

HOSPITAL ROAD

# WHITEHORSE TRANSPORTATION MASTER PLAN



# EXECUTIVE SUMMARY

## Welcome to the Whitehorse Transportation Master Plan (TMP).

The Whitehorse TMP outlines a long-term vision and strategy for guiding transportation decision-making and investments through to the year 2040.

The TMP's overarching goal is to inspire collaborative efforts aimed at improving accessibility, equity, safety, and sustainability of the City's transportation network.

- The commitment to accessibility ensures that transportation services are inclusive and available to all members of the community through all seasons.
- The focus on equity will help address disparities and promote fairness in access to transportation resources.
- Safety is a primary goal of the plan, as the TMP strives to create a transportation network that safeguards the well-being of every individual.
- Embracing sustainability, the TMP aims to minimize environmental footprints, fostering a resilient and eco-friendly transportation system.

Recognizing the complexity of these goals, the TMP acknowledges that trade-offs will be inevitable. Balancing competing interests and priorities, the TMP seeks to find the optimal solutions that meet the unique needs of the community while building a transportation system for a sustainable and equitable future.

To ensure the success of the Whitehorse TMP, the City will need to collaborate with the private sector, development community, and other levels of government and other levels of government including First Nations governments. The Whitehorse TMP will serve as a reference for engaging with residents, businesses, and institutions to enhance transportation options and improve the quality of life in Whitehorse. It will also play a key role in responding to the land use and transportation planning decisions outlined in the Whitehorse 2040 Official Community Plan (OCP).



# Key Features of the TMP

## The Transportation Vision

Whitehorse's diverse transportation network will establish connections among the city's residents and businesses, and provide links to the broader Yukon Territory and beyond. This system aims to offer appealing and fair transportation options that prioritize safety, comfort, accessibility, and uninterrupted availability for individuals of all ages and abilities. Whitehorse envisions an integrated array of transportation facilities and services that promote cost-effective mobility while encouraging a transition toward more sustainable transportation choices, including active and shared modes. Ultimately, the city's transportation system is designed to underpin a dynamic, inclusive, forward-thinking, livable, healthy, eco-conscious, and affordable northern community.

By 2040, transportation system in Whitehorse will:

- Be accessible and provide well-connected mobility options to people of all abilities and designed to overcome barriers experienced by people with disabilities.
- Be safe and comfortable in order to encourage people of all ages and abilities to walk, cycle, and use transit.
- Be sustainable by creating attractive walking and cycling facilities and providing transit services that will reduce the reliance on automobiles as the primary mode of transportation.
- Provide attractive connections to key activity areas and create opportunities for community engagement through thoughtful street design.
- Support more mixed-use and compact land use patterns through active transportation solutions and ultimately enhance overall community health and well-being.
- Support the City's climate action initiatives.
- Support the local economy through efficient and reliable movement of goods and services.
- Be affordable based on current revenue streams such as general taxation, development cost charges as well as partnerships with private sector interests and development. Be affordable for users of the transportation system.

## High-reaching Goals

The goals of the TMP, which align with the goals in the OCP, include:

- Accessibility and Equity
- Safety and Security
- Sustainable Mobility
- Prosperous Community
- Affordability

## Measurable Targets

The three measurable targets are:

- 1. Mode Share:** By 2040, 40 per cent of all trips to work or school will be undertaken through active transportation, transit, shared transportation, and other emerging mobility modes, with the remaining 60 per cent or less being made using single occupancy vehicles.
- 2. Injuries and Fatalities:** By 2040, there will be no fatalities or serious injuries on Whitehorse's transportation network.
- 3. Greenhouse Gas (GHG) Emissions:** By 2040, total GHG emissions will be reduced by 10 per cent (relative to 2014 levels).

Over time, these three Targets will allow the City to monitor advancements, assess the effectiveness of strategies and measures, and encourage both the City and the community to alter their patterns of transportation.

### Multi-Modal Transportation System

The TMP aims to offer diverse transportation options, enabling individuals to select the most suitable mode of transportation, thereby reducing reliance on a single mode. The TMP prioritizes and supports five transportation modes:

- Transit
- Walking
- Cycling
- Goods Movement
- Driving

## Implementation Strategies

The implementation strategies translate key policy directions into actionable work programs, ensuring alignment with the Vision and Targets of the TMP. This process is guided by a set of eight principles that resonate with the City's core values and industry best practices. These principles, in conjunction with the TMP Goals and the prioritization of transportation modes outlined in this plan, establish a comprehensive framework and structure for plan implementation.

The Implementation Plan recommends strategies and actions for the following ten themes that influence how the City's transportation network will develop and operate through to the year 2040.

- Transportation Policy and Bylaws
- Major Projects
- Active Transportation
- Transit
- Intersections and Crossings
- Parking
- Goods Movement
- New Mobility (See Section 3.8 for definition and details)
- Transportation Demand Management
- Safety, Maintenance and Operations

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# INTRODUCTION



The Whitehorse TMP outlines a long-term vision and strategy for guiding transportation decision-making and investments through to the year 2040. The TMP guides how people and goods move around Whitehorse and sets the City's vision and priorities as a community in shaping a year-round multi-modal transportation system. It sets the direction for a vibrant city where people, goods, and places are conveniently connected by diverse transportation options and works towards developing an accessible, equitable, safe, and sustainable transportation network for people of all ages, abilities and incomes, and through all seasons.

The Plan includes the following seven chapters.

## **Chapter 1: Introduction**

**Chapter 2: Plan Context** highlights the overall background and purpose, issues and opportunities, the study process, community engagement, and connections to previous plans.

**Chapter 3: Whitehorse Today** summarizes the current state of the transportation system by examining key performance indicators such as mode share and road safety. It assesses how our transportation network currently functions for transit, walking, cycling, goods movement, and driving.

**Chapter 4: Future Needs and Emerging Trends** discusses how the City plans to adapt and respond to changing mobility dynamics, ensuring that the City's transportation system remains efficient, sustainable, and responsive to the needs of the community. It also explores how factors such as population growth, trends, and disruptors may shape the City's transportation network in the future.

**Chapter 5: Vision, Values and Goals** outlines the comprehensive vision for the City's transportation network and expresses the City's dedication to promoting and increasing usage of sustainable travel modes such as transit, walking, and cycling.

**Chapter 6: Implementation Plan** provides an overview of the guiding principles of the implementation plan, as well as the high priority policies and projects that the City should focus on and put into action by 2040.

**Chapter 7: Monitoring and Evaluation** is focused on the ongoing assessment and review of the City's transportation initiatives and programs. It aims to track the progress and outcomes of the Whitehorse TMP, ensuring it aligns with the City's transportation objectives. Using the key performance indicators, the effectiveness of transportation projects can be measured and reported to the community.

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## PLAN CONTEXT





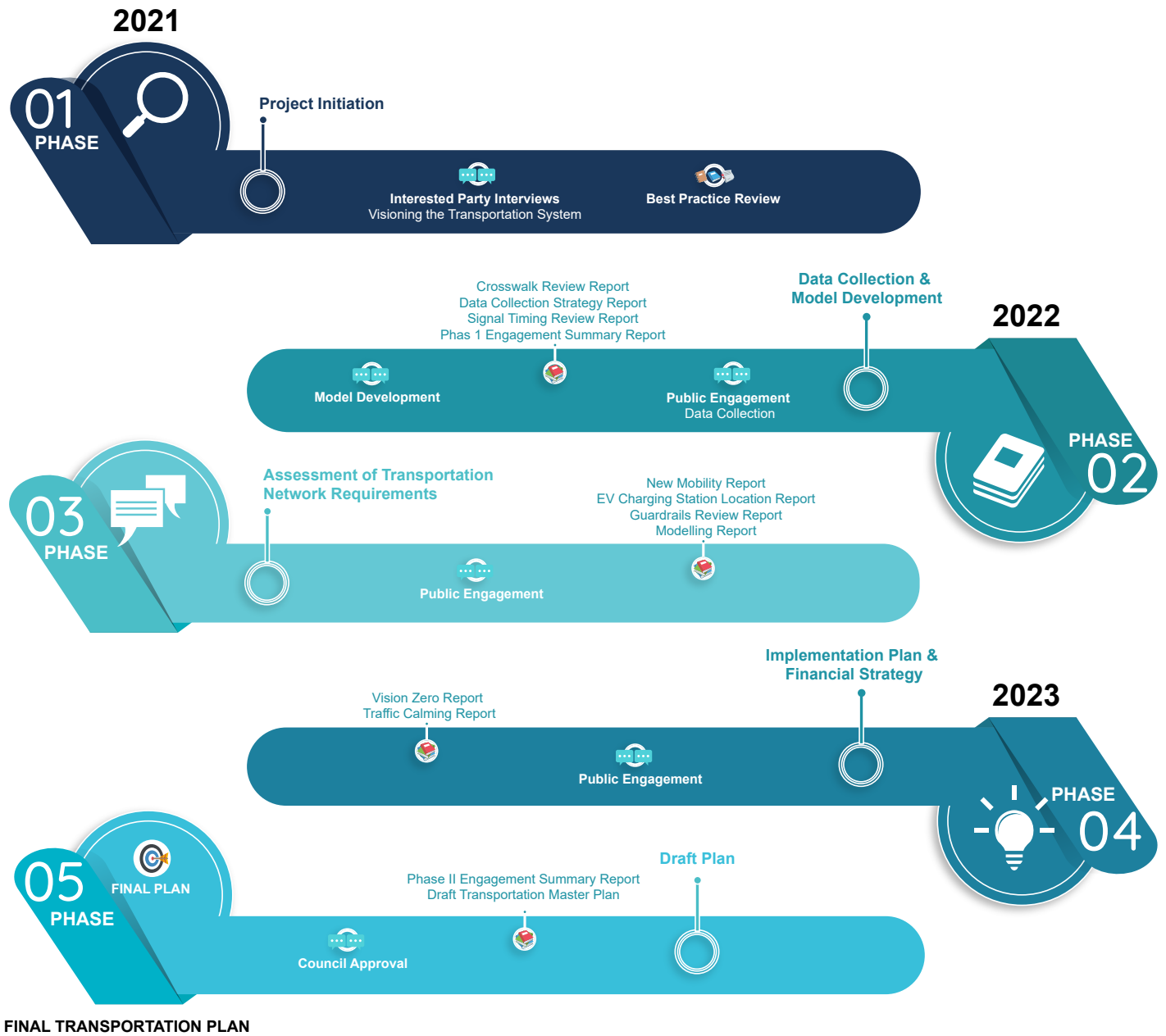
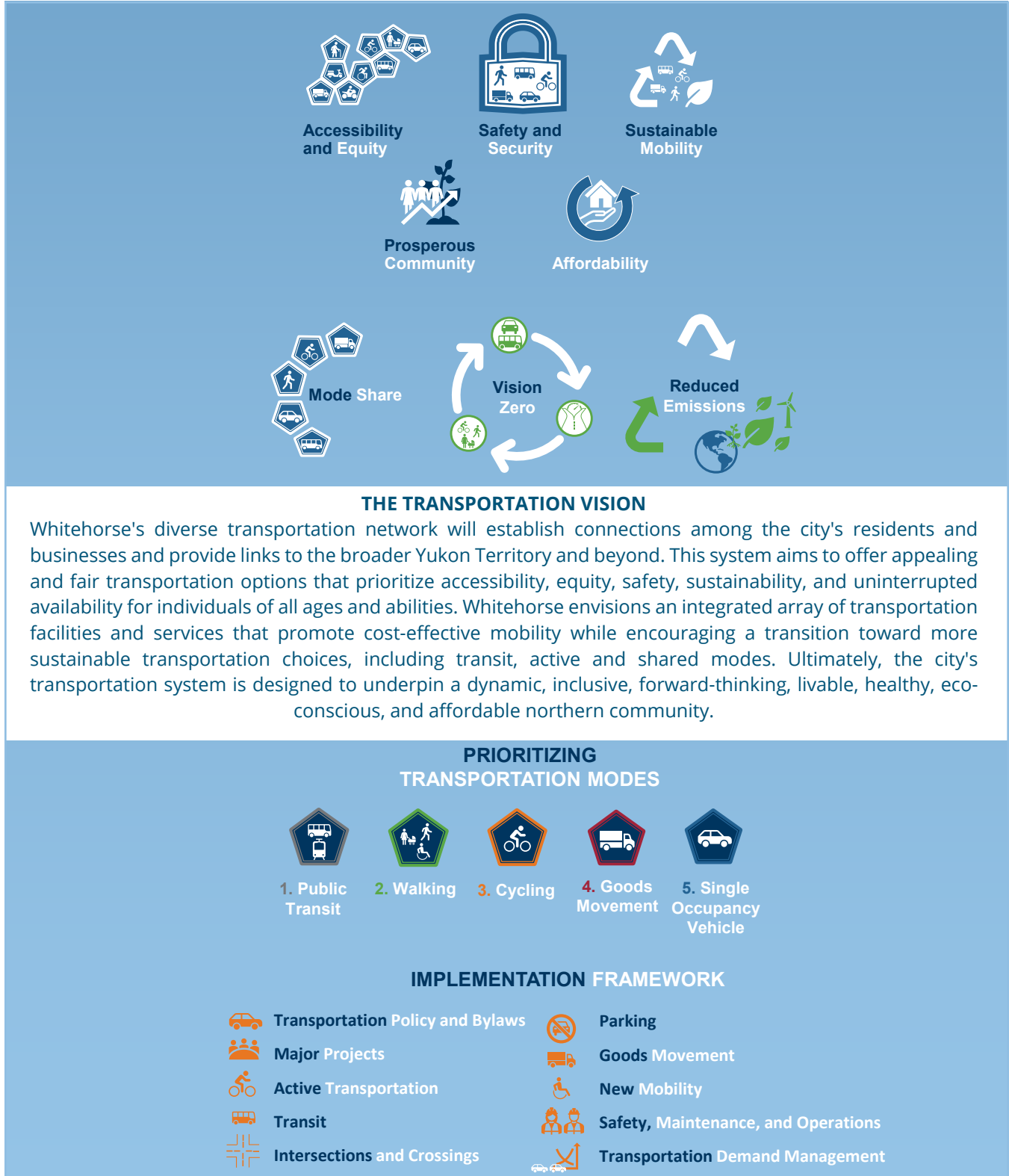


Figure 1. Whitehorse Transportation Master Plan Process

### 2.3 How to Read the Plan

The tree diagram illustrates the hierarchical structure of the TMP. Key features of the TMP includes one transportation vision, five high-reaching goals, three measurable targets, five prioritized transportation modes, and ten implementation themes.

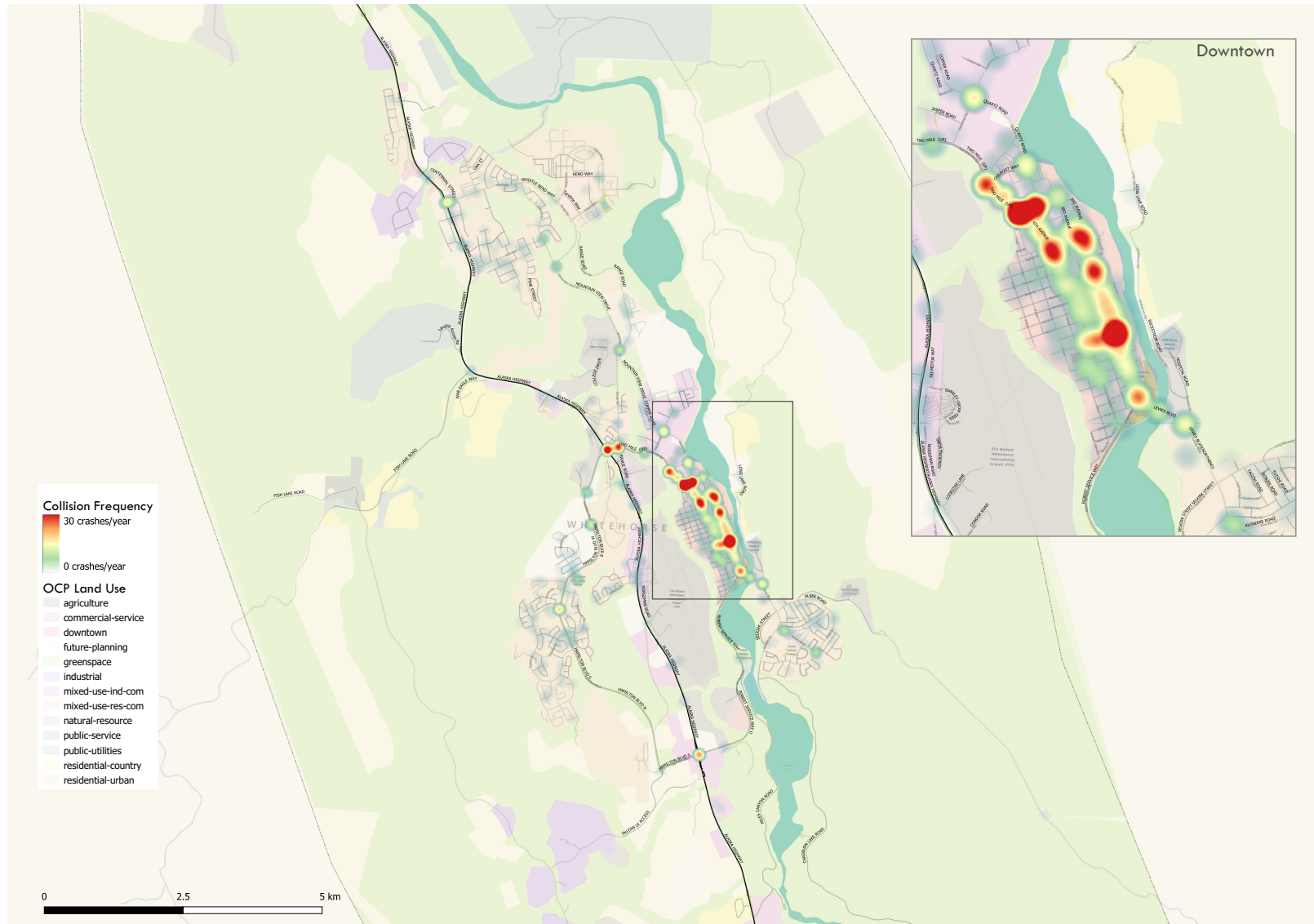


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# WHITEHORSE TODAY



**Figure 9** is a collision heat map that illustrates the frequency of all collisions in different areas of the city, identifying the key areas of concern for traffic safety and potential areas for future improvements. Most collisions occur along 2<sup>nd</sup> Avenue and 4<sup>th</sup> Avenue within the Downtown, and major intersections along Two Mile Hill Road and the Mountain View Drive / Copper Road / Quartz Road corridor.



**Figure 9. Traffic-Related Collisions by Location (Yukon Government Collision Data, 2015-2019)**

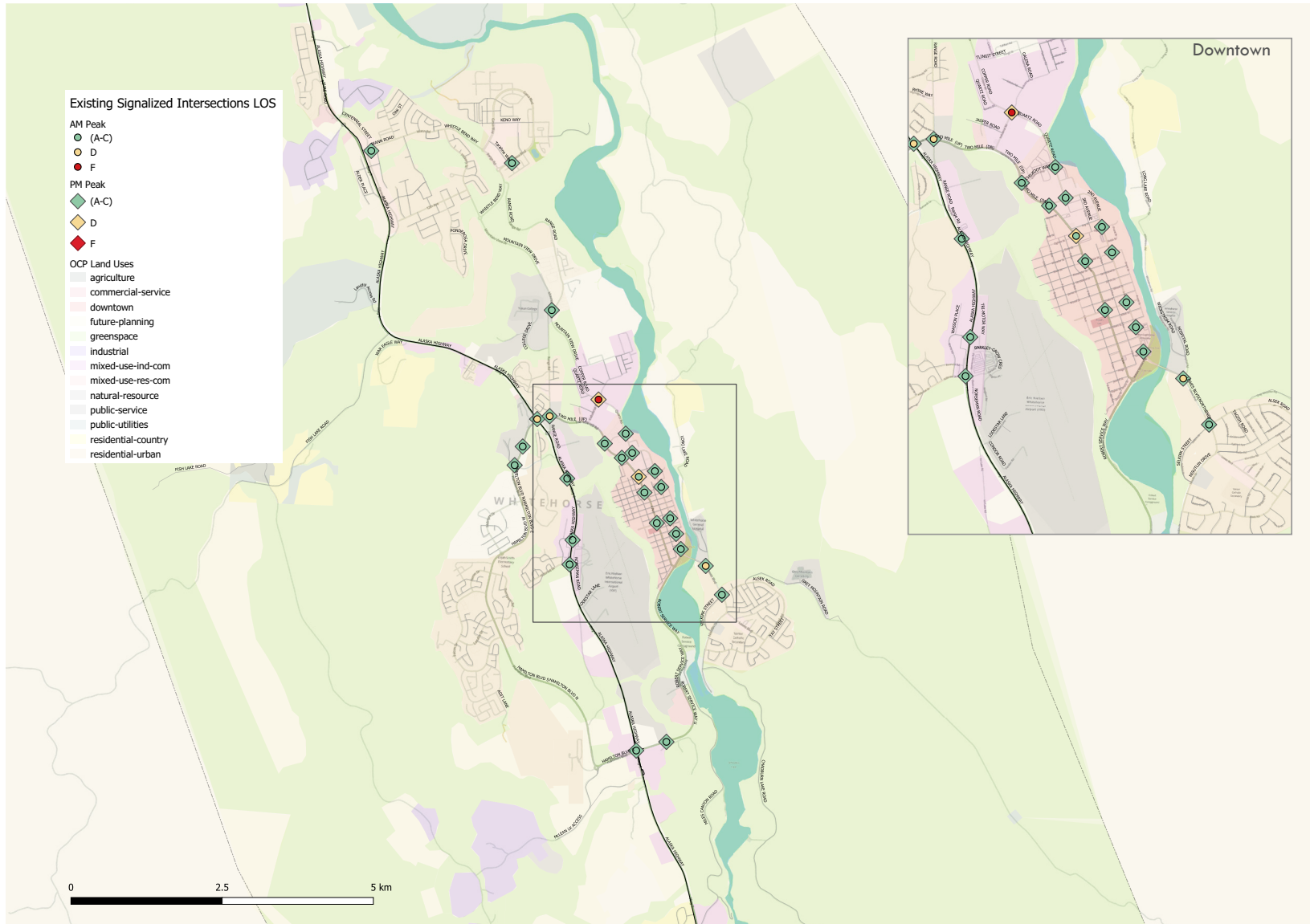


Figure 16. Existing Intersection Performance – AM Delay LOS (PM Delay LOS)

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# **FUTURE NEEDS AND EMERGING TRENDS**



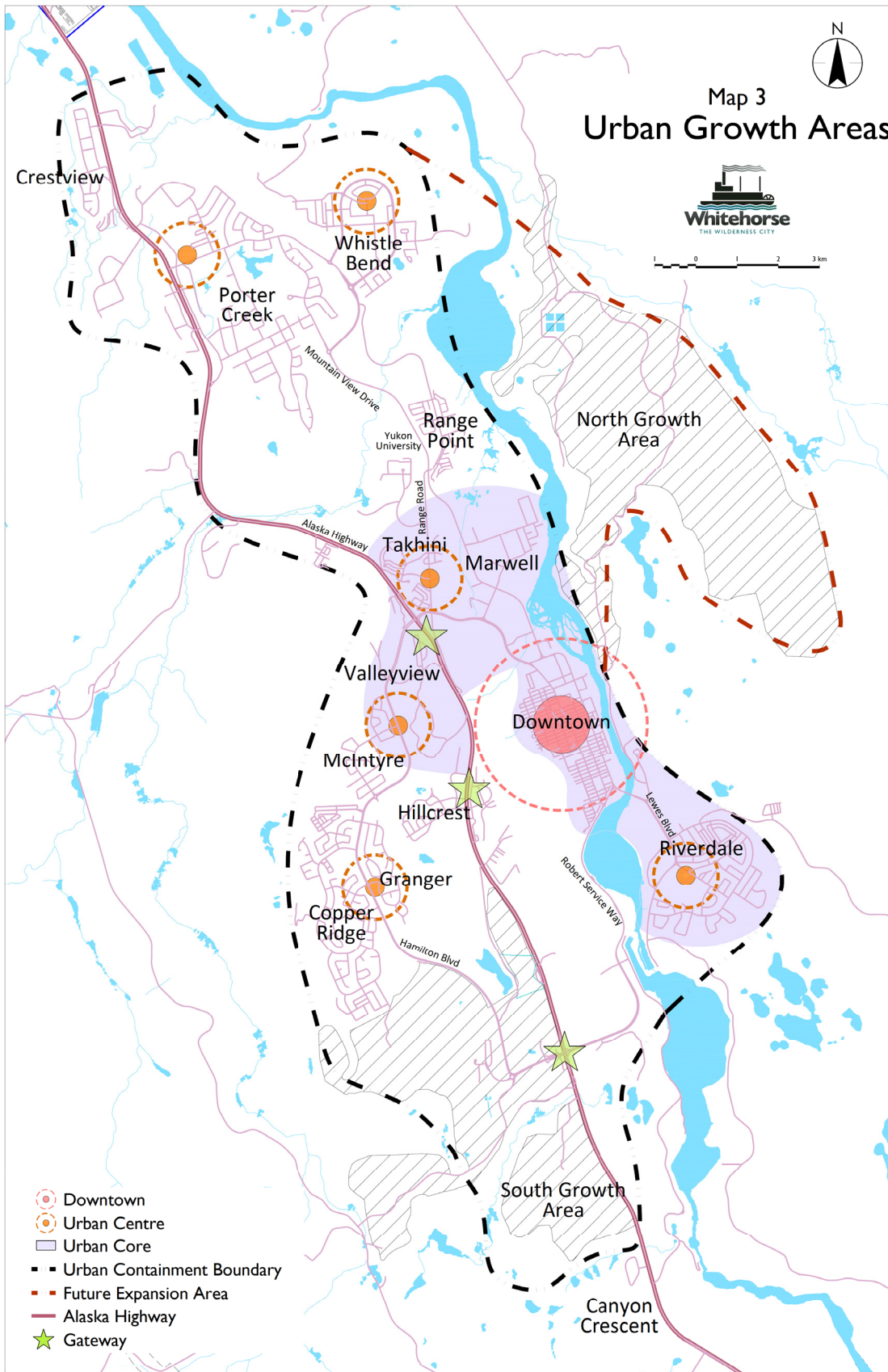


Figure 18. City Of Whitehorse Urban Growth Areas (Source: Whitehorse 2040 Official Community Plan)

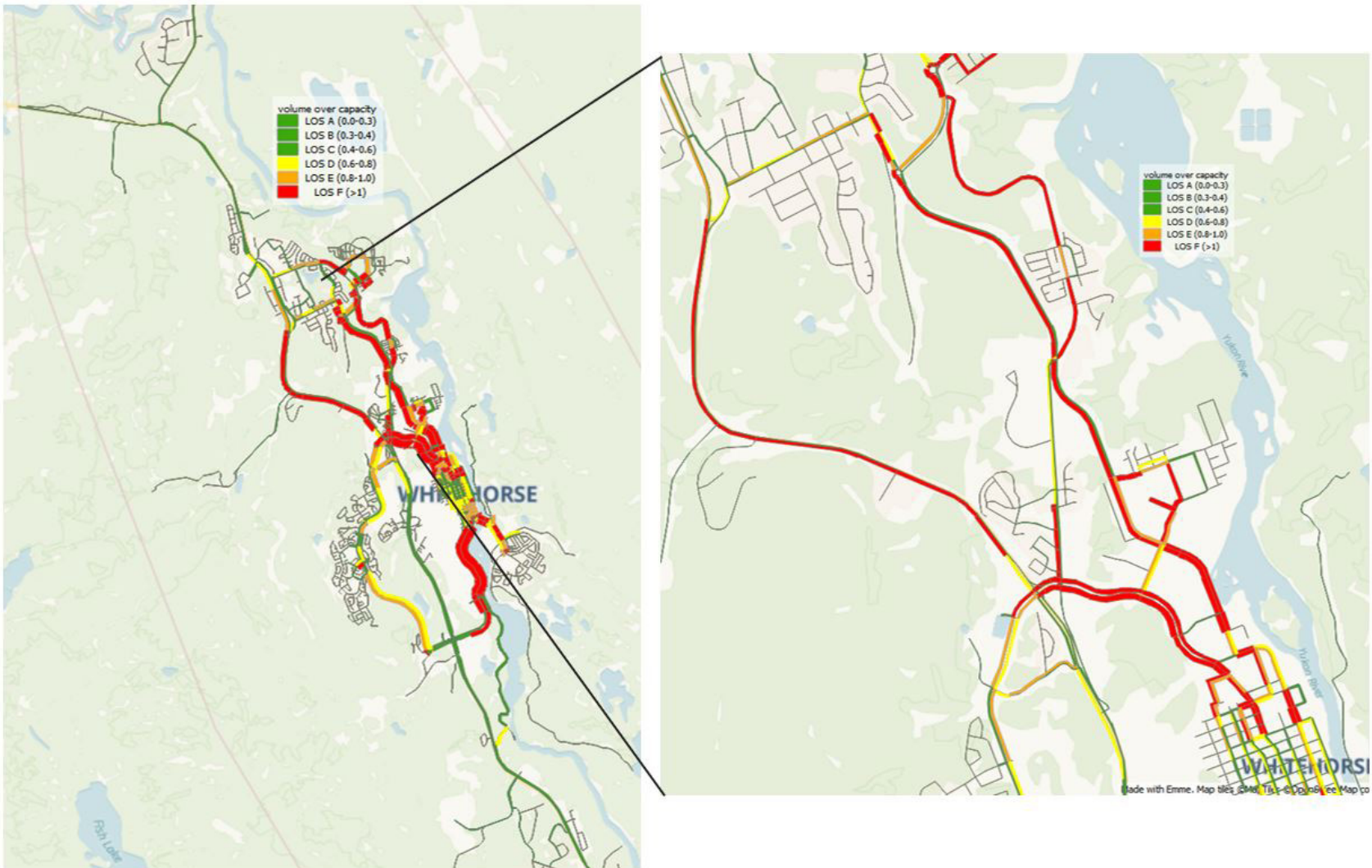


Figure 21. 2040 Performance of Major Transportation Corridors (Status Quo)



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## VISION, VALUES, AND GOALS



## 5.1 The Transportation Vision Statement

### The Transportation Vision

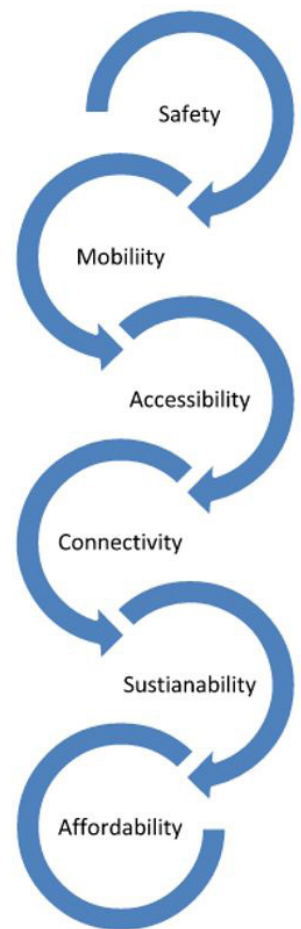
Whitehorse's diverse transportation network will establish connections among the city's residents and businesses, and provide links to the broader Yukon Territory and beyond. This system aims to offer appealing and fair transportation options that prioritize accessibility, equity, safety, sustainability, and uninterrupted availability for individuals of all ages and abilities. Whitehorse envisions an integrated array of transportation facilities and services that promote cost-effective mobility while encouraging a transition toward more sustainable transportation choices, including transit, active and shared modes. Ultimately, the city's transportation system is designed to underpin a dynamic, inclusive, forward-thinking, livable, healthy, eco-conscious, and affordable northern community.

The TMP sets out a long-term vision for the future of transportation in Whitehorse that is designed to support the City's OCP commitments towards a vibrant, inclusive, innovative, entrepreneurial, and resourceful northern community and to ensure Whitehorse residents, businesses, and visitors have attractive and equitable transportation choices to move around the City. These choices must:

- Be accessible and provide well-connected mobility options to people of all abilities and designed to overcome barriers experienced by people with disabilities.
- Be safe and comfortable in order to encourage people of all ages and abilities to walk, cycle, and use transit.
- Be sustainable by creating attractive walking and cycling facilities and providing transit services that will reduce the reliance on automobiles as the primary mode of transportation.
- Provide attractive connections to key activity areas and create opportunities for community engagement through thoughtful street design.
- Support more mixed-use and compact land use patterns through active transportation solutions and ultimately enhance overall community health and well-being.
- Support the City's climate action initiatives.
- Support the local economy through efficient and reliable movement of goods and services.
- Be affordable based on current revenue streams such as general taxation, development cost charges as well as partnerships with private sector interests and development. Be affordable for users of the transportation system.



Wordcloud Based on TMP Engagement



## 5.3 Transportation Targets

### 5.3.1 Mode Share

## Increase Sustainable Transportation Mode Share to 40 per cent of All Commute Trips by 2040

A new set of 2040 mode share targets is established for the City to achieve reasonable mode splits by 2040 (**Table 9**). Interim targets are also provided to help the City work towards these 2040 targets

**Table 9. City of Whitehorse 2040 Mode Share Targets**

	2021	2026	2031	2036	2040
Transit	3.3%	5%	8%	12%	15%
Walk	6.8%	7%	8%	9%	10%
Bicycle	2.7%	3%	4%	5%	6%
Vehicle (Passenger)	7.2%	7%	7%	7%	7%
Vehicle (Driver)	78.3%	76%	71%	65%	60%
Other	1.7%	2%	2%	2%	2%

The new Mode Share Target is slightly different from those outlined in the City's Transportation Demand Management (TDM) Plan (2014), which aimed to decrease the percentages of trips made by driving to work or school from 75 per cent in 2011 to 50 per cent by 2036. This means, that as the population in Whitehorse grows, more people will get to work or school by walking, cycling, transit, and carpooling. As the population grows, it will take an increased amount of residents to switch to sustainable modes of transportation to achieve the mode share targets. As outlined in the 2014 TDM Plan, the 2036 mode share targets of non-automobile modes were 15 per cent for walking, 6 per cent for cycling, 15 per cent for transit, and 12 per cent for passenger vehicle use.

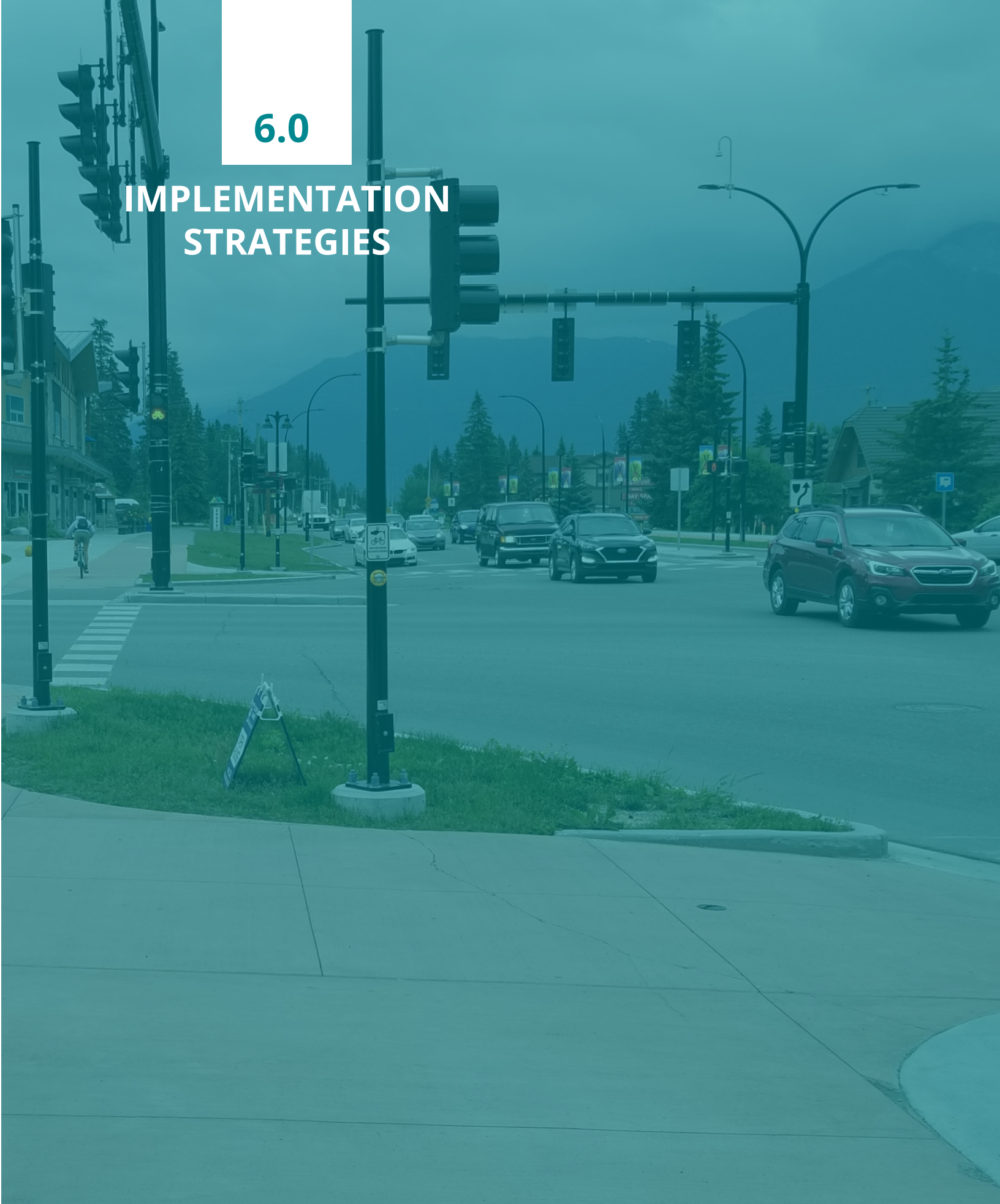
The City is facing challenges in meeting its sustainable transportation mode share targets as the use of personal vehicles has been increasing, while the share of sustainable modes of transportation has been declining since 2011. Simply put, Whitehorse mode share has been going the wrong direction.

One of the key factors contributing to the growth of vehicle mode share is the greater convenience and flexibility offered by private automobiles compared to other modes at this time. The low-density suburban growth that has been planned without adequate active transportation connections has made more attractive for residents to choose cars as their preferred mode. This shift is a result of historic infrastructure investment choices and comes at the cost of worsening traffic congestion, increased GHG emissions, a growing reliance on fossil fuel resources, negative human health impacts, and higher capital and operational costs of the transportation system.

To reverse this trend, the City must take a proactive approach. Strategies aimed at enhancing active transportation infrastructure, promoting the use of public transit, and making the urban environment more pedestrian and cyclist-friendly are critical.

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# IMPLEMENTATION STRATEGIES



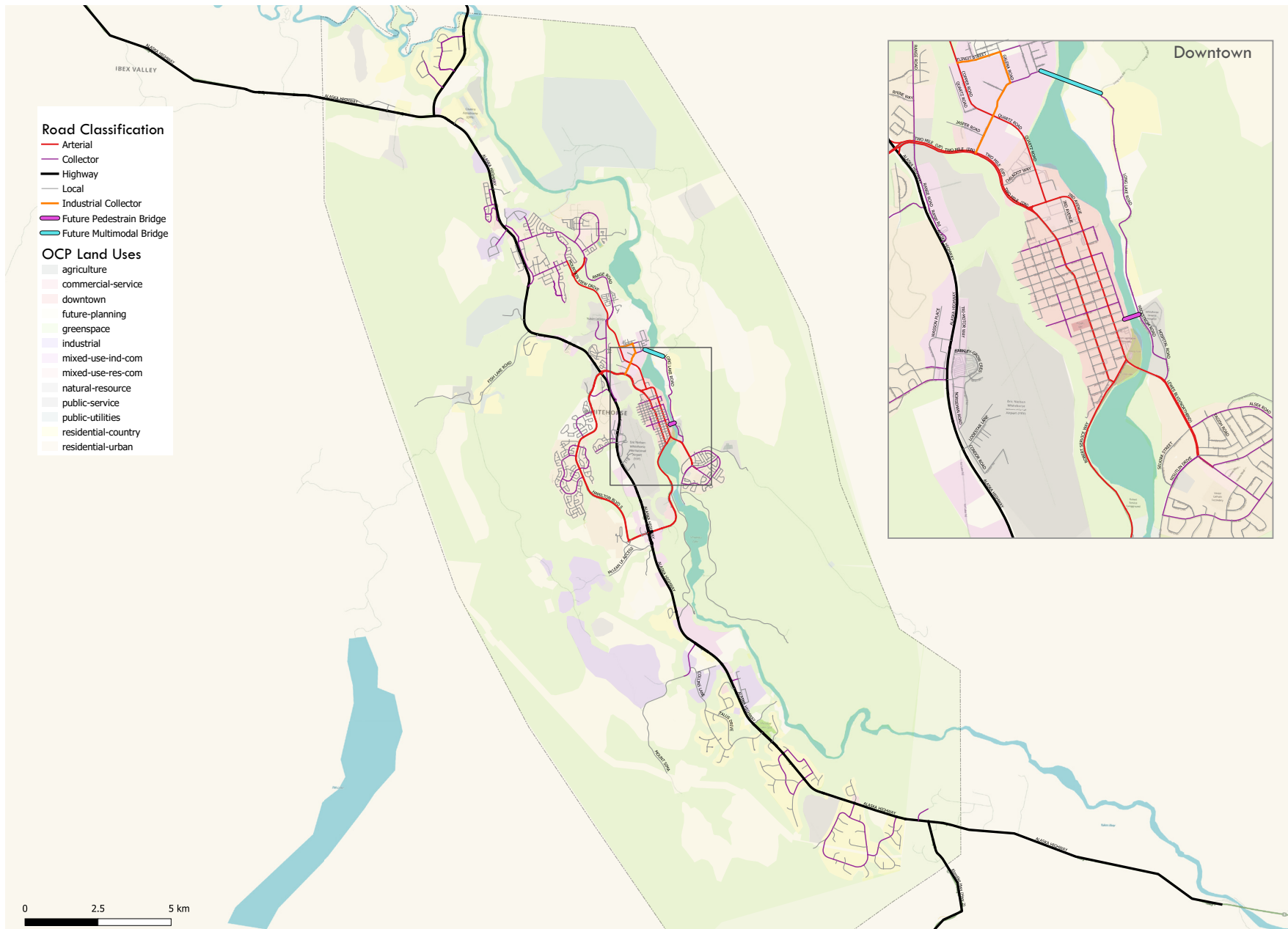


Figure 25. Whitehorse Street Network Classification

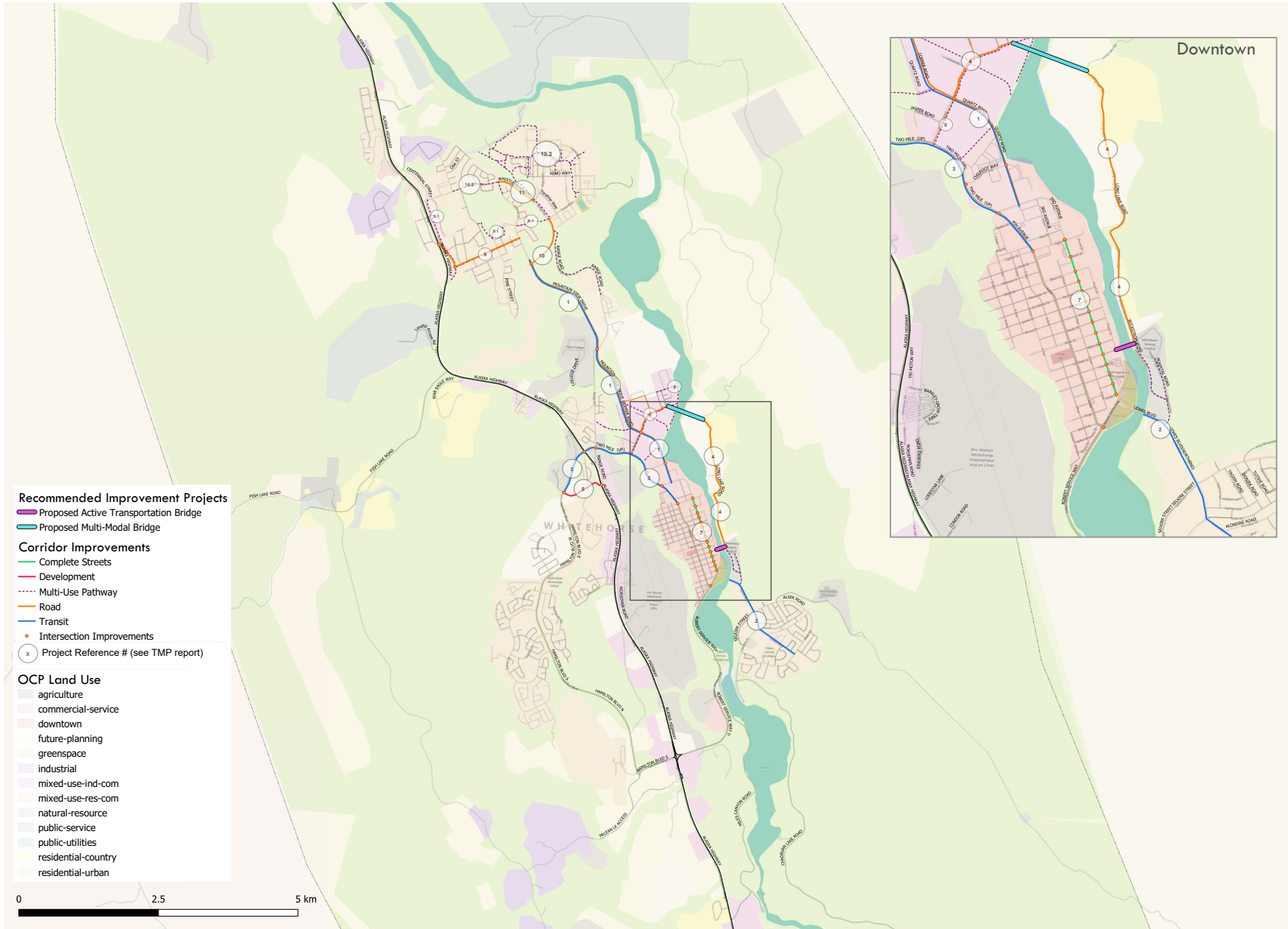


Figure 26. Major Projects

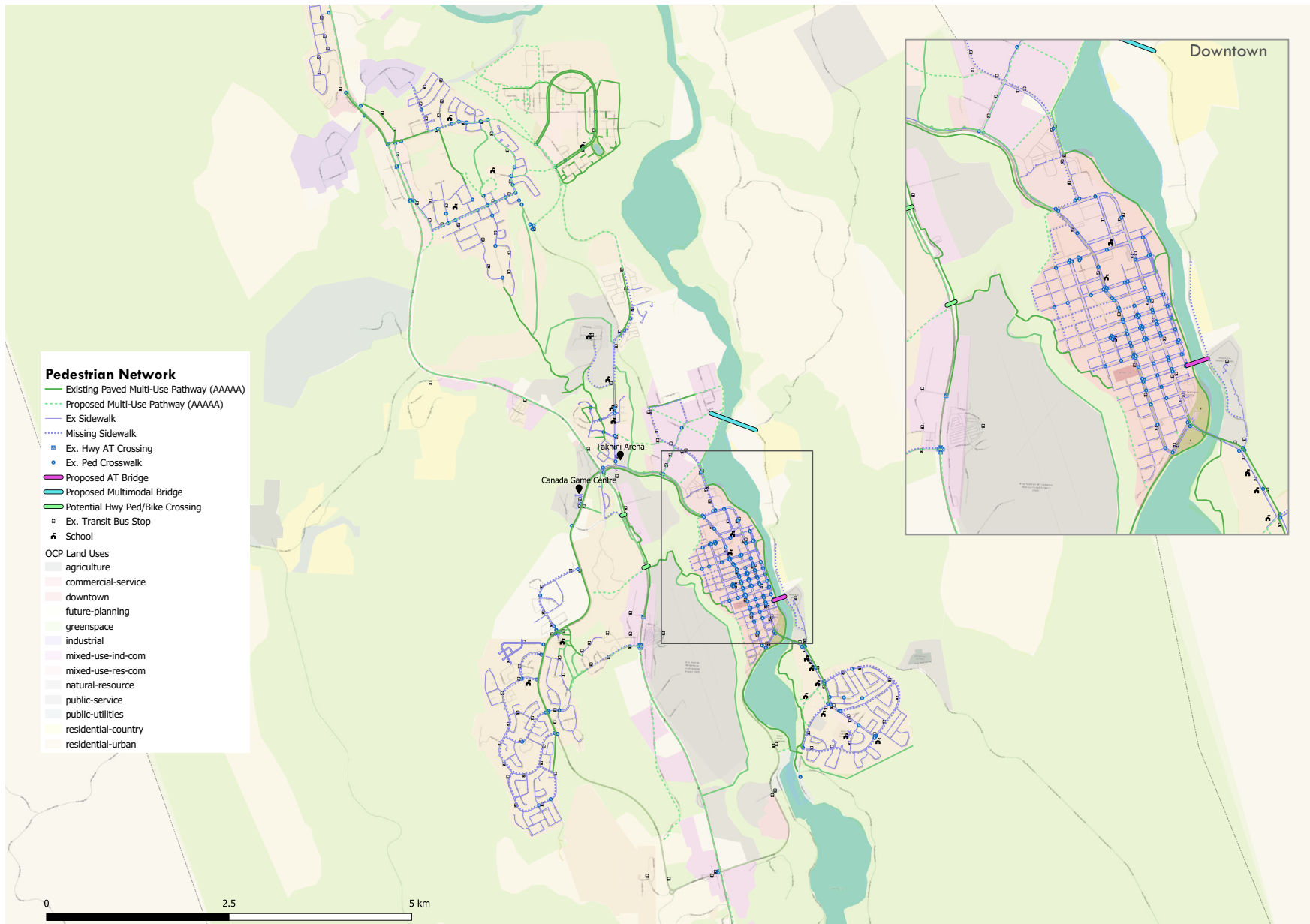


Figure 27. Existing and Proposed Walking Network

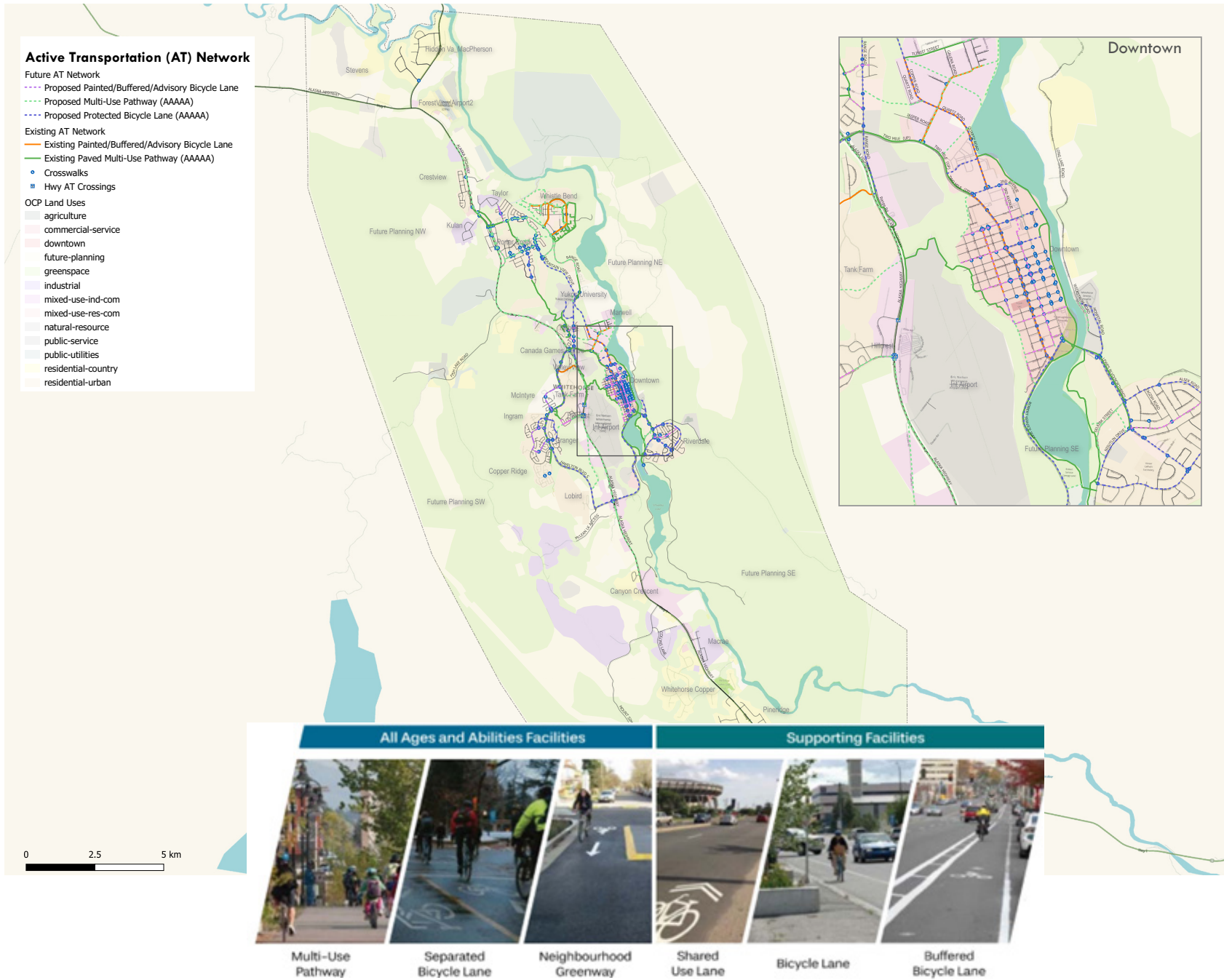


Figure 28. Existing and Proposed Cycling Network





Figure 29. Proposed Truck Route Map

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# MONITORING AND EVALUATION












## 7.1 Key Performance Indicators

The following performance indicators are included for consideration, to the measure the success of the Plan (**Table 14**). These include Key Performance Indicators (KPIs) which align with the visions, objectives, and policy area indicators.

**TABLE 14. MEASURE THE SUCCESS OF THE PLAN**

			Indicator		Performance Trend	Data Source
Active Transportation	Target	By 2040, 16% of the trip to work or school in Whitehorse will be taken by walking or cycling	Percent of residents walking or cycling to work or school		Upward trend indicates more people are willing to take active transportation as their main transportation mode	Statistics Canada Census of Population Data
	Policy Indicators	11.17 The City will ensure that new developments are designed and connected to the active transportation network in a way that supports the hierarchy of transportation modes included above.	Number of new lots/ units connected to active transportation network		Upward trend indicates net increase in active transportation infrastructure	Engineering (GIS + PM)
		11.18 Initiatives that remove physical barriers, address safety concerns, close route gaps, improve winter maintenance, and improve lighting for active transportation modes throughout the community will be supported, where feasible.	Km of active transportation infrastructure with no concerns		Upward trend indicates completion of the active transportation network	Engineering (GIS + PM)
		11.19 Improvements that address year-round convenience, safety, comfort, and attractiveness of active transportation modes will be promoted through infrastructure development and redevelopment.	Km of always available for all ages and abilities (AAAAA) active transportation infrastructure		Upward trend indicates completion of the AAAAA active transportation network.	Engineering (GIS + PM)

Active Transportation	Policy Indicators	11.20 The City will ensure that the active transportation network is designed with connections to support year-round multi-modal movements.	Km of always available for all ages and abilities (AAAAA) active transportation infrastructure		Upward trend indicates completion of the AAAAA active transportation network.	Engineering (GIS + PM)
		11.21 The City will work with community partners to enhance the overall active transportation network connectivity to destinations such as schools, hospital, and major workplaces.	Completion of active transportation network connected to key destinations.		Upward trend indicates completion of the active transportation network	Engineering (GIS + PM)
Transit	Target	By 2040, 15% of the trip to work or school in Whitehorse will be taken by public transit	Percent of travel taking public transit to work or school		Upward trend indicates more people are willing to take public transit as their main transportation mode	Statistics Canada
	Policy Indicators	11.22 The City will support the ongoing provision of public transit as an essential municipal service that enhances equitable movement throughout the city.	Public transit coverage and frequency. The number of transit stops accessible to all people.		Upward trend indicates improvement to the public transit service	Whitehorse Transit
		11.23 The design of public transit infrastructure will recognize and prioritize the needs of those with limited mobility independence.	The number of transit stops accessible to all people.		Upward trend indicates improvement to universally accessible public transit service	Whitehorse Transit
			The usage of handy bus services		Upward trend indicates improvement to handy bus service	Whitehorse Transit
11.24 The City will continue to invest in public transit improvements or expansions that increase accessibility, convenience, reliability, comfort, and/or safety for users.	Completion of public transit infrastructure (the number of safe, enclosed, and heated shelter, seating, signage, etc. installed in the City)		Upward trend indicates increasing of accessibility, convenience, reliability, comfort, and safety	Whitehorse Transit		

Parking	Policy Indicators	11.26 Parking options in the Downtown and in the Urban Centres will support a range of different mobility choices and vehicle types (e.g., bicycles, motorcycles, personal automobiles, electric vehicles).	Number of parking stalls for other mobility choices and vehicle types		Upward trend indicates more parking options	Engineering (GIS + PM)
		Bicycle and electric vehicle charging stations will be considered in the design of new high-density residential buildings, parkades and commercial uses.	Number of new high-density residential buildings, parkades and commercial uses with sufficient bicycle parking, or electric vehicle charging stations, or both		Upward trend indicates more bicycle parking and electric vehicle charging stations	Engineering (GIS + PM)