non-auto modes of transportation; shifting trips to different times of day; and eliminating some trips. The actions in this strategy leverage TDM measures to reduce VKT, improve reliability, and reduce congestion.

Action 6.5.1 Consider the introduction of high occupancy vehicle lanes that are shared with transit at key locations.

Action 6.5.2 Review parking requirements in Bylaw 4350-1990, including changes that encourage the use of car pooling and reduce parking minimums.

Action 6.5.3 Continue to work with TransLink to educate and promote the use of non-auto modes of transportation.

Action 6.5.4 Continue to work with local businesses, stratas, Business Improvement Associations, and the Chamber of Commerce to review and address curbside management requests.

5 SWOV Fact Sheet: The relation between speed and crashes. (https://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa1304/Resources3/08%20-%20The%20Relation%20Between%20Speed%20and%20Crashes.pdf)

6 STP Report 1 documented 15 intersections with a collisions rate that is 10% higher than the critical collision rate and a Collision Severity Index that is greater than 5, as well as eight intersections that had no volume data available, but had a collision frequency greater than one collision per year and a Collision Severity Index greater than five.

THEME 7
New Mobility

The way we travel is evolving and expected to continue to do so with the introduction of new mobility and technology such as electrification, connectivity, automation, shared mobility, and road pricing. Integration and accommodation of new mobility and technology into the City's transportation networks can support the City's broader societal objectives, making clean, fast, and affordable transportation accessible and safe for everyone. In addition, the region is likely to implement policy and programming that will introduce new travel modes and/or, regulations on our transportation networks, such as shared mobility, autonomous vehicles, and road pricing. The City can participate in these discussions to ensure there is a broader positive impact for its residents and visitors consistent across the region.

The Strategic Transportation Plan identifies key strategies and actions that will support the integration of current and future technologies and trends, ensuring the City is a conduit for shifting transportation patterns to cleaner, more affordable, and safer modes.

Strategy 7.1: Support the 'electrification' of travel to ensure that the City can accommodate future trends, and proactively reduce greenhouse gas emissions.

Metro Vancouver's Climate 2050 Strategic Framework (2019) estimates that 31% of greenhouse gas emissions in the region are a result of cars and trucks. Moving towards higher adoption of zero emissions vehicles, including electric passenger cars and trucks, is an important component of achieving the City's Climate Action Goals. The City will adopt to these changes by focusing on the availability of electric vehicle charging infrastructure. Electric vehicles are recharged by plugging into the electricity grid. There are three levels of charger, each with a different time required to reach a full charge.

Other new forms of mobility, including electric bicycles, electric cargo bicycles, and electric scooters can also help lower greenhouse gas emissions by expanding the number and type of trips that are feasible by non-auto modes of transportation. These vehicles also benefit from electric outlets in parking lots, particularly where there is secure bicycle parking.

The actions within this strategy focus on two approaches to increasing the availability of electric charging infrastructure.

Action 7.1.1 Continue to install and expand electric charging infrastructure at community facilities.

Action 7.1.2 Ensure new electric charging infrastructure is a required minimum for new developments.

Strategy 7.2: Explore the role of new ways of travelling, including car share (e.g. Evo, Modo), ride share (e.g. Uber, Lyft), micromobility (bike share, electric bikes, scooter share, etc.) in improving mobility for all.

Transportation is evolving as new technology emerges and creates new choices, opportunities, and challenges. These new modes pose regulatory and practical challenges and policy makers will need to adjust quickly to enable opportunities while mitigating challenges that arise over time. This strategy outlines actions the City can take to proactively regulate and manage new mobility in the City.

Action 7.2.1 Collaborate at a regional level to regulate and manage micromobility devices and shared micromobility.

Action 7.2.2 Encourage car share organizations to extending service to Maple Ridge, particularly within the Lougheed Transit Corridor and Town Centre areas.

Action 7.2.3 Ensure new developments provide for the secure storage and charging of electric bicycle, cargo bicycles, and scooters and improve storage amenities at City-owned destinations.

Action 7.2.4 Subsequent updates to the STP will provide regular updates on advancement in transportation technologies to ensure the City is prepared to accommodate future travel needs of the community

Strategy 7.3: Coordinate for automation to ensure that the regional introduction of Autonomous Vehicles is smooth and creates a positive impact on the transportation network.

Connected and autonomous vehicles include a range of self-driving or partially automated vehicles that are connected to infrastructure and each other. As illustrated in **Figure 4-1**0, levels of automation range from '0' (i.e., no automation: a human performs all driving tasks) to '5' (i.e., full automation: vehicle can drive itself without supervision and in any condition). Research completed for *Transport 2050* suggests that Level 4 automation is likely to be available by 2030 and widespread by 2050.

Managing the opportunities and challenges of automation will require regional collaboration, as outlined in the actions below.

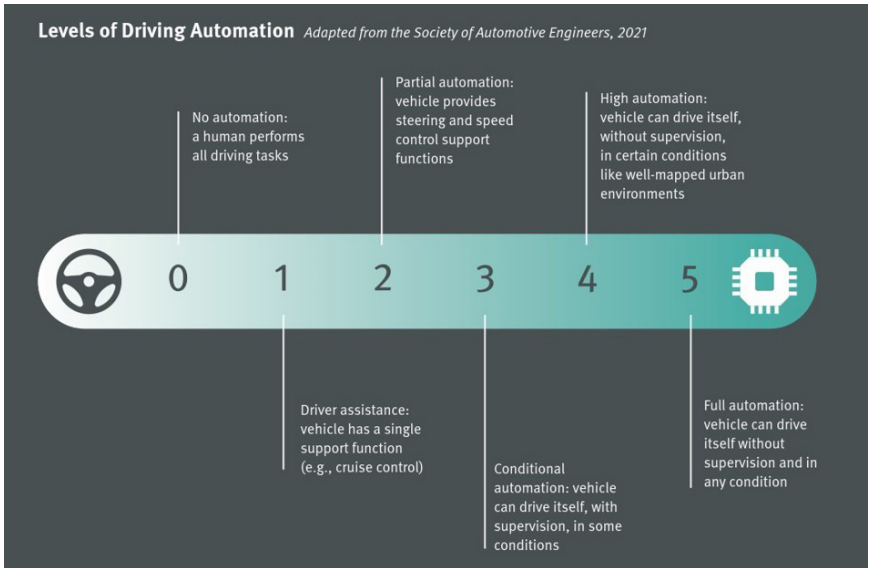


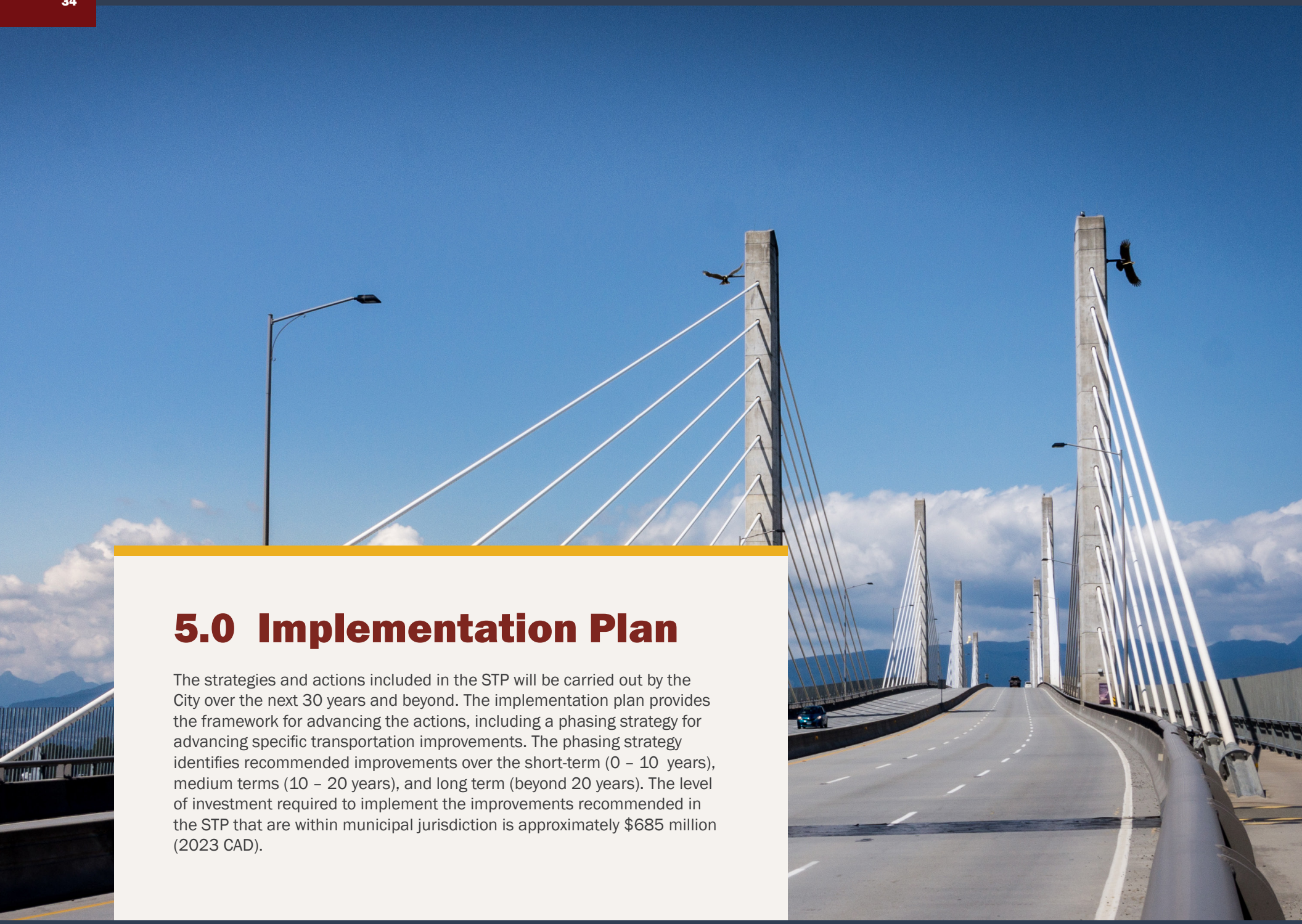
Figure 4-10: Levels of Driving Automation (Source: *Transport 2050*)

Action 7.3.1 Collaborate at a regional level to study the impacts of Autonomous Vehicles.

Strategy 7.4: Participate in Regional dialogue exploring Mobility Pricing.

Mobility pricing is a name for a coordinated and strategic approach to pricing transportation. Currently, transportation system users typically pay for services and infrastructure through a combination of means and the fees collected by government agencies, along with other sources of revenue (e.g. income tax, property tax) help fund the maintenance and improvement of transportation infrastructure. The Metro Vancouver Mobility Pricing Study (2018) found that a comprehensive mobility pricing policy that includes a decongestion charge could support Metro Vancouver's growth with regional congestion point charges or multi-zone distance-based charges. The Commission recognized that any system would need to follow the guiding principles of reducing congestion, fairness, supporting investment, providing positive economic benefits, protecting privacy, ensuring stability, supporting regional growth targets, and continued public dialogue.

Action 7.4.1 Participate in Regional dialogue exploring Mobility Pricing.



5.0 Implementation Plan

The strategies and actions included in the STP will be carried out by the City over the next 30 years and beyond. The implementation plan provides the framework for advancing the actions, including a phasing strategy for advancing specific transportation improvements. The phasing strategy identifies recommended improvements over the short-term (0 – 10 years), medium terms (10 – 20 years), and long term (beyond 20 years). The level of investment required to implement the improvements recommended in the STP that are within municipal jurisdiction is approximately $685 million (2023 CAD).

To implement the actions outlined in the STP, the City will need to increase funding for sustainable travel modes and new connections and also secure new and additional sources of funding through local, provincial, and federal partnerships. As noted throughout the STP, the City will also partner with the private sector, leveraging development to achieve shared objectives for a safe, connected, reliable, and effective transportation system. Progress on delivery of the actions outlined in the STP will be done annually as part of the City's Business Planning processes. Changes in key metrics, including mode share and vehicle kilometres travelled per capita are monitored through TransLink's regional Trip Diary survey, which typically takes place every five years. The City is also taking a comprehensive approach to monitoring as part of the Climate Action Plan.

5.1 Principles

This implementation plan identifies the capital improvements that have been prioritized for implementation within the next five to ten years. The priorities were identified based on the guiding principles included throughout the STP and summarized below:

- Prioritize investments in walking and cycling infrastructure in the areas with the highest potential for use, including around schools and community centres, near transit stations and stops, and in areas with land uses that are higher density and mixed use.
- Investments should, whenever possible, complete existing connections to create a complete and continuous network.
- Lower cost improvements should be prioritized where they can be leveraged to serve more of the community or create a more connected network.
- Prioritize connections that support climate resilience and emergency response.
- Priority street and intersection improvements target the areas where there is existing queuing or where the potential for safety improvements have been identified.

It is recognized that some proposed improvements are located in areas that are likely to redevelop in the short- to medium- term. In some of these locations, there is not sufficient existing ROW to achieve the desired facility types. Improvements in these locations were assigned to the medium-term horizon to align with the expected re-development.

5.2 Phasing Strategy

The transportation improvements identified throughout the STP have been prioritized based on the principles outlined above. Priority projects within each theme were identified for implementation over the short-term (0 – 10 years), medium-term (10 – 20 years), and long-term (beyond 20 years). The short-term phase is described in more detail here. More information about the medium- and long-term phases can be found in the full STP document.

Short-Term Implementation Phase

The level of investment required to deliver the improvements identified within the short-term implementation phase is approximately $330 million over 10 years. The proposed short-term improvements are illustrated in **Figure 5-1**.

Integrating an Equity Lens into Planning and Implementation

Equity means striving for a just, free, and fair society where all people have access to opportunities and resources to live a healthy and meaningful life. Addressing structural inequities and ensuring communities are healthy, vibrant, diverse, and inclusive requires prioritizing groups who are underserved and face barriers to participating equally in society – including their access to safe, convenient, and affordable transportation. Applying an intersectional and inclusive equity lens means striving to recognize and mitigate these factors through planning.

An equity lens was applied throughout the STP and in the implementation plan, where neighbourhood demographics that consider the presence of seniors, youth, and low-income households was used to prioritize pedestrian, cycling, and transit infrastructure needs . Focusing improvements in areas that serve seniors, youth, and low-income populations can make the City's investments more effective.

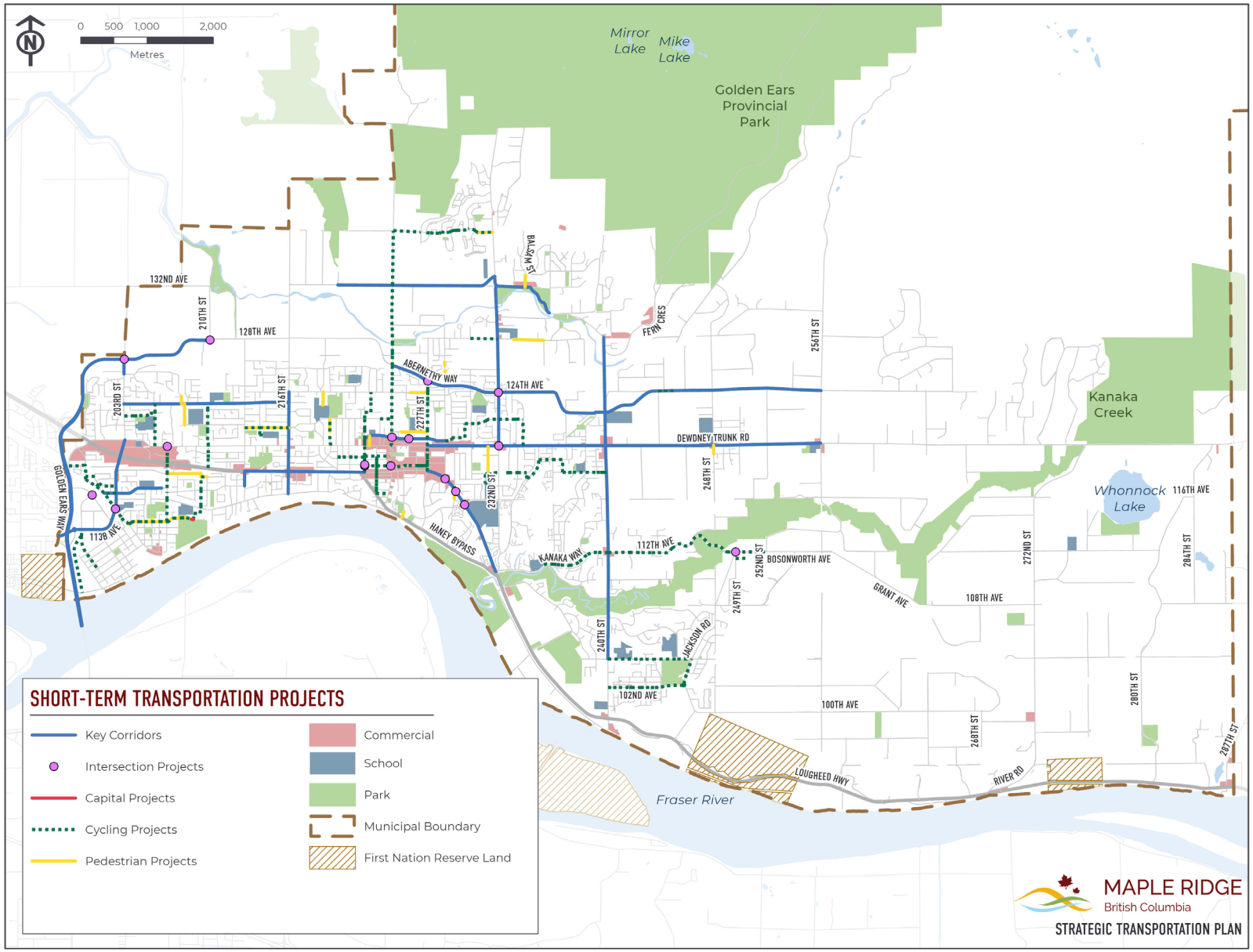


Figure 5-1: Short-Term Improvements

Table 5-2: Short-term Horizon Implementation Order-of-Magnitude Costs (2023 CAD)[7]

CATEGORY OF IMPROVEMENT	LEVEL OF INVESTMENT
Key Corridors	**$230M**
Walking Facilities	**$24M**
Pedestrian Network Improvements	$21M
Regional Greenway Wayfinding Program	$0.06M
WCE Accessibility Program	$0.3M
Town Centre & Lougheed Transit Area Accessibility Program	$0.3M
Pedestrian Crossing Program	$3M
Cycling Facilities	**$71M**
Cycling Network Improvements	$71M
Cycling Wayfinding Program	$0.03M
Bicycle Parking Program	$0.05M
Bicycle Amenities Program	$0.05M
Transit Facilities	**$1.4M**
Transit Priority Program	$1M
Bus Stop Amenity Program	$0.4M
WCE Exchange Amenity Allocation	-
Street Network	**$3.5M**
Roadway Completion	$0.5M
Intersection Improvements	$1.1M
Intersection Safety Program	$0.5M
Traffic Control Warrant Assessment & Investment Program	$1M
Traffic Signal Operations Program	$0.2M
Traffic Calming Policy Program	$0.3M
New Mobility	**$0.04M**
Electric Charging Expansion Program	$.04M
TOTAL	**$330M**

7 Cost estimates are based on concept level information using unit rates for linear works and an allocation for intersection improvements. Cost estimates include 15% engineering and communications as well as 50% contingency. Costs do not include property, utility relocations, retaining structures, and other significant impacts. These estimates should not be used for budgeting purposes.

5.3 Funding Strategies

While the STP is estimated to cost approximately $685 million over the next 30 years and beyond, these costs can be shared by pursuing external funding from other levels of governments, partnerships with other organizations and the development industry, and integration of improvements with other plans and projects. This section describes several strategies that the City may consider to help leverage its investments and to maximize its ability to implement transportation improvements. The City should pursue all available sources of funding for transportation facilities and programs and regularly check with all levels of government to keep up to date on current funding opportunities.