CITY OF MAPLE RIDGE
STRATEGIC TRANSPORTATION PLAN

STP INTERIM REPORT #3
DRAFT STRATEGIES & ACTIONS | JULY 2022

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1.0 INTRODUCTION

The City of Maple Ridge (City) is updating the existing Strategic Transportation Plan (STP) to help address current transportation challenges and shape the future of transportation in Maple Ridge. As Maple Ridge continues to grow the City's transportation system must evolve and be designed to move everyone efficiently and comfortably, however people choose to get to their destinations. Transportation in the city is changing as it adapts to demand, and the addition of new development, technology, and projects that alter how the community moves around. The STP identifies strategies and actions to build connections, improve systems, and plan for the long-term transportation future. The final STP will address all the ways people and goods move around Maple Ridge including walking, cycling, driving, and taking public transportation, and will shape Maple Ridge's multi-modal transportation investments and decision-making over the next 30 years. Community involvement is an important part of the STP update. All community members are being invited to be part of creating a new transportation plan that is inclusive, sustainable, and forward-thinking.

The City of Maple Ridge is a community of 90,990 (2021 Statistics Canada Census Profile) residents in ten neighbourhoods and historic centres that span over more than 260 km^2 of land area between the Fraser River and the Golden Ears Mountains. The geography provides stunning views and ample outdoor recreation opportunities with urban amenities and easy access to nearby population centres due to its location along Highway 7, along with the West Coast Express into downtown Vancouver.

1.1 PLAN PURPOSE

The STP is a long-term plan that will guide policy and investment within the City of Maple Ridge for all modes of transportation. The last STP was completed and adopted in 2014 and has resulted in improvements to the transportation network, including, 128 Avenue / Abernethy Way improvements, Haney Bypass improvements, and 232 Street improvements. Since 2014, the community has grown and changed, along with the regional, provincial, and global transportation context. It is important for communities to update their long-term plans every five to ten years to understand evolving issues, reassess priorities, and develop new long-term plans that will inform capital planning, ongoing operations, and maintenance, as well as policy, programming, and additional study areas.

The City is challenged with maintaining and improving a large transportation network. Transportation decisions affect the community's health, environment, and economy. Effectively planning transportation improvements and policies ensures community members can safety move in and around Maple Ridge. Having a recent, relevant, and clear Strategic Transportation Plan will allow the City to respond to the policy directions and vision articulated in the City's Official Community Plan (OCP) and the Metro Vancouver Regional Growth Strategy. It will also facilitate communication and partnership with neighbouring municipalities, First Nations, TransLink, and the British Columbia Ministry of Transportation and Infrastructure (MoTI). The purpose of the STP is illustrated in Figure 1-1.

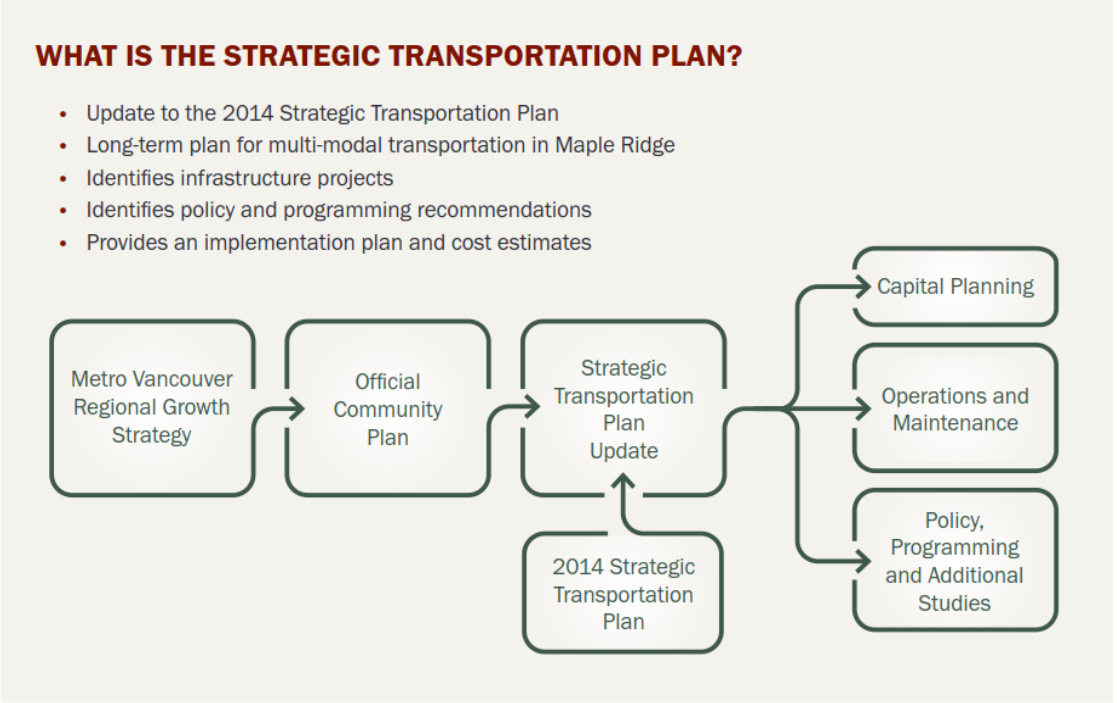

Figure 1-1: What is the STP?

1.2 STUDY PROCESS

The City of Maple Ridge's STP update commenced in April 2021 with Council endorsement of the project work plan. The Plan has been developed based on national best practices as well as local expertise and public input. This approach will result in a plan that responds to how we get around today and how we want to get around in the future. The STP process includes five phases as illustrated in Figure 1-2 and summarized below:

- **PHASE 1:** Project Launch & Administration – this phase includes preliminary project start up tasks and coordination between the project team and City Staff.
- **PHASE 2:** Existing & Future Conditions – this phase focuses on technical analysis of existing and projected future conditions and the first round of public and stakeholder consultation. STP Report #1 summarizes the results of this phase.
- **PHASE 3:** Vision, Goals, and Plan Development – this phase includes the development of an overarching Vision and Goals to guide the STP and identification of high-level plans for multi-modal networks.
- **PHASE 4:** Strategy Development & Refinement – this phase results in the identification and assessment of strategies, as well as development, refinement, and assessment of potential infrastructure projects. **This report (STP Report #3) summarizes the results of this phase.**
- **PHASE 5:** Implementation & Final Plan – this phase completes the study with costing, and development of the final STP.

Figure 1-2: Study Process

This report (STP Report #3 – Draft Strategies and Actions) is the result of technical work completed in Phase 4 and is informed by the results of public and stakeholder engagement in Phase 3. It focuses on identifying the specific strategies and actions – including projects, policies, studies, and partnerships – that will move the City towards its Vision and Goals for transportation. It responds to the results of the work in Phases 1 through 3, which identified existing and future issues and set future directions through both technical planning and engineering work and public and stakeholder engagement.

The draft strategies and actions prepared in Phase 4 were grounded in technical planning and engineering work that identified the actions that were most likely to align with the Goals identified in Phase 3 and were also feasible, practical, and aligned with other municipal, regional, and provincial actions. They were developed using input from Council, Stakeholders, and community members and in reference to local, provincial, and national design guidelines and planning best practices. Key work completed as part of Phase 4 included:

- Integration of stakeholder and public comments from Phase 3 into themes, strategies, and long-term maps.
- Traffic forecasting and analysis.
- Identification and screening of possibilities for key corridors.
- Identification, screening, and development of actions.
- Feasibility screening of potential projects.
- Integration input from City staff.
- Development of Discussion Paper #3, including the text for Themes, Strategies, and Actions that will serve as the core of the Strategic Transportation Plan.
- Stakeholder engagement on draft content for Phase 4.

The activities outlined above resulted in the strategies & actions documented in this report.

1.3 REPORT STRUCTURE

This Report focuses on the strategies and actions that are the core of the STP. These strategies and actions include projects, policies, studies, and partnerships that will move the City towards the Vision and Goals developed in Phase 3. It comprises the following sections:

- **SECTION 1:** Introduction – this section provides background context about the study process and intent and the outline of this report.
- **SECTION 2:** Draft Strategies and Actions – this section provides specific direction on actions that the City can take to advance towards the Vision and goals. The strategies and actions are organized in seven themes – Complete Communities, Key Corridors, Walking, Cycling, Transit, Driving & Goods Movement, and New Mobility.
- **SECTION 3:** Summary & Conclusion – closes the report and outlines next steps.

This report also includes one Appendix:

- **APPENDIX A:** Maps

2.0 STRATEGIES & ACTIONS

This section summarizes the context that was used to develop the future directions for transportation in Maple Ridge. Key input to the development of these future directions includes existing policy, input from the public, stakeholders, and Council. This input was used to develop the draft Vision and Goals, which were then presented back to Council, the public, and stakeholders for feedback.

As illustrated in Figure 2-1, the strategic directions and long-term networks are organized according to seven themes, all of which will be advanced in service of the goals of a safe, connected, reliable, accessible, sustainable, and cost-effective transportation system in Maple Ridge.

The remainder of this section identifies draft strategic directions and preliminary long-term networks for each of the thematic areas.

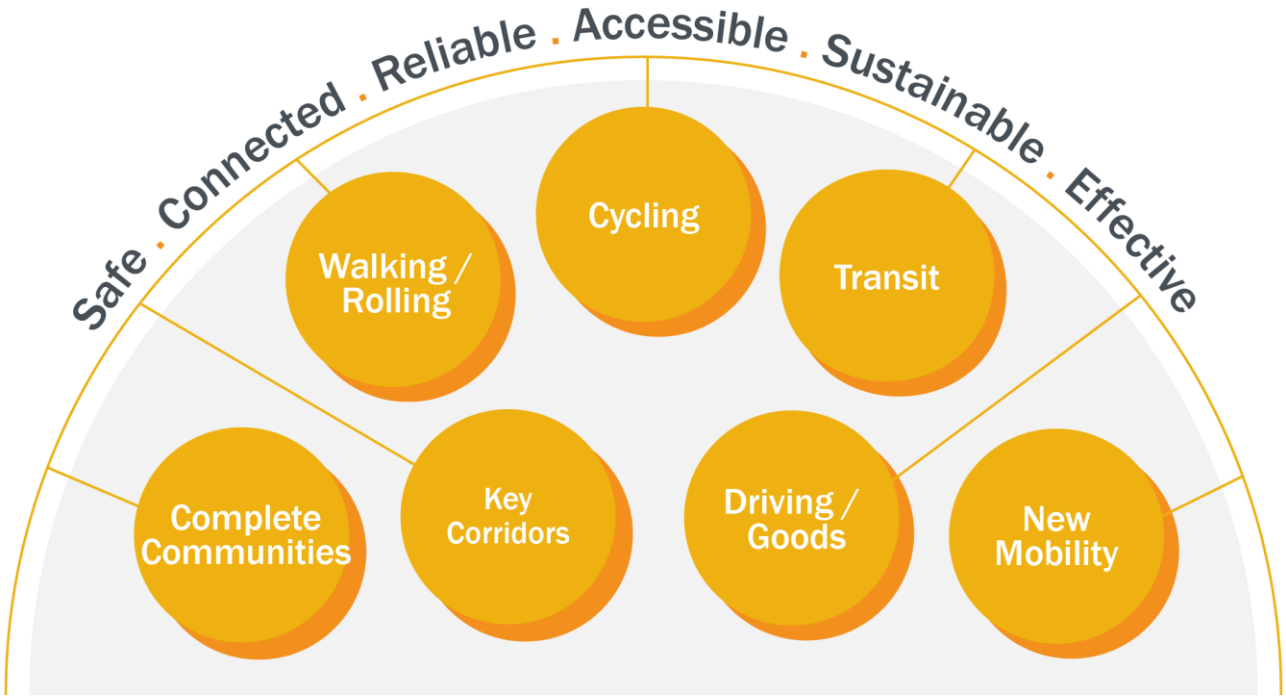

Figure 2-1: Goals & Themes

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 Strategic Transportation Plan'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.

Complete communities benefit residents, employees, employers, visitors, and can help achieve broad community goals. People living in complete communities typically travel shorter distances to reach their destinations and may be more likely to choose walking and cycling as their primary modes of transportation. Higher density complete communities can place more people and destinations within walking distance of frequent and rapid transit. Other benefits of complete communities include lower per capita greenhouse gas emissions, increased personal safety through having more 'eyes on the street', improved access for seniors and low-income households, and improved comfort and vibrancy relative to other built forms. Complete communities offer an opportunity to provide more high-quality public spaces that use Crime Prevention Through Environmental Design (CPTED) principles. CPTED is an approach to planning and designing communities that reduces opportunities for crime, and through the application of its design principles, ensuring people feel safe when they travel.

Regional documents plan for – and outline the benefits of – complete communities. Metro Vancouver's Regional Growth Strategy, ***Metro 2050***

Metro2040 Dashboard
Healthy & Complete Communities

"Complete communities offer **a mix of housing** to accommodate people at all stages of life, a **good range of jobs**, and **easy access to stores and services** to meet daily needs. They also provide residents with **choices about how to get to, from and around their neighbourhood**. Complete communities exist at different scales across the region – from small neighbourhoods to medium and large Urban Centres, from historic and rural communities to new developments near frequent transit."
- Metro Vancouver
(http://www.metrovancouver.org/metro2040/complete-communities/connected-communities/Pages/default.aspx)

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 – fee safe, comfortable and connected.
- Adapted from ***Transport 2050***.

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

includes a strategy to 'Develop resilient, healthy, connected, and complete communities with a range of services and amenities. It identifies a network of Urban Centres – including the Regional City Centre in Maple Ridge – that are complete communities with a "balanced mix of housing, employment, services and amenities."[2] ***Transport 2050*** – TransLink's Regional Transportation Strategy focuses investment in rapid and frequent transit to Urban Centres and Frequent Transit Development Areas. Strong walking and cycling networks in complete communities focus on connecting people to their everyday destinations. This also aligns with the principles of People First Streets, as outlined in ***Transport 2050***.

Building complete communities is also a local objective in Maple Ridge, identified in approved Neighbourhood Plan documents, the OCP and neighbourhood planning documents currently under review such as the Lougheed Transit Corridor Area Plan. The Strategic Transportation Plan includes strategies and actions that complement the City's planning documents and ensure that transportation infrastructure and policy meet the needs of residents and visitors in Complete 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. Complete communities are core to achieving the goals of the STP. This strategy focuses on actions that connect land use 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, neighbourhood plans, and Council's Strategic Plan. The City recognizes that growth needs to be concentrated near community amenities and services, and along rapid and frequent transit corridors. This has led to the focus on densification, complete communities, and comfortable transportation connections in the Town Centre and Lougheed Transit Corridor areas. The Strategic Transportation Plan supports these documents by including actions to align transportation policy with land use policy, ensuring that transportation infrastructure enables walking, cycling, rolling, and taking transit in these and other developing communities.

[2] ***Metro 2050: Regional Growth Strategy*** (2022)

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.

The Town Centre neighbourhood is identified as a Regional City Centre in ***Metro 2050*** and important destination on the future Major Transit Network (MTN) that is established in ***Transport 2050***. The identification of the Town Centre as a Regional City Centre recognizes its role as a service hub for the Maple Ridge / Pitt Meadows subarea, as well as the opportunity for further evolution into a complete community through concentrated growth and development. ***Metro 2050*** also identifies Lougheed Highway from Maple Ridge Town Centre to Coquitlam as a regional Major Transit Growth Corridor (MTGC) and Frequent Transit Development Area (FTDA). In support of these designations, ***Transport 2050*** identified this corridor for investment in future rapid transit as part of the MTN.

The Lougheed Transit Corridor Area Plan (in development) and Town Centre Area Plan seek to concentrate growth along Lougheed Highway in the Regional City Centre and within the catchment area of the Lougheed Transit Corridor. The area targeted for densification extends from Burnett Street in the east to the Pitt Meadows border the west. These plans allow for multi-family housing and an increased density of destinations and services within a ten-minute walk of rapid transit, linking rapid transit and land use to create complete communities that also have comfortable, frequent, and convenient transit service. The plans encourage commercial mixed-use and transit corridor multi-family land uses surrounding future rapid transit station nodes at 203 Street and Laity Street (Figure 2-2) and the Regional City Centre (Figure 2-3).

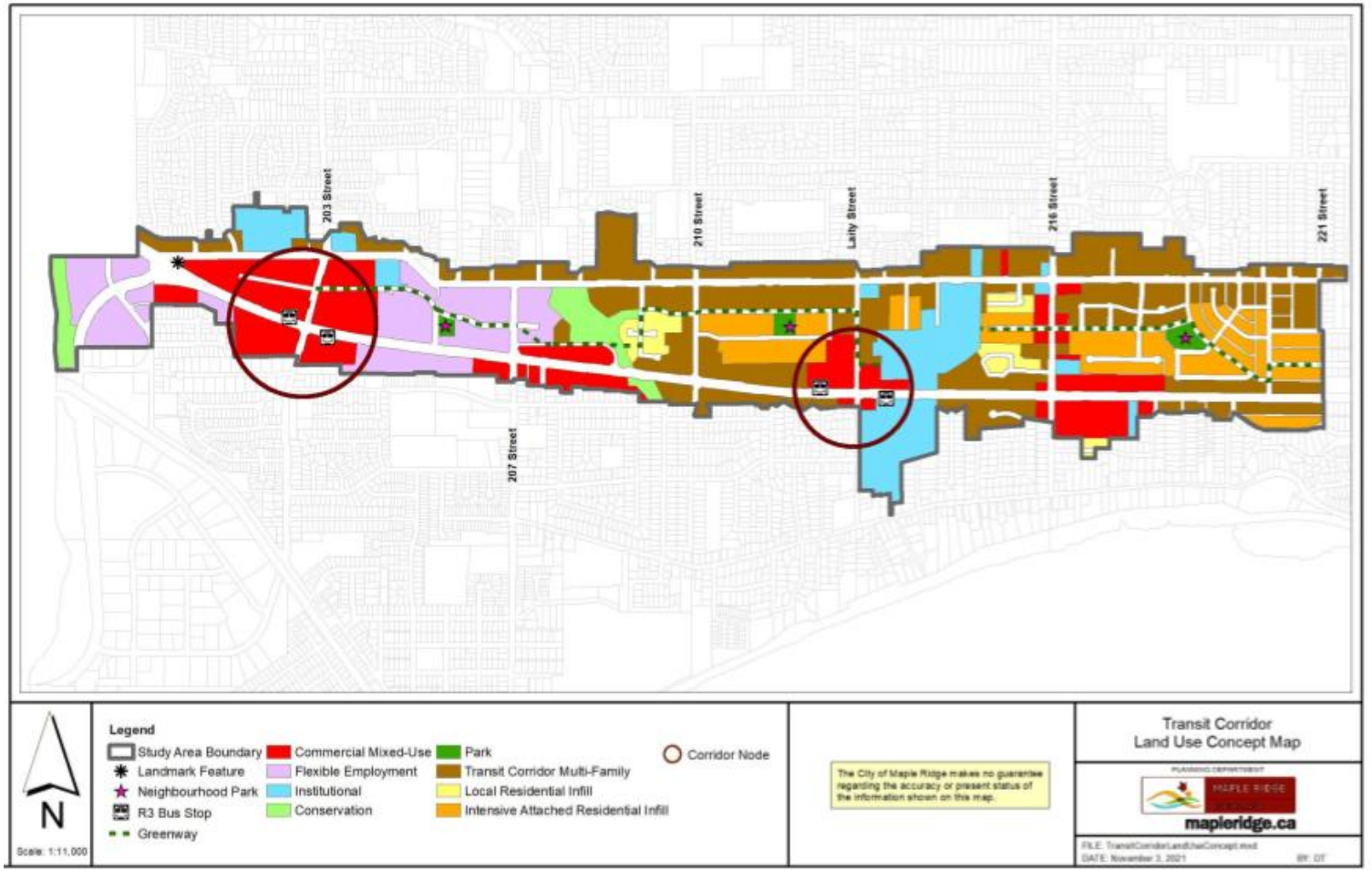

Figure 2-2: Lougheed Transit Corridor Area Plan Land Use Map (under development)
Source: City of Maple Ridge Official Community Plan (2014)

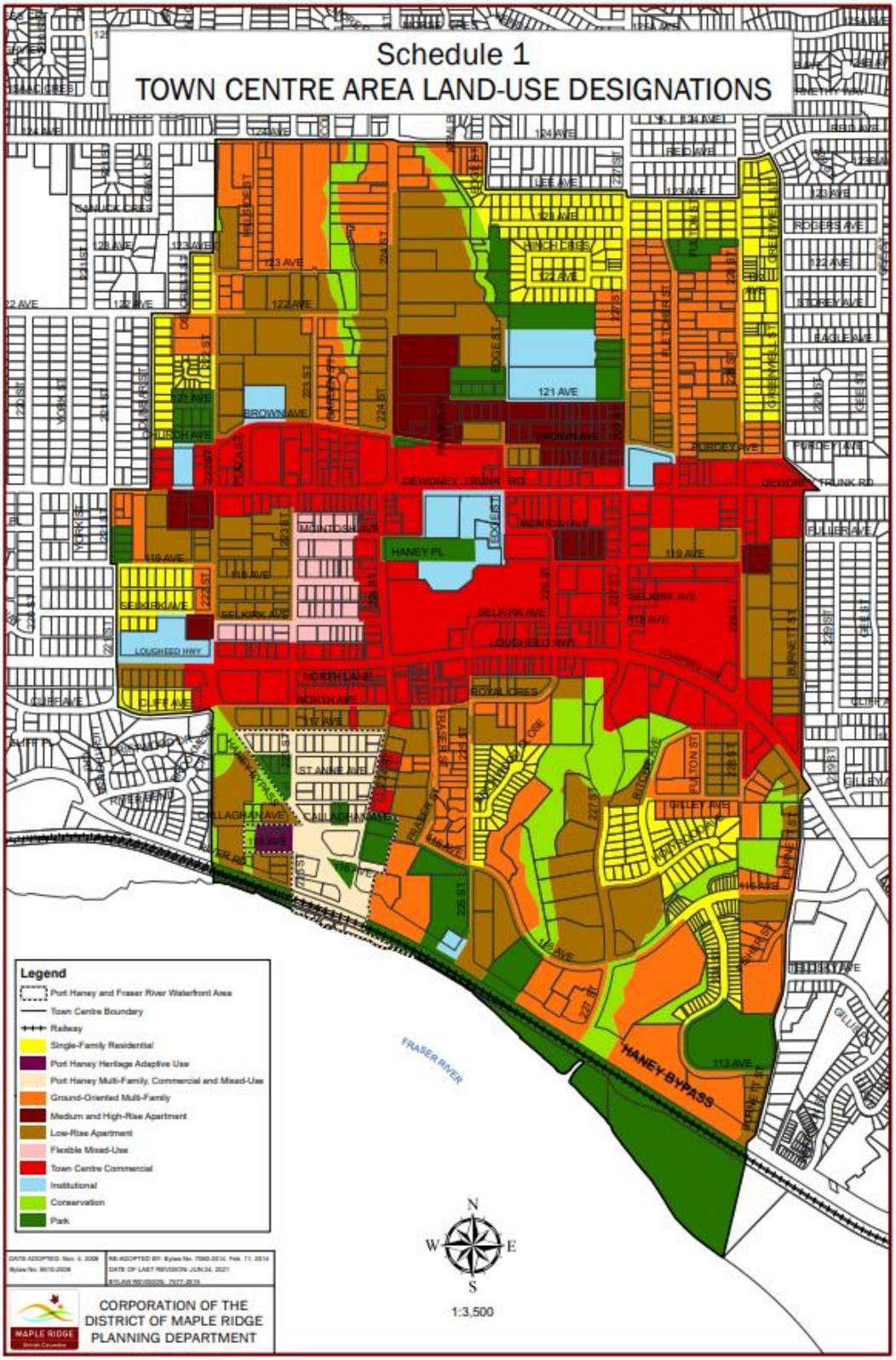

Figure 2-3: Town Centre Area Plan Multi-Modal Transportation Network
Source: City of Maple Ridge Official Community Plan (2014)

As part of this action, the City will

- Continue to work with TransLink, Metro Vancouver, and other regional partners to spur density, growing the stock of Transit-Oriented Development in this area, while also advocating for increased investment in the transit services within and to Maple Ridge.
- Follow the guidance set out in the ***Lougheed Transit Corridor Area Plan (under development)***, the ***Lougheed Transit Corridor Development Permit Guidelines***, the ***Town Centre Area Plan***, and ***Growing Together***.
- Partner with developers to deliver complete communities that align with the intent of TransLink's ***Transit Oriented Community Design Guidelines*** that have a well-designed public realm, higher-density homes located near commercial uses, a diversity of land uses, and well-connected streets that reduce walking distances.

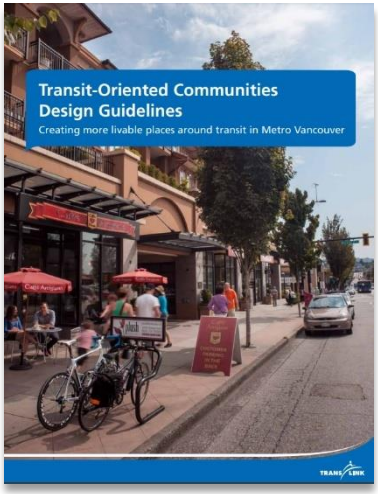

Figure 2-4: TransLink Transit-Oriented Communities Design Guidelines
Source: TransLink (2012)

Growing Together: Public Engagement Outcomes and Recommendations for Maple Ridge's Town Centre (2022)

Growing Together recognizes that Maple Ridge has grown and evolved since the adoption of the Town Centre Area Plan in 2008 and provides renewed implementation guidance that aligns with the original vision. The recommendations from the public engagement process that was undertaken as part of ***Growing Together*** include creating walkable streets, a well-connected cycling network, planting more street trees and green spaces, a stronger connection to the river, and safety improvements intended to enhance vibrancy.

Transit Corridor Development Permit Guidelines. (2022)

The look and feel of the future built environment within the draft Lougheed Transit Corridor Area Plan is driven by the Lougheed Transit Corridor Development Permit Guidelines. The guidelines include provisions for pedestrian and bicycle access, bicycle parking, and pedestrian-scale design and treatments to make those land uses surrounding the transit nodes accessible, comfortable, and enjoyable for non-auto modes. It is important to implement infrastructure and developments that consider non-auto modes, especially near transit nodes, to encourage complete communities.

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.

Many of the City's existing predominately single-family neighbourhoods are relatively new and not intended to redevelop within the time horizon of this plan. Linking land use, transportation, livability, and climate actions in these neighbourhoods relies on more incremental action and investment in existing assets and community destinations.

As part of this action, the City will:

- Focus on improving comfort and connectivity for walking and biking to existing community destinations, including schools.
- Partner to add elements of a complete community, such as childcare, plazas, parklets, and community facilities,
- Partner with community members to consider and implement features like traffic calming and traffic diversion though the Traffic Calming Policy.
- Continue to promote fast and reliable internet connections in all areas of the City so that employees in industries that support remote or hybrid in person / remote work can choose to work remotely and reduce the number of peak hour vehicle trips.

Working from home can reduce traffic volumes in the most congested time periods

COVID-19 resulted in a societal shift towards working from home for some types of employees. In many cities around the world both motor vehicle traffic volumes and transit use decreased by 50% or more throughout much of 2020. Regional traffic count data in Metro Vancouver indicated that daily traffic volumes returned to within 10% of pre-pandemic levels by May of 2020; however, peak hour traffic volumes have remained below January 2020 levels.

Communities can benefit when some residents choose to work from home full- or part-time. Global experience indicates that peak hour vehicle trips decrease, and residents may have more time and money to invest in their local communities. Enabling work from home requires fast and reliable internet connections for all residents in the City.

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.

Standards and industry practices for roadway design have evolved with research focusing on active modes and supportive land use strategies for communities. In particular, the design approach for cycling facilities and pedestrian accessibility measures have changed rapidly in the last ten years. It is good practice to regularly review and update design criteria, specifications, and other elements of design standards that guide the design of new and improved streets by developers and the City. This practice reduces the need for – and complexity of – future retrofit projects and improves comfort for all road users.

Because Maple Ridge has several neighbourhoods constructed in automobile focused eras (1950's to 1990's), many existing roads do not meet current standards for active transportation modes. Reconstructing all roadways is not feasible; however, where there are opportunities to move towards through development, targeted capital projects, or other City priorities, the design and delivery of roadways should be informed by updated design guidelines, as set out in Bylaw No. 4800-1993. Some roadways may require exceptions to design standards, desirable road cross-section elements, or typical minimums due to localized constraints, needs, and challenges.

Although this strategy focuses on Complete Communities, updating rural cross-sections to facilitate comfortable walking and cycling connections is also important and addressed in the B.C. Active Transportation Design Guidelines. The update of Bylaw No. 4800-1933 should include both urban and rural cross-sections.

Subdivision and Development Servicing Bylaw No. 4800-1993

The City's Subdivision and Development Servicing Bylaw No. 4800-1993 sets out the requirements of developers as they deliver new buildings and neighbourhoods. This bylaw includes typical cross-sections and transportation design guidance for new neighbourhoods, for frontages along the boundaries of development, and is often used to inform the design of other transportation projects. Although the City may require different approaches in specific neighbourhoods or along key corridors, a multimodal approach to design standards that is informed by the B.C. Active Transportation design guidelines and evolving industry best practices will move the City towards it's vision and goals.

B.C. Active Transportation Design Guide (2019)

The Province of British Columbia released the B.C. Active Transportation Design Guide to ensure consistent active transportation facility design across B.C. The document provides guidance and recommendations for the planning, selection, design, implementation, and maintenance of active transportation facilities across the province.

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.

Complete communities that support trips by walking, cycling, and transit must have both a good complement of housing and destinations (i.e. complete land uses) and a comfortable and connected network of walking, cycling, and transit infrastructure (i.e. complete transportation) to meet the City's goals. Transportation investment in higher density, mixed use locations are likely to see higher use, making them more cost-effective transportation investments. For developers to partner with the City to effectively deliver walking and cycling connections, transit amenities, intersection improvements, and a high-quality public realm in the context of complete communities, the City must provide clear direction on both the broader vision and specific requirements to ensure that individual sites come together to provide a unified and complete network that meets the City's broader goals.

As part of this action, the City will:

- Work with developers to deliver high-quality, comfortable active transportation infrastructure in infill development. The City can require land developers and property owners to provide street improvements when properties are developed via rezoning or subdivision. Through this mechanism, the City will ensure that frontage and road design meets the City's multi-modal needs and goals.
- Provide guidance and certainty to developers through the development of right-of-way conceptual designs for:
  - Lougheed Transit Corridor area,
  - Town Centre area, and
  - Key transportation corridors (per Theme 2).
- Continue to identify areas where property acquisition or easements would support the building out or enhancement of road, pedestrian and bicycle networks.
- For infill areas and existing infrastructure, prioritize investment in higher density, mixed use areas through:
  - Shorter spacing between active transportation infrastructure.
  - Considering opportunities to decrease the distance between accessible crossings, including shorter blocks and mid-block crossings where appropriate.

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

Municipal and regional infrastructure are often located in transportation corridors. Roadways are often reconstructed as part of regular maintenance, replacement, and expansion programs, providing an opportunity to replace the roadway with an improved cross-section when the project is completed.

The City is also responsible for delivering and maintaining other City services and facilities, including asset management and maintenance, parks and recreational facilities, cultural facilities, community centres, and other infrastructure. When the City is constructing or rehabilitating new buildings, transportation network improvements on frontage roadways will typically be considered as part of the overall capital works. Parks projects can provide direct walking and cycling connections that address network gaps, improve existing facilities, or provide new or improved connections to natural and recreation destinations. Road rehabilitation projects can be leveraged to widen and / or improve asphalt shoulders or redesignate existing travel lane space to other modes.

As part of this action, the City will:

- Review municipal and regional projects from a transportation perspective and seek opportunities for improvements identified in the STP.
- Seek opportunities to provide small improvements where larger projects are not feasible, including wider shoulders, bolt-down curbs, and painted buffers.
- Integrate the guidance provided in the B.C. Active Transportation Guidelines and from the Transportation Association of Canada.

THEME 2 KEY CORRIDORS

Roadway corridors are the framework that supports the movement of most 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.

As the City works to further develop and deliver a multi-modal transportation network, 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.

The actions contained in this strategy are focused on infrastructure improvements along key corridors to deliver a complete and connected transportation network. Each of the actions in this section focuses on a specific corridor and outlines the long-term intent for that corridor, included 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 2-5 and recommendations are summarized Table 2-1. The information included in Table 2-1 is preliminary and to be confirmed through further review and design development.

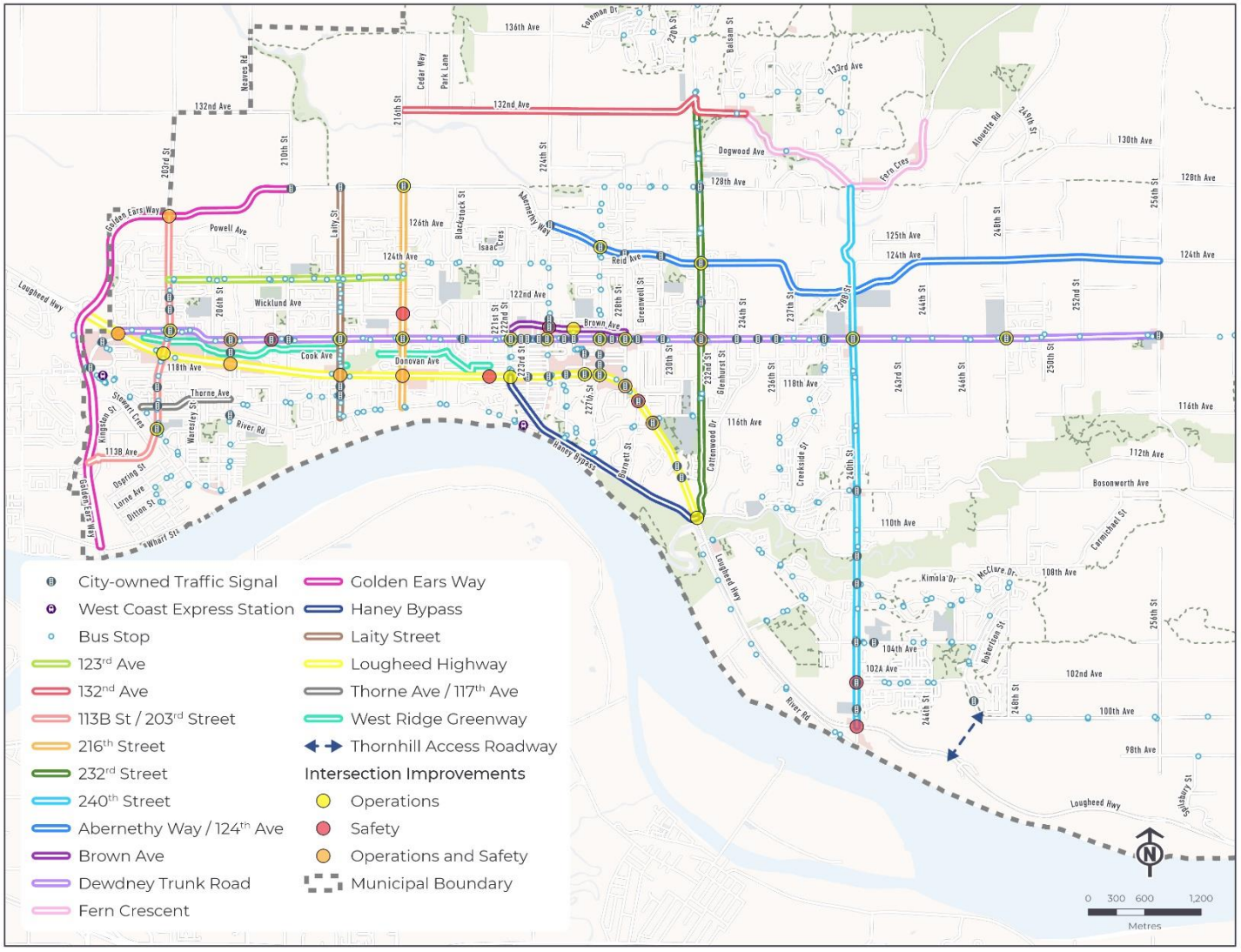

Figure 2-5: Key Corridors

Table 2-1: Future[3] Key Corridors

ACTION NO.	STREET NAME	SECTION	DESCRIPTION	ROAD CLASS	WALKING (both / one / none)	CYCLING (primary[4] / secondary / none)	TRANSIT	TRAVEL LANES	AADT (2050)	BOULEVARD	MEDIAN	PARKING	TYPICAL ROW	INTERSECTION IMPROVEMENTS[5]
2.1.1	Golden Ears Way	210 Street to 203 Street	Widen to four lanes plus turning lanes at intersections. Parallel MUP.	MRN	Both	Primary	n/a	4	35.900	Planted	None	None	30 m	
2.1.1	Golden Ears Way	203 Street to Lougheed Interchange	Widen to four lanes. Parallel MUP.	MRN	Both	Primary	n/a	4	41,500	Planted	None	None	30 m	203 Street – geometric, signal timing, and safety improvements
2.1.1	Golden Ears Way	Lougheed Interchange to 113b Avenue	No change from existing.	MRN	Parallel	Parallel Primary	FTN	4	36,000 – 74,000	n/a	Barrier	None	Varies	
2.1.1	Golden Ears Way	Golden Ears Bridge to 113 B Avenue	No change from existing.	MRN	Both	Primary	FTN	6	74,000	Barrier	Barrier	None	Varies	
2.1.2	Lougheed Highway	Boundary with Pitt Meadows to 222 Street	This section is owned and operated by the Province. Through development, Widen for rapid transit, protected cycling, and improved pedestrian and public realm. Close accesses.	Provincial Highway	Both	Primary	Rapid	4 + 2 Transit	49.600 – 61,100	Planted	Planted / turn lane	None	35 m to 40 m	Dewdney – operational and safety improvements 203 Street– operational improvements 207 Street – operational and safety improvements Laity Street – operational and safety improvements 216 Street – operational and safety improvements 221 Street – safety improvements 222 Street – operational improvements.
2.1.2	Lougheed Highway	222 Street to 227 Street	This section is owned and operated by the City.	MRN	Both	None	FTN	4	23,800	Planted	None	Limited	25 m to 30 m	226 Street / Royal Crescent – operational improvements
2.1.2	Lougheed Highway	227 Street to Burnett Street / 117 Avenue	This section is owned and operated by the City. Through development, widen for protected cycling, boulevards, and improved pedestrian and public realm. Close accesses.	MRN	Both	Primary	FTN	4	23,800	Planted	Planted / turn lane	None	28 m to 33 m	227 Street – operational improvements 228 Street – operational and safety improvements Burnett Street / 117 Avenue – safety improvements
2.1.2	Lougheed Highway	Burnett Street / 117 Avenue to Kanaka Way	This section is owned and operated by the City. Continue the cross-section recently installed between Pazarena Place and 112B Avenue throughout the remainder of the section.	MRN	Both	Primary	FTN	4	17,600 – 26,800	Planted	Planted / turn lane	None	30 m (per existing)	116 Avenue – operational and safety improvements Kanaka Way – operational improvements
2.1.3	Abernethy Way / 124 Avenue	224 Street to 232 Street	Widening to four lanes and provide north side MUP and south side sidewalk. Add turning lanes at key intersections.	MRN	Both	Primary	None	4	20,500 – 31,100	Varies	None	None	23 m – 24 m (per existing)	227 Street – operational improvements 232 Street – operational improvements
2.1.3	Abernethy Way / 124 Avenue	232 Street to 240 Street	Extend major arterial to 240 Street by widening existing 124 Avenue and acquiring new right of way where required. Include north side MUP and south side sidewalk and turning lanes at key intersections.	MRN	Both	Primary	None	4	15,000	Varies	None	None (existing to be removed)	25 m – 30 m	240 – intersection control & operations
2.1.3	Abernethy Way / 124 Avenue	240 Street to 256 Street	Extend major arterial to 256 Avenue. Volumes indicate demand for two lanes plus turn lanes in the 2050 horizon; however property and design should accommodate future four-laning. North side MUP and south side sidewalk and turning lanes at key intersections.	MRN	Both	Primary	None	4	15,000	Varies	None	None	25 m – 30 m	248 – intersection control & operations 256 – intersection control & operations

[3] All descriptions in the table focus on the long-term plan for that element of the key corridors.
[4] 'Primary cycling routes are intended to typically be suitable for All Age and Abilities, where feasible. This may include protected cycle tracks, multi-use pathways, bicycle pathways, or neighbourhood bikeways. Secondary cycling routes could feature a wide range of infrastructure, including wide shoulders, shared routes, as well as protected or separated cycling facilities in some areas. Secondary routes typically do not feature continuous sections of AAA facilities.
[5] Improvements indicated by intersection LOS 'F' in Synchro analysis of base 2050 conditions or through city-wide safety review documented in Interim Report 1. Further information is included in Theme 6.

ACTION NO.	STREET NAME	SECTION	DESCRIPTION	ROAD CLASS	WALKING (both / one / none)	CYCLING (primary[4] / secondary / none)	TRANSIT	TRAVEL LANES	AADT (2050)	BOULEVARD	MEDIAN	PARKING	TYPICAL ROW	INTERSECTION IMPROVEMENTS[5]
2.1.4	240 Street	128 Avenue / Fern Crescent to Abernethy Way	Extend arterial north to cross Alouette River. Two lanes over bridge crossing with MUPs on both sides. Beyond bridge structure, widen to include median / left turn lane and boulevards.	Arterial	Both	Primary	TBD	2	8,000	Varies	Varies	None	20 m – 23 m	Abernethy – intersection control & operations
2.1.4	240 Street	Abernethy to Dewdney Trunk Road	Widen and improve arterial to include two through lanes plus a median / turn lane and additional turning lanes at intersections. Seek to close accesses where feasible. Widen to provide separated cycling and pedestrian facilities on both sides.	Arterial	Both	Primary	TBD	2	15,000	Varies	Varies	None	25 m – 26 m	Dewdney Trunk Road – operational improvements
2.1.4	240 Street	Lougheed Highway to Dewdney Trunk Road	Two-lane MRN roadway with turn lanes at major intersections. Over time, develop more consistent cross-section, building from what is already in place. Look to provide consistent protected cycling and pedestrian facilities on both sides of roadway. Remove some parking. Where parking is retained, transition to wide MUPs or parking buffered bike lanes where feasible.	MRN	Both	Primary	FTN	2	13,500	Varies	None	Some. Reduce existing parking.	20 m (per existing) – 26 m	
2.1.5	Haney Bypass	222 Street to Kanaka Way	Widen to complete four-lane provincial highway. Work with MOTI to seek to include active transportation facilities on one side through	Highway	One	Primary	FTN	4	34,200	Planted / ditch	None	None	Varies	222 Street – operational improvements Kanaka Way – operational improvements
2.1.6	113B Avenue	Golden Ears Way to Hammond Road	Improve to provide protected bicycle facilities. Requires removal of most parking. Seek to close accesses through development. Seek to widen sidewalks and provide boulevard where feasible. Provide turn lanes at intersections.	Arterial	Both	Primary	None	2	14,900 – 17500	Varies	None	Limited[6] Reduce existing parking.	24 m (per existing	Hammond – operational improvements
2.1.6	203 Street	Hammond Road to Lougheed Highway	Improve to provide protected bicycle facilities and more comfortable walking. Requires removal of some parking where ROW is narrow. Seek to widen sidewalks and provide boulevard where feasible. Provide left turn lanes at intersections.	Arterial	Both	Primary	FTN	2	12,900	Varies	None	Varies. Some existing removed.	22 m to 27 m (per existing)	Lougheed – operational improvements
2.1.7	203 Street	Dewdney Trunk Road to Lougheed Highway	Identified as a Complete Street in the Lougheed Transit Area Plan. Through development, widen to provide protected cycling, walking, boulevard, and parking pockets. Consider wider activated set backs at commercial core. Widen at intersections for turn lanes.	Arterial	Both	Primary	FTN	2	9,500 – 12,600	Planted	None	Parking pockets provided. Reduce existing parking.	24 m to 27 m	Dewdney Trunk Road – operational improvements and transit priority improvements.
2.1.7	203 Street	Dewdney Trunk Road to Powell Avenue	No change from existing.	Arterial	Both	Primary	FTN	2	9,500 – 12,000	Varies	None	Parking pockets provided. Reduce existing parking.	20 m	
2.1.7	203 Street	Powell Avenue to Golden Ears Way	Widen to create protected bicycle facility. Widen to include turn lanes at key intersections.	Arterial	One	Primary	None	2	7,200	Planted / ditch	None	None[7]	23 m (per existing)	Golden Ears Way -

[6] Remove existing parking
[7] Remove existing informal parking pockets.

ACTION NO.	STREET NAME	SECTION	DESCRIPTION	ROAD CLASS	WALKING (both / one / none)	CYCLING (primary[4] / secondary / none)	TRANSIT	TRAVEL LANES	AADT (2050)	BOULEVARD	MEDIAN	PARKING	TYPICAL ROW	INTERSECTION IMPROVEMENTS[5]
2.1.8	Dewdney Trunk Road	Lougheed Highway to 232 Street	Through development, close accesses and widen to create an improved pedestrian realm, boulevards, and a median with turn lanes at intersections. Provide high quality transit amenities and transit priority at intersections with high delay.	MRN	Both	None	FTN	4	19,200 – 25,900	Planted	Planted	None	25 m to 35 m	Lougheed Highway – operational and safety improvements 203 Street – operational improvements 207 Street – operational and safety improvements Rosewood Street – safety improvements Laity Street – operational improvements 216 Street – operational improvements 222 Street – operational improvements 224 Street / Garden Street – operational improvements 227 Street – operational improvements 228 Street – operational improvements
2.18	Dewdney Trunk Road	232 Street to 240 Street	Retain travel lanes as existing. Seek opportunities to close driveways and introduce boulevards over time. Retain and improve existing MUP. Provide turn lanes at intersections.	Arterial	Both	Varies (Primary & None)	FTN	4	20,500 – 26,800	Hardscape	None	None.	20 m (per existing	232 Street – operational and safety improvements 240 Street – operational improvements
2.18	Dewdney Trunk Road	240 Street to 256 Street	Through road rehabilitation and repaving projects, develop wide, buffered shoulders that are shared by pedestrians and cyclists.	Arterial	Both	Secondary	Varies (FTN & Fixed Route)	2	10,000 – 14,800	Planted / ditch	None	None	20 m (per existing)	248 Street – operational improvements
2.1.9	232 Street	132 Avenue (North Roundabout) to 132 Avenue / Fern Crescent (South Roundabout)	No change from existing.	Arterial	Both	Primary	FTN	2	11,100	Varies	None	None	20 m (per existing)	
2.1.9	232 Street	132 Avenue / Fern Crescent (South Roundabout) to Abernethy Way / 124 Avenue	Widen to complete sidewalks and create protected cycling lanes and boulevard where feasible. Provide turn lanes at intersections. Provide parking pockets where feasible.	MRN	Both	Primary	FTN	2	8,700	Varies	None	Limited parking pockets provided. Reduce existing parking.	20 m (per existing)	
2.1.9	232 Street	Abernethy Way 124 Avenue to Dewdney Trunk Road	Convert two existing travel lanes to protected cycling lanes and boulevard where feasible. Retain turn lanes at intersections.	MRN	Both	Primary	FTN	2	10,000	Varies	Varies	Varies. Some existing removed.	24 (per existing)	
2.1.9	232 Street	Dewdney Trunk Road to 116 Avenue	Maintain existing cross-section	Arterial	Both	Primary	FTN	2	4,300	Varies	None	One side	22 m (per existing)	Dewdney Trunk Road – operational and safety improvements
2.1.9	232 Street	116 Avenue to Kanaka Way	Maintain existing cross-section for most of length. Provide protected cycling facility on approach to Kanaka Way. Improve active transportation crossing at Cottonwood Drive.	Arterial	Varies	Primary	None	2	1,500	Varies	None	One side	20 m (per existing)	Cottonwood Drive – cycling and pedestrian crossing improvement
2.1.10	Laity Street	128 Avenue to Dewdney Trunk Road	Complete west side sidewalk / east side MUP where feasible. Seek to widen over time to create boulevard and pedestrian throughfare that is free from obstruction. Seek additional property for future widening where feasible.	Major Collector	Both	Secondary	Varies (FTN & None)	2	2,400 – 5,400	Varies	None	Varies. Some existing removed.	20 m	
2.1.10	Laity Street	Dewdney Trunk Road to Lougheed Highway	Identified as a Complete Street in the Lougheed Transit Area Plan. Through development, limit driveways and create wide boulevards, pedestrian areas, and a multi-use pathway that is consistent with the West Ridge Greenway. Include parking pockets to support loading. Provide turn lanes at intersections.	Major Collector	Both	Secondary	FTN	2	4,800	Planted	None	Limited parking pockets	20 m to 25 m	Dewdney Trunk Road – operational improvements

ACTION NO.	STREET NAME	SECTION	DESCRIPTION	ROAD CLASS	WALKING (both / one / none)	CYCLING (primary[4] / secondary / none)	TRANSIT	TRAVEL LANES	AADT (2050)	BOULEVARD	MEDIAN	PARKING	TYPICAL ROW	INTERSECTION IMPROVEMENTS[5]
2.1.10	Laity Street	Lougheed Highway to River Road	Through development, widen at approach to Lougheed Highway to add additional turning lanes. Complete sidewalk. The portion of this segment that is between 117 Avenue and the access to the Ridge Meadows Hospital is primary cycling and should include a separated cycling facility and crossing treatments.	Major Collector	Both	Varies	FTN	2	2,500	Varies	None	Varies (one side / none)	18 m (per existing)	Lougheed Highway – operational and safety improvements
2.1.11	216 Street	128 Avenue to 124 Avenue	Provide continuous walking and protected cycling connection within existing right-of-way. Provide turn lanes at intersections.	Arterial	Both	Primary	Varies (None & FTN)	2	7,300	Narrow planted	None	Limited Parking pockets. Some existing removed	20 m (per existing)	128 Avenue – operational improvements
2.1.11	216 Street	124 Avenue to Glenwood Avenue	Maintain existing curb-to-curb width and provide protected cycling facility by removing parking. Provide turn lanes at intersections.	Arterial	Both	Primary	None	2	8,500	None	None	None. Existing parking removed.	20 m (per existing)	121 Avenue / Mountainview Crescent – safety improvements
2.1.11	216 Street	Glenwood Avenue to 117 Avenue	Identified as a Complete Street in the Lougheed Transit Area Plan. Through development, widen to provide two travel lanes, left turn lane / median, protected cycling, planted boulevards, a wide pedestrian throughfare, and an activated frontage. Limited parking pockets provided to facilitate loading. Provide turn lanes at intersections.	Arterial	Both	Primary	None	2	9,.200	Planted	Planted / turn lane.	Limited Parking pockets.	25 m to 30 m	Dewdney Trunk Road – operational improvements Lougheed Highway -operational and safety improvements
2.1.11	216 Street	117 Avenue to River Road	Change classification to minor collector	Minor collector	One	Primary	None	2	6,100	Narrow planted	None	TBD	20 m (per existing)	
2.1.12	Brown Avenue	222 Street to 228 Street	Change classification to major collector. Through development, provide wide protected cycling facilities, wide pedestrian throughfares, and high-quality public realm. Complete the missing connection between 228 Street and Fletcher Street.	Major collector	Both	Primary	None	2	5,000 – 7,000	Varies	None	Parking pockets.	26 m	
2.1.13	West Ridge Greenway	Western terminus to west of Rosewood Street	Identified in the Lougheed Transit Area Plan.	Local	Both	Primary	None	2	n/a	None	None	Varies	26 m	
2.1.13	West Ridge Greenway	West of Rosewood Street to Maple Ridge Cemetery	Identified in the Lougheed Transit Area Plan.	Local	Both	Primary	None	2	n/a	None	None	Varies	20 m to 22 m	
2.1.13	West Ridge Greenway	Maple Ridge Cemetery to 221 Street	Identified in the Lougheed Transit Area Plan.	Local	Both	Primary	None	2	n/a	None	None	Varies	20 m to 22 m	
2.1.14	Thorne Avenue	Hammond Road to 207 Street	Maintain existing curb-to-curb with improvements at some intersections. Improvements to walking and cycling throughout.	Minor Collector	Both	Primary	None	2	4,700	None	None	Both sides. Largely retained.	20 m (per existing)	
2.1.14	117 Avenue	207 Street to Laity Street	Maintain existing curb-to-curb with improvements at some intersections. Improvements to walking and cycling throughout.	Minor Collector	Both	Primary	FTN	2	2,000	None	None	Both sides. Largely retained.	17 m (per existing)	
2.1.15	123 Avenue	203 Street to Laity Street	Identified as protected cycling infrastructure with connections to schools and future frequent transit service. Improvements to walking and cycling may reduce parking supply.	Major Collector	Both	Primary	FTN	2	4,100	Varies	None	Limited parking pockets. Some existing removed.	16 to 20 m (per existing)	
2.1.1.5	123 Avenue	Laity Street to 216 Street	Identified as protected cycling infrastructure with connections to schools and future frequent transit service. Improvements to walking and cycling may reduce parking supply.	Major Collector	Both	Primary	FTN	2	n/a	Varies	None	Limited parking pockets. Some existing removed.	12 m (per existing)	
2.1.16	Thornhill Access Roadway	Lougheed to Thornhill neighbourhood	This proposed industrial arterial is planned to connect Lougheed Highway to the Thornhill neighbourhood to support development. Further study is needed to determine alignment and cross-section elements.	Arterial	Both	Primary	TBD	2	9,600	TBD	TBD	None	30 m	

ACTION NO.	STREET NAME	SECTION	DESCRIPTION	ROAD CLASS	WALKING (both / one / none)	CYCLING (primary[4] / secondary / none)	TRANSIT	TRAVEL LANES	AADT (2050)	BOULEVARD	MEDIAN	PARKING	TYPICAL ROW	INTERSECTION IMPROVEMENTS[5]
2.1.17	Fern Crescent	132 Avenue to Golden Ears Parkway	Provide MUP on one side throughout. Seek to provide segments of sidewalk or MUP on north side to connect to bus stops, commercial uses, and other destinations where feasible.	MRN	Varies	Primary	FTN		1,000 – 2,500	Planted / ditch	None	None	20 m (per existing)	
2.1.17	Fern Crescent / 132 Avenue	232 Street to Fern Crescent	Provide MUP throughout. Seek to formalize north side trail to MUP or sidewalk where feasible.	MRN	Varies	Primary	FTN	2	6,200	Varies	None	None	16 m (per existing)	
2.1.18	132 Avenue	216 Street to 232 Street	Change classification to major collector. Complete pathway connection.	Major Collector	One	Secondary	None	2	9,300	Planted / ditch	None	None	12 m to 20 m (per existing)	

THEME 3 WALKING & ROLLING

Walking and rolling[8] (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[9] 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, and community centres.

Community connections allow people to comfortably walk or wheel to the 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 the pedestrian connections 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. Key walking destinations include schools, commercial areas, and community centres.

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

The City will partner with MOTI, TransLink, property owners, and other organizations to address connectivity gaps in the sidewalk network. The intent of this action is to work towards a connected walking network where there is a continuous accessible walking route to most destinations, prioritizing complete communities where there is the highest potential for walking. To assess pedestrian infrastructure needs, each roadway in Maple Ridge was assigned a priority based on the following factors:

[8] 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).
[9] According to the 2017 TransLink Trip Diary.

- Road classification
- Proximity to transit
- Proximity to schools
- Population density
- Demographics of neighbourhood (presence of seniors, youth, and low-income households)
- Contribution to a connected pedestrian network

The infrastructure priorities were compared to the existing pedestrian infrastructure to identify locations for investment in pedestrian facilities – which may include trails and / or sidewalks – within the 2050 time horizon. The proposed changes were modified following public and stakeholder consultation to reflect community and partner input where feasible and aligned with the STP goals. The long-term pedestrian network is illustrated in Figure 2-6. The walking network may also include some components of the off-street pathway system.

New walking connections can be sidewalks or multi-use pathways that are shared with cyclists and other users. Walking connections can be implemented in four primary ways:

- **City initiated walking improvements** are delivered by the City through capital projects. These types of projects may include broader corridor construction (per Theme 2), be integrated into other City and regional infrastructure projects (e.g. stormwater or utility improvements), or be targeted pedestrian infrastructure projects. Investments may be funded by the City's capital budget, through Development Cost Charges as part of new roadways or road widening, or through grants and partnerships.
- **MOTI initiated walking improvements** along infrastructure owned and operated by the Province. This is expected to include Lougheed Highway between the boundary with Pitt Meadows and 222 Street as explored in Action 2.1.2 and Haney Bypass, as explored in Action 2.1.5.
- **Developer initiated walking improvements**, which will be required through redevelopment as per the City's neighbourhood plans, subdivision servicing bylaw, relevant development permit guidelines, and other documents as required by the City. All developments are expected to provide suitable walking facilities along the full frontage of the property – including those not identified in Figure 2-6. Pedestrian requirements associated with development are explored further throughout this Theme.
- **Resident initiated sidewalks**, where residents can request a sidewalk through the Local Area Service improvement Process. Residents may wish to partner with their neighbours to fund a sidewalk to connect the street they live on to the broader walking network.

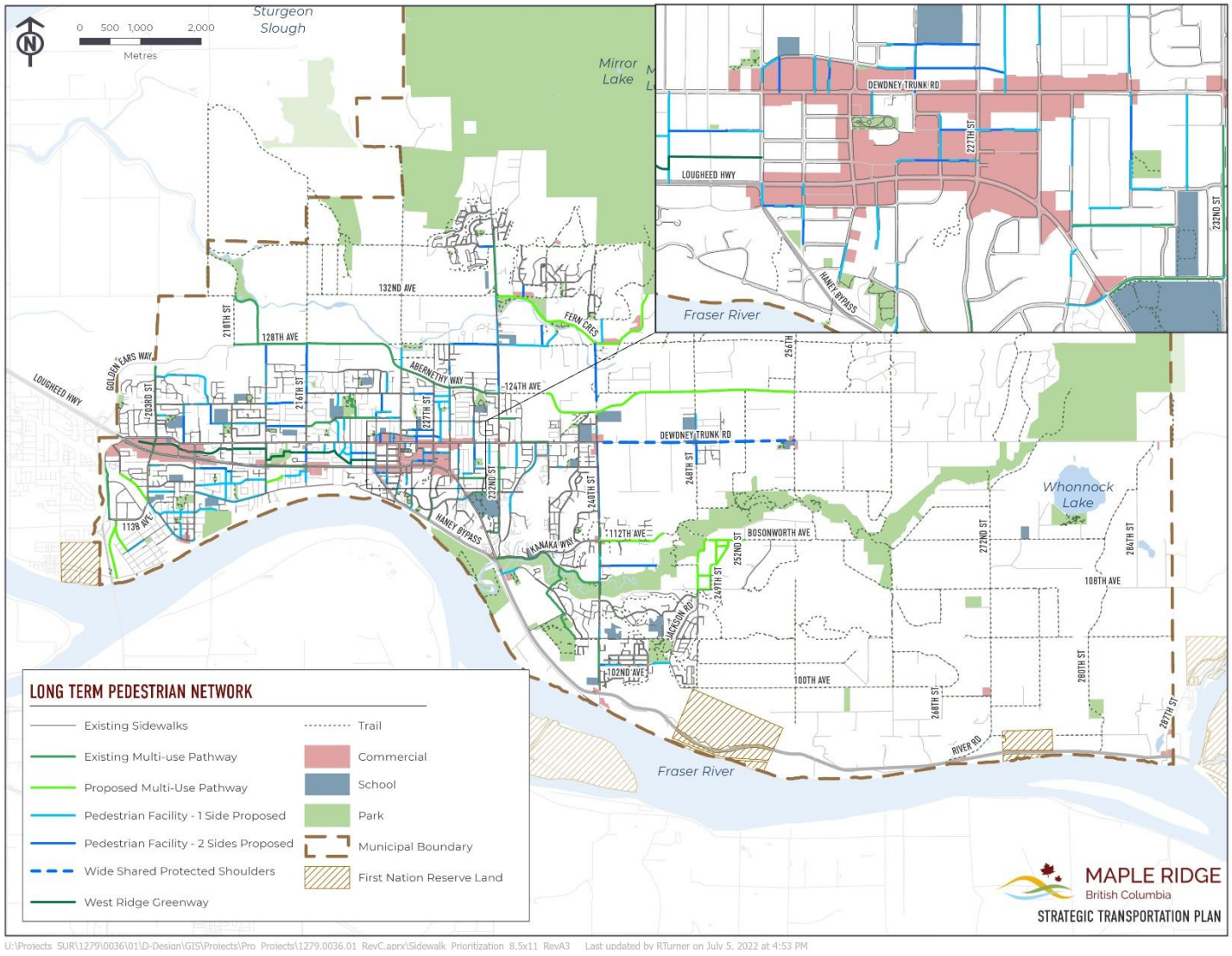

Figure 2-6: Long-Term Pedestrian Network

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

Development can transform and create communities and the type, connectivity, and quality of public realm delivered through development will directly influence the City's ability to meet the goals of the STP. The City has a number of areas that have been identified for potential redevelopment, as well as areas that are suitable for greenfield development.

Direct pedestrian connections support a walkable community by making walking trips shorter. ***TransLink's Transit Oriented Communities Design Guidelines*** (2012) include *Distance* as the second of six 'Ds' of transit oriented design. Short walking (and cycling) distances enable people to walk (or cycle) to destinations in their community and to transit services for longer trips. The existing road network in Maple Ridge includes locations where local roads end in cul-de-sacs and / or crescents and long street blocks where pedestrians are not able to follow the most direct path between destinations. For both infill areas and new communities, developments should provide a dense and connected grid of publicly accessible active transportation connections. In infill areas, this may include dedicated transportation right-of-way to provide an active transportation connection that shortens the travel path between to or more existing roadways. As part of this action, the City will:

- Work with developers to ensure new communities feature high intersection density and a connected internal street network.
- Work with developers to identify active transportation connections, including pathways and cut-throughs that provide the most direct travel path between destinations.
- Ensure that street frontages delivered by development meet or exceed guidance provided by appliable neighbourhood plans, development permit guidelines, and public realm guidance. This is explored further in Strategy 3.2 and Strategy 3.3.
- Ensure that street frontages and new cut-throughs are accessible, include adequate lighting, and follow CTPED principles.

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.

Public agencies, including school districts, health authorities, utility companies, and religious organizations often own large parcels of land that serve both as key community destinations and on a desire line for through travel. The City can partner with these organization to ensure that there is comfortable, connected walking infrastructure leading to and through these sites, where feasible, secure, and appropriate. The City will:

- Look for opportunities to partner to create public easements on institutional land through redevelopment or where new institutions are being constructed.
- Work with agencies and organizations developing institutional land to ensure sites are designed and oriented to prioritize walking and meet guidance in the B.C. Active Transportation Design Guide.
- Look for opportunities to partner with institutions to improve walking connectivity on, around, and through existing large sites where feasible, secure, and appropriate.

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.

Access to nature is an important component of the City's OCP. The City is home to many regional, provincial, and local parks that attract visitors from across the municipality, region, and beyond. As part of this action, the City will seek to work with partners to improve transportation connections that align with greenways and connections to parks along the following corridors:

- Fern Crescent connection to Golden Ears Provincial Park
- Lower Hammond dyke connections using alternate routing identified as primary and secondary cycling networks in Theme 3 (new Hammond neighbourhood off-street pathway, Lorne Ave, Maple Crescent, Westfield Ave, Golf Lane, Steeves Street, 117 Avenue, 216 Street, Lougheed Highway.
- Silver Valley connection via 136 Avenue to the dyke system
- Bonsonworth Avenue / Grant Avenue / 108 Avenue connection to Whonnock Lake.

The City will also partner with regional organizations to improve wayfinding along the Regional Greenway Network and between the Regional Greenway Network and destinations in Maple Ridge.

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 by the City 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.

Universal Design principles ensure that the transportation network is accessible to people of all ages and abilities, including people with reduced mobility, vision, hearing, strength, dexterity, and comprehension. Design elements that can improve accessibility include:

- Pedestrian throughfares that are minimum 1.8 m and free from obstructions.
- Ensuring surfaces are smooth, firm, slip-resistant, free of tripping hazards, and well maintained year-round.
- Accessible curb ramps.
- Frequent resting spots, especially on uphill segments.
- Detectable warning surfaces.
- Audible pedestrian signals
- Signals that always provide a pedestrian phase with well located and easy to activate pedestrian push buttons
- Pedestrian-scale lighting
- Intuitive wayfinding

There are many locations in the City where historic planning and design does not reflect Universal Design principles. As outlined in Action 1.1.3, Bylaw 4800-1993: Subdivision & Development Servicing of Land, should be updated to reflect these principles, which will ensure their use in development-driven road network improvements. Beyond this, improvements to key corridors and new pedestrian infrastructure projects by the City and others will follow these principles.

As part of this Action, the City will:

- Ensure key corridors and other transportation improvement projects are planned and designed with Universal Design principles in mind.
- Work with TransLink to improve accessibility and connections to West Coast Express stations
- Work with Municipal Advisory Committee on Accessibility and Inclusiveness (MACAI) To identify and address accessibility challenges across the City and work to address them in a structured way through an ongoing annual program.
- Improve accessibility in the Town Centre and Lougheed Transit Corridor Area, as explored further in Strategy 3.3.

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

Direct pedestrian connections, including mid-block crossings and cut-throughs, support a connected pedestrian network. The City will assess locations identified through continuation of their annual pedestrian crossing assessment program, input from the public, and other studies to identify locations where mid-block crossings are warranted as per criteria established by the Transportation Association of Canada . As discussed in Action 3.1.2 and Action 3.1.3, the City will partner to identify cut-throughs and connections that will shorten walking distances.

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.

The City supports programs and organizations that foster walking Maple Ridge with a special focus on walking to school. As part of this action, the City will continue to support these programs as they evolve over time.

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.

As explored in Theme 1, 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. Future rapid transit along Lougheed Highway also creates an opportunity to facilitate more people walking to transit to complete longer trips. Investment in walking in the Town Centre and along the Lougheed Transit Corridor is aligned with the City's priorities.

The Town Centre area of Maple Ridge is a Regional City Centre and has existing and future conditions to support growing walking trips. The Town Centre is also an important location for seniors and low-income households, with the area having the highest proportion of both groups in Maple Ridge. Providing comfortable and accessible walking facilities will address existing equity gaps by connecting these residents to community destinations and transit and enabling essential trips.

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

Gaps in the comfort, accessibility, and connectivity of the pedestrian network in the Town Centre and the Lougheed Transit Corridor Area will limit the City's ability to meet it's goals. Action 3.1.1 identified long-term walking network improvements; planned improvements within the Town Centre and Lougheed Transit Corridor Area will be prioritized in implementation planning. Additional improvements will result from developer delivered frontage improvements. The type, cross-section width, and quality of pedestrian and public realm design should exceed minimum requirements where feasible in these areas, including wider pedestrian throughfares, building frontages that are suitable for activation, wide boulevards with street trees and furniture, and high-quality pedestrian-scale lighting. Vehicle access (driveways) s onto arterial and major collector roadways should be limited to reduce conflicts with pedestrians (and cyclists).

Beyond these connections, the Town Centre and Lougheed Transit Corridor Area are particularly important as accessible and comfortable pedestrian and public realm areas. Accessibility, lighting, and wayfinding are important as these areas emerge as vibrant, complete, and connected communities.

As part of this action, the City will:

- Prioritize addressing sidewalk gaps in the Town Centre and the Lougheed Transit Corridor Area
- Develop specific guidance for developers in these areas outlining a requirement to deliver pedestrian facilities and amenities that exceed the minimum guidelines set in Bylaw 4800-1993[10] wherever feasible.
- Review existing gaps in pedestrian accessibility in these areas and continue to address gaps over time.
- Create a wayfinding plan for these areas, including direction to heritage and river destinations, branding and direction for the civic core ring route, direction to the West Coast Express and Rapid Transit, and wayfinding for other destinations.
- Follow the guidance for the pedestrian and the public realm provided in the ***Lougheed Transit Corridor Area Development Permit Guidelines***, the ***Lougheed Transit Corridor Area Plan***, the ***Town Centre Area Plan***, and ***Growing Together***.

[10] As updated through Action 1.1.3.

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.

Lougheed is a central connection through both the Lougheed Transit Corridor Area and the Town Centre and essential for pedestrian access to rapid transit and commercial and institutional land uses. To achieve the vision set out in neighbourhoods plans and other documents, pedestrian facilities along Lougheed should be supportive of the urban environment and follow the best practices outlined in the B.C. Active Transportation Design Guidelines. Opportunities for activated building frontage, wide pedestrian thoroughfares, a high-quality furnishing zone / boulevard, and lighting are central components of the vision for this corridor. The intent for Lougheed as a key corridor is outlined in Action 2.1.2. Note that this is detailed in the key corridors theme. As part of this action, the City will partner with MOTI and developers to ensure the future Lougheed meets these pedestrian and public realm needs.

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. Linking key community destinations and transit with safe and comfortable cycling facilities can help to grow cycling mode share in Maple Ridge.

Regionally, ***TransLink's Regional Cycling Strategy*** and ***Transport 2050*** identify a Major Bikeway Network (MBN) that connects Urban Centres 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 Strategic Transportation Plan includes 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 suitable for people of All Ages and Abilities (AAA) will increase the mode share of cycling and enable the City to meet the broader goals of the STP. AAA routes can consist of physically separated facilities, such as multi-use pathways, protected bicycle lanes, and off-street pathways on streets with high traffic volumes and / or speeds, as well as local street bikeways. Local street bikeways are signed bikeways on low volume neighbourhood streets, where cyclists travel on-street with vehicles. These streets have lower speed limits and potential traffic calming features implemented by the City. Cycling networks typically also include routes with less comfortable supporting facilities that provide more options for cyclists, but may not be suitable for all. Figure 2-7 illustrates a range of bicycle facility types, including both AAA and Supporting Facilities. The City's cycling network will combine both AAA and supporting cycling 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 2-7: Bicycle Facility Types

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

The long-term cycling network includes two complementary designations – primary and secondary. Primary cycling routes are intended to typically be suitable for All Age and Abilities, where feasible. This may include the facilities illustrated in the blue 'All Ages and Abilities' area of Figure 2-7. Secondary cycling routes could feature a wide range of infrastructure, this may include those listed in the maroon Supporting Facilities' area of Figure 2-7. Secondary routes typically do not feature continuous sections of AAA facilities.

The long-term cycling network shown in Figure 2-8 was developed collaboratively with stakeholders based on the following principles:

- Include the MBN corridors in the Primary Network and seek to make those facilities AAA where feasible. These include Lougheed / Highway 7, 113B Avenue / 203 Street, portions of Golden Ears Way / 128 Avenue / Abernethy Way, and 232 Street.
- Provide the highest density of Primary network in the Town Centre, which is an important community destination with an urban form that can be challenging for cyclists, including on-street parking, driveways, and high-speed roadways.
- Provide a high density of routes in the areas within and around the Lougheed Transit Corridor Area and Town Centre, where more people and destinations will be close to investments in cycling infrastructure.
- Connect communities to schools to ensure that as many families as possible can cycle to school on Primary cycling routes.
- Create a network of continuous north-south and east-west Primary routes to connect neighbourhoods.
- Strengthen multi-modal connections between transit and cycling, such as connections in the Town Centre, West Coast Express stations, current RapidBus stops (and future Bus Rapid Transit Stops, as identified in Theme 1 and Theme 5), and Haney Place Transit Exchange.
- Create a network of supporting secondary routes that supplement the Primary route, leverage existing infrastructure, and provide connections to rural areas.

In addition to linear infrastructure along primary and secondary routes, bicycle network improvements also include intersection treatments, such as cross-rides, bicycle signals, and protected intersections can improve the safety and comfort of bicycle facilities.

As part of this action, the City will work with partners to design and deliver the long-term cycling network illustrated in Figure 2-8.

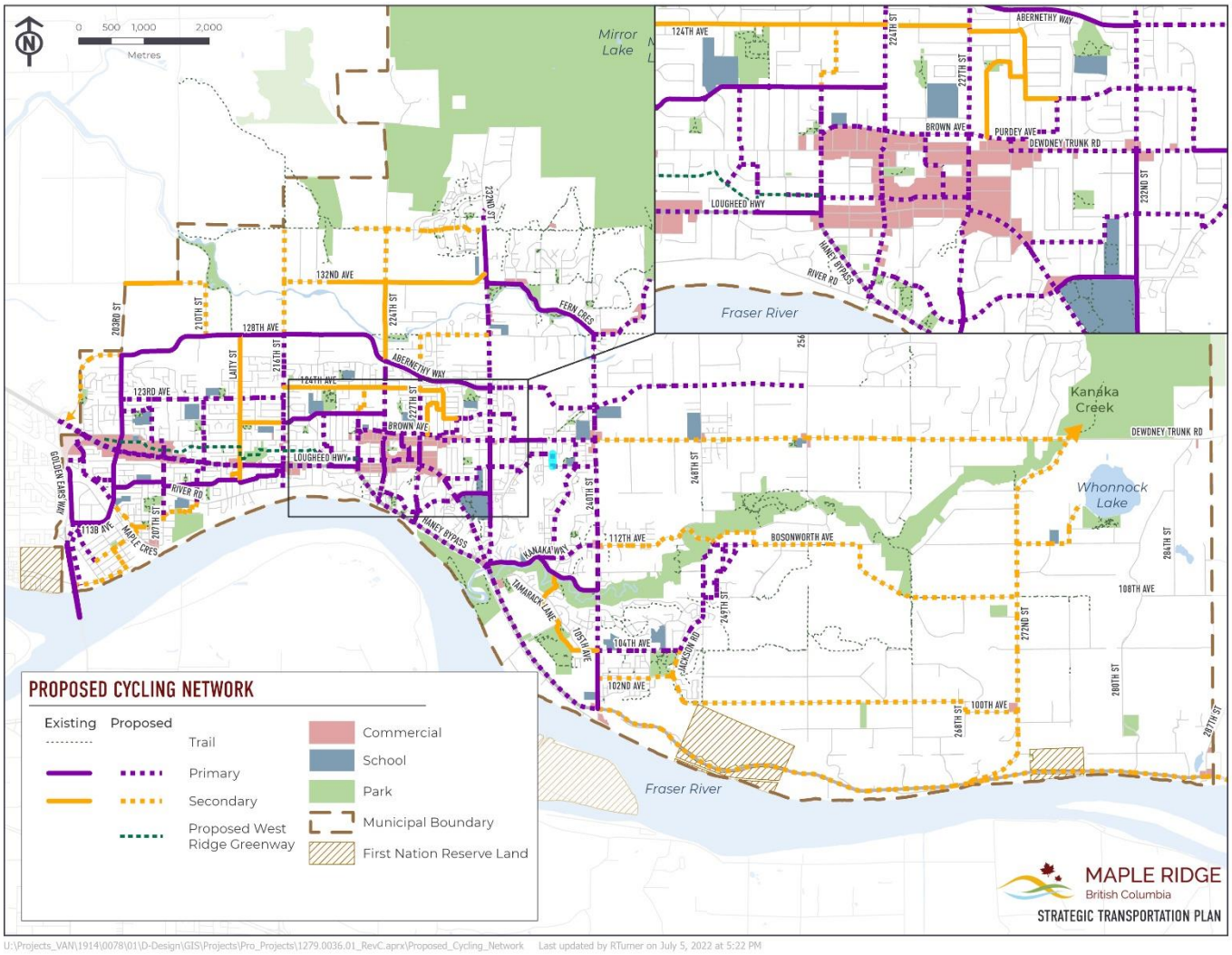

Figure 2-8: Long-Term Cycling Network

Action 4.1.1 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.

There are some existing cycling routes in the City that are located along the future Primary network but are not currently suitable for All Ages and Abilities. There are some existing Secondary routes where there is little separation between cyclists and high-speed motorized vehicles, or where broader key corridor improvements are anticipated. As part of this action, the City will:

- Seek to provide AAA facilities wherever possible along these routes.
- Seek opportunities to improve bicycle facilities on secondary routes with high volumes and speeds.

Action 4.1.2 Implement support facilities such as wayfinding, secure bicycle parking and end-of-trip facilities to make cycling convenient.

Support facilities make cycling a more attractive and convenient transportation choice by making sure that cyclists have the infrastructure and guidance needed before, during, and after their trip. As part of this action, the City will:

- Create and install bicycle route signage along primary and secondary routes. This is particularly important for neighbourhood bicycle routes and shared streets, where the best and / or most direct route may not be immediately clear to new riders or visitors to the area. Wayfinding can also help cyclists understand which route best matches their abilities and comfort levels. Bicycle wayfinding can also help educate drivers about the potential presence of cyclists on the roadway
- Partner to install safe, secure parking for bicycles at key destinations, including West Coast Express and Rapid Transit stations, Municipal Hall, libraries, and schools.
- Work with developers to provide secure bicycle parking and end-of-trip facilities through the update of Bylaw 4350-1990.
- Seek opportunities to provide cycling amenities throughout the City, including drinking fountains with bottle fill stations and bicycle maintenance stations.

Action 4.1.3 Work with developers to implement high quality cycling infrastructure.

Both infill and new development provide unique opportunities to deliver high quality cycling infrastructure that will connect key destinations for both new and existing residents. As discussed in Theme 1, providing connections in the City's emerging complete communities is particularly cost effective because of both the number of potential cyclists and the density of destinations. Working

with greenfield development to ensure cycling is embedded in neighbourhood design provides a high level of value and reduces the need for future changes. As part of this action, the City will:

- Acquire property and / or easements along the road right-of-way and along cut-through desire lines to facilitate the delivery of the primary and secondary cycling network.
- Leverage development in infill areas to deliver the planned cycling infrastructure along each frontage. In some cases, this will result in a discontinuous network over time until more properties are developed. The City will seek to tie ultimate cross-sections delivered through development to interim connections wherever possible.
- Direct developers towards the ***BC Active Transportation Design Guidelines*** to supplement city design guidelines for bicycle infrastructure in the City of Maple Ridge.
- In new neighbourhoods, work with developers to plan delivery of separated AAA cycling infrastructure and protected intersections on arterial and collector roadways, with particular attention to roadways that connect to schools.

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.

As identified in Theme 2, the City will continue to work with MOTI to implement the Major Bikeway Network along Lougheed Highway by partnering to acquire property and ensure that development frontages include protected cycling infrastructure. The city will also partner with MOTI to seek opportunities to provide interim improvements to cycling infrastructure along the remainder of Lougheed Highway and the Haney Bypass.

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.

Cyclists in Maple Ridge must connect to – and travel through – other municipalities to reach key regional destinations. As part of this Action, the City will work with municipal neighbours to provide and enhance continuous cycling connections at municipal boundaries.

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.

The STP has undertaken technical review and consultation to understand the needs and opportunities for cycling for transportation purposes within Maple Ridge. Key connections that align with the Regional Greenways Network have been incorporated into this plan, which supersedes the regional document for connections within the road right-of-way. As part of this action, the City will:

- Partner with Metro Vancouver to connect the Regional Greenway Network to the Primary and Secondary Cycling network where feasible, including along locations identified in Action 3.1.4.

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

The Province owns and operates Haney Bypass between 222 Street and Kanaka Way and Lougheed Highway between Kanaka Way and the Mission / Maple Ridge Boundary. As discussed in the Key Corridors theme, this highway connection forms the spine for through travel in Maple Ridge and currently provides for regional and provincial goods movement, transit, and private vehicles trips. As summarized in Action 2.1.2 Lougheed Highway has been identified as part of the Major Bikeway Network. As identified in Action 2.1.5, the Haney Bypass provides a connection between Albion and the Town Centre that has a low elevation change that is reasonable for most cyclists. As part of this action, the City will:

- Continue to work with MOTI to explore opportunities to provide a protected cycling connection along or parallel to the Haney Bypass.
- Continue to work with MOTI to explore options to improve cycling connectivity and separation along or parallel to Lougheed Highway from Kanaka Way to 240 Street.
- Continue to work with MOTI to improve cycling connectivity to Mission via Lougheed Highway east of 240 Street.

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.

The City supports programs and organizations that foster cycling in Maple Ridge with a special focus on walking to school. As part of this action, the City will continue to support these programs as they evolve over time.

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. Land use and density on frequent transit corridors can help to promote connections between residents and visitors to where they want to go, and when they want to get there.

Maple Ridge has experienced rapid population growth, the City has more than doubled its population over the last 30 years and is projected to reach nearly 125,000 people by 2050. While the City is enabling the growth of complete communities along the Lougheed Transit Corridor area and in the Town Centre (as described in Theme 1), regionally, ***Transport 2050*** establishing the MTN with a focus on serving urban centres and frequent transit development areas, including those in Maple Ridge. ***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.[11]

Regional investment in transit service as outlined in ***Transport 2050*** aims to make transit the most convenient choice for longer trips. The MTN will be convenient, reliable, fast and competitive with car travel. Currently 68% of trips starting in Maple Ridge stay in Maple Ridge, another 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 and 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 and the City are partnering to explore future opportunities to advance delivery of the MTN in Maple Ridge.

The Strategic Transportation Plan includes the following actions that focuses 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.

[11] Walking distance is defined as 800 m from the MTN.

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.

As identified in Theme 1, 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.

The ***Maple Ridge-Pitt Meadows Area Transport Plan*** (ATP) identified transit service and frequency improvements throughout Maple Ridge. The routes proposed in that plan have been incorporated into the STP, as shown in Figure 2-9. The ***ATP*** and ***Transport 2050*** both identify a future rapid transit corridor along Lougheed Highway.

The City's plans, as outlined in Theme 1, focus residential density in the areas that are best served by transit. This will increase the proportion of people that are within walking distance of the transit network. At the same time, the City will work with TransLink to increase service to residents in eastern Maple Ridge, ensuring that most residents live within 400 m of the transit network.

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.

In addition to conventional and on-demand transit provided by TransLink, the School District provides school bus services to students in Silver Valley and east Maple Ridge. TransLink also offers HandyDART service for people who are unable to navigate conventional public transit without assistance.

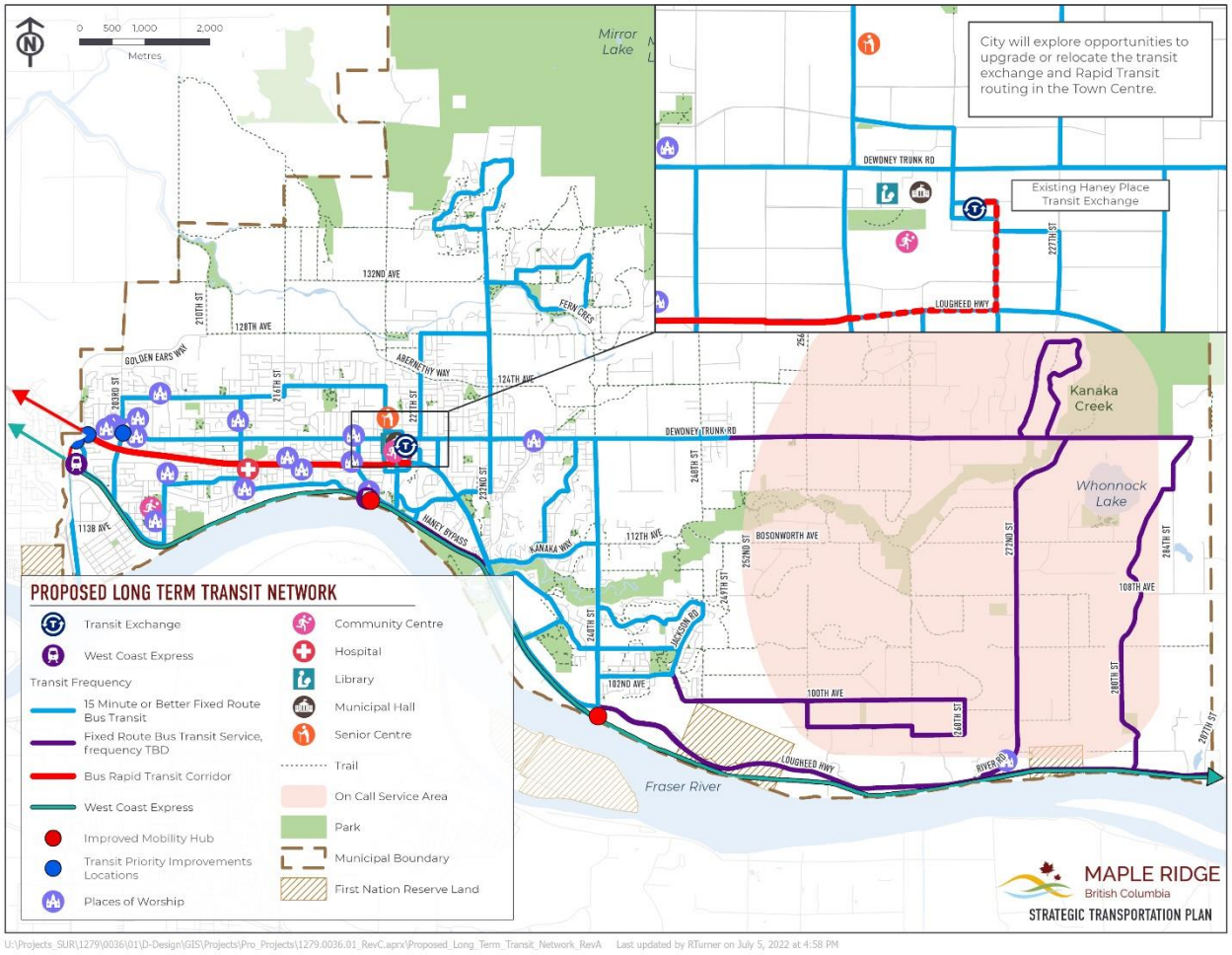

Figure 2-9: Long-term Transit Network (based on recently approved ATP)

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

As noted above and outlined in Theme 1, the City's plans and policies will create Complete Communities in the Town Centre and Lougheed Transit Corridor area, which are also well served by frequent and rapid transit. The ***Lougheed Transit Corridor Area Plan*** identifies Transit Nodes near planned rapid transit stations near the intersections of 203 Street and Lougheed Highway and Laity Street and Lougheed Highway. The planned terminus for rapid transit is the Town Centre with a transit hub that is a major transfer point of multiple transit routes. The areas within walking distance of rapid transit and along the rapid transit corridor will be mixed-use employment hubs with higher density housing that serves the needs of many.

As part of this action, the City will work with developers and TransLink to deliver transit-oriented communities in the Town Centre and the Lougheed Transit Corridor Area.

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.

Development in the Town Centre will create opportunities to reimagine connections and services. This include reconsidering the location, design, and amenities of the Town Centre transit hub. As identified in the ***ATP***, the existing Haney Place exchange lacks amenities such as washrooms. The existing location also has poor cycling connectivity and requires the rapid bus to take an indirect travel path. Additional amenities and service improvements, along with additional layover capacity, may be feasible through the relocation of the Town Centre transit hub.

As part of this action, the City will:

- Work with the development community to identify and implement a new location and or, improvements for the Haney Transit Exchange.

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 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. All of these services work together to deliver transit connectivity to residents, employees, and visitors to Maple Ridge.

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. Traffic congestion on busy routes cause delays to bus service, resulting in longer waits, bus bunching, and higher operating costs for the same level of service. TransLink estimates that $75 million per year in operating costs are attributable to roadway delay. Because congestion on the municipal and provincial road network cause delay to bus service, road authorities have a central role to play in improving bus speed and reliability.

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

Transport 2050 identifies rapid transit along Lougheed Highway as part of the future MTN. This route will serve the evolving transit-oriented communities in the Lougheed Transit Corridor Area and in the Town Centre. The intent for Lougheed is summarized as part of Theme 2 and is expected to include dedicated bus rapid transit lanes on Lougheed Highway between Coquitlam Central (Transit Hub) and the Haney Place Transit Exchange. In addition to the rapid transit connection to Coquitlam, ***Transport 2050*** also identifies a rapid transit connection to Langley to support the Surrey Langley Skytrain (SLS) extension (SLS is planned for operation by 2028) Since ***Transport 2050*** was approved in January 2022, subsequent work is needed to determine the type of rapid transit service, impacts to general purpose travel lanes, and the corresponding roadway cross section required to accommodate rapid transit service on Lougheed Highway and the Golden Ears Bridge.

While the full build-out of the rapid transit corridor relies on property acquired through development, there is an opportunity to increase transit priority and active transportation connectivity to transit along Lougheed over time through interim improvements at intersections and along development frontages.

As part of this action, the City will:

- Work with TransLink and MOTI to define and design the future Lougheed Highway and Golden Ears Bridge, connecting the rapid transit route to the future Town Centre transit hub.
- Seek to improve active transportation connectivity and the quality of the public realm on roadways that intersect with Lougheed, creating complete, people-first streets.
- Work with MOTI and developers to acquire property and easements required to deliver the vision for this corridor.

Action 5.2.2 Work with TransLink to identify and implement transit priority measures that improve bus speed and reliability along the FTN.

Road authorities can improve transit speed and reliability by investing in transit priority measures in congested locations. The *ATP* identifies the intersections of Dewdney Trunk Road & Lougheed Highway, Dewdney Trunk Road & 203 Street and connections to Maple Meadows station as locations where road congestion reduces bus reliability. Bus priority measures can include transit signal priority or passive signal priority, dedicated transit lanes, managing curbside uses, and providing bus bulges, boarding islands, floating bus stops, and improved platform designs. Bus stop consolidation can also improve bus speed and reliability.

As part of this action, the City will work with TransLink to identify locations where bus priority measures could improve reliability and complete design and planning work to determine the feasibility of improvements at these locations. The City will also work with developers to identify potential transit reliability improvements through development, including opportunities for property acquisition to support transit priority measures.

Action 5.2.3 Continue to promote West Coast Express improvements, including frequency and hours of service improvements, to all levels of government, TransLink, and rail companies.

The West Coast Express is a reliable and comfortable transit service with limited frequency and hours of service. Improving West Coast Express service is a high priority for many Maple Ridge residents.

As part of this action, the City will:

- Continue to promote West Coast Express improvements, including working with TransLink to engage in the planned *West Coast Express Strategy*.
- Support the potential for development of a new mobility hub and West Coast Express station in Albion.

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.

Many transit riders arrive at transit stops and stations as pedestrians. As identified in Theme 3, planned improvements to the walking network are focused on areas around transit stops and stations. Bus landing pads and accessible loading areas are also an important component of providing accessible transit stops and stations. As part of this action, the City will seek to provide accessible pedestrian connections to transit stop sand stations.

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

Transit passenger amenities that make bus stops and transit exchanges more comfortable can increase both the attractiveness of transit and increase passenger safety and satisfaction. Bus stop amenities typically include benches, shelters, bicycle parking, customer information, lighting, garbage bins. Transit exchanges may also feature public restrooms, heated spaces, enhanced bicycle and micro-mobility parking, park-and-rides, passenger drop-offs, and places to purchase food and drink. As part of this action, the City will:

- Conduct a review of existing bus stop amenities and identify gaps in amenities and accessibility.
- Continue to improve amenities as bus stops including benches, shelters and accessibility.
- Work with TransLink to implement the recommendations of the ATP concerning amenities around West Coast Express stations (e.g. washrooms, accessible pedestrian connections, improved lighting, cycling connections, bicycle parking, wayfinding).
- Seek opportunities to integrate amenities into the delivery of new rapid transit stations and the future Town Centre transit hub.

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

Most trips using transit begin with another mode, including walking or rolling, cycling, driving, or being a passenger in a vehicle. Comfortable and accessible multi-modal connections to transit are included in Strategies 3.1, 3.3, 4.1, 4.2, and Actions 5.2.3, 5.31. and 5.3.2.

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 this Regional City Centre and 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. 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.

The recommendations in this theme were developed through an assessment of existing and projected future traffic volumes using TransLink's Regional Travel Demand Model, which had been updated to reflect proposed land uses in Maple Ridge and Mission. The model was used to understand potential changes in vehicle volumes on the road network in 2035 and 2050 and to confirm the need for new or expanded roadways based on demand.

This theme includes strategies and actions that create new connections and improvements to reduce inefficiencies and accommodate growth, improve safety, and look forward to manage the demand for the road network.

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

The 2014 STP identified new roadway connections that will complete the transportation network in new areas, providing multimodal links to developing industrial land and new neighbourhoods. Since 2014, the City has advanced the design of some of these connections, including identifying alignments. As part of the 2022 STP, these links were reviewed based on existing and forecast traffic volumes to confirm the recommended cross-section and potential timing. These links will 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.

The long-term roadway network is illustrated in Figure 2-10. It includes the Thornhill Access Roadway and extensions of Abernethy Way and 240 Street, which are key corridors and explored further in Theme 2, as well as two additional new arterial roadways that were not included in the key corridors. Planned new arterial roadways include:

- **Abernethy Way from 232 Street to 256 Street** – this roadway provides a northern east-west connection and alternative to Dewdney Trunk Road and Lougheed Highway. It is mainly surrounded by lands designated as part of the Agricultural Land Reserve (ALR), which is unlikely to change in the future. The ***Abernethy Way Extension Study*** completed analysis of the first easterly extension of Abernethy from its current terminus at 232 Street with a proposed new alignment extending this roadway to 240 Street. This route selection was confirmed in November 2019 and is planned for completion by 2026. This segment is planned to be phased initially with two lanes and ultimately four lanes projected to accommodate approximately 15,000 vehicles per day by 2050. The general alignment for the extension of Abernethy Way from 240 Street to 256 Street was confirmed in November 2020, this route generally follows the 124 Avenue alignment and is expected to have a two-lane cross section and to accommodate between 3,000 and 9,500 vehicles per day by 2050. A completion date for this extension is yet to be identified.
- **240 Street from Dewdney Trunk Road to Fern Crescent** – this extension of 240 Street is planned to connect north across the Alouette River to Fern Crescent. This extension will provide a second access for the Silver Valley neighbourhood and Golden Ears Provincial Park. A completion date for this extension is yet to be identified.
- **Thornhill Access Roadway** – as the Thornhill area develops, a new road connection is envisioned to connect this neighbourhood to Highway 7. As noted in the OCP, development of this area is subject to several conditions and further assessments including a transportation study that would review the terrain, environmental conditions in conjunction with other studies that would assess ground water tables, developable land parcels, types of land-use and geotechnical ground conditions. For the purposes of the STP a high-level road connection is provided, the specific location is subject to further review.
- **248 Street Connection** – this roadway will be delivered through the development of the North East Albion Area.
- **Grant Avenue Connection** – this roadway generates limited traffic by 2050 and there is capacity in other east-west routes in this part of the City. Although this connection is not anticipated to be required by 2050, the City should continue to pursue suitable right-of-way for a future multi-modal arterial roadway connection to 272 Street.

As part of this action, the City will seek to deliver new roadways to complete the arterial road network and retain property for future arterial roads.

Figure 2-10: New Arterial Roads (2050)

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.

Beyond arterial roadways, developing neighbourhoods require a complete and connected network of major collectors, minor collectors, local roads, and lanes. New roadway networks should seek to create modified grid networks that limit vehicle through movements on roadways with lower classifications, while providing shorter and more direct connections for active transportation. The City will work with developers to ensure all roadways in greenfield areas are planned and designed in accordance with the updated Bylaw 4800-1993.[12]

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

There are a number of small gaps in the existing collector and local road network, which the City will complete through development or capital projects to achieve a complete and connected roadway network. These include:

- Brown Avenue between Fletcher Street and 228 Street as a Major Collector
- Golf Lane at 209 Street as a Local road
- 124 Avenue at 246 Street as a Local road

Action 6.1.4 Create a Dangerous Goods Route Network

Dangerous goods include a wide range of materials that meet the daily needs of residents and businesses. These goods move in a range of vehicle types, including heavy trucks, light trucks and vans, and cars. Dangerous goods can include flammable liquids (like gasoline intended for retail sale), liquified or compressed gases, corrosive substances (including batteries), or materials destined for laboratories and hospitals (e.g. radioactive or toxic / infectious substances.) Where these goods move by truck[13], they are subject to truck routing and restrictions.

Within Metro Vancouver, TransLink [14]has the authority to designate routes and times of travel for dangerous goods. TransLink also has the authority to prohibit the movement of dangerous goods in motor vehicles on portions of the MRN. At the time of delivery of

[12] As updated in Action 1.1.3.
[13] Vehicles with a gross weight higher than 11,800 kg.
[14] TransLink's authority is designated through the South Coast British Columbia Transportation Authority Act [SBC 1998]

this report, TransLink collaborating with municipal and provincial partners to develop a Dangerous Goods Route network for the region, which will identify routes for the through travel of dangerous goods by motor vehicle in Maple Ridge:

- Golden Ears Bridge (TL Authority)
- Highway 7 (MOTI)
- Maple Meadows Way (City of Maple Ridge between Golden Ears Bridge and Highway 7)

Vehicles carrying dangerous goods must travel along the dangerous goods route network until it is no longer practical to do so to reach their destination. Once they leave the dangerous goods route network, they are encouraged to travel on the highest classification of road and then exit at the closest point to reach their destination.

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 provide a conduit for travel within the municipality, between Maple Ridge and the remainder of Metro Vancouver, and between neighbouring communities. In particular, Lougheed Highway is provincial corridor for provincial and regional east-west travel, as well as being an important part of the local transportation network. Existing MRN roadways also provide regional connectivity, including being part of future connections to industrial land. This strategy identifies future widening to accommodate recent and future growth within Maple Ridge, as well as in neighbouring municipalities.

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

The roadways identified in the STP for widening are all part of the provincial or regional networks. As part of this Action, the City will work with TransLink and MOTI to pursue widening Golden Ears Way, the Abernethy Connector, and the Haney Bypass, and portions of a current two-lane section of Lougheed Highway to four lanes, as illustrated in Figure 2-11. The intent for the three key corridors of Haney Bypass, Golden Ears Way, and Abernethy are explored further in Theme 2 . As develop occurs, part of transportation assessments for development planning and permitting process, portion of roadways not identified in Figure 2-11 may be identified for widening to accommodate localized needs within an area.

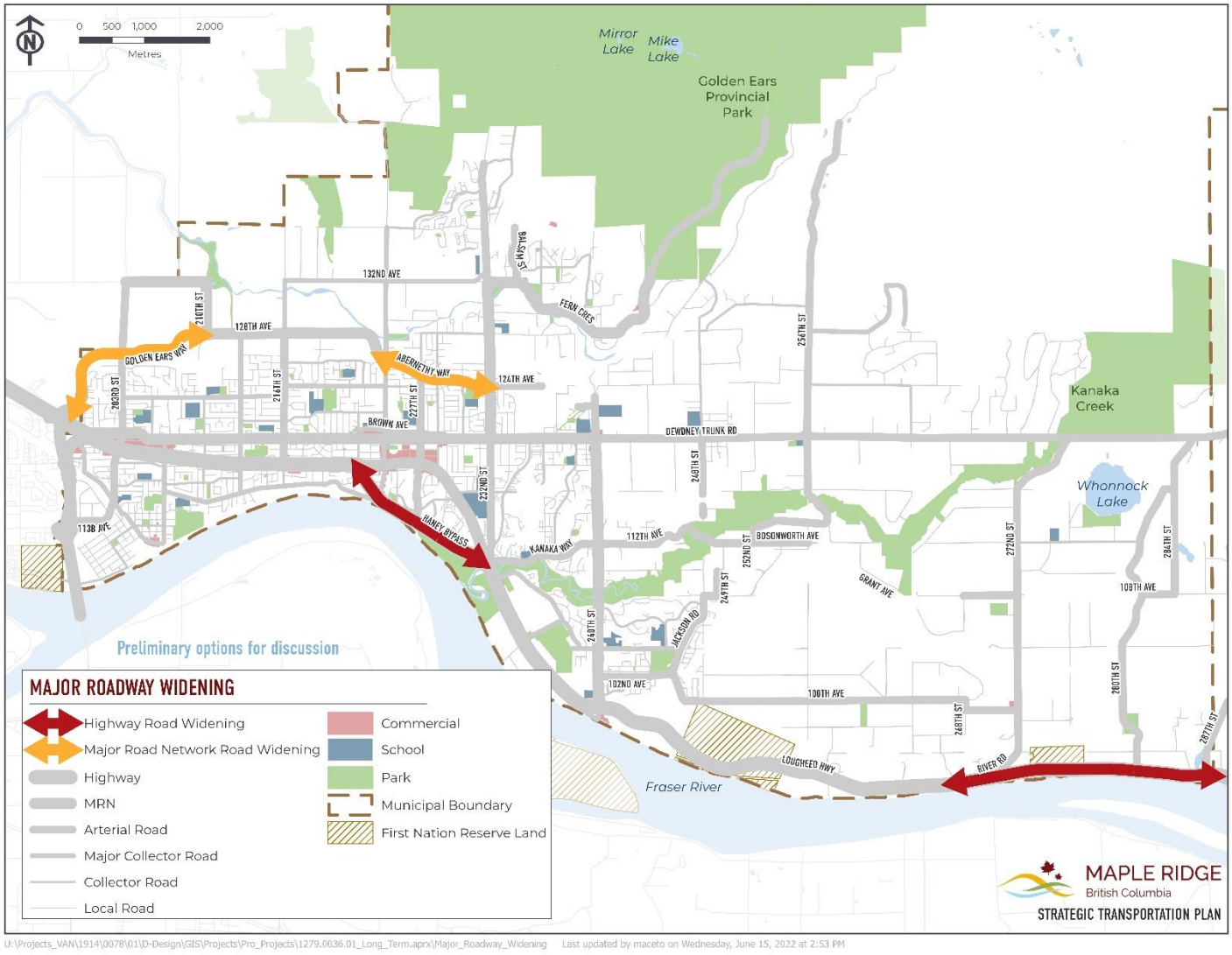

Figure 2-11: Major Roadway Widening by 2050

Action 6.2.2 Update the City's Street classification network.

The roadway classification system describes the intended function of the roadway and guides decision making about changes in physical design characteristics, as well as the access characteristics of surrounding land uses. Maple Ridge updated the road classification hierarchy and definitions as part of the 2014 STP. This update to the STP includes minor revisions to road classification definitions, as well as some proposed changes to individual road classifications.

Road classifications within the City include:

- **Provincial highways** are roadways that are owned and operated by MOTI and accommodate regional and provincial through traffic. At-grade signalized intersections are widely spaced, and direct access to provincial highways is minimized to maximize capacity and limit delays to through traffic. Posted speeds are typically higher than other urban roadways – generally 60 km/h or higher and parking is usually prohibited. Transit service is often limited to express services with relatively few or no stops along the roadway. Within Maple Ridge, Highway 7 is a provincial facility, but it should be noted that the section of Highway 7 within the Lougheed Transit Corridor area functions as an urban arterial.
- The **Major Road Network (MRN)** is principally composed of municipal arterial roadways that serve a regional function and that accommodate a high volume of general-purpose vehicles, transit passengers, and / or trucks. TransLink partners with municipalities to fund the operation, maintenance, and rehabilitation of the MRN; however, municipalities retain ownership and operational responsibilities for this group of roadways. Changes that reduce the people-moving capacity of an MRN roadway are subject to approval by TransLink. Dewdney Trunk Road west of 232, 128 Avenue / Abernethy and parts of 232 Street are examples of the MRN within Maple Ridge.
- The primary function of **Arterial roads** is to provide mobility. They usually serve regional traffic – travel between major local destinations or between municipalities. Direct access to arterial roads is often limited to commercial driveways, although many arterials in Maple Ridge also provide residential driveway access. Speed limits are generally 50 km/h and on-street parking is restricted and or, limited. Arterials are often used for major transit corridors. Examples of arterial roads in Maple Ridge include Dewdney Trunk Road (east of 232) and 216 Street.
- **Collector roads** typically serve a dual function. They provide mobility for travel between local neighbourhood streets and municipal arterials, but they also offer access to individual properties. In Maple Ridge, there are many private driveways along collectors. On-street parking may be permitted. Transit service is often provided. Posted speeds are usually 50 km/h, although they can be lowered to 30 km/h in school or playground zones, along cycling routes, or in other areas with high

pedestrian volumes. River Road and Laity Street are examples of collectors in Maple Ridge. There are two types of collector roadways in Maple Ridge:

  - **Major collectors** have higher traffic volumes and play a more significant role in connectivity and mobility within the City's road network. These roadways may serve as route for transit and / or response routes for emergency services.
  - **Minor collectors** have lower traffic volumes and a limited network contribution.
- The primary function of **Local roads** is to provide access to property. Commercial and residential properties have driveway access and parking is typically permitted.

The proposed updated classification map is illustrated in Figure 2-12. The following roadway segments are recommended for a change in classification:

- 232 Street from Silver Valley Road to 141 Avenue – change to Minor Collector
- Brown Avenue west of 222 Street – change to Local road
- Brown Avenue from 222 Street to 228 Street / Purdey Avenue – change to Major Collector with a wider cross section for active travel modes.
- 210 Street north of 117 Avenue – change to Local road
- 116 Avenue east of Cottonwood Drive – change to Local road
- 118 Avenue between 236 Street and 240 Street – change to Local road
- 128 Avenue / Katonien Street / Lilley Drive from 256 Street to Lilley Drive cul-de-sac – change to Major Collector

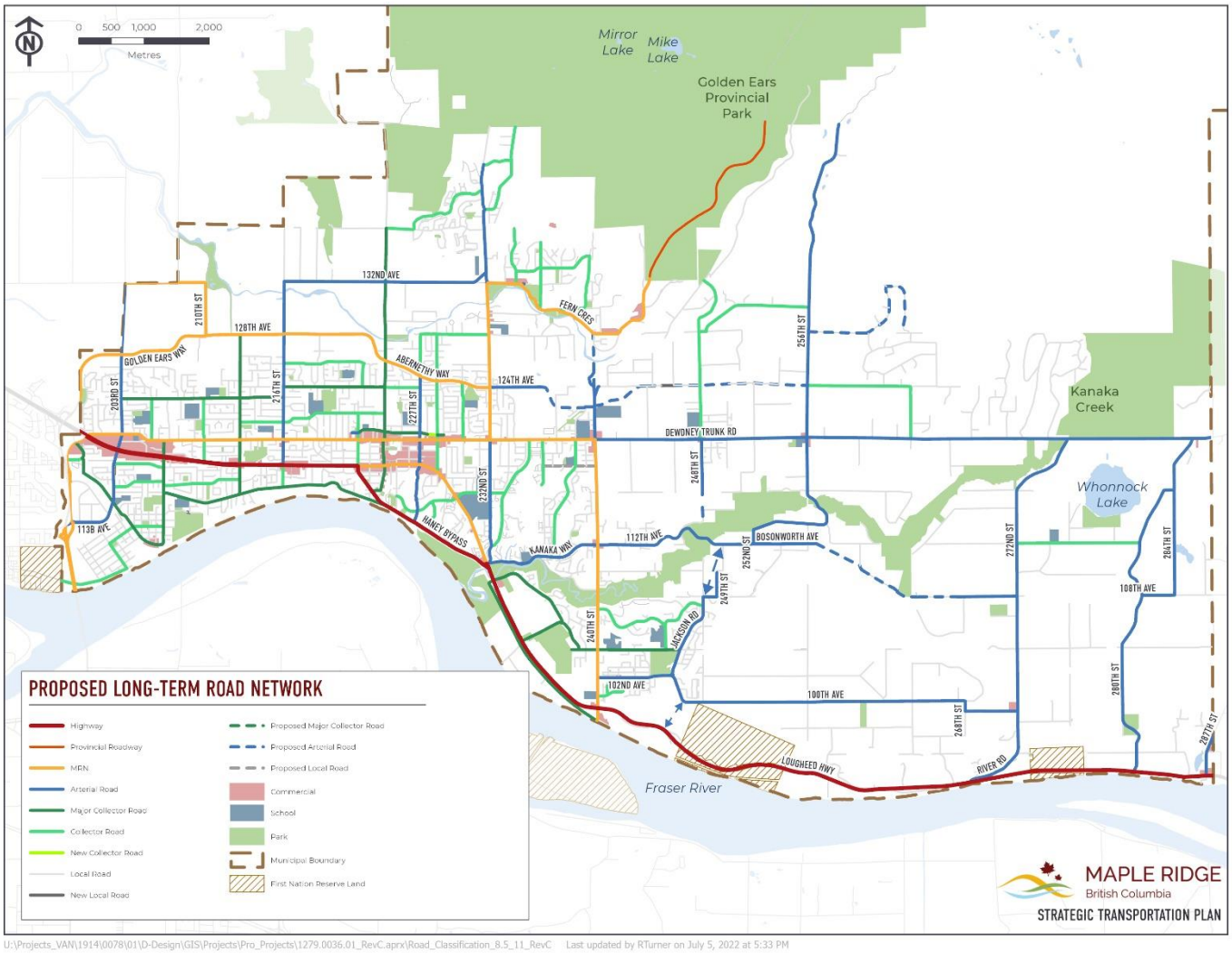

Figure 2-12: Proposed Roadway Classification

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.

Through a preliminary high level safety assessment, a number of intersections throughout Maple Ridge have been identified for potential safety and / or operational issues. Twenty-seven intersections were identified[15] for further safety assessment based on having a high collision rate and collision severity indices. detailed review of these intersections through collision statistics will help determine if mitigation measures can be employed to reduce the frequency and severity of collisions at these locations. The City may be able to implement improvements in some areas, while in others work may be focused on an enforcement or advocacy level.

What is Level of Service (LOS)?

The overall performance of an intersection is typically measured by the delays experienced by vehicles for each individual movement and collectively, also referred to as the level of service (LOS). The LOS is defined by a letter grade and can range between LOS A (best) to LOS F (worst). LOS A through C generally indicates that the intersection experiences very few delays during the peak hour whereas LOS F suggests the delays are significant (greater than 80 seconds per vehicle at a signalized intersection and greater than 50 seconds per vehicle at an unsignalized intersection) and that the intersection is not meeting typical operational criteria. For planning purposes, overall intersection operation of LOS D or better and minor approach operation of LOS E or better are generally considered an acceptable threshold, while operations outside of these thresholds may require improvement.

Intersection performance was assessed relative to conditions today and how locations are projected to perform in the future. Fifteen intersections were identified as locations that require operational improvements. Table 2-2 summarizes the municipal intersections that have high collision rates and severity index and / or capacity constraints, along with recommended improvements. It should be noted that the locations and improvement types were developed at a high-level and each location will require a detailed safety and / or operational study to identify and design recommended improvements.

[15] This assessment was developed using five years of data provided by ICBC and aggregated to the intersection level. It did not include a detailed review of collisions patterns or trends.

Table 2-2: Maple Ridge Intersection Improvements

INTERSECTION	INTERSECTION LOS				SAFETY	IMPROVEMENT(S)	NOTES
	2021		2050 BASE				
	AM	PM	AM	PM			
Lougheed Highway & 228 Street	B	C	**F**	**F**		Additional turn lanes	Part of future key corridors (Action 2.1.2)
Lougheed Highway & 116 Avenue	C	C	**F**	**F**	✓	Additional turn lanes Safety improvements	Part of future key corridors (Action 2.1.2)
203 Street & Dewdney Trunk Road	C	C	E	**F**		Additional turn lanes	Part of future key corridors (Action 2.1.8)
227 Street & Dewdney Trunk Road	C	D	D	**F**		Corridor signal timing re-coordination. Additional turn lanes	Part of future key corridors (Action 2.1.8)
228 Street & Dewdney Trunk Road	C	C	D	**F**		Corridor signal timing re-coordination.	Part of future key corridors (Action 2.1.8)
232 Street & Dewdney Trunk Road	D	E	**F**	**F**	✓	Corridor signal timing re-coordination. Traffic demand anticipated to decrease because of Abernethy Way extension. Safety improvements	Part of future key corridors (Action 2.1.8)
West Street/200 Street & Maple Meadows Way	B	A	B	**F**		Additional turn lanes	
113B Avenue/203 Street & Hammond Road/Maple Crescent	C	D	**F**	**F**		Additional turn lanes	Part of future key corridors (Action 2.1.6)
207 Street & River Road	B	B	C	**F**		Additional turn lanes	
209 Street/210 Street & Golden Ears Way/128 Avenue	B	**F**	D	**F**		Additional turn lanes and eastbound through lane at the intersection	Part of future key corridors (Action 2.1.1)
216 Street & 128 Avenue/Abernethy Way	E	B	**F**	D		Additional turn lanes	Part of future key corridors (Action 2.1.11)
227 Street & Abernethy Way	B	B	**F**	**F**		Corridor signal timing re-coordination.	Part of future key corridors (Action 2.1.3)

INTERSECTION	INTERSECTION LOS				SAFETY	IMPROVEMENT(S)	NOTES
	2021		2050 BASE				
	AM	PM	AM	PM			
Abernethy Way/124 Avenue & 232 Street	C	B	**F**	D		Additional turn lanes	Part of future key corridors (Action 2.1.3)
West Street & Dunn Avenue	A	**F**	D	**F**		Signal with additional turn lanes or roundabout	
Brown Avenue & Edge Street	A	B	A	**F**		Roundabout or all-way stop	
207 Street & Dewdney Trunk Road	B	C	C	E	✓	Safety improvements	Part of future key corridors (Action 2.1.8)
203 Street & Golden Ears Way	B	B	D	C	✓	Safety improvements	Part of future key corridors (Action 2.1.1)
Kingston Street & Stewart Crescent	N/A	N/A	N/A	N/A	✓	Safety improvements	Intersection not included in traffic analysis
205 Street & Lorne Avenue & Maple Crescent	N/A	N/A	N/A	N/A	✓	Safety improvements	Intersection not included in traffic analysis
102 Avenue & 240 Street	B	A	C	B	✓	Safety improvements	Part of future key corridors (Action 2.1.4)
112 Avenue & Lockwood Street	N/A	N/A	N/A	N/A	✓	Safety improvements	Intersection not included in traffic analysis
Burnett Street & Lougheed Highway	N/A	N/A	N/A	N/A	✓	Safety improvements	Intersection not included in traffic analysis
222 Street & Selkirk Avenue	N/A	N/A	N/A	N/A	✓	Safety improvements	Intersection not included in traffic analysis
121 Avenue & 216 Street	N/A	N/A	N/A	N/A	✓	Safety improvements	Intersection not included in traffic analysis
Dewdney Trunk Road & Rosewood Street	N/A	N/A	N/A	N/A	✓	Safety improvements	Intersection not included in traffic analysis
224 Street & Brown Avenue	N/A	N/A	N/A	N/A	✓	Safety improvements	Intersection not included in traffic analysis
224 Street & Selkirk Avenue	N/A	N/A	N/A	N/A	✓	Safety improvements	Intersection not included in traffic analysis

In addition to the City locations identified, several intersections within Maple Ridge that are within the occupation and or, authority of TransLink and MOTI were noted for further safety assessment and potential mitigation and or, intersection efficiency improvements. The City will endeavour to work collaboratively with TransLink and or, MOTI to make improvements to the following locations:

- Maple Meadows Way/Dewdney Trunk Rd & Lougheed Highway
- 203 Street and Lougheed Highway
- 207 Street and Lougheed Highway
- Laity Street & Lougheed Hwy
- 216 Street and Lougheed Highway
- 221 Street & Lougheed Highway
- 222 Street & Lougheed Hwy
- Haney Bypass/Kanaka Way & Lougheed Hwy &
- 240 Street & Lougheed Highway
- River Road & Lougheed Highway
- 272 Street & Lougheed Highway

Typical improvements include intersection modifications such as adding turn lanes, installing new traffic controls (e.g. traffic signals, roundabouts, installing pedestrian and bicycle signals, crosswalk upgrades, and / or installing new crosswalks), and signage improvements. Investment in intersection improvements can also mitigate existing safety issues, while extending the life of infrastructure, helping to delay larger and more expensive capacity improvements.

Action 6.3.2 Continue the intersection safety program.

The City regularly identifies and addresses new safety issues arising at intersections on an ongoing basis. Staff identify intersections for safety studies based on feedback received from residents, business, and third-party organizations, through Traffic Impact Assessments, through other transportation studies, and through staff observation. Staff conduct an initial evaluation of physical characteristics, corporate history, sightlines, ICBC accident data, turning movement data, and speed and traffic data. Through this initial assessment, between 20 and 30 intersections each year are identified for more formal study. Potential improvements, including changes to geometry, intersection control, signal timing, or other factors are identified. Minor improvements may be

included in annual program funding, while larger projects are identified for inclusion in future capital plans. As part of this action, the City will:

- Continue to use the existing intersection safety program to identify and address new issues arising.
- Continue to partner with ICBC through their Road Safety Improvement Program to fund safety improvements.

Action 6.3.3 Continue traffic control warrant assessment and investment program.

The City regularly identifies and assesses intersections and mid-block crossing locations to determine if traffic control upgrades are required as per best practices outlined by the Transportation Association of Canada. Assessment locations are identified based on feedback received from residents, business, third-party organizations and staff knowledge. The City conducts the required data collection and evaluates operations using industry standard approaches, including warrants. If new traffic control is warranted, it is installed as part of development, through annual program funding, or included in future capital plans.

As part of this action, the City will continue the traffic control warrant assessment and investment program.

Action 6.3.4 Consider traffic operational systems improvements.

Optimized signal timing and signal coordination along corridors can reduce traffic delay, reduce collisions, and make the highest use of existing physical infrastructure with relatively low-cost investment in ongoing improvements. Further, investments in new signal equipment and emerging technology can improve overall operations for a lower cost than road widening and enable other improvements, such as turning lanes with protected, split, and / or overlap phases and signal coordination.

As part of this action, the City will:

- Investigate opportunities to improve coordination and efficiency along Dewdney Trunk Road through signal equipment upgrades, coordination, and optimization.
- Continue to monitor traffic signal operations and adjust traffic signal phasing for efficiency and safety improvements.

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

The B.C. Active Transportation Design Guidelines summarizes research that indicates that the severity of collisions involving vulnerable road users and motor vehicles increases with motor vehicle speeds. 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.[16] Higher vehicle volumes also 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.[17] 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.

Traffic calming seeks to reduce the speed and / or volume on local and minor collector roadways to create a more comfortable experience for road users and residents. Through the City's existing Traffic Calming Policy, neighbourhood residents work with professional engineers and planners to develop a traffic calming plan within their neighbourhood. The City's Traffic Calming Policy was recently updated to align with the 2019 edition of the Transportation Association of Canada Guide for Traffic Calming 2nd Edition and has been successfully applied in multiple neighbourhoods. Minor traffic calming measures can be installed through the annual traffic calming budget, while larger projects are identified for inclusion in future capital plans.

As part of this action the City will continue to use the existing Traffic Calming Policy and related practices to initiate, assess, prioritize, and plan traffic calming measures, as well as to finance and deliver recommendations.

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

At the regional level, ***Transport 2050*** explores strategies and actions that focus on people first streets that are designed for everyone. and feature reduced speeds for motor vehicles, as well as greater physical separation between modes of transportation.

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[16] 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)

[17] 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.

One element of this strategy is creating walkable neighbourhoods where motor vehicles travel at slower speeds and another is to create localized car-free or low-volumes environments within the transportation network, including cut throughs and plazas.

The City will consider regional possibilities to pilot elements of people-first neighbourhoods and work to understand how these programs and approaches will evolve over time.

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 introduction of high occupancy vehicle lanes that are shared with transit key locations.

Where the City is considering transit priority measures, the City and partners will evaluate opportunities to include high occupancy vehicle lanes. In some cases, high occupancy vehicles can be accommodated in the short-to medium- term until transit frequency increases. The use of high occupancy vehicles lanes will be explored alongside Strategy 5.2.1 as a potential interim measure if road widening of Highway 7 occurs between Pitt Meadows and the Haney Bypass in advance of the Rapid Transit that would require this additional lane for exclusive use.

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

The number and use of parking spaces required in new developments influences vehicle ownership and travel choices, as well as the affordability of residential unit. Potential TDM parking policies include allowing shared parking for commercial and residential visitor use, that provide designated spaces for car-pooling and car sharing, and that reduce parking minimums. The City will consider opportunities to embed TDM into parking policy for new developments as part of the review and update if Bylaw 4350-1990.

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

In alignment with ***Transport 2050***, the City will partner with TransLink to educate and promote the use of non-auto modes through programs and policies that include TravelSmart, programs for major employers, school travel programs, and other initiatives.

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.

As the way people and goods move changes, there is increasing pressure on the curbside space. This includes increasing demand for short-term parking to be used for pick-up and drop-off of passengers, as well as short-term loading for couriers and delivery services. There is also demand on the curbside for visitor parking for both commercial and residential uses, in addition to long-term parking. Typically, when parking occupancy exceeds 85%, spaces become harder to find and there can be impacts to the types of short-term loading and parking needs that support economic activity – the City has historically used this threshold to inform curbside management decisions. The City will continue to follow industry best practices and regional approaches to adapt to changing technology and demands for the curbside in collaboration with local stakeholders.

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. Demand for electric vehicles is increasing and there are provincial and federal incentives for residents to purchase an electric vehicle – the Government of Canada has committed to achieve net-zero emissions by 2050 and has a goal to reach 100% of passenger zero-emissions vehicle sales by 2040.

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:

- Level 1 (Ten hours adds about 70 km of range): Standard cord-set that plugs into a regular wall socket.
- Level 2 (2.5 hours adds about 100 km of range): The most common level for public charge stations.
- Level 3 (30 – 40 minutes adds about 100 km of range)

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.

The City has installed a public Electric Vehicle Charging Stations at City Hall and other locations in the City. As part of this Action, the City will continue to seek opportunities to install public charging locations, focusing on Level 2 charging stations at community facilities. Locations are expected to include existing and planned community centres and libraries. The City will also partner with TransLink to seek opportunities to install Electric Vehicle Charging Stations at West Coast Express Stations.

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

The City is currently beginning an update of Bylaw 4350-1990 which regulates off-street parking and loading. This bylaw can also be used to require new electric charge infrastructure as part of new developments. Through this action, the City will update Bylaw 4350-1990 to:

- Require outlets in secure bicycle parking areas.
- Include EV-ready requirements for new buildings. 'EV-ready' means that the vehicle's electrical system can accommodate a high level of future charging, including parking spaces that are ready for the installation of a final connection point. The percentage of EV-ready spaces required will be determined as part of the bylaw update study.
- Include a minimum requirement for Level 2 chargers as part of parking requirements for commercial and institutional land uses. The number of EV-ready spaces required will be determined as part of the bylaw update study.

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 technologies will enable individuals to choose new modes that best fit their needs while responding to broader challenges, including climate change, affordability, and safety. Shared transportation systems and ride hailing can reduce the demand for vehicle storage, while providing convenient and comfortable connections. Micromobility devices allow people to travel farther more comfortably than walking or cycling alone. Much is uncertain about the future of connected and autonomous vehicles; however, there is hope that these technologies will reduce transportation injuries and fatalities while increasing transportation reliability and efficiency.

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. Agencies in Metro Vancouver have historically collaborated to introduce new technology in a collaborative way. Many of these new modes are operated by private companies and co-operatives and require profitable conditions for expansion.

Transport 2050 identifies making it convenient for all households to make the occasional car trip without needing to own a car as a strategy to support regional goals. The document includes actions focusing on using pricing, regulations, and public investment to prioritize a rapid and near-term transition to zero-emissions carshare vehicles, taxis, and ride-hail vehicles that are universally accessible. *Transport 2050* also plans to seamlessly connect different transport services, including taxi, carshare, or bikeshare. The actions in this section focus on enabling the City to react to both the opportunities and challenges of new ways of travelling as they evolve.

What are some new ways of travelling?

- **Micromobility** is a category of small one-person electric vehicles, such as e-bikes, e-scooters, or other devices. These extend the comfort and ease of travelling over longer distances and / or carrying heavier loads. Micromobility can be privately owned, or owned and operated as part of shared transportation systems. It can be used for personal travel or play a role in goods movement via cargo e-bikes.
- **Shared transportation systems** enable users to rent a car, bike, or micro-mobility vehicle on a short-term basis. They can be point-to-point (users can pick up the vehicle or device in one location and return in another) or return-to-base (users must pick up or drop off from the same locations).
- **Ride-hailing** systems connect passengers to drivers for hire using smart phone apps.
- **Connected and autonomous vehicles** are a range of self-driving or partially automated vehicles that are connected to infrastructure and each other. They are not yet widely available, but are expected to change the future of transportation over the next five to fifteen years.

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

Maple Ridge's transportation system is integrated with the larger Metro Vancouver transportation system, as well as within provincial laws, regulations, and infrastructure. Several municipalities have active shared micromobility services (public and private) and some are participating in the provincial electric kick scooter pilot project. As the region learns from these initial applications, regional approaches will emerge for the regulation and management of micromobility devices. As part of this action, the City will collaborate with TransLink and municipalities across the region to regulate and manage micromobility devices.

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

Car share companies and cooperatives provide a valuable service to residents and may allow some households to own fewer vehicles. These companies typically locate in areas where their vehicles will be well used, including in denser, mixed-use areas. *Transport 2050* calls for priority parking and charging for carshare vehicles. As part of this action, the City will explore opportunities to encourage car share organizations to consider extending services to Maple Ridge.

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.

As new types of micromobility devices emerge, they will require different storage amenities. This is particularly important for cargo bicycles, which can replace a car for some families, but require different storage amenities, particularly in multi-family buildings and commercial and institutional destinations. As part of this action, the City will:

- Ensure the update of Bylaw 4350-1990 provides for short- and long-term secure storage of emerging modes, including cargo bicycles, electric bicycles, and scooters.
- Seek opportunities to provide secure electric bicycle, cargo bicycle, and scooter parking for visitors and employees to municipal buildings, with particular focus on buildings that are often visited by families and seniors.

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

As noted previously, transportation technology is quickly evolving with new opportunities and challenges. The City will ensure that subsequent updates to the STP will address advancements in transportation technology.

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 2-13, 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). Level 1 automation (i.e. driver assistance functions) have been available for many years and include features like cruise control. Level 2 and 3 automation (i.e. vehicles that include advanced driver assistance systems) are now available. Level 4 and 5 automation are not yet available.

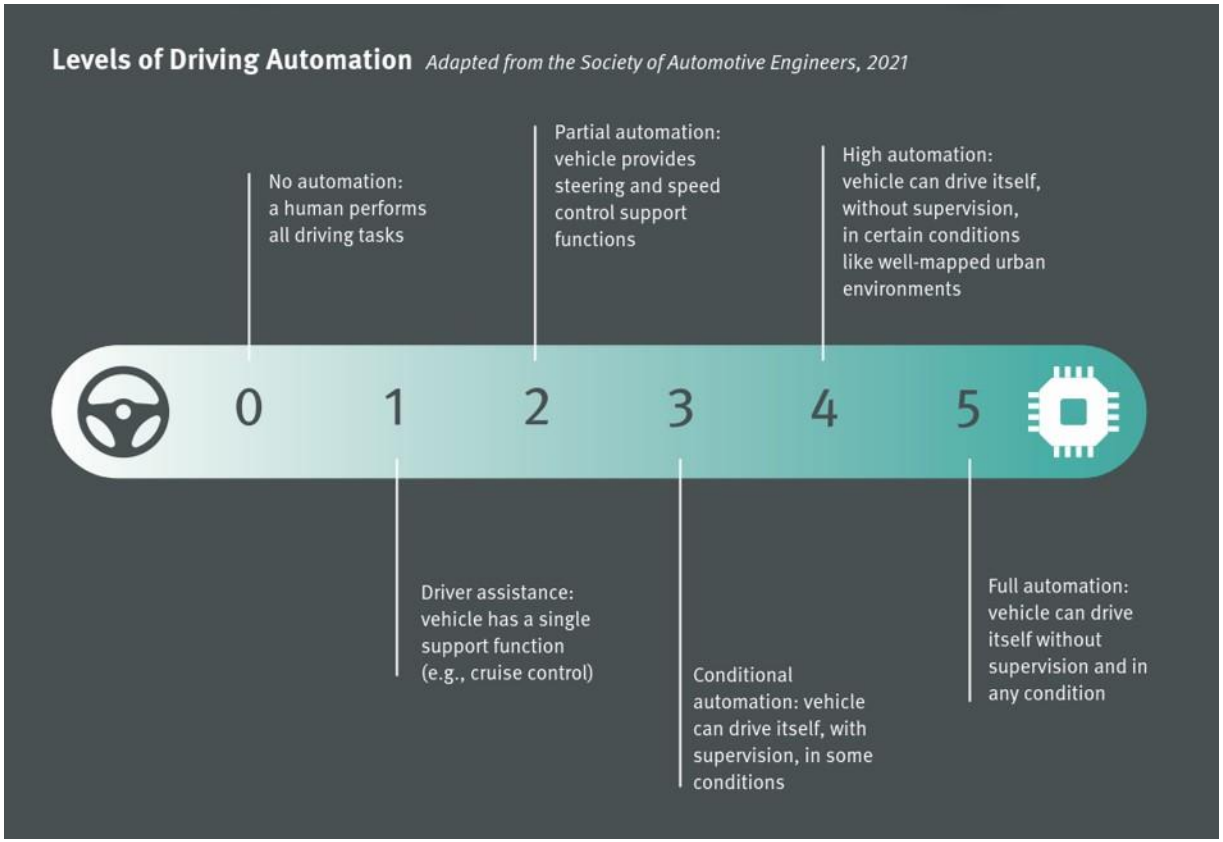


Figure 2-13: Levels of Driving Automation (Source: Transport 2050)

As noted in TransLink's ***Transport 2050*** Research completed for ***Transport 2050*** suggests that Level 4 automation is likely to be available by 2030 and widespread by 2050. This will bring challenges as the region adapts to a mixed fleet of privately owned vehicles with different degrees of automation. A regional approach to regulating and responding to automation will create consistency across different road jurisdictions (i.e. municipal, regional, and provincial roadways) and across municipal boundaries, improving compliance and allowing for shared approaches to technology and other tools.

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

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

The City will work with regional partners to proactively regulate and respond to the arrival of Autonomous Vehicles. Regional efforts are expected to include continued study and research, allowing for an ongoing evolution of the regional response. This regional approach is expected to include consistent bylaws and municipal policies around use of autonomous vehicles, pricing, curbside regulations, technology, and other levers to work towards a positive impact that aligns with the goals outlined in ***Transport 2050*** and future plans.

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, including auto insurance, transit fares, fuel tax, parking fees, and user fees for taxis, car sharing, and ride sharing.. 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. Network expansion is often funded through a combination of development cost charges[18] and general revenue at all levels of government.

In the Metro Vancouver region, mobility pricing was studied by the Mobility Pricing Independent Commission, which produced the ***Metro Vancouver Mobility Pricing Study*** (2018). The Commission found that a comprehensive mobility pricing policy that includes a decongestion charge could support Metro Vancouver's growth. A decongestion charge could take the form of regional congestion point charges or multi-zone distance-based charges, either of which could be designed to reduce congestion and raise capital to invest in transportation infrastructure. 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.

The ***Metro Vancouver Mobility Pricing Study*** sets the framework for moving forward on mobility pricing as a region. The Commission recognized that further study – including ongoing public dialogue – is required before decongestion charging could

[18] Development cost charges

be brought forward as part of a broader Mobility Pricing approach. The City of Maple Ridge recognizes the benefits of Mobility Pricing – including reducing congestion and increasing funds availability for new transportation infrastructure – and the challenges – including the risk that decongestion charging will contribute to the overall unaffordability of living in Metro Vancouver and the need for a fair and equitable approach.

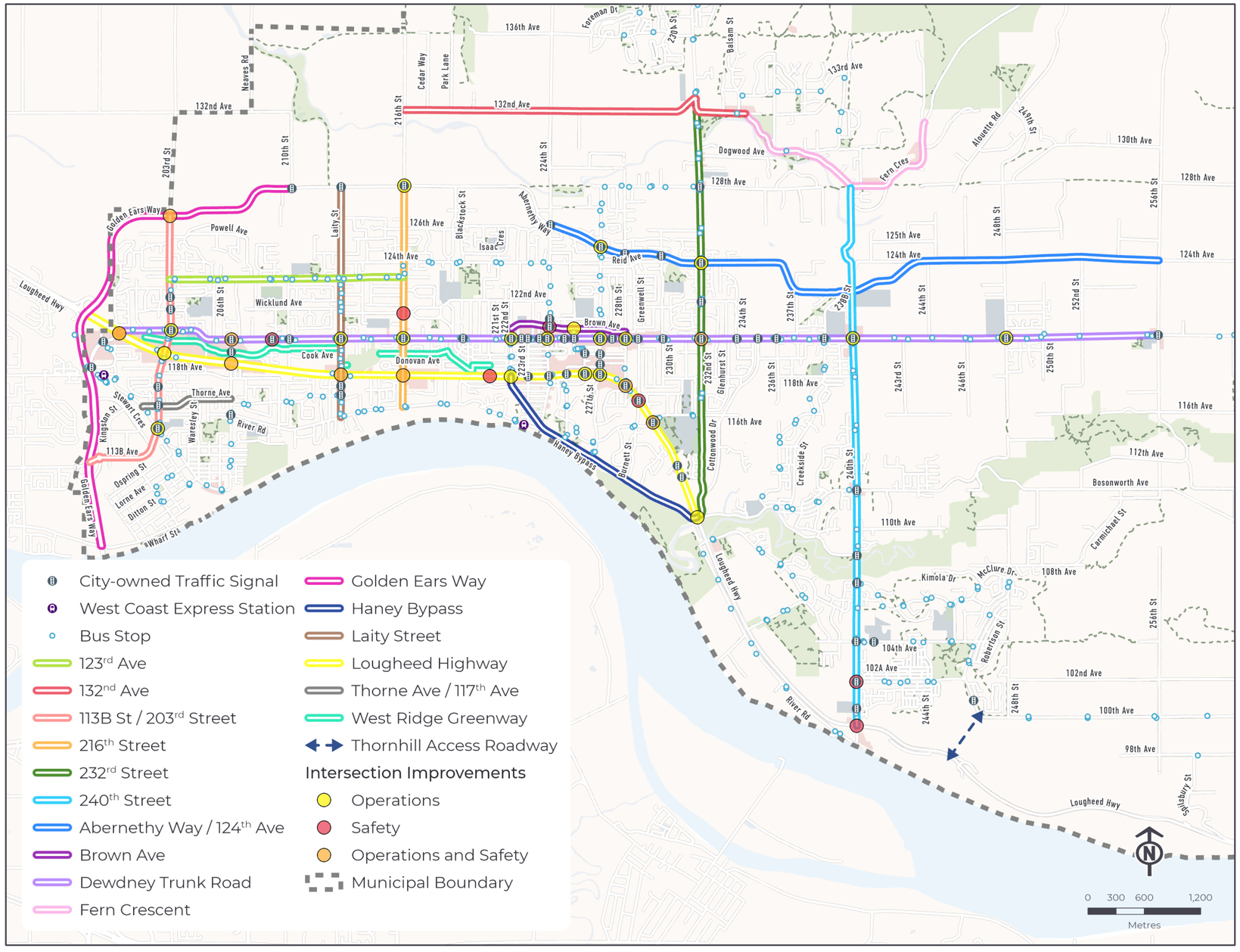
To engage in Mobility Pricing requires regional implementation with a consistent and equitable approach. As part of this action, the City will continue to participate in dialogue with regional partners to explore Mobility Pricing.

3.0 SUMMARY & CONCLUSION

This Report outlines the strategies and actions that will move the City of Maple Ridge towards its vision and goals for transportation. It was developed through technical work and consultation with the public and stakeholders. The content provided here will become the core of the Strategic Transportation Plan.

APPENDIX A

MAPS


City-owned Traffic Signal
West Coast Express Station
Bus Stop
123rd Ave
132nd Ave
113B St / 203rd Street
216th Street
232nd Street
240th Street
Abernethy Way / 124th Ave
Brown Ave
Dewdney Trunk Road
Fern Crescent
Golden Ears Way
Haney Bypass
Laity Street
Lougheed Highway
Thorne Ave / 117th Ave
West Ridge Greenway
Thornhill Access Roadway
Intersection Improvements
Operations
Safety
Operations and Safety
Municipal Boundary
136th Ave
132nd Ave
128th Ave
124th Ave
122nd Ave
118th Ave
116th Ave
113B Ave
110th Ave
108th Ave
104th Ave
102A Ave
102nd Ave
100th Ave
98th Ave
Foreman Dr
Cedar Way
Park Lane
Balsam St
133rd Ave
Alouette Rd
Fern Cres
Dogwood Ave
Neaves Rd
203rd St
210th St
214th St
224th St
Golden Ears Way
Powell Ave
Laity St
Blackstock St
Isaac Cres
Abernethy Way
Reid Ave
Lougheed Hwy
206th St
Wicklund Ave
221st St
222nd St
228th St
Greenwell St
Brown Ave
234th St
237th St
239B St
244th St
252nd St
Cook Ave
Donovan Ave
223rd St
230th St
232nd St
Glenhurst St
236th St
243rd St
246th St
250th St
Thorne Ave
Stewart Cres
Kingston St
Waresley St
River Rd
227th St
Haney Bypass
Burnett St
Cottonwood Dr
Creekside St
240th St
Ospring St
Lorne Ave
Ditton St
Wharf St
Golden Ears Way
Bosonworth Ave
Carmichael St
Kimola Dr
McClure Dr
Robertson St
256th St
248th St
Springhill St
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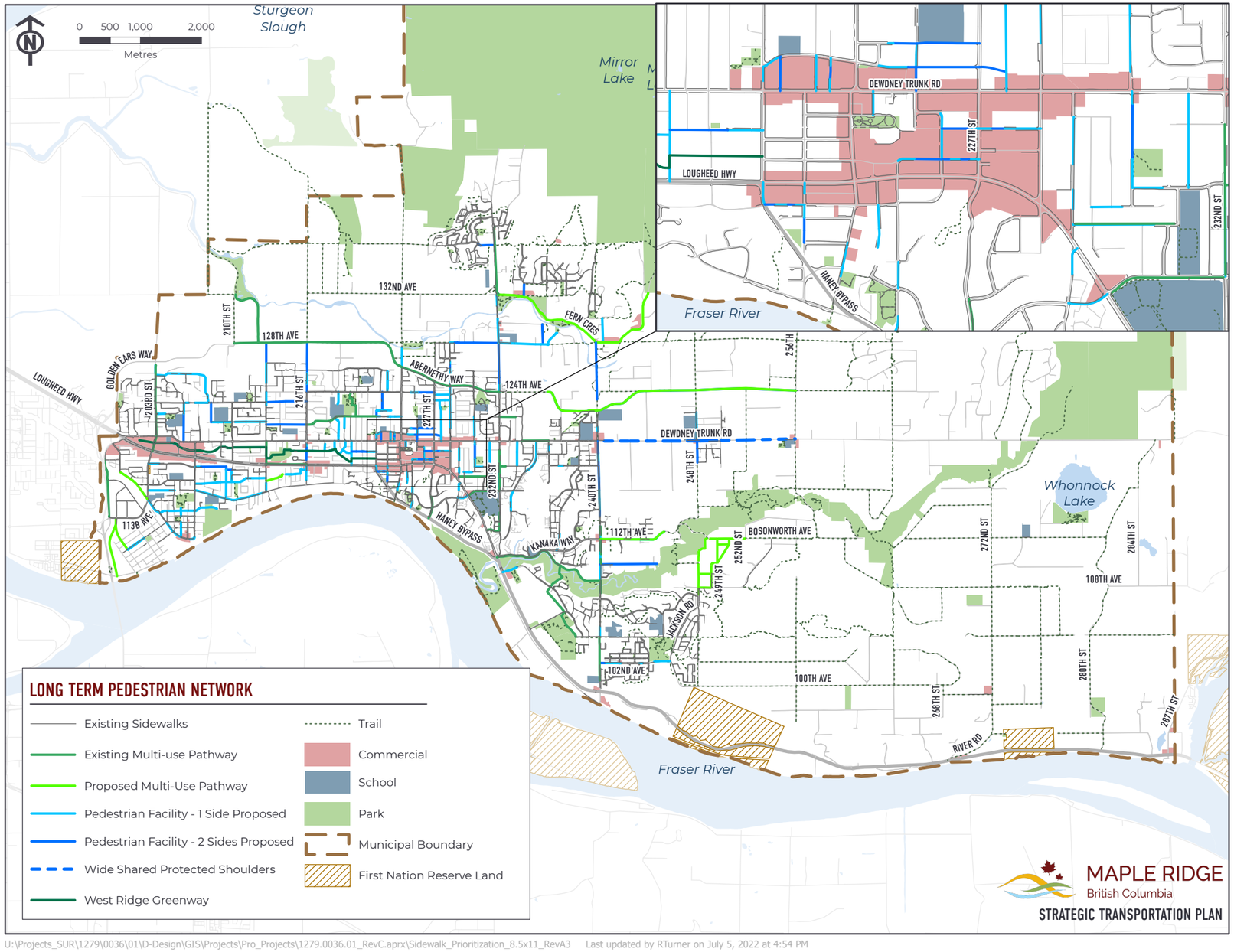
Metres



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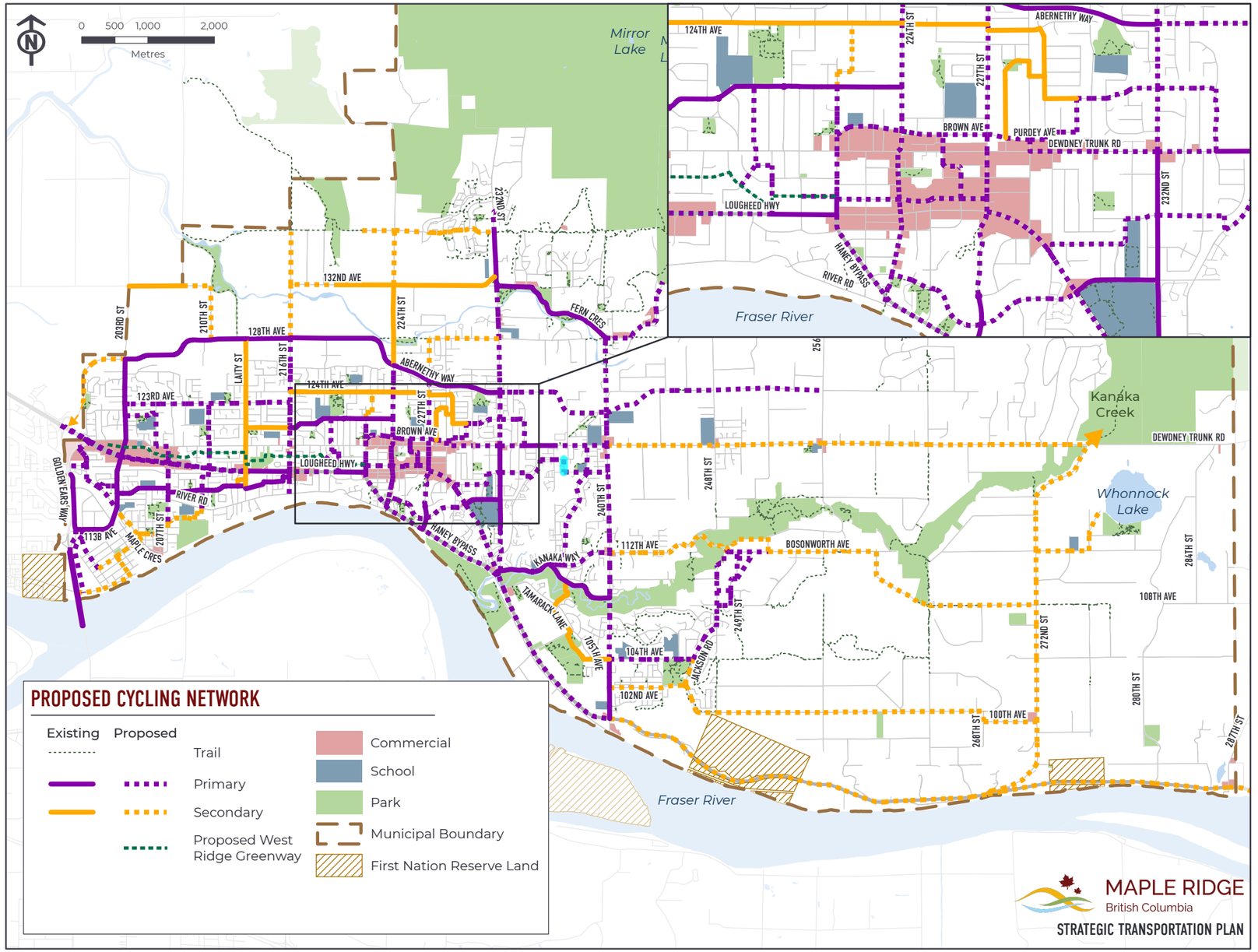

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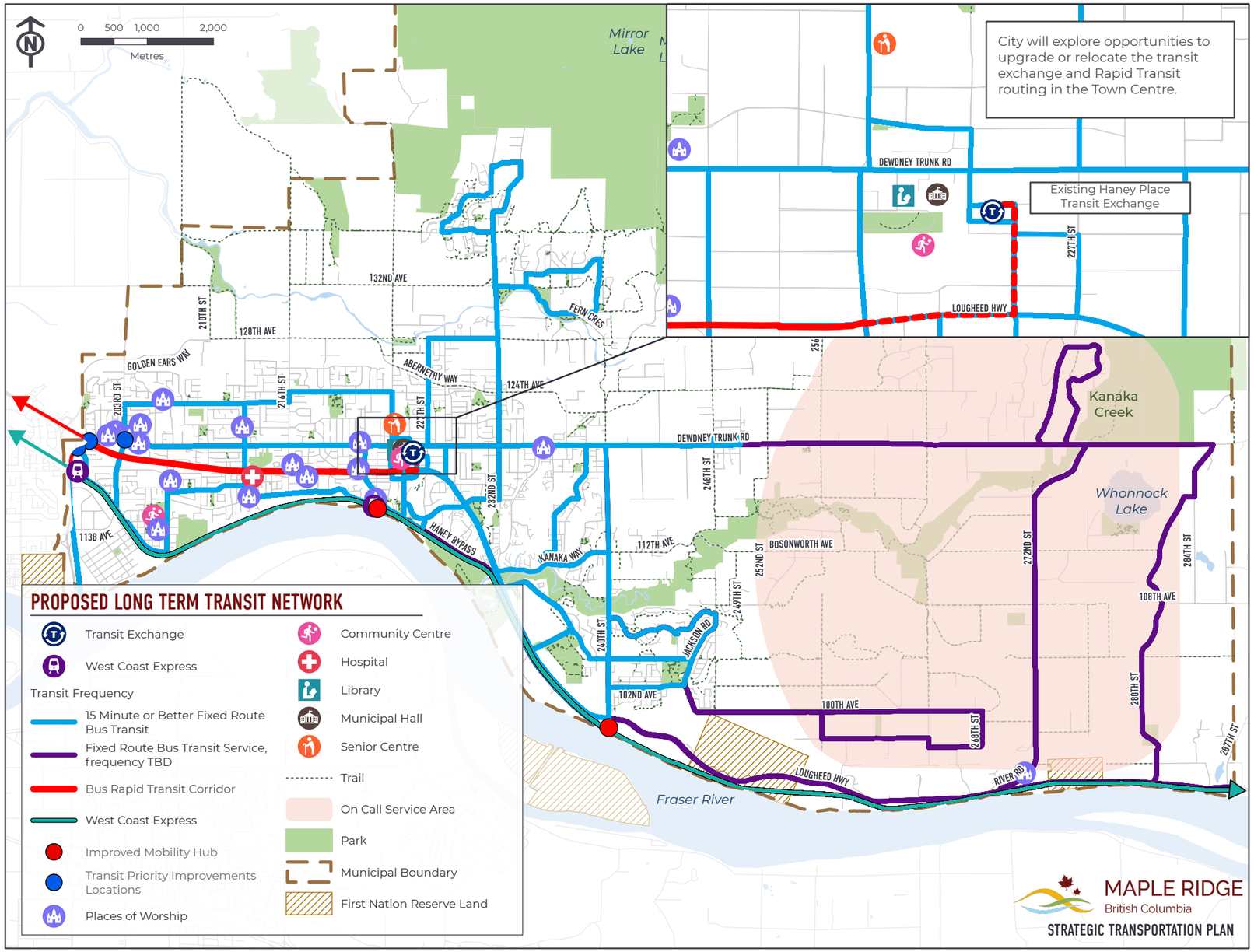

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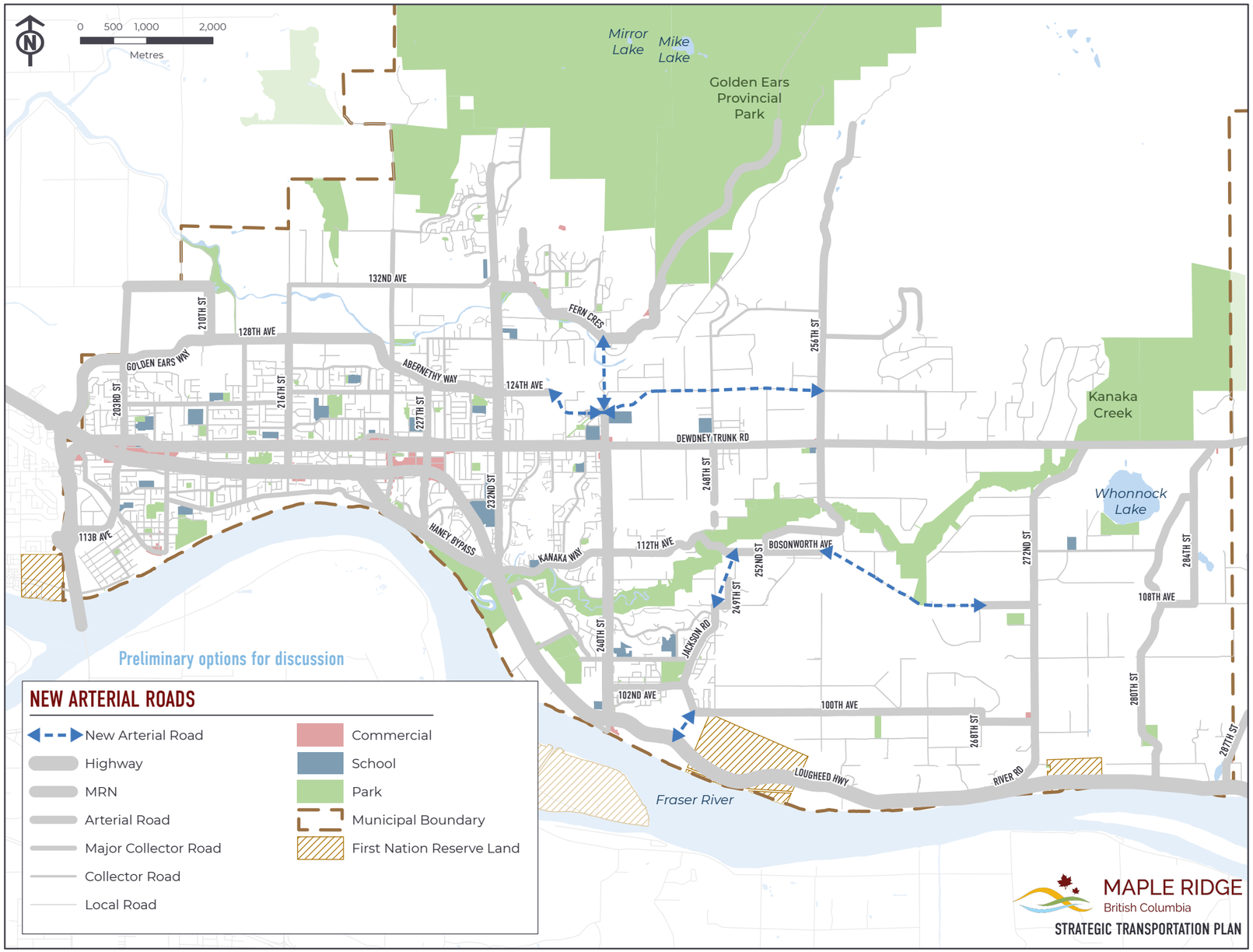

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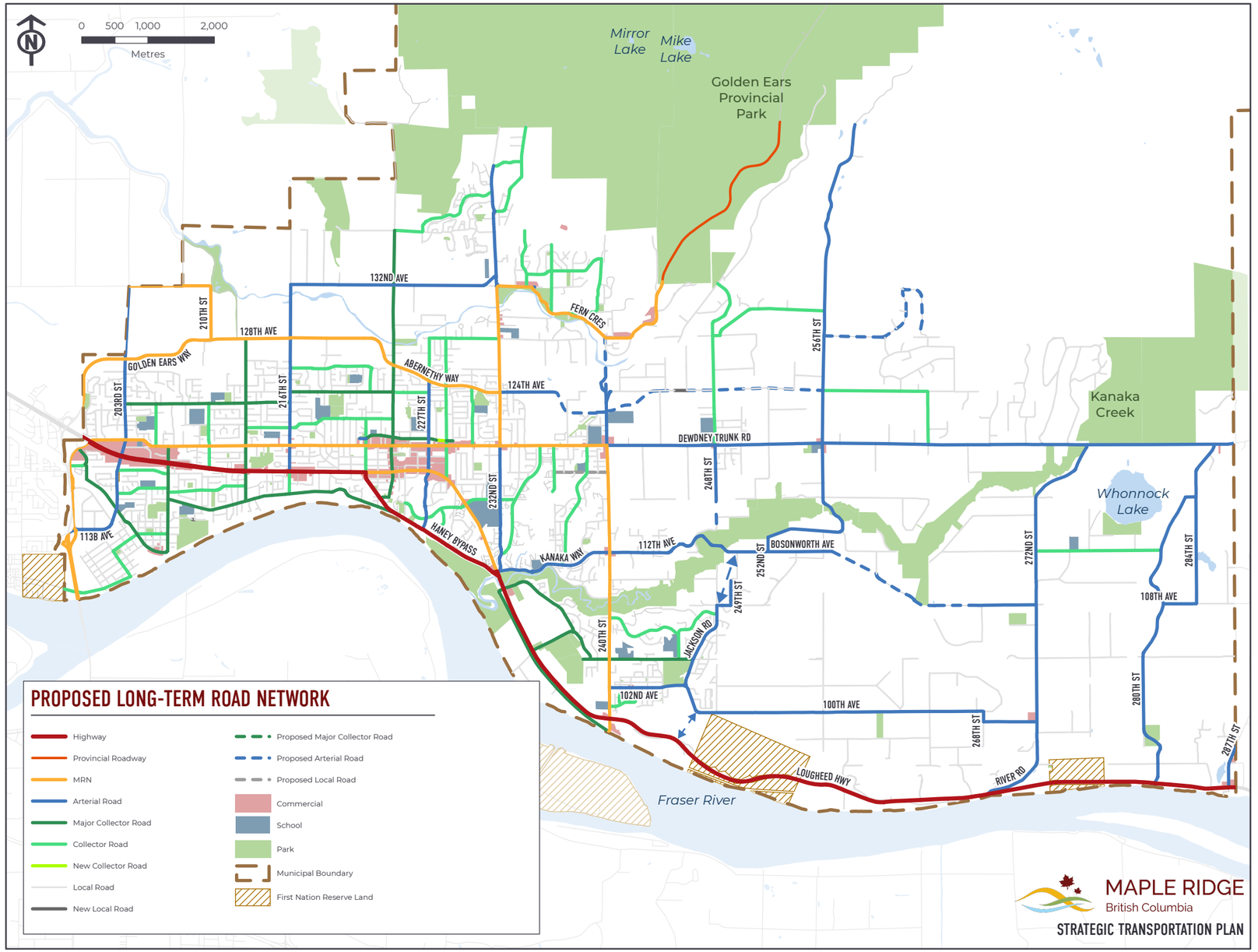

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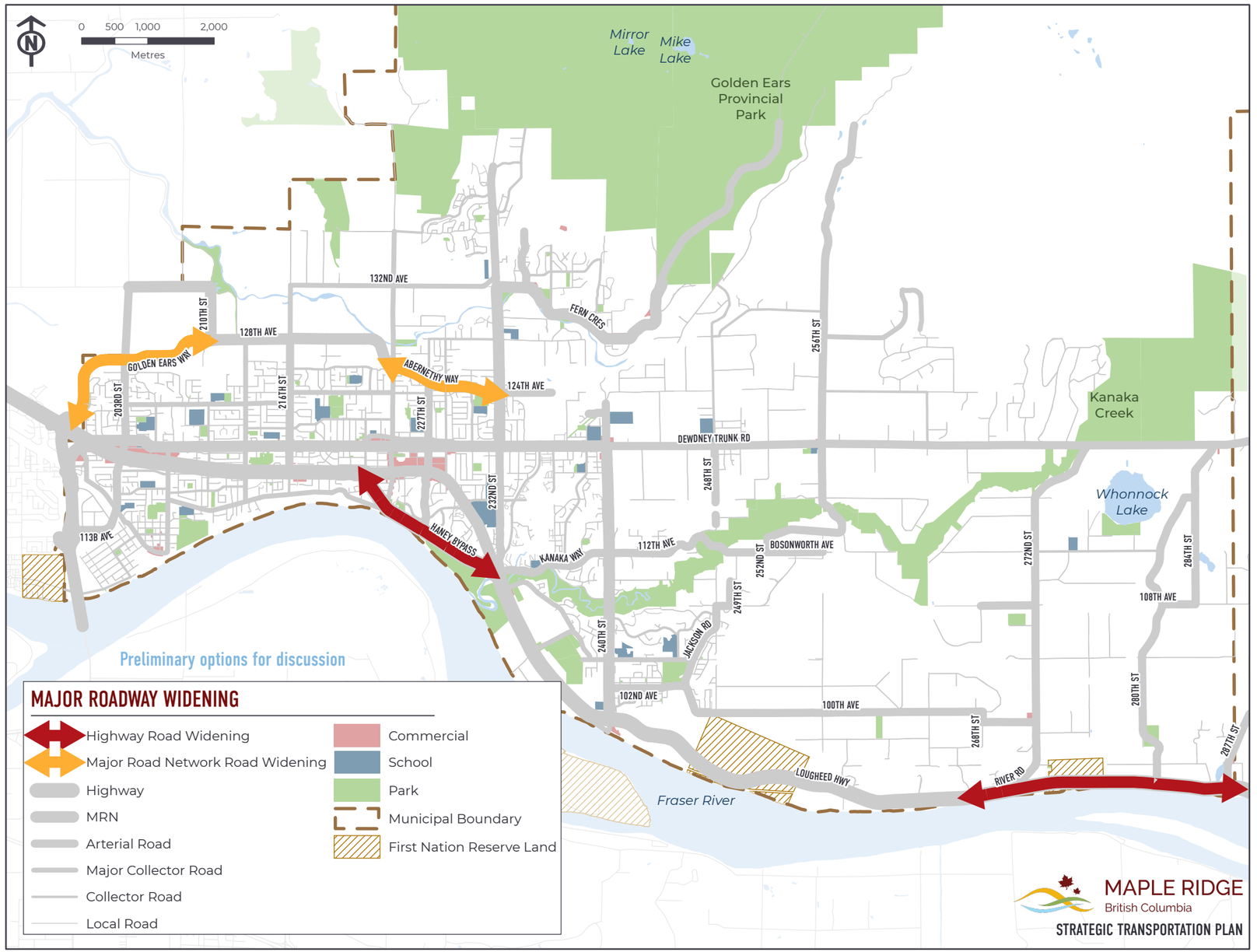

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