CITY OF PENTICTON
REPORT NUMBER: 20M-00462-00

PENTICTON TRANSPORTATION MASTER PLAN

PENTICTON IIMP

CONFIDENTIAL

PENTICTON TRANSPORTATION MASTER PLAN

CITY OF PENTICTON

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1 INTRODUCTION

The 2021 City of Penticton Transportation Master Plan has been developed as part of a comprehensive review of the City of Penticton's master plans to align with and support implementation of the 2045 Official Community Plan (OCP). The water, storm, sanitary, and transportation master plans have been developed symbiotically between disciplines to identify existing conditions and future opportunities for integrated infrastructure improvements as the City of Penticton grows over the next 25 years.

The City of Penticton Transportation Master Plan is a complete update of the 2006 TMP. Using the OCP as a framework, this TMP was developed through field review, data analysis, public and stakeholder engagement, policy review and development, and integration with the rest of the Integrated Infrastructure Master Plan (IIMP) to provide direction on how the City of Penticton can invest in future infrastructure in an efficient way that aligns with objectives of critical policy documents.

The TMP is a multimodal document that considers the value of investments across the City to improve opportunities for people walking, cycling, and taking transit, while considering the impacts of growth, and the need to provide improvements in the road network for goods movement and people driving with safety as an overriding priority.

1.1 TMP DEVELOPMENT PROCESS

The critical deliverable of this TMP is a capital project list that is integrated with the other Infrastructure Master Plans to provide the City of Penticton with a central resource that will allow for thoughtful infrastructure investment planning over the next 25 years. A high level TMP Process Document is illustrated for reference in **Figure 1-1**.

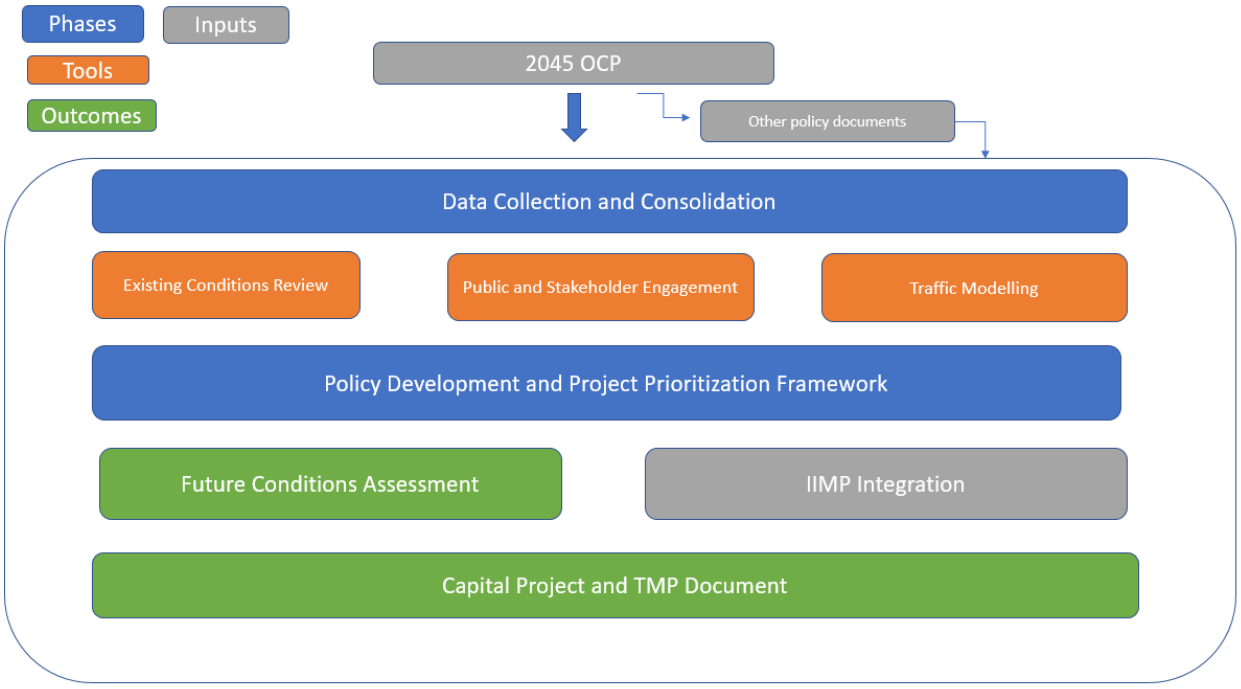

FIGURE 1-1 TMP PROCESS

1.2 POLICY AND DATA CONSOLIDATION

While the policy foundation of the TMP is directed by the 2045 Official Community Plan, a range of other policy documents, previous studies, and data have informed the TMP process, policy framework, and final documentation. A sample of critical inputs are summarized below.

- 2005 EarthTech Master Transportation Study
- 2012 Urban Systems Cycling Plan Update
- 2016 City of Penticton Transportation Safety Policy
- City of Penticton Sidewalk Priority Plan
- City of Penticton OCP 2045
- City of Penticton Truck Route Map
- South Okanagan Similkameen Transit Riders Guide
- 2020 City of Penticton Parking Fees and Charges
- List of Improvement Projects identified through the Transportation Safety Policy
- 2019 and 2020 Traffic Count Data
- 2019 Signalized Intersection Timing Data
- ICBC Collision Data

1.3 PUBLIC AND STAKEHOLDER ENGAGEMENT

Throughout the development of the TMP, the integrated project team used public and stakeholder feedback at key points to provide an overview of existing conditions opportunities and constraints, and to provide feedback on recommendations. A summary of that feedback has been included in **Section 2** of this document.

1.4 TRAFFIC MODELLING AND MULTI-MODAL NETWORK ASSESSMENT

The WSP project team worked with the City of Penticton to update the existing Synchro Traffic Model as a tool to identify potential intersection and road network improvements for people driving and goods movement. This model was based on existing traffic data and projected growth information from the 2045 OCP.

The TMP also evaluated the need for new and improved infrastructure for people walking and cycling in Penticton in line with the OCP mode preference policy. This assessment was based on existing data and a desktop review of current infrastructure viewed through a lens of current best practices in provision of safe and accessible walking and cycling infrastructure.

The TMP reviewed the existing transit opportunities and constraints, and identified opportunities to continue to align with BC Transit in future transit ridership in the City of Penticton.

1.5 INTEGRATION WITH OTHER INFRASTRUCTURE MASTER PLANS

The final TMP deliverable is a capital list and project prioritizing framework that can be used by City Administration to plan for and coordinate infrastructure investments in the City of Penticton that thoughtfully consider growth. The list and framework were coordinated with the Water, Sewer, and Sanitary Master Plans to provide opportunities to consolidate projects where possible.

2 PUBLIC AND STAKEHOLDER ENGAGEMENT

Consultation on the TMP included two key groups: the general public, and a Transportation Master Plan Advisory Group. The TMP team also met with BC Transit.

This section summarizes the input received from both groups during the first phase of consultations. The purpose of the first phase of consultation was to help identify existing gaps and issues to address in the TMP. A second phase of public consultation will focus on reviewing a draft of the TMP and proposed capital project lists. Results of the second phase of consultation are briefly summarize herein and incorporated into the final report and capital project prioritization as appropriate.

2.1 ADVISORY GROUP MEETING

The first Advisory Group was held on July 24, 2020 via video conference. The group includes members from the following organizations.

- BC Transit
- Berry & Smith
- PAC
- PIDA
- ICBC
- Downtown Penticton Association
- Lakeside Road Neighbourhood Group
- Travel Penticton
- PSDIC
- Canadian National Institute for the Blind
- Okanagan College Student Society
- Seniors Wellness Society

A brief summary of the input provided by the Advisory Group is provided below and organized by mode or TMP subject area. Detailed minutes from this advisory group meeting are attached in Appendix A.

2.1.1 PEDESTRIANS

Critical pedestrian issues identified by the Advisory Group include:

- The conflict of cyclists currently using sidewalks in the busy Downtown and Lakeshore areas;
- Inadequate crossing times for older adults;
- Missing sidewalk connections in the urban areas; and
- General unsafe accommodation for both cyclists and pedestrians in rural areas.

2.1.2 CYCLING

In addition to the cycling and pedestrian conflicts noted in **Section 2.3.2**, the Advisory Group identified a number of opportunities to improve access and safety for people who would like to ride their bicycles in Penticton. Implementation of an improved cycling network and supportive policies could help to establish Penticton as a tourism cycling hub, a goal identified by the Advisory Group. Specific improvements to help achieve this goal (among others) include:

- Adding a bicycle facility on Lakeshore Road;
- Re-evaluating the best location for a bicycle route on Carmi Avenue instead of Duncan Avenue;
- Improved bicycle parking facilities at transit stops;
- Including bicycle maintenance areas along the Kettle Valley Rail Trail (KVR Trail), and
- Addressing the regulations for micro-mobility such as motorized scooters and e-bikes.

2.1.3 TRANSIT

Opportunities for improving the transit experience and network identified by the Advisory Group include:

- Transit fare policy review including considerations for free transit passes for youth and developing a U-Pass program with Okanagan College;
- Adding bicycle parking and on-bus storage for regional transit service;
- Bike parking at key transit stops;
- Improving transit service in rural areas;
- Coordinating service with school schedules; and
- Collecting Origin-Destination data to better align transit service with demand.

2.1.4 GOODS MOVEMENT

Issues and opportunities identified by the Advisory Group as they related to goods movement in Penticton included:

- The current use of Lakeside Road as a shortcutting route;
- Accommodation of industrial vehicle turning radii;
- Banning heavy vehicles from certain streets in the downtown area; and
- Developing rules about where trucks are permitted to park overnight.

2.1.5 STREETS AND TRAFFIC

Many of the comments from the Advisory Group, as they related to street design, have been addressed in the previous mode summaries, such as the need for safe pedestrian crossings on collector streets.

Additional notes on the current street network and traffic concerns in the City identified by the Advisory Group include:

- City-wide issues with speeding, particularly as it relates to pedestrian safety;

- Sightline issues on Smythe Drive; and
- The need for traffic calming on Lakeside Road.

2.1.6 PARKING

The Advisory Group expressed support for metered parking in the downtown area and on Main Street, and for expanding the resident only parking areas. Several questions were asked relating to the purpose or strategy for parking management in Penticton.

2.1.7 SAFETY

Safety concerns reiterate some of the previous comments including timing for pedestrian crossings currently being too short, especially for older adults, and concerns surrounding sightlines in some areas.

2.2 BC TRANSIT CONSULTATIONS

Meetings were held with the City of Penticton and BC Transit on October 22 and October 30, 2020 to discuss BC Transit's delayed *Transit Futures* planning study update for Penticton and South Okanagan. The main takeaways were as follows:

- BC Transit was originally scheduled to begin its 2020 regional Transit Futures update in Spring 2020 but was delayed by COVID disruptions. Preparation is postponed to late Fall 2020 and early work to start in Winter 2021.
- Before COVID reductions, conventional transit ridership and mode had significantly increased since previous Transit Futures update in 2015, although HandyDart ridership had decreased.
- No significant local transit resources were added to Penticton since 2015 but resources have been allocated for improved regional service (i.e. Penticton-Kelowna).
- There will be ongoing discussion between City and BC Transit on preferred site for a future transit exchange – Downtown or Cherry Lane Mall area.
- BC Transit will confer with Council to determine its priorities, preferences, and thresholds around transit and transit-supporting policies in 2021.

2.3 PUBLIC FEEDBACK SUMMARY

Public input was received from an online survey, in which residents were asked to map concerns about Penticton's transportation system. The public feedback is categorized broadly under key transportation themes, outlined in the section headings below. In addition, locations where there were clusters of comments have been analyzed and the key themes at these locations are highlighted at the end of this section.

For each of the subjects below, all comments were reviewed and tagged with a theme. The numerical distribution of comments according to key themes is provided, in brackets, to illustrate magnitude. Some subjects did not garner enough feedback for a thematic analysis and in these cases the detailed comments are noted in the existing conditions section.

2.3.1 PEDESTRIANS

There were three key themes in the public feedback about pedestrian issues:

- Missing infrastructure; mainly sidewalks and crosswalks; (70%)
- Conflicts with vehicle drivers, at crosswalks that were thought to be unsafe, or where no crosswalk exists; (22%) and
- Pedestrian facilities that require maintenance such as damage repair, removal of overgrowing weeds, and cleanup of litter. (8%)

Residents specifically noted a lack of sidewalks along several corridors including Greenwood Drive, Green Avenue West near Highway 97, and the Government corridor between Wade Avenue and Forestbrook Drive. **Figure 2-1** below shows all locations where a sidewalk gap was reported.

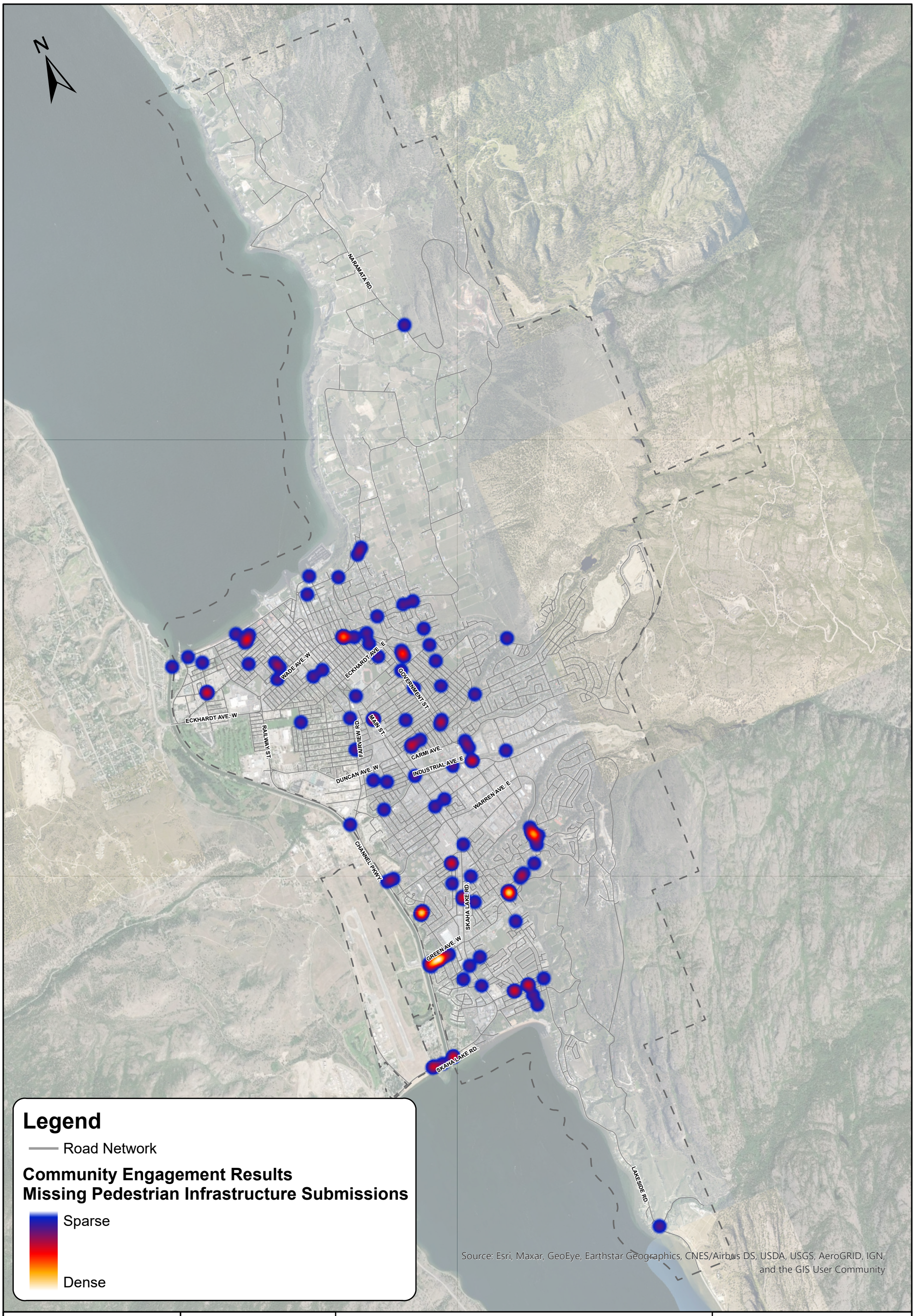

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Figure 2-1
Community Engagement Results
Missing Pedestrian Infrastructure
Integrated Infrastructure Master Plan

Project No.: **20M-00462-00**

Date: **4/19/2021**

Scale: **1:40,000**

0 50 100 200 Meters

Path: C:\2020-07-08 Penticton IIMP\2021-04 CoP Transportation.aprx

2.3.2 CYCLING

Four key themes emerged around cycling concerns:

- Lack of proper cycling infrastructure, mainly bike lanes and signals; (60%)
- Conflicts between cyclists and vehicle drivers at intersections or crosswalks; (27%)
- Traffic speed; (7%) and
- Conflicts with parked cars, and parked cars blocking sightlines. (6%)

Of the comments regarding improving cycling infrastructure, the majority were focused on Main Street, particularly between Wade Avenue and Westminster Avenue, and on the western end of Eckhardt Avenue.

Figure 2-2 shows all locations where a cycling infrastructure gap was reported.

N

NARAMATA RD.

WADE AVE W

ECKHARDT AVE E

GOVERNMENT ST

ECKHARDT AVE W

RAILWAY ST

FAIRVIEW RD.

MAIN ST

CARMI AVE.

INDUSTRIAL AVE E

DUNCAN AVE W

WARREN AVE E

CHANNEL PKWY.

SKAHA LAKE RD.

GREEN AVE W

SKAHA LAKE RD.

LAKESIDE RD.

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

Road Network

Community Engagement Results
Missing Cycling Infrastructure Submissions

Sparse

Dense

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Figure 2-2
Community Engagement Results
Missing Cycling Infrastructure
Integrated Infrastructure Master Plan

Project No.: **20M-00462-00**

Date: **4/19/2021**

Scale: **1:40,000**

0 50 100 200 Meters

Path: C:\2020-07-08 Penticton IIMP\2021-04 CoP Transportation.aprx

2.3.3 TRANSIT

There were not enough transit comments to provide a meaningful summary by theme. There a few general comments about transit stop locations and conditions, and a comment about needing a centralized transit exchange.

2.3.4 GOODS MOVEMENT

There were not enough comments about goods movement to provide an analysis; details are included in the existing conditions review of goods movement.

2.3.5 STREETS AND TRAFFIC

For concerns related to driving, traffic and streets, there were several key themes, as follows:

- Inadequate or unsafe intersections; (43%)
- Speeding; (27%)
- Sightlines and blind corners; (9%)
- Pedestrian-vehicle conflicts; (7%)
- Conflicts with parked cars; (6%)
- Issues around driveways on busy roads; (4%) and
- Traffic congestion. (4%)

While comments about speeding were identified throughout Penticton, Lower Bench Road in the northeast and Lakeside Road in the southeast were repeatedly flagged with speeding concerns.

Figure 2-3 illustrates all locations where speeding was noted as an issue.

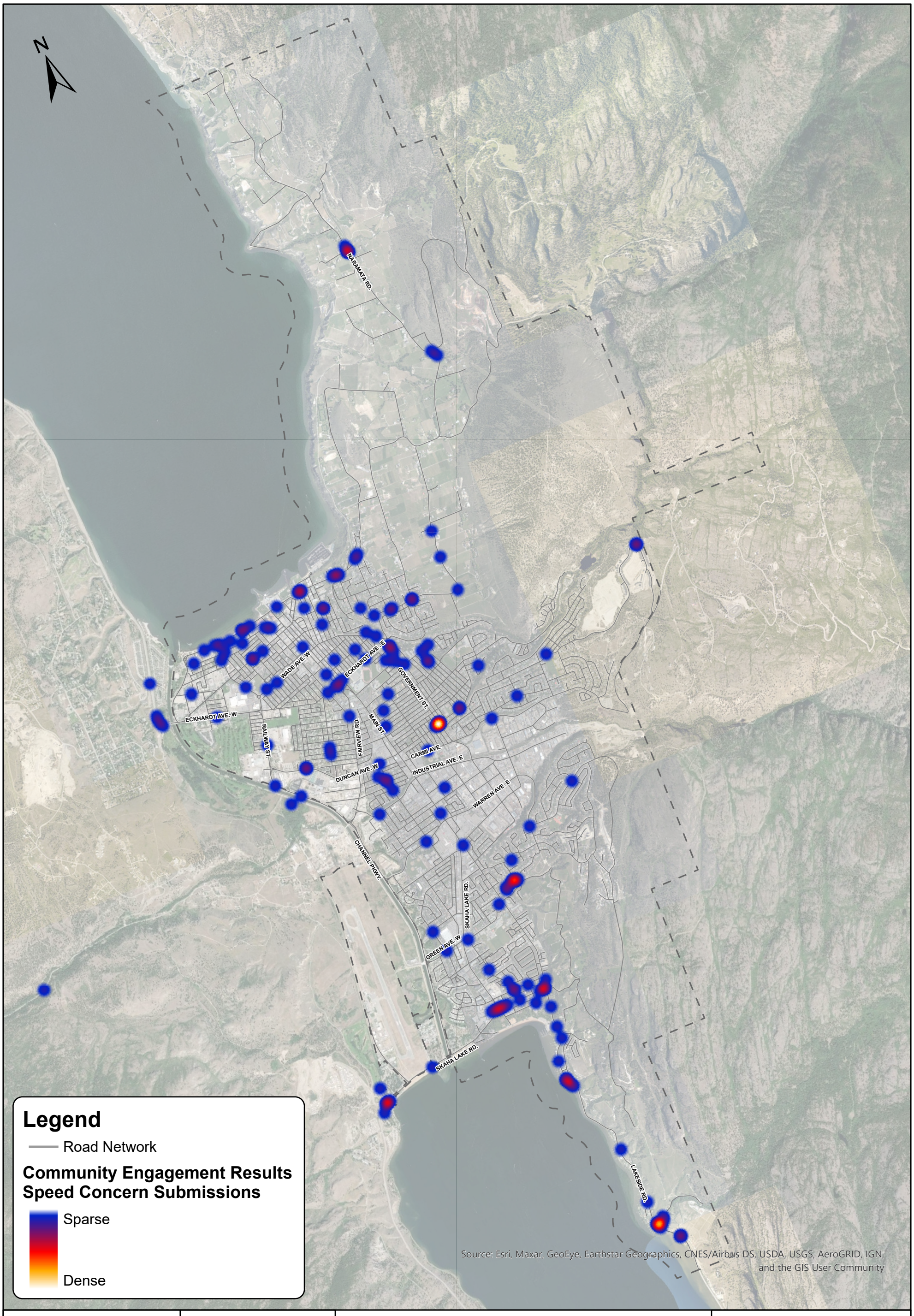

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Figure 2-3
Community Engagement Results
Speed Concerns
Integrated Infrastructure Master Plan

Project No.: **20M-00462-00**

Date: **4/19/2021**

Scale: **1:40,000**

0 50 100 200 Meters

Path: C:\2020-07-08 Penticton IIMP\2021-04 CoP Transportation.aprx

2.3.6 GEOGRAPHIC HOT-SPOTS

Four key geographic areas were selected for further investigation, based on the density of comments in the area:

- Main Street between Lakeshore Drive and Kinney Avenue;
- The Highway 97 corridor;
- The corridor starting at the intersection of South Main Street and Green Avenue, to the west along Greenwood Drive, ending at the intersection of Dartmouth Drive at Wiltse Boulevard; and
- Lakeside Road.

2.3.6.1 MAIN STREET

The key themes flagged on the Main Street corridor are, as follows:

- Issues at intersections; (66%)
- Pedestrian-vehicle conflicts; (17%)
- Missing cycling infrastructure; (10%)
- Missing pedestrian infrastructure; (6%)
- Speeding; (6%) and
- Parking. (6%)

2.3.6.2 HIGHWAY 97

The key themes emerging from comments along the Highway 97 corridor are as follows:

- Issues at intersections, primarily feeling unsafe turning left onto the highway; (48%)
- Missing pedestrian infrastructure; (11%)
- Speeding; (11%)
- Pedestrian-vehicle conflicts; (9%)
- Missing cycling infrastructure; (8%)
- Cyclist-vehicle conflicts; (7%) and
- Driveway accesses. (6%)

2.3.6.3 SOUTH MAIN STREET TO DARTMOUTH DRIVE

The key themes from the feedback about the Greenwood Drive and Dartmouth Drive Corridor are as follows:

- Issues at intersections; (41%)
- Missing pedestrian infrastructure, specifically sidewalks along Greenwood Drive; (17%)
- Speeding; (16%)
- Pedestrian-vehicle conflicts; (10%)
- Parking; (10%) and

- Traffic congestion. (6%)

2.3.6.4 LAKESIDE ROAD

The key themes from the comments on Lakeside Road are as follows:

- Speeding, especially in relation to the sightlines issue; (43%)
- Issues at intersections; (16%)
- Parking; (12%)
- Sightlines and blind corners; (11%)
- Missing cycling infrastructure; (9%) and
- Driveways. (9%)

2.4 FINAL ENGAGEMENT PHASE

Public and stakeholder engagement was concluded between December 10-21, 2020. Feedback was solicited around the capital project prioritization process, and preliminary results. Overall, there was support for the approach to use safety as the top priority, and the mode hierarchy, to determine capital projects.

3 GUIDING PRINCIPLES & PRIORITIZATION FRAMEWORK

3.1 BACKGROUND DOCUMENT REVIEW

The TMP document is founded on over a decade of previous policy work, reports and studies and data collection. A sample of some of the critical document inputs used to develop the Guiding Principles and Prioritization Framework include:

- 2005 EarthTech Master Transportation Study;
- 2012 Urban Systems Cycling Plan Update;
- 2016 City of Penticton Transportation Safety Policy;
- City of Penticton Sidewalk Priority Plan;
- City of Penticton OCP 2045;
- City of Penticton Truck Route Map;
- South Okanagan Similkameen Transit Riders Guide;
- 2020 City of Penticton Parking Fees and Charges;
- List of Improvement Projects identified through the Transportation Safety Policy;
- 2019 and 2020 Traffic Count Data; and
- 2019 Signalized Intersection Timing Data.

These documents and other relevant background material are reviewed and summarized where relevant in the following sections.

3.2 TRANSPORTATION GUIDING PRINCIPLES

The City of Penticton's foundational policy document and Bylaw, the Official Community Plan (OCP), outlines several guiding principles for Penticton's transportation system. The purpose of the OCP is to provide a framework of goals and policies to guide planning decisions within the City's boundaries. The organization of goals in the OCP has been adapted slightly within this TMP to facilitate the flow of information, prioritizations and recommendations. For example, while safety itself is not a stated goal for the transportation system, safety is mentioned specifically in the complete transportation approach and in the goals for each individual mode. Given this, safety has been highlighted as a stand-alone principle for the TMP.

Key inputs to the transportation goals in the OCP are the land use goals focused on managing growth, preserving Penticton's compact urban footprint and prioritizing infill development. The OCP growth plan places emphasis on intensification of existing urban areas, maximizing use of existing assets and infrastructure, creating complete and accessible communities, and minimizing negative impacts on natural areas. The growth plan also identifies four **Strategic Investment Areas** (**Figure 3-1**) for infill growth. The goal of the Strategic Investment Areas is to focus economic development priorities and infrastructure investment to support existing public infrastructure assets and encourage private investment. The OCP Policy 4.3.1.1 directs strategic civic investment in:

- The **Downtown**, as the heart of the community, to support local small-scale businesses, to increase residential densities, to capitalize on existing investments in infrastructure and services, and to support the development of a small-scale grocery store;
- The **Northern Gateway** to intensify development around the SOEC/Community Centre/Memorial Arena campus and City parkland/beaches, to enhance the entryway to the City and the Downtown, to support the established Lakeshore/ Riverside tourist commercial precinct and to create opportunities for walking and cycling;
- The **industrial area** to support business and job growth, to facilitate intensification and expansion of the industrial land base, and to upgrade infrastructure and services to meet the needs of existing and future industrial operations; and
- The **Skaha Lake Road** area to support the development of a higher-density residential node in a high-amenity area, to facilitate development of larger opportunity sites, to provide opportunities for walking and cycling, and to capitalize on existing investments in infrastructure, services and parks.

FIGURE 3-1 OCP STRATEGIC INVESTMENT AREAS (CITY OF PENTICTON OCP, 2019)

In the Transportation section of the OCP, the goals and policies are organized starting with more general system-wide guidance, followed by more detailed direction for each mode. Emphasis in each goal is added by WSP. The Complete Transportation Approach is to "*create and manage a **safe** transportation system that supports all ages, abilities, and modes of mobility, helps meet environmental objectives, and uses infrastructure responsibly*." (p.4-61). There are two key policies under this goal, which are critical to the Transportation Master Plan approach.

- *4.2.1.2 Prioritize design, investment and renewal of transportation infrastructure in urban and suburban areas according to the following hierarchy (***Figure 3-2***):*

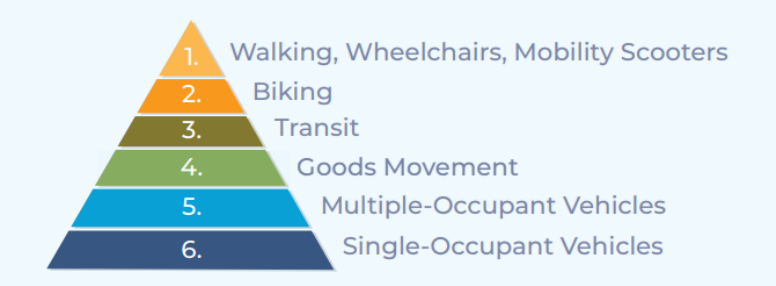

FIGURE 3-2 OCP MODE HIERARCHY (CITY OF PENTICTON OCP, 2019)

- *4.2.1.3 Design streets for **daily traffic volumes** rather than seasonal peak volumes when building or renewing roads. **Recognize that some congestion will occur** as we grow and during peak volume times, but mitigate this through investments in sustainable transportation options like transit, bike routes, sidewalks and trails.*

The OCP's transportation goals by mode are as follows:

- *4.2.2 **Walking**: Ensure that residents and workers throughout Penticton have the opportunity to walk to parks, schools, shopping, employment and other destinations in **safety** and **comfort**.*
- *4.2.3 **Cycling**: Develop a connected network of **safe** and **convenient** cycling infrastructure that meets the needs of recreational riders, casual riders and commuters.*
- *4.2.4 **KVR Rails to Trails Network**: Build on the opportunity provided by the former Kettle Valley Railway rail grade to create a **cycling and walking trail network** that **connects the region** and provides a unique recreational and cultural amenity for residents and visitors.*
- *4.2.5 **Transit**: Support public transit as a **comfortable**, **affordable**, **safe** and **convenient** means of **local and regional** transportation.*
- *4.2.6 **Goods Movement**: Support the continued growth and success of a thriving industrial and commercial businesses by ensuring the **safe** and **efficient** movement of goods and provision of services in Penticton.*
- *4.2.7 **Driving**: Ensure that driving is **safe** for both drivers and other users of the road.*

While the OCP does not speak to safety in the transportation system as its own topic, it is clearly embedded in the goals for each mode and emphasized as a priority for the system.

- Based on the above highlights from the OCP, the Guiding Principles identified for this TMP are: *Safety is paramount throughout the transportation system.*
- *To best support the growth plan, infrastructure investments should be prioritized in these Strategic Investment Areas:*
    - Downtown;
    - Northern Gateway;
    - Industrial Area; and,
    - Skaha Lake Road.
- *Investments in the transportation system should be made according to the mode priority hierarchy:*
    - Walking, Wheelchairs, Mobility Scooters;
    - Biking;
    - Transit;
    - Goods Movement; and,

    - Driving.

- *Leverage the Kettle Valley Railway corridor in the walking and biking networks, to connect Penticton with the region.*
- *Street design should be based on daily traffic volumes, rather than seasonal peaks, and should recognize that some congestion will occur during peak periods.*

3.3 TRANSPORTATION PRIORITIZATION FRAMEWORK

The TMP guiding principles, derived from the OCP, also form a basic prioritization structure for future transportation projects. With safety being paramount for each transportation mode the following process is recommended for project prioritization:

- *Safety issues will be a key trigger for investment in the transportation system;*
- *Then, mode priority hierarchy will designate the priority in which the comfort, convenience and efficiency improvements are introduced to the system;*
- *Finally, a geography-based priority for transportation improvements may be imposed based on Penticton's Strategic Investment Areas and build out of the Rails to Trails network.*

4 EXISTING CONDITIONS

This section outlines existing transportation conditions in Penticton. The transportation system is segmented into modes or issues for this discussion: pedestrians, cyclists, transit, goods movement, street network, parking, and traffic calming. A quantitative model is used to describe the existing street network conditions, and a qualitative or desktop analysis is provided for all other issues.

The existing conditions assessment includes a review of available background information to identify current gaps and opportunities and further builds on the Transportation Guiding Principles and Prioritization Framework to develop mode specific Principles and Prioritization Tools that will be carried forward into the future conditions assessment.

4.1 PEDESTRIANS

This section includes a review of existing plans and policies related to Pedestrian infrastructure in the City of Penticton. There is also a section focusing on two important pedestrian (and cycling) facilities within the City of Penticton: Kettle Valley Rail Trail (KVR)/TransCanada Trail and Lakeshore Drive.

The overall existing condition of pedestrian facilities in Penticton varies. The City has established clear policies to prioritize the safety and mobility of pedestrians and created follow-up engineering practices to identify and mitigate areas of safety concern. However, traditional land use decision making and continued focus on vehicle capacity in capital planning have not supported these goals.

Sidewalks and pedestrian mobility infrastructure exist in good condition in the central area, in the north of Penticton. However, large areas in the rest of the City – including many newer residential areas – have no sidewalks or formal infrastructure for safe road and intersection crossing.

Traditional zoning and land use decisions have left most residential areas segregated from commercial, employment, institutional, and recreational areas, reinforcing reliance on private vehicles for most trips.

4.1.1 PRINCIPLES, GOALS AND OBJECTIVES

Existing Pedestrian goals, objectives, principles, and standards have been identified through the *OCP*, *Subdivision and Development Bylaw* and *Draft Sidewalk Priority Plan*. A review of these documents was completed to understand gaps and opportunities to inform pedestrian infrastructure prioritization.

4.1.1.1 BACKGROUND DOCUMENTS AND ENGAGEMENT RESULTS

2045 OFFICIAL COMMUNITY PLAN

The OCP prioritizes planning for and investment in active modes of transportation, including walking and cycling. The OCP identifies an overarching goal for walking that ensures residents and workers can walk to parks, schools, shopping, employment and other destinations in safety and comfort, and five specific policies that address themes of priority, standards and process. The OCP also identifies the goal of creating a cycling and walking trail network through the former Kettle Valley Railway rail grade to connect to the region and provide a unique recreational and cultural amenity for residents and visitors.

Key takeaways from the OCP include pedestrian priority through the Downtown area, investing in missing links in residential and commercial and mixed-use areas, and enhancing pedestrian safety and the pedestrian environment through corridor plans. The OCP walking and KVR policies are summarized in **Table 4-1** OCP Walking Policies (Goals and Objectives) and leveraged as goals and objectives for the TMP.

TABLE 4-1 OCP WALKING POLICIES (GOALS AND OBJECTIVES)

4.2.2.1 Ensure that pedestrian safety and accessibility is considered a key priority when making transportation decisions in the Downtown.
4.2.2.2 Address gaps in the pedestrian network by providing sidewalks on at least one side of the street in residential neighbourhoods, and commercial and mixed-use areas, using excess street rights-of-way where possible or through land acquisition if necessary. Where possible, provide sidewalks by requiring their construction or upgrades from developers.
4.2.2.3 Enhance and expand the trail and pathway network through capital funding for upgrades, land acquisition, wayfinding, public art, safe street crossings, and by connecting existing trail systems and establishing trail linkages in and through new neighbourhoods.
4.2.2.4 Undertake a corridor plan that includes cross-sections and specifications that will result in improved pedestrian safety and comfort by:
buffering sidewalks from traffic through boulevards, landscaping, bikes lanes or parking;
creating safe crossings by maximizing visibility (using lighting, paint and materials) and shortening crossing distances (extending curbs into the street right-of-way);
planting suitable street trees to create canopy coverage;
minimizing driveway crossings; and
providing street lighting and street furniture (e.g., benches) where appropriate.
4.2.2.5 Require that vehicle access to parking in residential areas is from the laneway in neighbourhoods where laneways exist

TABLE 4-2 OCP KVR TRAIL POLICIES (GOALS AND OBJECTIVES)

4.2.4.1 Partner with the Penticton Indian Band, the Regional District of the Okanagan-Similkameen, the Province, the Federal Government and the District of Summerland to create, maintain and promote a regional rails-to-trails network on the former KVR rail grade connecting Naramata, Penticton, Summerland and Okanagan Falls.
4.2.4.2 Endeavor to integrate cultural, ecological and recreational opportunities into trail programming.
4.2.4.3 Create a management plan to address erosion and degradation from unregulated use.
4.2.4.4 Explore ways to integrate and promote the KVR trail system with broader regional and national initiatives such as the Great Trail (Trans Canada Trail) and the more recent Trail of the Okanagans Initiative.
4.2.4.5 Connect and improve the elements of the KVR rail grade that currently exist in the City to provide a safe and attractive trail linkage for cycling and walking between the Channel and the Naramata Bench. Prioritize completing the connection between the Okanagan Channel Parkway Trail and Cossar Avenue KVR trailhead through design and the acquisition of land, easements, and rights-of-way.
4.2.4.6 Work with the Penticton Indian Band and other parties to assess the feasibility and construction of a pedestrian and cyclist bridge crossing of the Channel on the former KVR rail grade adjacent to Highway 97.

SUBDIVISION AND DEVELOPMENT BYLAW

The Subdivision and Development Bylaw identifies works and services requirements for developers who are subdividing or applying for a building permit. It directs the location and required width of sidewalks, walkways, multi-use paths, design of boulevards, and accessibility requirements.

SIDEWALK PRIORITY PLAN

The *Draft Sidewalk Priority Plan* recognizes the importance of providing pedestrian transportation infrastructure to create a healthy community. Because of previous roadway standards, there are several roadways that do not have sidewalks on one or both sides. The *Draft Sidewalk Priority Plan* includes a process to prioritize the installation of new sidewalks throughout Penticton on streets. This process ranks segments according to points using several criteria that reflect pedestrian demand and pedestrian safety. Desire lines are captured through review of connections to pedestrian generators such as schools, parks, hospital/clinics, commercial properties, etc. This process does not prioritize the reconstruction of existing sidewalks or ramps and does not consider rural roads.

The *Draft Sidewalk Priority Plan* included a two-stage criteria assessment to identify current sidewalk priority projects. Stage 1 is based on GIS analysis and includes 7 broad criteria and 19 sub-criteria. Stage 2 of the assessment is based on engineering review where more complex factors and processes requiring engineering judgement and analysis is required; this stage includes 11 criteria. The outputs of the process include a map and list of prioritized sidewalk segments by block length. There are five priority categories for sidewalk construction based on points allocated towards pedestrian demand and safety criteria: proximity to major pedestrian generators, transit route on segment, walkway connections, required sidewalks missing, gap, road classification and roadway grade. 6,033 m of sidewalk was identified for priority 1 construction which represents 5% of total unimproved boulevards (public streets with no sidewalks).

Most of the priority 1 and 2 segments appear to be in residential areas north-east of Wade Avenue E and west of Main Street, south of Duncan Ave E. Priorities are identified on **Figure 4-1**.

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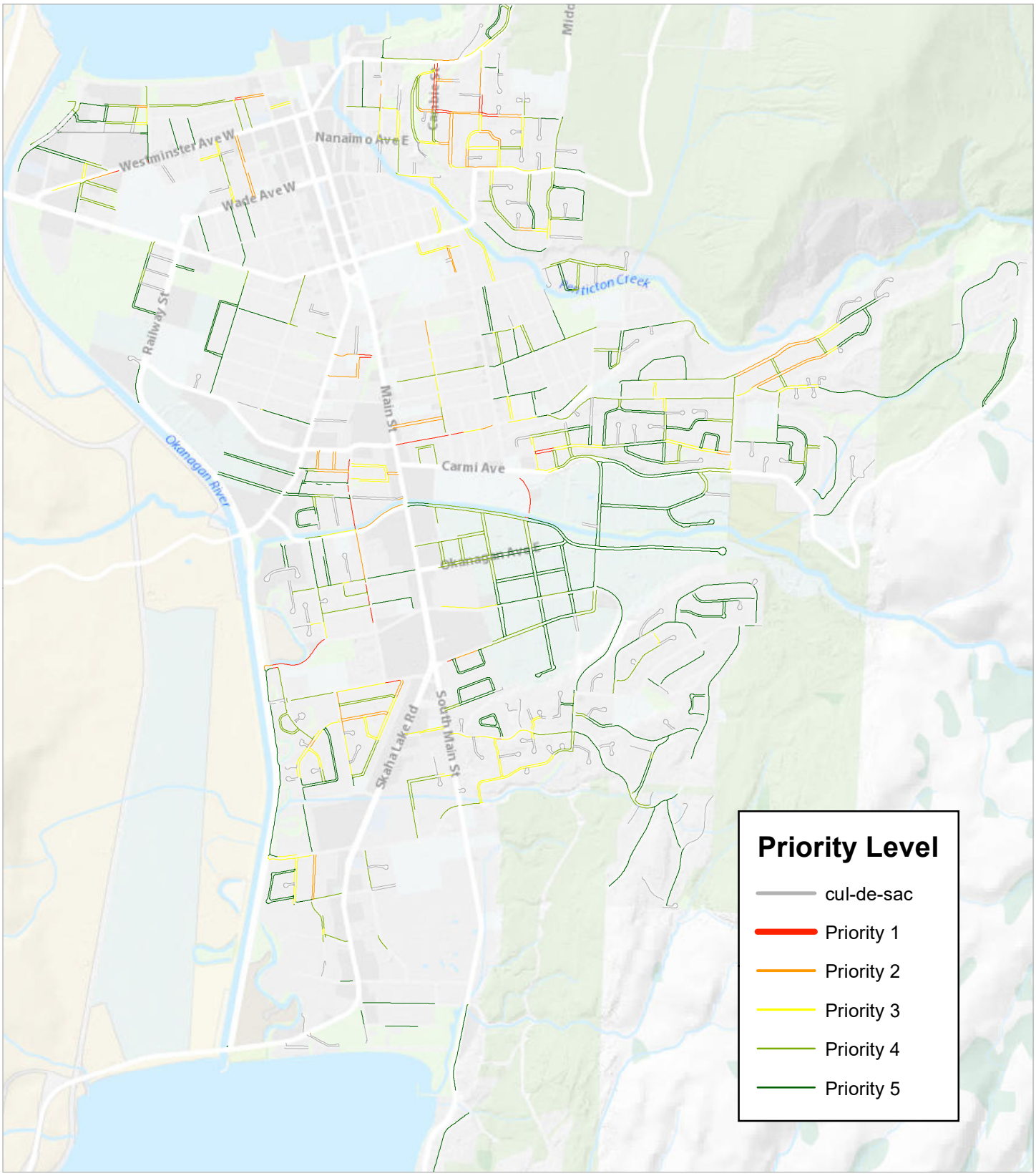
Priority Level

Strategic Sidewalk Priority Plan: Unimproved Boulevards



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Meters
0 125 250 500 750 1,000

Coordinate System: NAD 1983 CSRS UTM Zone 11N

Engineering review criteria include 85th percentile traffic speed, traffic volume, pedestrian volume, walkable boulevard (boulevard maybe unusable due to barriers or site conditions), beaten pathway, collision history, constructability, estimated costs, future expected road works, public requests, neighbourhood petitions and consultation, and additional safety issues.

Most public streets with no sidewalks are in residential areas.

PARKS AND RECREATION MASTER PLAN

The *Parks and Recreation Master Plan* (2018) provides the City of Penticton with long-range direction on the provision of parks and recreation services, including trails, to city residents and visitors. The plan includes a goal of achieving a network of interconnected trails throughout the city, connecting the lakes, mountains, and community destinations, and offering recreation, enjoyment, and natural beauty. Key priorities include increasing trail connectivity in general, with a particular focus on the importance of the Kettle Valley Rail Trail (KVR).

Major trail networks are identified on the River Channel Parkway to connect Skaha and Okanagan Lakes, a network linking Esplanade Park, Munson Mountain Park and Campbell Mountain, links to existing and future parks with existing and future school sites within the City and finally, trail connections at Airport Beach and to surrounding jurisdictions. Ideal corridor widths include 20 metres for KVR Trail, 10 metres for major trail through City, and 6 metres for local connector trails.

REGIONAL TRAILS MASTER PLAN

The *Regional District of Okanagan Similkameen (RDOS) Regional Trails Master Plan (RTMP)* was developed in 2012 by Cascade Environmental Resources Group Ltd. The RTMP is a strategic plan that defines future direction, policies, priorities, standards and actions for the Regional District and its partners with respect to existing and potential future linear parks and trails and support of a regional trail network. the City of Penticton falls into the Valley Bottom Management Area which encompasses all lands in the bottom of the Okanagan Valley from Naramata to Osoyoos, and the South border of the RDOS.

ENGAGEMENT RESULTS

The Advisory Group identified issues with cyclists using the sidewalks in the Downtown and Lakeshore areas, pedestrian crossing timing not accounting for elderly residents, missing sidewalk links in the urban areas and unsafe pedestrian and cyclist accommodation on rural roads. The issue of missing sidewalks was strongly echoed in the public input.

As highlighted in the public engagement summary, 70% of the comments about the pedestrian environment in Penticton were related to missing pedestrian infrastructure and crosswalks. Specific locations of concern are: Greenwood Drive, Green Avenue West near Highway 97, and the Government and Ontario Street corridor between Wade Avenue and Forestbrook Drive.

4.1.1.2 TMP PEDESTRIAN PRINCIPLES

Based on the above discussion, two Pedestrian Principles have been developed to guide recommendations in the TMP.

1. **Walking is a safe, convenient and comfortable mode of travel for all people and all destinations.**
    - Walking is the preferred mode of transportation for Penticton residents and visitors.
    - Pedestrians are the top priority in the hierarchy of transportation modes.
2. **Penticton's sidewalk network is complete and connected.**
    - Opportunities to build missing sidewalks are leveraged, where possible, through any adjacent infrastructure projects.

Based on the review of existing documents and public and stakeholder feedback, these principles will be implemented using the below list to prioritize projects:

- Locations that are pedestrian and vehicle collision “hot-spots”;
- Infill growth areas;
- Connecting people to destinations: throughout Downtown and to pedestrian generators such as parks, schools, shopping, employment, community centres, recreation centres and transit;
- Address infrastructure gaps that impact vulnerable users such as seniors, children and people with mobility restrictions;
- Gaps in sidewalk network according to bylaw requirements (one or both sides);
- Roadway volume, classification, percentage of heavy vehicles and grade; and
- Sidewalk asset condition where sidewalks must be replaced or repaired as a result of creating safety hazards.

4.1.2 GAPS AND OPPORTUNITIES

Two categories of gaps and opportunities are considered: processes and network improvements. Process opportunities are based on the existing Sidewalk Priority Plan and are considered operational rather than capital.

PROCESS

The Sidewalk Priority process applied in the *Draft Sidewalk Priority Plan* provides a foundation that can be adjusted to better align with an OCP-based Transportation Network Prioritization. The process accounts for pedestrian demand and safety but may need to include additional criteria or revised steps to better align infrastructure priorities with the OCP.

Major pedestrian generators that include schools, commercial uses, residential density and other destinations are identified through stage one of analysis but are not categorized under strategic improvement areas. Pedestrian safety categories such as collisions, vehicle volumes and vehicles speeds are identified through the second stage of analysis but may need to move to an earlier stage.

Another consideration includes the required sidewalks missing criteria and public engagement or consultation. Missing sidewalks are currently identified as required by the bylaw on one-side or both sides of the road through stage one of the analysis. The result of this definition might result in large segments of missing links that have low demand for them, such as cul-de-sacs. There is the opportunity to adjust the process and consider public engagement or consultation as an input to the overall prioritization process to inform where important missing links are located.

This prioritization includes transit corridors, which are typically located along collectors. Although collector roads are currently prioritized over local roads in the existing sidewalk prioritization scheme, the revised scheme could prioritize sidewalks on a local over a collector if other prioritization factors permit.

The *Draft Sidewalk Priority Plan* applies to urban roadways. Sidewalks are not required on local and collector rural roadways and are only required on urban industrial local and collector roadways when the connection forms part of an existing sidewalk network or links walkways, crosswalks or bicycle paths. As a result, important connections may be missing from the analysis. Other important pedestrian infrastructure that is not considered in the sidewalk priority plan includes curb ramps, transit stop connector walks and walkway connections.

The Draft Sidewalk Priority Plan prioritizes sidewalks based on points that vary across criteria with the highest number of points allocated to missing sidewalks based on bylaw requirements. Segments with the highest accumulated points are prioritized for construction. This approach emphasizes bylaw requirements and road classification as reasons for addressing missing sidewalk links. The plan calls for additional review and engineering judgement to be applied to prioritized segments prior to implementation.

A revised sidewalk priority plan process is identified in the future conditions analysis to address these elements.

PEDESTRIAN NETWORK

The existing pedestrian network is composed of a mixture of sidewalks and trails. The downtown area has reasonable sidewalk coverage with only a limited number of street segments missing sidewalk. The Northern Gateway and Skaha Lake Road Areas require sidewalk infrastructure investment to connect major pedestrian generators. Other gaps include sidewalk on transit routes and connected to schools such as Uplands Elementary, Columbia Elementary and Ecole-Entre Lac.

The trail network includes gaps as described in the *Parks and Recreation Master Plan* and include Penticton Creek Pathway, Ellis Creek Pathway and Airport Beach trail connections. Other existing trails such as the Channel Parkway require upgrades (**Figure 4-2**).

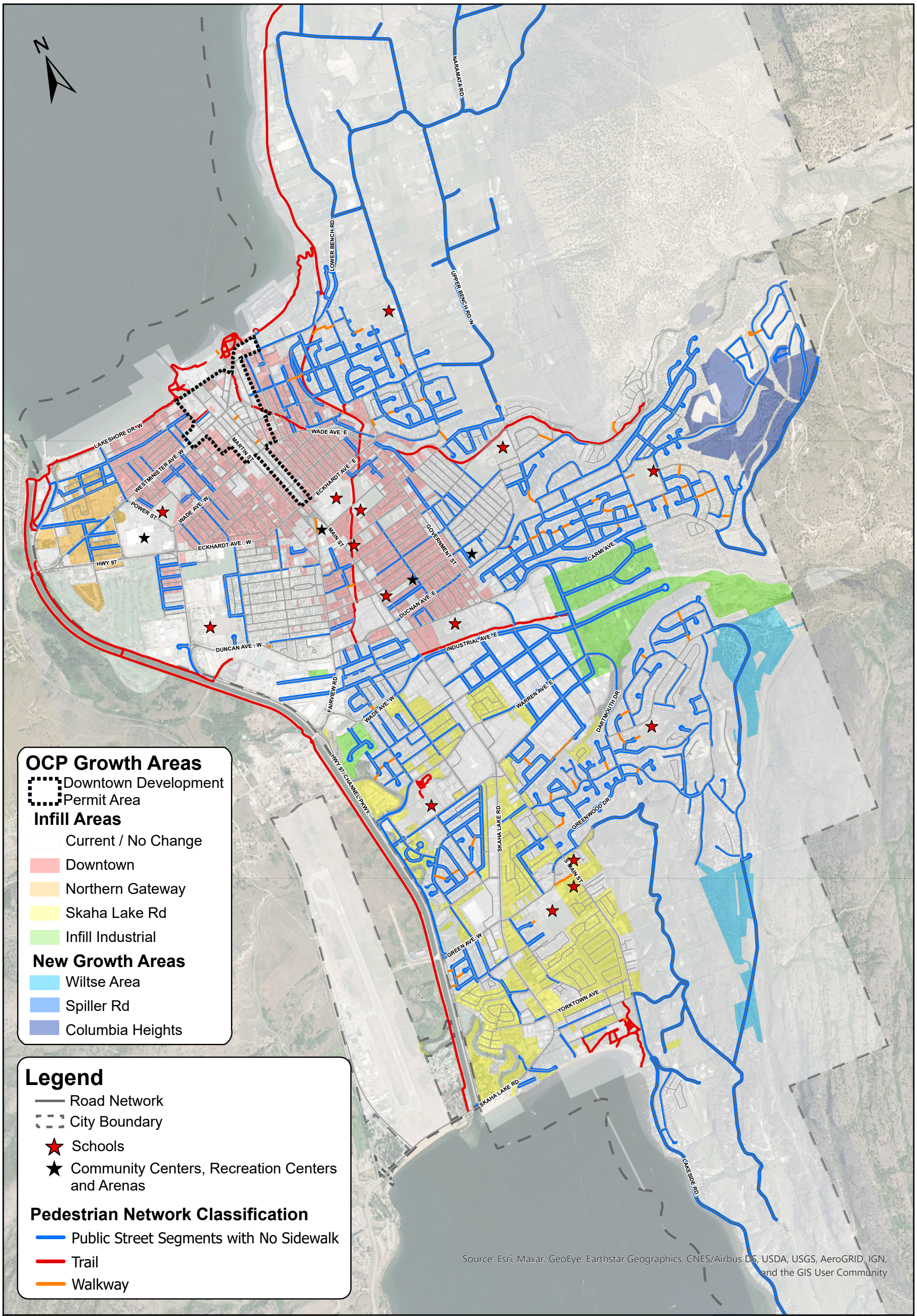

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Figure 4-2
Public Streets with No Sidewalks
Integrated Infrastructure Master Plan

Project No.: **20M-00462-00**

Date: **4/19/2021**

Scale: **1:25,000**

0 50 100 200 Meters

Path: C:\2020-07-08 Penticton IIMP\2021-04 CoP Transportation.aprx

4.1.3 EXISTING CONDITIONS ON KETTLE VALLEY RAILWAY (KVR)/TRANS CANADA TRAIL (TCT) INCLUDING CROSSINGS

The Kettle Valley Rail Trail (KVR) forms part of the Trans Canada Trail (TCT) and follows the Kettle Valley Railway along Okanagan Lake. The TCT and KVR connects at the Pavilion in Penticton located at Okanagan Lake Park as shown in **Figure 4-3**. The KVR Trail also extends southwest towards Skaha Lake from the Penticton Creek Pathway to Duncan Avenue W. The KVR Trail accommodates walkers, runners, cyclists and sightseers. No available count data was found for the KVR Trail or TCT but the STRAVA[2] heatmap indicates a high-level of use of the KVR Trail and TCT.

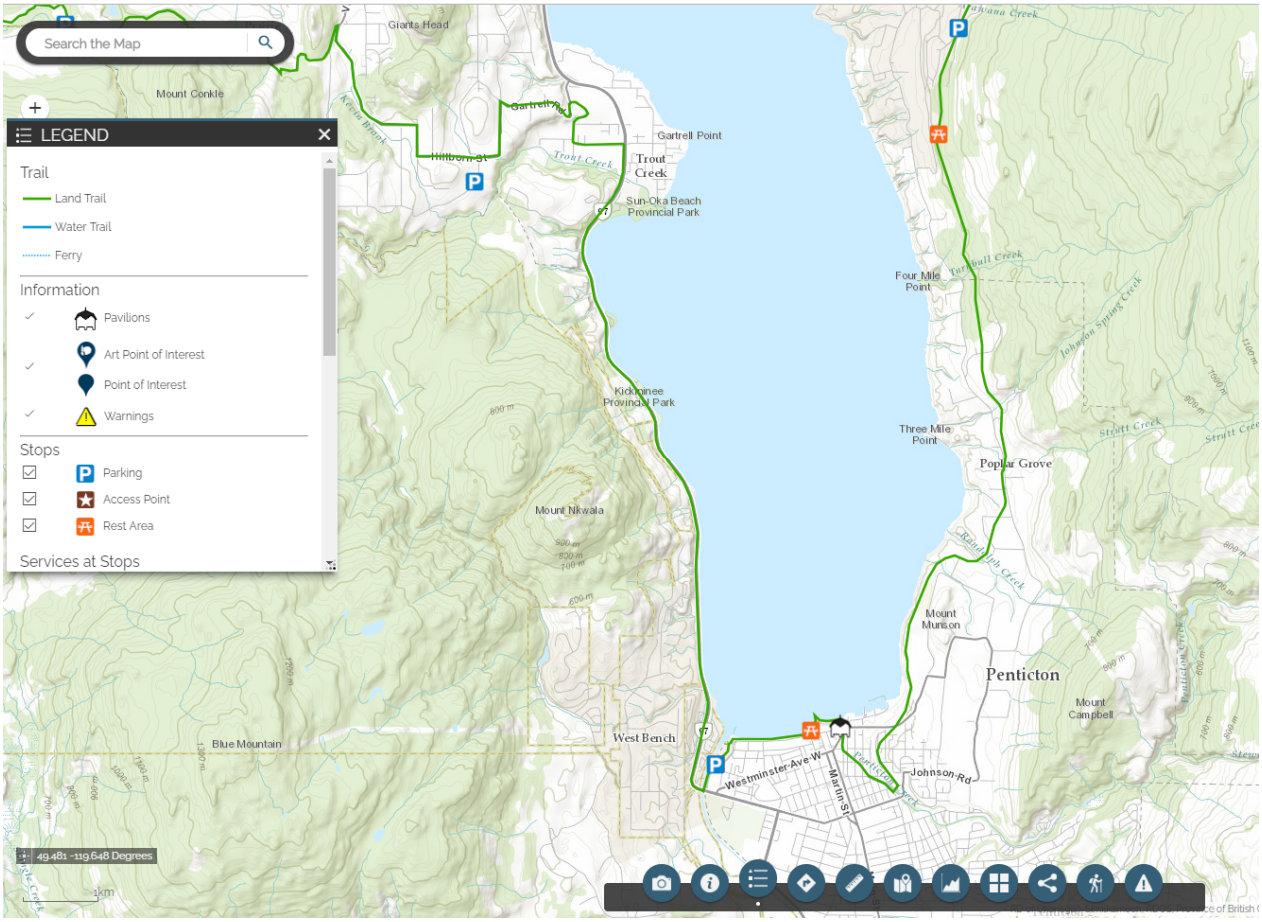

FIGURE 4-3 TRANS CANADA TRAIL AND KETTLE VALLEY RAIL TRAIL[3]

[2] STRAVA is a GIS based smart phone app that is used by athletes to track performance stats. The heat map pull data from users accessing the app and includes the last two years of data. Source: https://www.strava.com/heatmap#13.22/-119.60774/49.57162/hot/all

[3] The Great Trail: https://map.thegreattrail.ca/explore-the-map/?center=-119.591694159855,49.5031383968094&level=15

The KVR Trail has several public roadway crossing points that are controlled by a mixture of zebra crosswalks, with pedestrian crossing signage and more enhanced pedestrian and cyclist crossings as described in **Table 4-3** . Crossing treatments were identified based on available Google Streetview imagery and City GIS information.

TABLE 4-3 KVR TRAIL TO TCT ROADWAY CROSSINGS

Crossing	Crossing Treatment
Lakeshore Dr E and Front Street;	Enhanced crosswalk with coloured pavement markings, brick surface treatment and pedestrian crossing signage
Ellis Street	Pedestrian and cyclist crossing with cross-ride marks and signage
Nanaimo Avenue E	Zebra crosswalk with pedestrian crossing signs
Calgary Avenue	Pedestrian and cyclist crossing with cross-ride marks and signage
Preston Avenue	No crosswalk; pedestrian crossing sign at entrance to KVR trail on south side of road
Main Street	Regular crosswalk at signalized intersection (Main Street and Preston Avenue)
Edmonton Avenue	Pedestrian and cyclist crossing with cross-ride marks and signage
Jermyn Avenue	Pedestrian and cyclist crossing with cross-ride marks and signage
Gahan Avenue	Pedestrian and cyclist crossing with cross-ride marks and signage
Eckhardt Avenue E	Pedestrian and cyclist crossing with cross-ride marks, tactile walking surface indicators and signage
Government Street	Pedestrian and cyclist crossing with cross-ride marks and signage
Pickering Street	Pedestrian and cyclist crossing with cross-ride marks with signage and advanced crossing warning sign
Nanaimo Avenue E	Pedestrian and cyclist crossing with cross-ride marks with signage and advanced crossing warning sign
Upper Townley Street/Westminster Avenue E	Pedestrian and cyclist crossing with cross-ride marks with signage and advanced crossing warning sign
Cambie Street	Pedestrian and cyclist crossing with cross-ride marks with signage and advanced crossing warning sign
Cambie Place	Pedestrian and cyclist crossing with cross-ride marks and signage
Vancouver Avenue	Pedestrian and cyclist crossing with cross-ride marks, tactile walking surface indicators, rapid rectangular flashing beacon (RRFB) and signage
Lochore Road	Zebra crosswalk with pedestrian crossing signs and advanced pedestrian crossing warning sign

Carder Road	No visible pavement marking or signage.
Davenport Avenue	Zebra crosswalk with pedestrian crossing signs and advanced pedestrian crossing warning sign
Chapman Road	Zebra crosswalk with pedestrian crossing signs and advanced pedestrian crossing warning sign.
Naramata Road	Pedestrian and cyclist crossing with cross-ride marks, crossing signage and advanced crossing signage
Riddle Road	Zebra crosswalk with Pedestrian crossing sign and advanced pedestrian crossing warning sign
Sutherland Road	Zebra crosswalk with pedestrian crossing signs and advanced pedestrian crossing warning sign

KVR Trail crossings shown in **Table 4-3** were reviewed based on the *Transportation Association of Canada Pedestrian Crossing Control Guide (2018)* and *BC Ministry of Transportation Active Transportation Guide (2019)*. Daily volumes, posted speed limits, number of lanes and collision history was reviewed for each location. Based on available data, treatments including cross-ride pavement markings and signage are required at Sutherland Road, Riddle Road, Chapman Road, Davenport Avenue, Lochore Road, Carder Road, Nanaimo Avenue E and Lakeshore Drive/Front Street to enable cyclist crossings. The minimum sight distance required to stop between a motorist and cyclists varies based on the width of the road and grade. At a high-level, the minimum sight distance required is 130 m based on Table G-35 of the *BC MOTI Active Transportation Guide (2019).* Based on this minimum threshold, almost all crossings listed in **Table 4-3** require additional treatments to improve safety. Treatments such as curb extensions and raised median refuges can improve the visibility of pedestrians and cyclists crossing the road. Where sightlines are not achieved between motorists and people riding bicycles, additional signage for cyclists to yield or stop and watch for turning motorists should be installed. Future studies that include a comprehensive review of each location is recommended.

The KVR Trail crossing of Naramata Road as shown in **Figure 4-4** was reviewed based on available collision, vehicle volume and vehicle speed data. Naramata Road is designated as a Major Rural Collector Road with a posted speed limit of 60 km/hr at the KVR Trail crossing. 2015 to 2019 ICBC collision data indicates that no collisions have occurred at this location. Speed and volume survey data was collected 150 m north of the KVR Trail crossing on Naramata Road. Speed data indicates an 85th percentile speed of 76 km/hr and vehicle volumes of roughly 5044 vehicles per day.

Public engagement results indicate three broad categories of concerns related to the KVR Trail including missing bike infrastructure, pedestrian conflicts and cyclist conflicts. Pedestrian and bicycle conflicts were concentrated on Highway 97/Skaha Lake Road between the Channel Parkway and Airport Road, Vancouver Avenue Between Vancouver Place and Grandview Street and around the Penticton Plaza Shopping Mall.

FIGURE 4-4 KETTLE VALLEY RAIL TRAIL CROSSING NARAMATA ROAD

Site visit pictures taken in 2020 indicate that crossing pavement markings are in good condition and the crossing has good visibility. Speed data indicates that speeding is a safety concern at the KVR Trail crossing at Naramata Road.

Although there is no collision history at this location, there is the potential for a severe collision with pedestrian or cyclists at current motor vehicle speeds. The KVR Trail and Naramata Road crossing is reviewed in additional detail in the Traffic Calming Section (**Section 4.7)** including recommendations to enhance the crossing.

4.1.4 REVIEW EXISTING CONDITIONS OF LAKESHORE DRIVE MULTI-USE PATH INCLUDING VOLUMES AND CONNECTIONS.

The Lakeshore Drive multi-use path connects the TCT and the KVR Trail and varies in width from 3.3 m to 4.0 m. The path abuts the Okanagan Lake Beach and supports the movement of active modes users including pedestrians and cyclists along the corridor. Lakeshore Drive is a single lane in each direction with front drive angle parking on the north-side of the road, multi-use path on the north side, sidewalk on the south side and a 30 km/hr posted speed limit.

There are several pedestrian crossings consisting of regular crosswalks and zebra crosswalks that connect the south side sidewalk to the multi-use path on the north side. The Lakeshore Drive multi-use path carries a significant volume of active modes users. A review of traffic volume counts indicates pedestrian and cyclist volumes ranging

from 50 to 150 users on the multi-use path during the PM peak hour along the corridor. Daily vehicle volumes on Lakeshore Drive are in the order of 30,000 vpd.

2015 to 2019 ICBC collision data show two casualty collisions at Power Street, one casualty collision at Martin Street, Main Street, and one on Lakeshore Drive west of Power Street. The users involved in casualty collisions are unclear as detailed collision data is not available. For all collision types, Power Street and Main street include 6 and 5 collisions respectfully. Speed data is not available for this corridor.

Public engagement and advisory group input indicate biking on sidewalks is occurring on Lakeshore Drive and raising pedestrian safety concerns. The public engagement survey results for Lakeshore Drive included 42 responses. 33% of responses include concerns related to speeding, 29% related to intersections and sightlines, 24% related to conflicts between different modes and 7% towards missing infrastructure for cyclists and pedestrians.

Based on collision and public engagement data, a corridor study of Lakeshore Drive is warranted to inform improvements that may be made to intersections and accommodation of all users.

4.2 CYCLING

4.2.1 PRINCIPLES, GOALS AND OBJECTIVES

To confirm cycling infrastructure principles, goals and objectives, a review of available documents and public engagement results were completed as summarized below.

4.2.1.1 BACKGROUND DOCUMENTS

2045 OFFICIAL COMMUNITY PLAN

The OCP includes the cycling goal of developing a connected network of safe and convenient cycling infrastructure that meets the needs of recreational riders, casual riders and commuters. In addition, to these goals, the OCP articulates specific policies shown in **Table 4-4** . The OCP does not include a cycling network; it recommends an update to the Bike Network Master Plan. The OCP cycling policies are carried forward as goals and objectives for the Transportation Master Plan.

TABLE 4-4 OCP CYCLING POLICIES (GOALS AND OBJECTIVES)

4.2.1.4 Create ‘complete streets’ (designed for everyone) in suitable areas that provide safe and comfortable mobility (i.e., allow for access, movement and crossing) for all users: pedestrians, cyclists, drivers, commercial vehicle operators and transit users.
4.2.1.6 Create a multi-use pathway (cycling, walking, mobility scooters) within city limits connecting Skaha Lake and Lake Okanagan that is separated from motorized traffic, has minimal grade changes, and has connections to key destinations (e.g., schools, destination parks, trails and shopping areas)
4.2.3.1 Renew the Bike Network Master Plan to confirm that it provides safe and direct connections for cyclists.
4.2.3.2 Facilitate multi-modal trips by integrating the bicycle network with other modes of transportation, especially transit, by providing bike racks on buses, and safe and secure bicycle parking.
4.2.3.3 Partner with the Penticton Indian Band, the Province and the Regional District to enhance the multi-modal pathway on the western side of the Channel, and to improve connectivity to the rest of the city
4.2.3.4 Recognize there are different cycling user groups -recreational riders (including children and seniors), commuters, cyclists with trailers, and competitive athletes - and design routes and cycling infrastructure accordingly.

4.2.3.5 Ensure significant components of the bike network are physically separated from vehicular traffic through barriers and/or grade changes to encourage cycling and protect vulnerable riders.
4.2.3.6 Install bicycle-specific traffic signals and rider-activated signal push buttons where appropriate.
4.2.3.7 Provide convenient, safe and visible bike lock-up facilities in key destinations such as downtown, commercial areas, parks and beaches. Reallocate vehicle parking spaces to bicycle parking spaces, where appropriate
4.2.3.8 Require adequate levels of secure bike parking in new multi-family, mixed-use and commercial development.

CITY OF PENTICTON CYCLING PLAN

Urban Systems completed an update to the City of Penticton Cycling Plan in 2012. The 2006 Cycling Network Plan was consolidated and updated, and recommendations were provided on immediate (1-2 years), medium (5 years), and long-term (beyond 5 years) cycling improvements that could be accommodated within the existing roadway (no major reconstruction).

The recommended cycling network incorporates corridor reviews with public engagement feedback and reflects a hierarchy of facilities (separated bicycle facilities including multi-use pathways and protected bicycle lanes, on-street painted bicycle lanes, and shared bicycle routes) and transportation grid spacing of approximately 1.0 km. Other public engagement results highlighted the following:

- Support from the community for improved cycling facilities;
- Increase maintenance on existing bike facilities during challenging seasons;
- Improved wayfinding signage;
- Increase driver and cyclist education on the “rules of the road”;
- Provide a separated/delineated bike facility along the Channel Parkway;
- Increased connections to the existing River Channel Pathway; and
- Increase available bike storage and parking.

LAKE TO LAKE CYCLING ROUTE

The City of Penticton has been working to establish a 6.5 km Lake-to-Lake Cycling Route that connects Okanagan and Skaha Lakes and meets the needs of recreational riders, casual riders and commuters. The route will act as a spine of the bicycle network, connecting other bicycle routes and key destinations, commercial centres, schools, parks and community facilities.

A range of route and facility options were presented to the public in Fall 2019 and Summer 2020 through an Advisory Group, meetings with stakeholders, four open houses and online materials. The Lake-to-Lake AAA Bicycle Route Preferred Options Report (September 2020) provides a summary of engagement results and preferred route options. The preferred route options are summarized below:

- Section 1: South Main Street from Elm Avenue to Skaha Lake with protected bicycle lanes, closure of Kinney Avenue to traffic between Skaha Lake Road and South Main Street with a crossing treatment to accommodate northbound cyclists turning left.
- Section 2: Existing multi-use pathway north of Duncan Avenue from Fairview Road to Atkinson Street and protected bicycle lanes on Atkinson Street south to Kinney Avenue. Safety improvements are also identified at Atkinson Street/Duncan Avenue to accommodate pedestrians and cyclists crossing Duncan Avenue and to improve safety for motorists.
- Section 3: Fairview Road from Winnipeg Street to the multi-use pathway north of Duncan Avenue with a two-way cycle track on the east side of Fairview Road.

- Section 4: Martin Street from Fairview Road to Lakeshore Drive with a two-way cycle track on the east side of Martin Street.

BC MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE ACTIVE TRANSPORTATION DESIGN GUIDE

The *BC Ministry of Transportation and Infrastructure (BC MOTI) Active Transportation Design Guide (2019)* provides guidance on best practices for detailed planning and engineering reference for active transportation infrastructure for jurisdictions of all sizes throughout the province. The guidelines include recommendations related to facility selection for pedestrian and cyclist facilities including those located on provincial facilities such as Highway 97.

The guidelines include a bicycle facility selection decision support tool for urban/suburban/developed rural core contexts and rural contexts that is based on the motor vehicle volumes and motor vehicle speeds. Several existing bike facilities should be upgraded based on a review of available vehicle volumes and posted speed as described in below:

- Government Street should be upgraded from standard bike lanes to protected bike facility from Eckhardt Avenue to Dawson Avenue.
- Carmi Avenue should be upgraded from a shared bike facility to a standard bike lane from Leir Street to Government Street.
- Dartmouth Road should be upgraded from standard bike lanes to protected bike facilities from Carmi Avenue to Warren Avenue.

ENGAGEMENT RESULTS

The public engagement survey results highlighted a desire to see improved cycling network infrastructure throughout Penticton. Common themes included infrastructure such as missing bike lanes and signals and safety concerns such as conflicts with bikes, cars and at crosswalks as well as speeds/sightlines.

The Advisory Group highlighted other opportunities that include establishing Penticton as a cycling hub for tourism, adding a bike facility on Lakeside Road, re-evaluating the bike route on Carmi Avenue versus Duncan Avenue, improving bike parking at transit stops, adding bike repairs areas along the KVR TRAIL and addressing regulations for micro-mobility such as motorized scooters and e-bikes.

4.2.1.2 TMP CYCLING PRINCIPLES

The OCP provides the highest level of guidance related to the cycling network implementation, and its policies form clear goals and objectives. The following cycling principles are based on OCP policies, other background documents and public engagement feedback.

- **Cycling is safe, comfortable and efficient for all ages and abilities.**
- **Penticton's cycling network is connected, and key partners are engaged to connect the City's network with the region.**
    - The KVR Trail is a key opportunity to enhance regional connectivity.
- **Bicycle parking is plentiful, convenient, safe, and secure, in priority areas including Downtown, commercial areas, parks and beaches.**

To assist in implementing cycling projects identified in the TMP, based on the background document review and public input, bicycle infrastructure prioritization principles are listed as follows.

- Update the bike network plan to provide safe and convenient cycling connections for all ages and abilities and to align with the BC MOTI *Active Transportation Design Guide (2019)*;

- Construct safe and convenient all ages and abilities cycling infrastructure that reflects the needs of recreational riders, casual riders and commuters. Prioritize cycling infrastructure improvements that address safety.
- Construct routes that provide connections to key destinations in the infill growth area such as:
    - Schools and Okanagan College;
    - Employment centres, and major retail and service areas;
    - Downtown; and
    - Parks and beaches.
- Construct the Lake-to-Lake bike route.
- Improve connections to the Channel Parkway multi-use path to the KVR TRAIL and other routes throughout the City.
- Connect growth areas to the overall bike network.
- Construct all proposed bike network routes according to updated bike network plan.

4.2.2 CYCLING NETWORK

The existing and proposed bicycle network for the City of Penticton includes some minor differences from the 2012 updated Cycling Network developed by Urban Systems. The current cycling network does not include the following:

- Bike lanes on Highway 97/Channel Parkway from Skaha Lake Road to Eckhardt Avenue;
- Proposed bike alignment on Hemlock Street from Guelph Avenue to Yorkton Avenue;
- Bike lanes on Dartmouth Drive from Wiltse Boulevard to Green Avenue East;
- Bike lanes on Warren Avenue from Quebec Street to Dartmouth Road;
- Separated bike facilities on Lakeshore Drive from Winnipeg Street to Riverside Drive; and,
- Bike lanes on Riverside Drive from Lakeshore Drive to Eckhardt Avenue W.

Figure 4-5 below show the existing cycle network consisting of standard bike lanes, shared facilities, and separated bike facilities. There are a total of 19.01 km of existing cycling facilities and 33.55 km of proposed facilities.

4.2.3 IDENTIFY GAPS AND OPPORTUNITIES

Two categories of gaps and opportunities are considered: network improvements and policies. Policy opportunities are considered to be an administrative effort around planning and strategizing for cycling in Penticton.

BIKE NETWORK

The existing and proposed bike network includes gaps such as routes that connect the Columbia Heights, Wiltse and the infill industrial growth areas to the rest of the network. Infill growth areas including the Northern Gateway, Downtown and Skaha Lake Road have shared, standard and separated proposed bicycle routes identified. The bike network identifies existing and proposed standard and shared bike facilities that should be reviewed with an all ages and abilities lens through concept and prelim design. Based on speed and volume data, some bike routes require upgrades from standard to protected and from shared to standard bike facilities. The segment on Warren Avenue W between Quebec Street and Atkinson Street may warrant re-evaluation as it does not currently connect to other bike routes. Other important trail network connections such as the Great Trail, KVR Trail and Channel Park multi-use path should be considered holistically with the City's overall bike network.

POLICIES

Cycling goals and policies described in the OCP should be further articulated through the development of Active Transportation Plan. Elements that may be elaborated on include end-of-trip facilities, bike parking, route principles, networks that address recreational, casual and commuter networks, programs that incentivize cycling, education, and enforcement campaigns. The Active Transportation Plan should also address emerging micro-mobility options of e-scooters and e-bikes and discuss thresholds for the separation of cyclists and pedestrians on multi-use pathways. Other policies that may be considered include the requirement of bike facilities with new subdivision as delineated through the Subdivision and Development Bylaw.

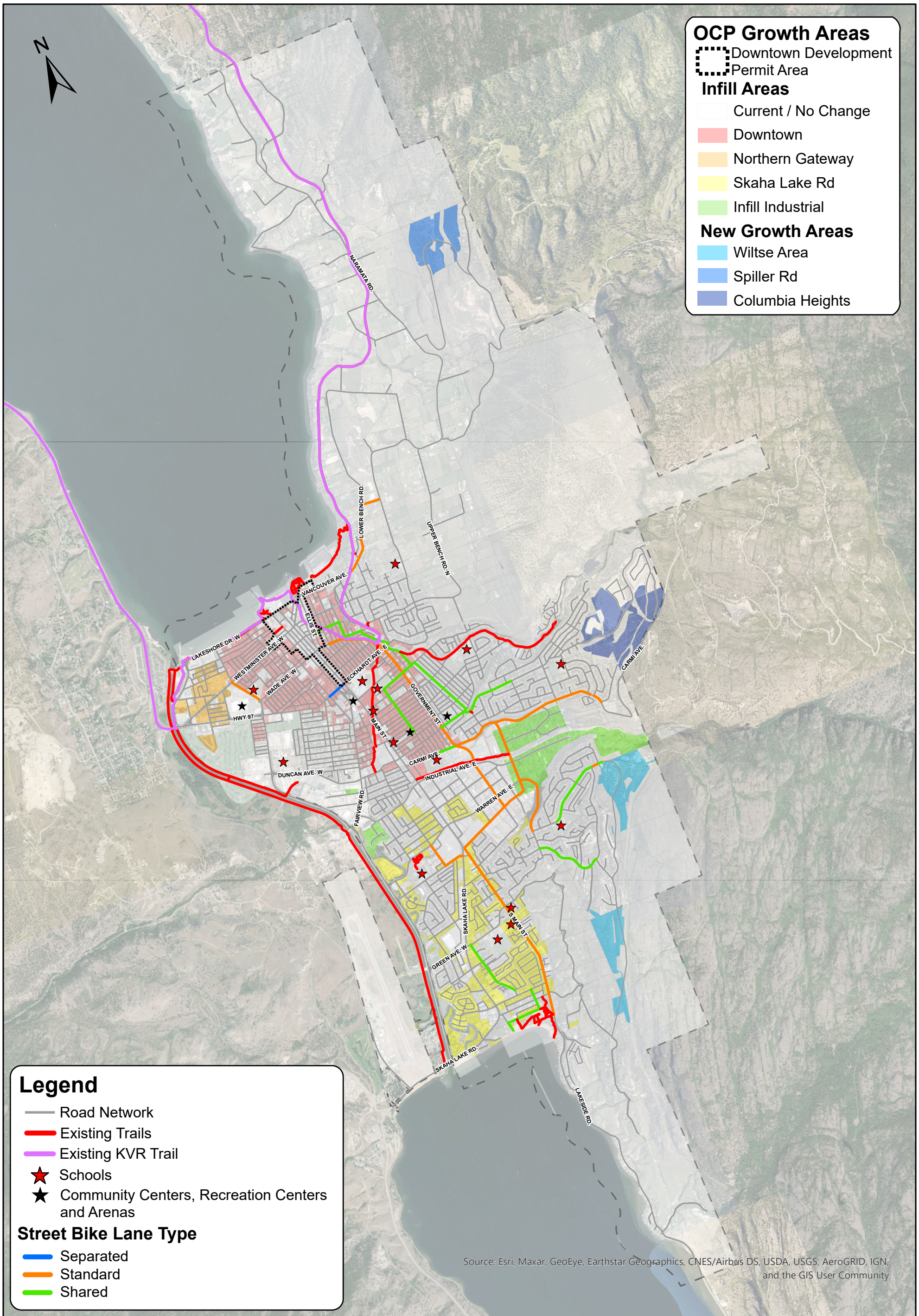

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Figure 4-5
Existing Cycle Network Plan
Integrated Infrastructure Master Plan

Project No.: **20M-00462-00**

Date: **4/19/2021**

Scale: **1:40,000**

0 50 100 200 Meters

Path: C:\2020-07-08 Penticton IIMP\2021-04 CoP Transportation.aprx

4.3 TRANSIT

Both the City's OCP and BC Transit's *Transit Futures* studies include goals for greater transit service throughout the city; including increased frequency and priority along major routes, service extension into growing areas, and improved regional service. **Table 4-5** summarizes the OCP Transit Policies.

TABLE 4-5 OCP TRANSIT POLICIES

4.2.5.1 Partner with BC Transit to implement the recommendations in the 2015 Transit Future Plan and to ensure future updates to that plan align with City priorities and needs.
4.2.5.2 Encourage land use planning that results in neighbourhoods that can be easily serviced by transit.
4.2.5.3 Explore the feasibility of a Downtown transit hub to provide access to and linkage of multiple local and regional routes, plus shelter from the elements and washrooms. Facilitate its creation if it is shown to have broad benefits.
4.2.5.4 Work with BC Transit to improve the frequency of transit service during peak times and during nighttime/early mornings to increase ridership.
4.2.5.5 Expand local regional transit network coverage to hillside neighbourhoods like Sendero Canyon and the Upper Wiltse area.
4.2.5.6 Encourage transit use by ensuring that good pedestrian infrastructure exists near bus routes in residential, employment and commercial areas.
4.2.5.7 Work with BC Transit to promote technological advances which improve the experience of using transit, such as AVL (Automatic Vehicle Location) apps that provide real-time reporting on bus locations and schedules, distance to nearby bus stops, and on-demand service. Encourage the posting of bus schedules at all or most bus stops.
4.2.5.8 Develop and/or support partnerships and provide leadership to improve and expand regional transit options, particularly the Penticton-Kelowna route.
4.2.5.9 Work with the Penticton Indian Band and government partners to support innovative transportation solutions that connect communities and regional assets.
4.2.5.10 Work with the School District to ensure routes and schedules meet the needs of students.

The City's transit system has increased ridership since 2015 (**Figure 4-6**), but still constitutes a relatively low percentage of trips and journeys-to-work. This is common for cities this size in British Columbia. Penticton is not large, experiences little traffic congestion, and currently provides little incentive support for transit mobility. Driving and parking in the city is 'easy' and faster than taking transit.

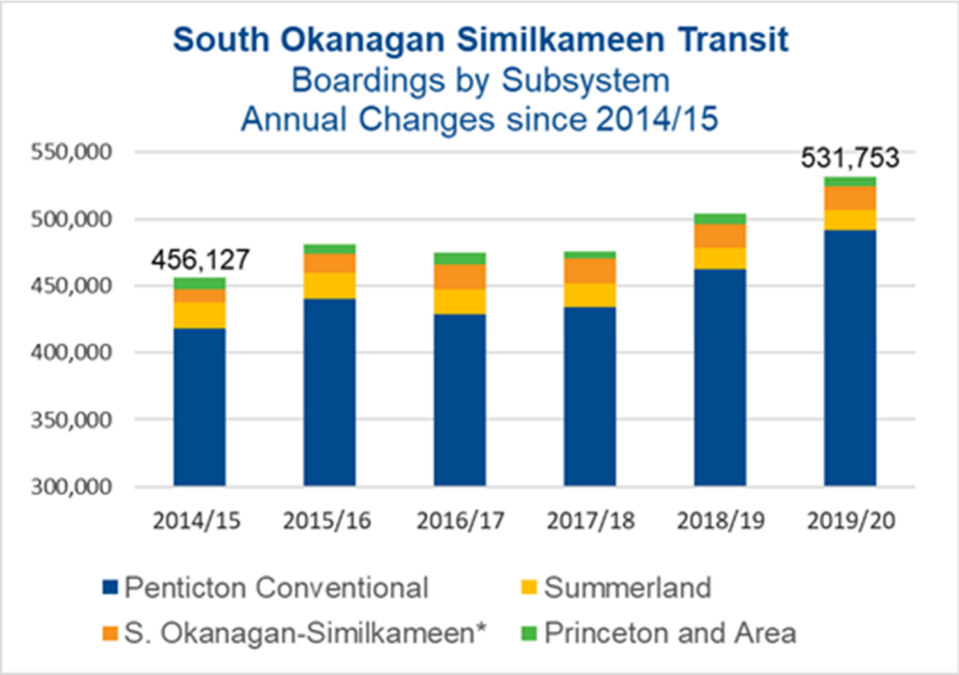

FIGURE 4-6 2014/2015 - 2019/2020 TOTAL BOARDING, PRE-COVID (BC TRANSIT)

The supporting bylaw and legislative efforts to incentivize transit ridership are still undeveloped or unclear. There are several avenues commonly utilized in similar-sized cities to incentivize transit ridership (or disincentivize single-occupant vehicle trips) that the City may yet consider exploring.

4.3.1 EXISTING TRANSIT NETWORK

BC Transit operates 15 transit lines in Penticton: 7 local, 7 regional and 1 night bus. The local services, as shown in the route coverage map in **Figure 4-7**, provide service every 30-60 minutes throughout the day along collector roads and generally comply with BC Transit's service guidelines for service coverage and bus stop spacing. BC Transit partners with the City to operate most of the conventional transit routes within the City (routes 1, 2, 3, 4, 5, 15, and 16) and other regional partners for HandyDart and regional transit service.

The service pattern is a modified 'spoke and wheel' type with all seven daytime local routes extending north or south from points downtown. However, at present, there is no single transit exchange location in downtown Penticton. All converging bus routes originate and terminate at on-street locations within a four-square-block area bounded by Winnipeg Street on the west, Westminster Avenue on the north, Main Street on the east, and Wade Avenue on the south. There is no wayfinding or coordinated signage guiding new transit customers between connecting services. As of the time of this draft report, the City of Penticton and BC Transit were in early planning discussions to provide a single-location exchange to Penticton.

The two most "productive" routes (highest ridership per service hour) are the #5 Route that runs north-south along Main Street and #4 Route that runs east-west along Duncan Street, Carmi Avenue, and Maccleave Avenue. The increases in ridership along the #5 Main Street route support long-standing plans within BC Transit to convert Main Street into a Frequent Transit Network (FTN) corridor which would provide increased frequency from every 30 minutes to every 10 or 15 minutes during most of the day. This corridor would require some assistance from the City to identify transit priority measures to reduce bus delays and travel times.

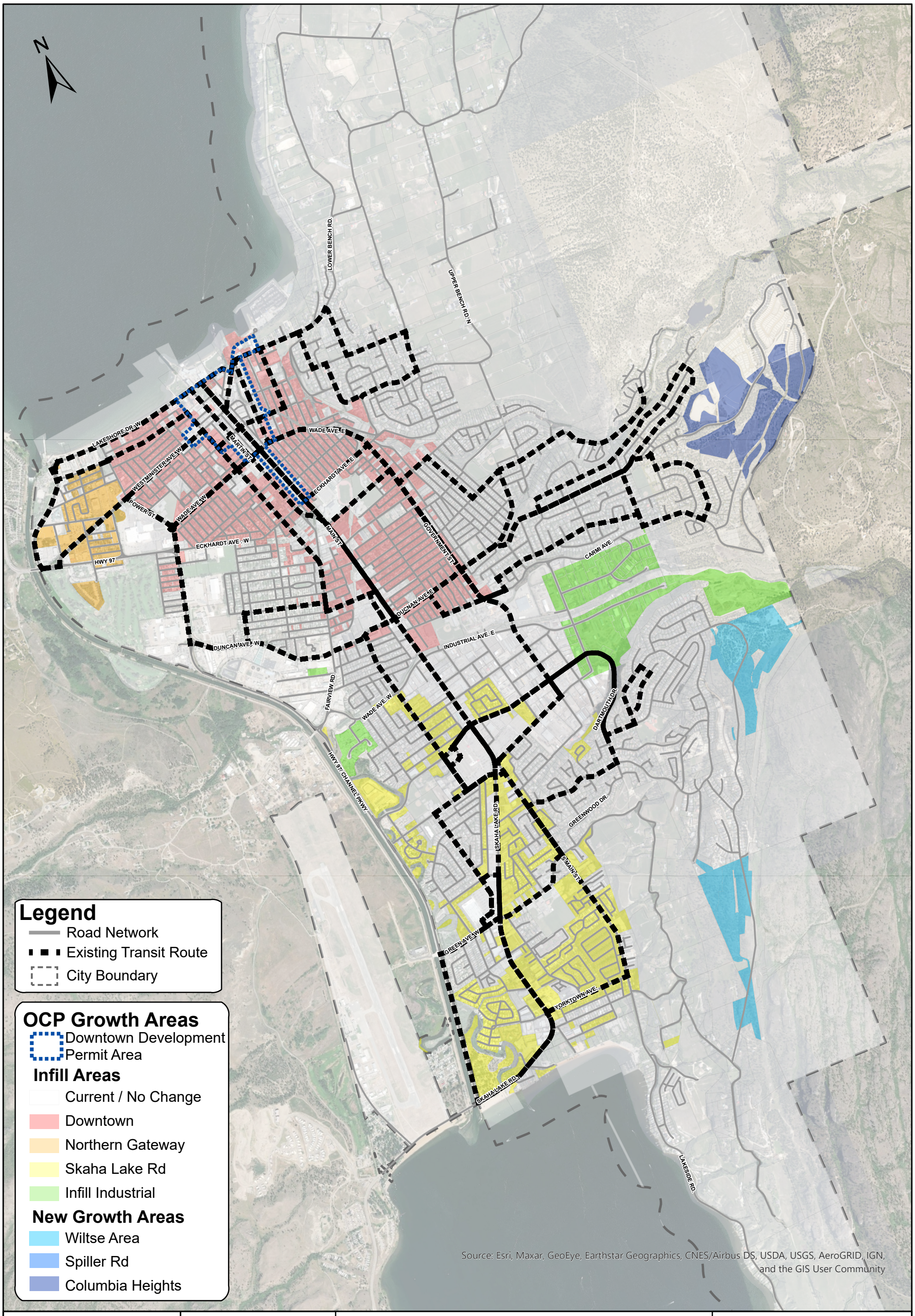

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Figure 4-7
Existing Transit Route Coverage
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4.3.2 TRANSIT - SUPPORTING POLICIES AND PRACTICES

At present, the City has few avenues for incentivizing or formally supporting transit ridership. Zoning and subdivision bylaws do not consider or require direct transit accessibility through new or adjoining development areas, nor do they consider minimum walking distance to transit stops or potential routes. Transit stops or corridors are not explicitly prioritized for sidewalk or accessibility improvements, although they may coincidentally be if they happen to be on collector roads.

Off-street parking reduction incentives do not exist to provide improved cycle parking or transit access in new buildings. No subdivision or development permit mechanisms are in place to require enhanced bus stop infrastructure along major transit corridors. There are also currently no transit priority measures in place to improve bus travel times relative to private vehicles.

However, the City is currently (as of Fall 2020) investigating options for transit priority feasibility along the Main Street / Martin Street corridor in alignment with OCP and BC Transit objectives. This may include some transit signal prioritization, queue lanes were feasible, and some reconsideration of parking restrictions where appropriate. The scope of this work has not yet been confirmed. The City and BC Transit are also in agreement on the need for a central transit exchange, although the details and feasibility planning for its location have not been confirmed.

4.3.3 BC TRANSIT FUTURES STUDIES

BC Transit is currently updating its *2015 Transit Futures Report* on the Okanagan-Similkameen Region, which includes Penticton. The Transit Futures reports provide snapshots of existing transit service conditions, OCP-coordinated goals for future service, and a road map for joining the two.

The 2015 report noted several major moves for the City's 25-year transit vision:

- Clear establishment of service categories; including a Frequent Transit Network (FTN) along the Main Street / Martin Street corridor with increased frequencies and speeds;
- Potential for additional FTN routes within downtown and along Duncan Avenue to new growth areas in the east;
- Potential for on-demand transit and expanded service areas to the east and northwest; and
- Specific costs for short-term, medium-term, and long-term recommendations.

In the five years since the release of the *Transit Futures Report*, some progress has been made on its recommendations:

- Additional funding secured for improved regional service to Kelowna;
- Some improvements to transit stops in accordance with BC Transit's bus stop design guidelines;
- Progression of discussion on future transit exchange location; and
- Pre-planning for transit priority corridor along Main Street / Martin Street to assist the FTN vision.

BC Transit was originally scheduled to begin an update of the Transit Futures planning process but was delayed by COVID-19 restrictions and agency impacts. This process was restarted in Fall 2020 and will progress into 2021. As of the release of this report (June 2021), there have only been preliminary discussions with City staff to begin confirmation of the study's scope, schedule, parameters, and outcome expectations in alignment with the 2019 OCP and this updated IIMP.

It is anticipated that this restarted process will adjust to the transit items listed in the 2019 OCP, update background and targets, and recalibrate recommendations based on new fiscal realities brought about by the COVID-19 pandemic.

4.3.3.1 EXISTING INTERMODAL CONNECTIONS

The local transit and active transportation networks to provide some opportunity for multi-modal access and connectivity. BC Transit fixed-route buses provide front-loading bike racks with space for two bikes at a time and the radial nature of the transit network bring riders within easy cycling and walking distance of most of the urban on-road cycling and trail network.

However, this inter-connectivity can be improved, particularly with regards to accessibility and proximity of sidewalks and accessible bus bays along bus routes and to bus stops. As noted in **Section 4.1**, there are still large gaps in the pedestrian network. Much of these areas without sidewalks are along and adjacent to the transit network. Although these homes and businesses technically fall within a typical 400m coverage area of a conventional bus route, without connecting pedestrian infrastructure, they are inaccessible to many potential riders.

4.4 GOODS MOVEMENT

4.4.1 PRINCIPLES, GOALS AND OBJECTIVES

The purpose of goods movement in Penticton is to support the continued growth and success of the industrial and commercial businesses. The OCP goods movement policies are carried forward as goals and objectives for the transportation master plan.

Based on the OCP, principles for the goods movement network include:

- Movement of goods and services, within Penticton and between Penticton and surrounding communities, is safe and efficient.
- Parking for large trucks is safe and convenient.
- Goods delivery facilities are safe and efficient.

The Goods Movement Policies from the OCP are summarized in **Table 4-6.**

TABLE 4-6 OCP GOODS MOVEMENT POLICIES (GOALS AND OBJECTIVES)

4.2.6.1 Provide direct and safe connections for goods movements and servicing linking Highway 97 and industrial areas.
4.2.6.2 Ensure truck routes are designed for the safety of truck drivers and other street users, including pedestrians and cyclists.
4.2.6.3 Foster public awareness of the importance of goods movement to businesses and the economy.
4.2.6.4 Work with the Penticton Industrial Development Association and industrial business owners on a strategy to safely and easily accommodate parking of transportation rigs in the Industrial Area during downtimes.
4.2.6.5 Ensure developments in commercial, high-density residential and mixed-use areas are designed with adequate loading zones and access for goods delivery.

The scope of this Transportation Master Plan includes a review of the Penticton goods movement network, but not the details of large truck parking and end of trip facilities.

4.4.2 EXISTING TRUCK ROUTES

The City of Penticton's Goods Movement Network includes three classes of truck routes: Through Route, Major Access Route, and Dispersal Route. Highway 97 is the only Through Route, while Main Street / Lakeside Road,

Westminster Avenue, and Skaha Lake Road are Major Access Routes. The Dispersal Routes appear to function as the "local-level" goods network, linking the Major Access Routes with key destinations. A map of the existing goods movement network is shown in **Figure 4-8**.

ENGAGEMENT RESULTS

The Advisory Group noted some key concerns around goods movement in Penticton:

- Trucks shortcutting through Lakeside Road, instead of using Highway 97;
- City-wide issue with intersection turning radii in both the CBD and industrial areas where trucks struggle to turn into business and onto some streets;
- Preference for keeping trucks off Front Street, Main Street, Westminster Avenue; and
- Preference for more control over where trucks overnight park in the City.

Comments solicited from the public also flagged issues with large trucks on Lakeside Road, and conflicts between cyclists and large trucks on Lakeside Road. Another comment noted that a truck route connection to the northeast of the City would be an asset. Other comments addressed heavy truck traffic in residential areas and the nuisance of overnight truck parking in residential areas.

SNOW AND ICE POLICY

No goods movement policies or procedures currently exist to describe the intent or operational characteristics of the three different route classes in the goods movement network; however one reference exists in the City's Snow and Ice Policy: "Main Industrial Routes" are considered Priority 2 for snow clearing. It is not clear which class of truck route is considered a Major Industrial Route. Penticton's Traffic Bylaw does not describe a truck route network, but it does state that no person shall drive a truck with a gross vehicle weight greater than 10,900 kg on a roadway unless it is a signed truck route, EXCEPT:

- Municipal or utility vehicles engaged in work, or
- Trucks carrying fruit from farm to packing house, or
- Trucks delivering goods and materials to a property on a street that is not a truck route.

TRAFFIC BYLAW

The Penticton Traffic Bylaw also states that no person shall stop, stand or park a truck greater than 5,600 kg on any roadway adjacent to a residential area, or on any roadway across from a residential area where the area on the other side of the roadway is zoned Parks & Recreation or Institutional. Trucks making deliveries are exempted from this rule, but deliveries are only permitted between the hours of 6:00AM and 9:00PM.

The existing Penticton Traffic Bylaw appears to address the issue of trucks overnight parking near residential areas in the City. Increasing effort to enforce of this section of the bylaw is recommended as a quick win.

In the context of the principles and objectives noted previously, and the Advisory Group and Public feedback, a desktop review of the goods movement network suggests some opportunities for improvement. A review of practice from other nearby jurisdictions is provided below, to inform potential changes to Penticton's goods movement approach. These opportunities for change are discussed in **Section 6.4**.

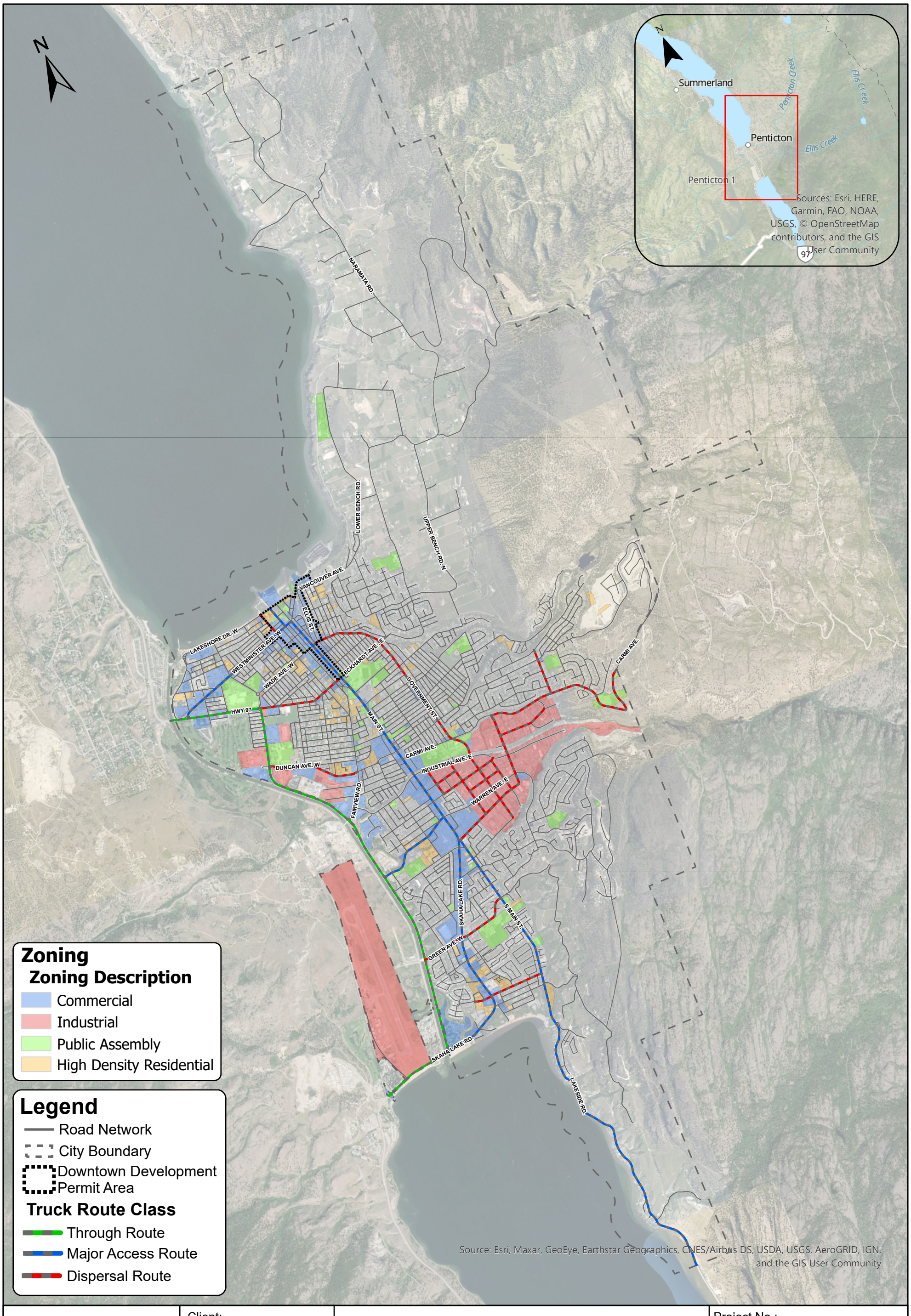

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Figure 4-8
Existing Goods Movement Routes
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4.4.3 GOODS MOVEMENT PRACTICE SCAN

In the context of the principles and objectives noted previously, and the Advisory Group and Public feedback, a desktop review of the goods movement network suggests some opportunities for improvement. A review of practice from other nearby jurisdictions is provided below, to inform potential changes to Penticton's goods movement approach. These opportunities for change are discussed in the future conditions analysis.

4.4.3.1 VERNON

Vernon's approach to goods movement is to designate all arterial roadways as appropriate for through truck traffic, while banning trucks from inappropriate local roads such as residential streets, or streets with adverse geometry or grades. Several Truck Ban Routes are defined in Vernon's *25 Year Master Transportation Plan*. The two highways (97 and 6) are designated as the Dangerous Goods Routes through Vernon. The City of Vernon's *25 Year Master Transportation Plan* does not address the nuances of how trucks service individual businesses and properties which are not located on the arterial network, however, it is implied that use of other streets is acceptable to service these locations.

4.4.3.2 KAMLOOPS

In Kamloops, most truck routes are on major arterial or collector roads. Kamloops' truck routes are defined in the City's Traffic Bylaw. The bylaw also states that a person operating a heavy truck (exceeding 10,900 kg) must travel by the closest and most direct route to the destination, after departing the truck route.

4.4.3.3 KELOWNA

Similar to Kamloops, The City of Kelowna has a designated truck route network, and the stipulation that any vehicle exceeding 13,700 kg is required to take the most direct route to or from its destination or delivery location to the nearest truck route.

4.4.3.4 WEST KELOWNA

The City of West Kelowna's current traffic bylaw designates only Highway 97 as a truck route. Similar to Kamloops and Kelowna, any truck exceeding 13,700 kg must take the most direct accessible route using the highest order road on the Road Classification Map between Highway 97 and its destination. While this approach appears simple from a bylaw documentation perspective, it requires all heavy vehicle operators to be familiar with West Kelowna's roadway hierarchy and is not recommended as a practical approach for Penticton.

4.5 STREET NETWORK/INTERSECTION OPERATIONS – KEY LOCATIONS

4.5.1 SUMMARIZE GOALS, PRIORITIES AND OBJECTIVES

Out of the public feedback comments, 31% of comments related to intersections, and 21% are related to speed. The intersections which received the most comments were:

- Eckhardt Avenue/Vees Drive;
- Highway 97/Fairway Avenue;
- Highway 97/Fairview Road;
- Main Street/Industrial Avenue;
- South Main Street/Kinney Avenue; and

- Eckhardt Avenue/Government Street.

The OCP states that the goal is to "ensure that driving is safe for both drivers and other users of the road." It also puts driving at the bottom of the hierarchy of modes. These statements indicate that prioritizing street network improvements for automobiles should be limited primarily to safety. Some of the key policies are shown in **Table 4-7.**

TABLE 4-7 OCP DRIVING POLICIES

4.2.7.1 Design streets so as not to encourage speeds beyond the intended speed limit. Where speeding is an on-going concern, consider reducing street widths or employ other design approaches to encourage lower speeds. Refer to and amend the City's Transportation Safety Policy as necessary.
4.2.7.2 Explore implementation of best practice design solutions to create safe and convenient intersections.
4.2.7.4 Continue to deploy traffic calming measures around parks, schools and other areas with reduced speed limits, and monitor outcomes to ensure the measures are successful.

At the Transportation Advisory Group, concerns were raised over the Lakeside Drive corridor and the Lakeside Drive/Smythe Drive intersection in particular and the desire for traffic calming. It was noted that the balance on collectors was more towards traffic than locals. Safer pedestrian crossings were desired on collector roads. Also, speeding was a concern.

4.5.2 REVIEW OF ROAD HIERARCHY AND STREET CLASSIFICATIONS

Penticton's current road classification is shown in **Figure 4-9**. This road classification map is based on the Subdivision and Development Bylaw 2004-81. This differs from the road classification given in the OCP which has one arterial (Highway 97) and then major collectors, minor collectors and local roads.

Based on the Subdivision & Development Bylaw, Road Classification Design Criteria, Penticton currently has:

- Residential Lanes: These serve to provide access to individual properties
- Strata/Private Roads: These are private roads that provide access to individual units or properties.
- Rural Collectors: A road that provides for both property access and longer distance travel in a rural area.
- Rural Locals: A road that provide primarily property access in rural areas.
- Urban Collectors: A road that provides for both property access and longer distance travel in a rural area.
- Urban Locals: A road that provide primarily property access in rural areas.
- Highway 97 (Provincial).

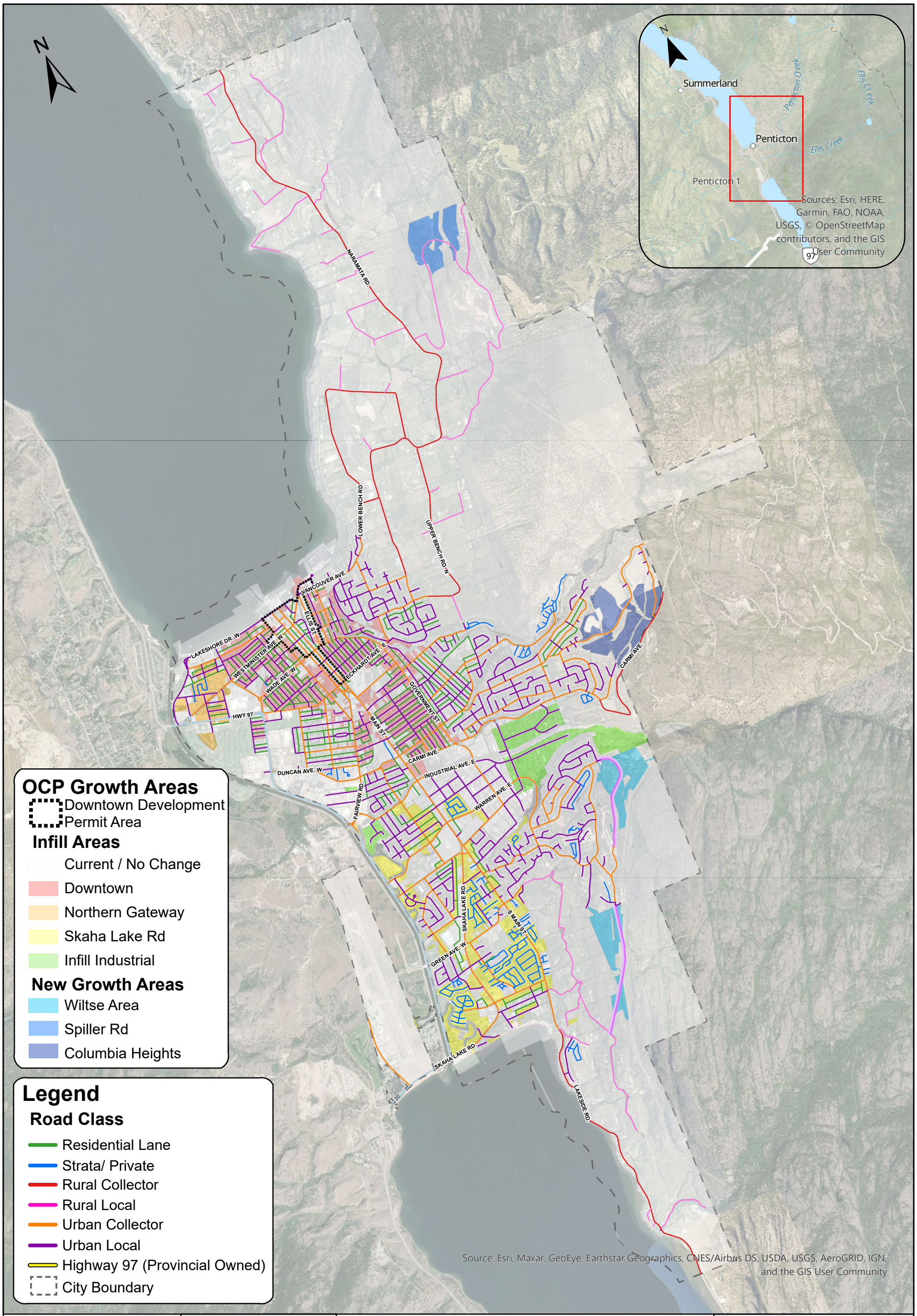

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Figure 4-9
Existing Road Network Classification
Integrated Infrastructure Master Plan

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Table 4-8 and Table 4-9 include a summary of characteristics of road classifications as per the *TAC Geometric Design Guide For Canadian Roads*. Key elements of road classification the service function (what is the reason for the road), traffic volumes, and speeds.

TABLE 4-8 RURAL ROAD CHARACTERISTICS

	Rural Local	**Rural Collector**
Service Function	Traffic movement secondary consideration	Traffic movement and land access of equal importance
Land Service	Land access primary consideration	Traffic movement and land access of equal importance
AADT	<1,000	<5,000
Design Speed (km/h)	50-110	60-110
Running Speed (km/h)	50-90	50-90
Vehicle Type	Predominately passenger cars, light to medium trucks and occasional heavy trucks	All types, up to 30% trucks in the 3 t to 5 t range

TABLE 4-9 URBAN ROAD CHARACTERISTICS

	Public Lanes	Locals	Collectors
Traffic Service Function	Traffic movement not a consideration	Traffic movement secondary consideration	Traffic movement and land access of equal importance
Land Service / Access	Land access only function	Land access primary function	Traffic movement and land access of equal importance
AADT	<500 residential <1,000 commercial	<1,000 residential <3,000 Industrial / Commercial	<8,000 residential 1,000 – 12,000 Industrial / Commercial
Design Speed (km/h)	30-40	30-50	50-80
Running Speed (km/h)	20-30	20-40	30-70
Vehicle Type	Passenger & service vehicles residential. All types commercial.	Passenger & service vehicles residential. All types commercial / industrial.	Passenger & service vehicles residential. All types commercial / industrial.

It should be noted that Penticton appears to have no roads that are classified as arterials other than Highway 97 which is under provincial jurisdiction. Arterials prioritize travel of large number of vehicles over longer distances and minimize the number of accesses.

4.5.3 REVIEW OF CRASH DATA TO IDENTIFY PRIORITY LOCATIONS FOR REVIEW.

The team reviewed ICBC crash report data from 2014 to 2018, the latest 5-year period for which RCMP report comment inputs was available. As seen in **Figure 4-10**, the two most egregious crash locations were:

1. Highway 97 – multiple crashes of two main types: either right-turning vehicles entering the highway getting rear-ended or through and left-turning vehicles involved in head-on collisions.
2. Main Street / Martin Street / Winnipeg Street north-south collectors – all experienced similar crash patterns involving red light-running, mis-judging oncoming vehicle gaps or intentions while turning.

N

WADE AVE E
WESTMINSTER AVE W
MARTIN ST
MAIN ST
ECKHARDT AVE E
GOVERNMENT ST
ECKHARDT AVE W
HWY 97
DUNCAN AVE W
DUNCAN AVE W
MAIN ST
DUNCAN AVE E
INDUSTRIAL AVE E
CHANNEL PKWY
FAIRVIEW RD
INDUSTRIAL AVE W
MAIN ST
WARREN AVE E
GREEN MOUNTAIN RD
CHANNEL PKWY
WARREN AVE W
SKAHA LAKE RD
S MAIN ST
GREEN AVE W
SKAHA LAKE RD

ICBC 2014-2018 Overall Crashes
- 8-15
- 16-25
- 26-50
- 51-100
- 101+

OCP Growth Areas
- Downtown Development Permit Area

Infill Areas
- Current / No Change
- Downtown
- Northern Gateway
- Skaha Lake Rd
- Infill Industrial

New Growth Areas
- Wiltse Area
- Spiller Rd
- Columbia Heights

Legend
- Existing Road Network
- Highway 97 (Provincial Owned)
- City Boundary

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Figure 4-10
2014-2018 ICBC Total Collisions
Integrated Infrastructure Master Plan

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Further analysis found that despite reported instances of sustained speeding behaviour in the rural collectors in the northeast and southeast parts of the city, there were few reported crashes, both in actual numbers and relative to their volumes.

A preliminary review of the crash data indicates that several measures could be investigated to reduce the likelihood and severity of collisions. These should be considered by intersection, corridor, or cordon area to ensure adequate supporting data and consistency of analysis:

1. At Highway 97 entrances, include a 'free flow' entry lane for right-turning vehicles where possible to reduce distracted merging behaviour from the 2nd or 3rd motorist in the queue.
2. On Highway 97, consider improved lane marking, signage, and signalization to counter inherent risks of highway speeds for turning and oncoming motorists.
3. On major collectors, review risk conditions of lane assignments and priority for oncoming vehicles; including dual-direction permissive signal phasing and turning bays.
4. Consider reduced-speed zones and traffic-calming within traditional downtown / infill area to reduce vehicle crash risk and severity and progress development objectives. Should accompany a tolerance for reduced vehicle network performance profile based on traditional metrics.
5. On major collectors near commercial areas, review permissible driveway access movements and proximity of turning movement conflicts to intersections.
6. Undertake a 'Safe Routes to Schools' study to determine collision conflict risks and engineering mitigation in proximity to schools. Consider similar studies for areas where seniors congregate.
7. Consider speed mitigation recommendations noted in this report for Naramata Road / Benches area and Lakeside Road.

4.5.4 TRAFFIC MODELLING (EXISTING CONDITIONS)

The intersection analysis for this TMP has been completed for the existing and future conditions using a Synchro Traffic Model. Details on the development and assumptions built into the traffic modelling process are summarized in **Appendix B**. Key details of the traffic model are summarized below.

Study Intersections

The TMP includes the proposed evaluation of 144 current and future intersections. The study intersections range from intersections on Highway 97 to local intersections within Penticton. All study intersections are shown in **Figure 4-11.**

Data Inputs

Traffic count data was provided by the City of Penticton. Most intersection data was collected between 2018 and early 2020. In 2020, the traffic counting program was paused in March by the COVID-19 pandemic shut down and resumed in fall 2020.

Model Update

WSP received a complete Synchro model from the City of Penticton. WSP completed a review and update of this base model to evaluate the existing conditions. Updates to bring the model up to a base 2020 condition to be used for the TMP are summarized below:

- Update all counts to a 2020 base condition using an annual growth rate of 0.65% (based on estimated annual population growth from the OCP);
- Review of geometric assumptions and updates where needed;

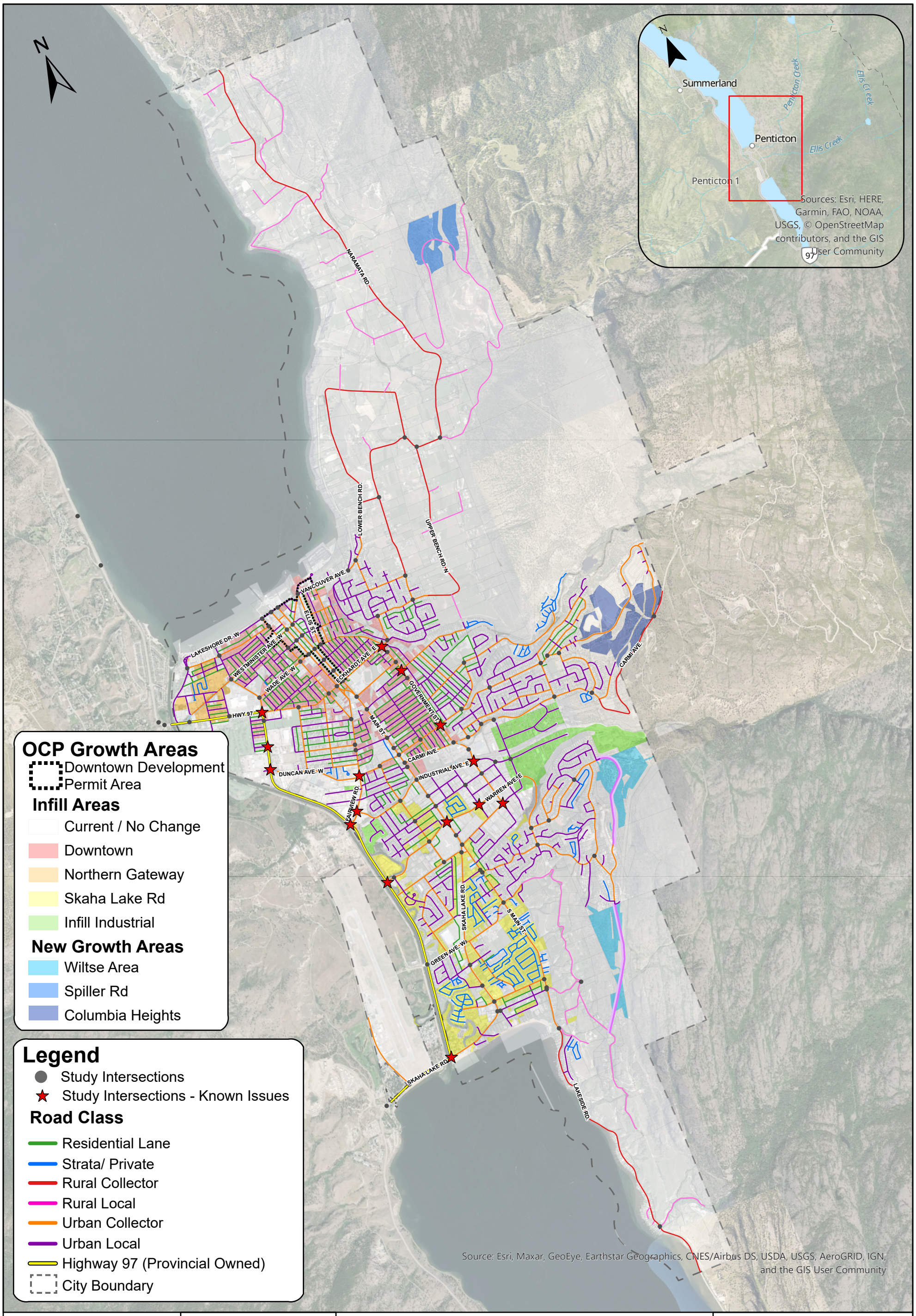

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Figure 4-11
Study Intersections
Integrated Infrastructure Master Plan

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Scale: **1:40,000**

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- Calculate a median City-Wide AM and PM Peak hour as 8:00AM and 3:15 PM, respectively;
- Input updated traffic count data where available;
- Calculate and input saturation rate flow surveys using video footage from various locations within the City to identify an average saturation flow rate for the City of 1700 veh/hr;
- Calculate and input an average peak hour factor (PHF) of 0.75 for the AM Peak and 0.82 for the PM Peak;
- Calculate and input an average heavy vehicle percentage for locations missing truck counts as 3% for the AM Peak and 1% for the PM Peak;
- Estimate pedestrian and cycling volume estimates using adjacent intersection locations with counts;
- Estimate missing intersection counts using adjacent counts, balancing and estimates of turning movements based on similar intersections within the model;
- Input MOTI signal timings for intersections along Highway 97; and
- Review intersection balancing.

The existing conditions model was then reviewed to identify intersection locations where updates/modifications may currently be needed to the network to improve the existing operations and capacity of the road network for traffic.

4.5.5 EXISTING CONDITIONS MODEL RESULTS

The operations of the study intersections were analyzed based on the most recent traffic volumes available. Issues related to capacity and delays were found at a number of intersections and these are summarized below. A summary of the overall intersection Level of Service (LOS) for these intersections is given in **Table 4-10** for reference. The general threshold used to flag a movement that was not operating well was Level of Service E or F. Level of Service represents the delay that a vehicle faces when passing through an intersection. Level of Service A represents little delay and uncongested conditions, while Level of Service F represents long delays and congested conditions. The second threshold used the volume to capacity or v/c ratio. The volume is the number of vehicles wishing to make a certain movement and the capacity is the number of vehicles that can make the movement based on the intersection layout and signal timings. A v/c ratio of 1.00 or more represents a movement operating at or over capacity. Generally, as the v/c ratio approaches 0.90 the intersection is operating near capacity and delays will become common. The existing conditions review identifies key locations where the v/c ratios is 0.90 or higher and/or Level of Service E or F. This represents locations where operational constraints may be creating undue impacts to the overall quality of network service. These recommendations will be considered in line with other recommendations and policies and priorities when considering prioritization.

TABLE 4-10 EXISTING CONDITIONS INTERSECTION OPERATIONAL ANALYSIS SUMMARY

	AM Peak Hour		PM Peak Hour	
	v/c	LOS	v/c	LOS
Hwy 97/Eckhardt	0.80	C/D	1.06	D/E
Hwy 97/Fairway	0.40	A/E	1.09	A/F
Hwy 97/Duncan	0.75	B/C	0.96	B/E
Hwy 97/Green Mountain	0.86	C/D	1.38	E/F
Hwy 97/Warren	0.45	A/C	1.01	B/F

Hwy 97/Skaha Lake	0.63	B/C	0.97	C/D
Fairview/Industrial	0.87	C/D	1.11	D/F
Fairview/Duncan	0.78	C/C	1.07	D/F
Main/Warren	0.77	C/C	1.10	D/F
Government/Eckhardt	1.20	F/F	1.09	D/F
Government/Duncan	1.06	D/E	0.99	D/D
Camrose/Warren	0.29	A/C	0.90	C/F
Government/Industrial	1.00	D/E	0.97	C/D

v/c = volume to capacity ratio (worst movement); LOS = Level of Service (intersection overall/worst movement)

A summary of recommendations based on the existing conditions analysis includes:

- Highway 97/Eckhardt Avenue: The intersection is over capacity in the PM peak hour resulting in delays and queueing. Potential improvements include adding a westbound right turn lane, adding a southbound and/or adjusting cycle lengths.
- Highway 97/Fairway Avenue: The westbound stop-controlled approach is operating over capacity. This is due to the high volume of conflicting traffic on Highway 97 that has priority. This results in long delays for westbound traffic wanting to turn left onto the highway.
- Highway 97/Duncan Avenue: At this intersection there are delays for the southbound left turn movement in the PM peak hour as this movement is over capacity. There is the potential for this left turn lane to overflow. Adding a southbound left turn phase could improve this.
- Highway 97/Green Mountain Road: This intersection is constrained by the two-lane bridge to the west which causes delays to eastbound movements and to westbound left turn movements in busy times. The ideal improvement would be two widen the bridge so that turn lanes can be provided.
- Highway 97/Warren Avenue: The high volume of traffic on Highway 97 causes delays for the stop controlled westbound left turn movement. Since the intersection is designed as a protected-T, the westbound left turn movement merges with southbound traffic rather than yielding to it, but this traffic must still yield to northbound traffic.
- Highway 97/Skaha Lake Road: This intersection is congested in the PM peak hour resulting in delays and queues. Potential improvements include signal timing changes and intersection reconfiguration taking into account pedestrians and the adjacent bridge capacity constraint.
- Fairview Road/Industrial Avenue: There is congestion at this intersection in the PM peak hour with delays for the westbound left turn movement. Possible mitigation measures include changing the signal timings and adding northbound and southbound left turn lanes on Fairview Road so that left turning traffic does not block through traffic.
- Fairview Road/Duncan Avenue: This intersection operates over capacity in the PM peak hour. A potential improvement is to add northbound and southbound left turn lanes so that left turning traffic does not block through traffic.
- Main Street/Warren Avenue: This intersection is congested in the PM peak hour. A potential solution is adding eastbound and westbound left turn lane to increase capacity since left turning vehicles will not be blocking through traffic.

- Government Street/Eckhardt Avenue: This intersection is congested in both the AM and PM peak hours with delays and queues for many directions of traffic. Potential improvements include adding eastbound or northbound right turn lanes.
- Government Street/Duncan Avenue: This intersection operates over capacity in both peak periods with delays and queues particularly for north-south traffic. A potential improvement would be adding northbound and southbound through lanes, but this would require additional right-of-way and/or the removal of the bicycle lanes.
- Camrose Street/Warren Avenue: Traffic on southbound Camrose Street is stop controlled and experiences delays in the PM peak period. Traffic has the option of taking alternate routes. A signal is possible here subject to warrants being met.
- Government Street/Industrial Avenue: This intersection operates near or over capacity in both peak periods causing delays. A potential improvement is adjusting the signal timings.

4.6 PARKING

4.6.1 SUMMARIZE GOALS, PRIORITIES AND OBJECTIVES

The OCP states that the goal for parking in Penticton is to support businesses while also encouraging walking, cycling and public transit. There are several parking policies outlined in the OCP, which are listed in **Table 4-11**, as they are specific and tactical.

TABLE 4-11 OCP PARKING POLICIES

4.2.7.5 Develop incentives or regulations to support the installation of electric vehicle charging stations in all new multifamily, commercial and mixed-used developments.
4.2.7.6 Support the expansion of car share opportunities by encouraging their provision in multifamily developments and by allocating dedicated public parking stalls in suitable areas.
4.2.7.7 Create a balanced parking strategy assessing costs and benefits that supports businesses while also encouraging active modes of transportation such as walking, biking and transit.
4.2.7.8 Ensure new residential developments provide an appropriate amount of parking for residents and their guests.
4.2.7.9 Undertake a feasibility study for building and operating a parking structure (parkade) in a strategic location to meet identified demand for secured parking and to potentially free up land currently used for surface parking for other more intensive and active uses.

- Of the goals in the OCP, 4.2.7.7: to create a balanced parking strategy, will be the primary recommendation for parking in this Transportation Master Plan. Recommendations around the scope of this parking strategy are provided in **Section 6.7**.

4.6.2 REVIEW OF EXISTING PARKING PLANS, POLICIES AND OTHER REPORTS

A review of recent parking plans and reports is summarized below. The scope of this review includes all reports that were shared by the City of Penticton, as well as other relevant materials that were available on the City's webpage.

2006 CITY OF PENTICTON TRANSPORTATION MASTER PLAN

The previous TMP included an in-depth assessment of parking in downtown Penticton and was based on data collected in 2004 and 2005 in anticipation of the parking analysis. The report and its recommendations respond namely to downtown parking management and parking facility dimensions to inform zoning by-law updates. Most recommendations were tactical, responding to parking utilization data and pricing data obtained at the time. However, one of the recommendations was to continue to plan for a future downtown parking structure.

2017 PARKING CONSULTATION PROCESS (POWERPOINT FILE)

In 2017 the City developed a presentation in preparation for public consultation about parking. Key facts summarized in this document are as follows.

- In 2017, there were 3931 total parking spaces within a 5 to 10 minute walk of Downtown:
    - 40% were allocated to employees,
    - 40% were allocated to customers or visitors,
    - 20% were allocated to residents.
- Cost to operate and maintain City parking is approximately $990,000 per year.
- Total revenue generation from City parking is approximately $400,000 per year.
- Total Parking spaces expected to be lost due to development between 2017 and 2019 is approximately 250.

2017 PARKING ENGAGEMENT UPDATE AND RECOMMENDATIONS

The City of Penticton conducted public engagement on parking issues in summer 2017 and this input contributed to some immediately actionable solutions, which were adopted by Council in December 2017. These solutions, quoted directly from the City's news release, were:

- "maintaining the current free parking along Lakeshore Drive and Riverside Drive and, between Winnipeg Street and Power Street, introducing a three-hour parking restriction from 9am to 6pm, Monday to Friday, that is in force from June to September;
- retaining the existing resident only parking areas around the hospital and downtown;
- expanding parking access for employees of downtown businesses Monday through Friday, creating additional parking options for downtown visitors during evenings and on weekends, raising awareness of the availability of long-term and customer parking options through improved wayfinding and directional signage and creating easy parking payment through a new mobile application; and
- directing staff to review the current cash-in-lieu and car share policies within the City's Zoning Bylaw."

The Carshare parking discussion was focused on four upcoming developments that would be incorporating carshare vehicles. Research had previously been undertaken to determine the appropriate parking relaxation for a single carshare vehicle. In 2017, the zoning bylaw allowed for the reduction of 6 private vehicle spaces for the provision of one carshare vehicle within a development. The report recommended reducing this parking relaxation from 6 spaces to 3 spaces, based on Staff feeling that 3 vehicle spaces is a more appropriate reduction.

Additionally, this report mentioned future work toward a parking management analysis for the South Okanagan Events Centre, including resident-only parking options around the site. This work was intended to begin in 2018.

2018 SOUTH OKANAGAN EVENT CENTRE CAMPUS PARKING STUDY

This report has not been shared with the WSP team, but it is referenced in the 2020 Metered Parking Expansion Council Report. In this, it was considered to account for all the parking demand scenarios that accompany the various uses of the site. One of the report recommendations was to implement paid parking as a longer-term solution to traffic and parking issues.

2019 PENTICTON PARKADE FEASIBILITY ANALYSIS

An analysis of downtown parkade feasibility was conducted by IRG Informatics Inc in November 2019. The objective was to determine a per stall rental price that would make a parkade financially viable, while minimizing a subsidy from the City. The study found that a Downtown parkade is not feasible without a combination of public and/or private support. Without subsidization, the price per un-reserved stall in a parkade would be $148/month, which is approximately three times the cost of a reserved downtown parking stall in 2020.

2020 METERED PARKING EXPANSION COUNCIL REPORT

This Council report was developed in response to vulnerabilities in the City of Penticton revenue streams because of COVID-19. The possibility of introducing paid parking is considered a strong candidate to improve the sustainability of the City's revenue.

The report identified five candidate areas for user-paid parking:

- Downtown:
    - On street parking on Main Street, Ellis Street, Front Street: increase from free parking to paid parking;
    - City-owned lots on Backstreet Boulevard: remove 1-hour free parking;
    - Everywhere: consider increase from $1.25/hr for paid parking.
- Lakeshore Drive and Okanagan Lake Parking Lots:
    - On-street parking on Lakeshore Drive, Riverside Drive and Marina Way: increase from free parking to paid parking;
    - City-owned lots on Loco Landing, Lakawanna Park, Japanese Garden: increase from free parking to paid parking.
- Skaha Lake Park:
    - On street parking on Parkview Street: increase from free parking to paid parking;
    - City-owned parking lots (east and west): increase from free parking to paid parking.
- South Okanagan Event Centre Campus:
    - Consider paid parking in non-event times.
- Resident Only Parking Areas:
    - Resident parking passes are currently free; consider charging a fee of $30 per year to cover administration costs of the program.

The outcomes of this Council report is that Council directed Staff to update downtown parking rates from $1.25/hour to $2.00/hr, and to amend the 2020 Capital Budget to include $175,000 for the purchase of metered parking equipment, which will expand metered parking in downtown beginning in 2021.

2020 ZONING BYLAW

With adequacy of the parking supply in the downtown area being a recurring question over the last 15 years, it is worth noting that the current Penticton Zoning Bylaw requires no on-site parking for any use in the C5 or C6 zones. Most of the downtown area, including several of the city-owned parking lots, is zoned C5. Not requiring on-site parking is a tool that is often used in zoning to revitalize areas and promote transportation mode shift to public transit, walking and cycling.

In the current (October 2020) Zoning Bylaw, there is no reference to carshare parking reductions and currently there is no known carshare program available in Penticton. There are, however, Bicycle Parking and Cash-in-Lieu reductions permitted.

EXISTING DOWNTOWN PENTICTON PARKING SYSTEM

Figure 4-12 identifies City-operated downtown parking supply. In addition to on-street parking and City-owned parking lots, a desktop review indicates that there are also hundreds of public parking spaces available through private lot owners such as Impark and Diamond Parking. There is also parking in Downtown supplied on-site by individual businesses or employers. Each type of parking space mentioned above appears to be considered in the approximately 3,900 downtown parking spaces counted in 2017.

The City currently operates four Level 2 electric vehicle charging stations at the 307 Ellis Street parking lot, with plans to expand the network.

FIGURE 4-12 DOWNTOWN PARKING LOCATIONS

PENTICTON RESIDENT PARKING PROGRAM

The Resident Parking Program exists to preserve on-street parking spaces in certain residential areas, which are impacted by spillover parking from major trip attractors, such as popular tourist spots or large employers. The most recent batch of Resident Parking Program permits was issued by the City of Penticton in January 2019 and expires December 31, 2020. Anyone living in a designated Residential Parking Only Area is eligible for a permit, including tenants of legal secondary suites. And each address is permitted a single guest permit. Condominium dwellers in Residential Parking Only Areas are not given a resident on-street parking permit as parking is typically offered on-site, but they are allowed a guest on-street parking permit.

The Resident Parking Permits are currently issued for free, however a $15 charge is levied for lost or stolen permits. As briefly noted in the 2020 Metered Parking Program Expansion report, administration costs for the program are estimated to be approximately $14,500 annually. City Staff estimate that charging a fee of $30 per year for Residential Parking Program Permits would recover the administrative costs of the program.

4.6.3 REVIEW OF OTHER JURISDICTIONS WITH ON-STREET PARKING PROGRAMS

This review is focused on other municipalities with on-street parking programs, specifically looking for insight into managing residential parking adjacent to major trip generators. The review attempts to answer key questions about parking programs:

- What is their purpose?
- How are residential restricted parking areas defined and how do the programs work?
- What are the costs and fees associated with the program?

As well, context from a recent review of the residential parking program in the City of Calgary is provided to inform any future work of this nature in Penticton.

4.6.3.1 CITY OF VERNON RESIDENT EXEMPT PARKING AREAS[4]

Purpose: Vernon's Resident Exempt Parking Areas (REPAs) are a response to managing concerns around the use of on-street parking by non-residents of a low-density residential neighbourhood. Medium- and high-density neighbourhoods are not eligible for the program. REPAs are implemented in neighbourhoods affected by high trip generators such as hospitals, community centres and shopping areas.

How it works: The REPAs include time limited parking for non-residents, or vehicles without permits. The steps for applying for a REPA are outlined in Vernon's REPA Policy and include: a letter of request from residents, preliminary review by the City, a petition of support from residents, and a fulsome REPA analysis conducted by the City. The analysis involves a parking study during the peak parking periods identified by the neighbourhood, and considers three criteria for defining whether the neighbourhood has a parking shortfall:

1. Minimum on-street parking occupancy of 75%;

2. 25% or more of the vehicles parked are non-resident vehicles; and,

3. The above two thresholds are met or exceeded continuously.

Throughout its review process, the City leaves opportunities for case-by-case assessments, and interventions like enforcement and signage, to address parking shortfalls, rather than full REPA implementation.

Costs and Fees: Each REPA permit costs $12.50 per year and permits are renewed and paid annually. A maximum of two resident permits is available for each dwelling. Permits show license plate numbers and are not transferrable between household vehicles.

[4] https://www.vernon.ca/roads-transportation/parking

https://www.vernon.ca/sites/default/files/docs/transportation/parking/city_of_vernon_resident_exempt_parking_area_policy.pdf

4.6.3.2 CITY OF KELOWNA RESIDENTIAL AREA PARKING RESTRICTIONS[5]

Purpose: Kelowna's Residential Area Parking Restrictions help manage non-resident parking demand and increase parking opportunities for residents of these areas. There are six residential parking zones located around major trip generators or attractions such as the Kelowna General Hospital, Okanagan College Campus, Downtown, Orchard Park Shopping Centre and numerous lakefront parks and recreation areas.

How it works: The six existing residential parking zones have timed, one- or two-hour restrictions for on-street parking. Permit holders may park their vehicle in these zones for up to 24 hours, which is the maximum time limit for parking on any Kelowna street. There are several criteria for a residential area parking restriction, and one may be imposed by the City Administration, or by a petition from at least 70% of the residents in an area, or 80% for a Residential Parking Only zone.

- A Residential Parking Only zone, in which parking is reserved exclusively for residents is considered it several conditions are met:
- The block must have insufficient off-street parking, measured through the number of spaces required by the Zoning Bylaw.
- With a 1-hour maximum already in effect, parking occupancy during peak periods must exceed 90% and a minimum of 50% transient parking.

The block must be within 500 meters of a High Parking Generator, and peak operating hours of the generator is used to establish the restriction.

Costs and Fees: Kelowna's residential parking permits are $30 each plus tax, per year. For single dwelling units, the maximum number of permits per dwelling unit is 2, with up to two temporary visitor permits per dwelling. As the number of dwelling units per lot increases, the maximum number of permits is reduced to 1 per dwelling, and 1 visitor permit per dwelling.

4.6.3.3 BEND, OREGON, PARKING BENEFIT DISTRICT[6]

Purpose: The Old Bend Parking Benefit District is a new, one-year pilot program, initiated in fall 2020. Its goal is to prioritize residential parking by alleviating parking by commuters in the Old Bend Neighbourhood, which is adjacent to downtown Bend. The Old Bend Neighbourhood has a mix of uses, including small businesses, and parks, but is primarily residential. Neighbourhood Parking District Board or Committee is given access to a percentage of parking revenues generated through the program to invest in projects that improve the quality of life and safety in the neighbourhood.

How it works: Residents and businesses within the parking benefit district can purchase on-street parking permits for their area. There is no cap on the number of resident permits issued, and residents can apply for a permit for each of their owned or leased vehicles. Non-residents may park only in designated non-resident parking areas:

- Recreation areas like parks - four-hour time limit,
- Special event areas – on street parking during the event only, parking fees apply, and
- Business corridors – streets near small business corridors, time limits apply.

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5 https://www.kelowna.ca/roads-transportation/parking/parking-permits

https://www.kelowna.ca/sites/files/1/docs/city-hall/policies/council_policy_no._366_residential_permit_program.pdf

6 https://www.bendoregon.gov/visitor/parking/parking-benefit-districts#Parking%20Pilot%20Program

Costs and Fees: Permit costs vary by type of permit and all prices listed below are in US dollars per year. Visitor parking permits are free, and only one is provided per dwelling.

- Residential Permit - $25,
- Service Business Permit, for service vehicles - $75,
- Contractor Permit - $10 per day or $150 flat rate for long term projects,
- Short Term Rental Permit (for tourist suites) - $150, and
- In District Employee - $60.

4.6.3.4 CITY OF CALGARY RESIDENTIAL PARKING PERMIT PROGRAM REVIEW[7]

The City of Calgary began a review of its Residential Parking Permit Program (RPP) in early 2019, to align with objectives of its Municipal Development Plan and the Calgary Transportation Plan. The Calgary RPP is operated digitally by the Calgary Parking Authority. All permits are obtained online and all enforcement is completed by ParkPlus automated enforcement vehicles.

The review involved two rounds of public engagement: the first to seek input on the existing RPP and the second to seek input on the proposed policy changes. Policy changes were developed based on input received in the first round of engagement, combined with best practice and technical expertise.

The outcome of this review identified two key policy changes:

New petition process for RPP restrictions – recommending that the use of a petition process be minimized, and that emphasis be placed on fairness and transparency, rather than a complicated petition process.

Establishing new parking restrictions – recommending that the number of parking restrictions in an area are reduced to make on-street parking easier to understand and more predictable. Emphasis will be placed on using clear and consistent criteria for different types of parking restrictions.

4.6.3.5 CONSIDERATIONS

A review of other municipalities shows that residential parking programs are common, particularly in midsize and larger cities. These programs are, like Penticton's, all intended to reduce on-street parking demand from non-residents in neighbourhoods which are adjacent to larger parking generators or activity centres.

Standard practice for implementing residential parking area restrictions appears to be a combination of a neighbourhood petition and analysis by administration. Calgary, however, in recently reviewing its program is aiming to de-emphasize the petition process to create more fairness and transparency around the selection of permit areas. Calgary may be particularly motivated to standardize its RPP process as it has over 50 RPP zones in operation – a much larger number than any other jurisdiction reviewed.

The annual cost for a residential parking permit varies by municipality, with Kelowna charging $30 per year at the higher end. The basis for costs is not publicly available, however, Penticton's recent work to define a permit fee which yields program cost recovery is a very logical approach. The concept from Bend, where any surplus revenue could be invested back into neighbourhood improvements is also worth considering in setting the price for permits.

Should the City of Penticton wish to review its current resident parking program, it is recommended that targeted and specific engagement be conducted, similar to City of Calgary's approach. Results of engagement with residents

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7 https://engage.calgary.ca/rpp?redirect=/rpp

https://permits.calgaryparking.com/about/

should be combined with the City of Penticton's administrative experience operating the program, and additional best practice and technical expertise.

4.7 TRAFFIC CALMING

The City has a history of receiving traffic calming requests and general traffic complaints regarding traffic safety. The City tracks requests dating back to 2015. At present, there are 111 open requests related to traffic safety or traffic calming concerns. Urban Systems completed the review of 14 different locations on behalf of the City for intersection and crosswalk improvements from 2017 to 2019.

Traffic calming is addressed through the OCP and the Transportation Safety Policy. The driving goal identified in the OCP is to ensure that driving is safe for both drivers and other users of the road. These policies are identified in **Table 4-12**.

TABLE 4-12 OCP TRAFFIC CALMING POLICY

4.2.7.4 Continue to deploy traffic calming measures around parks, schools and other areas with reduced speed limits, and monitor outcomes to ensure the measures are successful.

The Transportation Safety Policy provides a procedure that standardizes the approach to addressing traffic concerns based on a transportation safety or traffic calming issue. Transportation safety considers all modes and might include intersection improvements, traffic signals, signage, lane markings, pedestrian crossings, sidewalks, speeding, parking, shortcutting and sightlines and apply to all City roads. Traffic calming issues may include speeding, high traffic volumes, and short cutting on local roads. Traffic calming does not apply to collector roads except where they are in front of elementary schools and in playground zones.

PUBLIC ENGAGEMENT

The Advisory Group and public engagement results indicated that there are speeding concerns throughout Penticton but highlighted that Lower Bench Road in the northeast and Lakeside Road in the southeast were especially of concern. In addition to speeding, feedback indicated a need to improve sightlines at intersections and improve safety for pedestrian crossings. The Advisory Group identified a need to consider traffic calming on collector roads such as Lakeside Road and to address sightlines at Smythe Drive and Lakeside Road intersection. In addition to locations identified through the Advisory Group and public engagement results, the City has identified the review of six other corridors as described in **Section 4.7.2**.

Public engagement results were overlaid with traffic calming concerns, safety requests, and collision data to understand where there are consistent issues as show in **Figure 4-13**.

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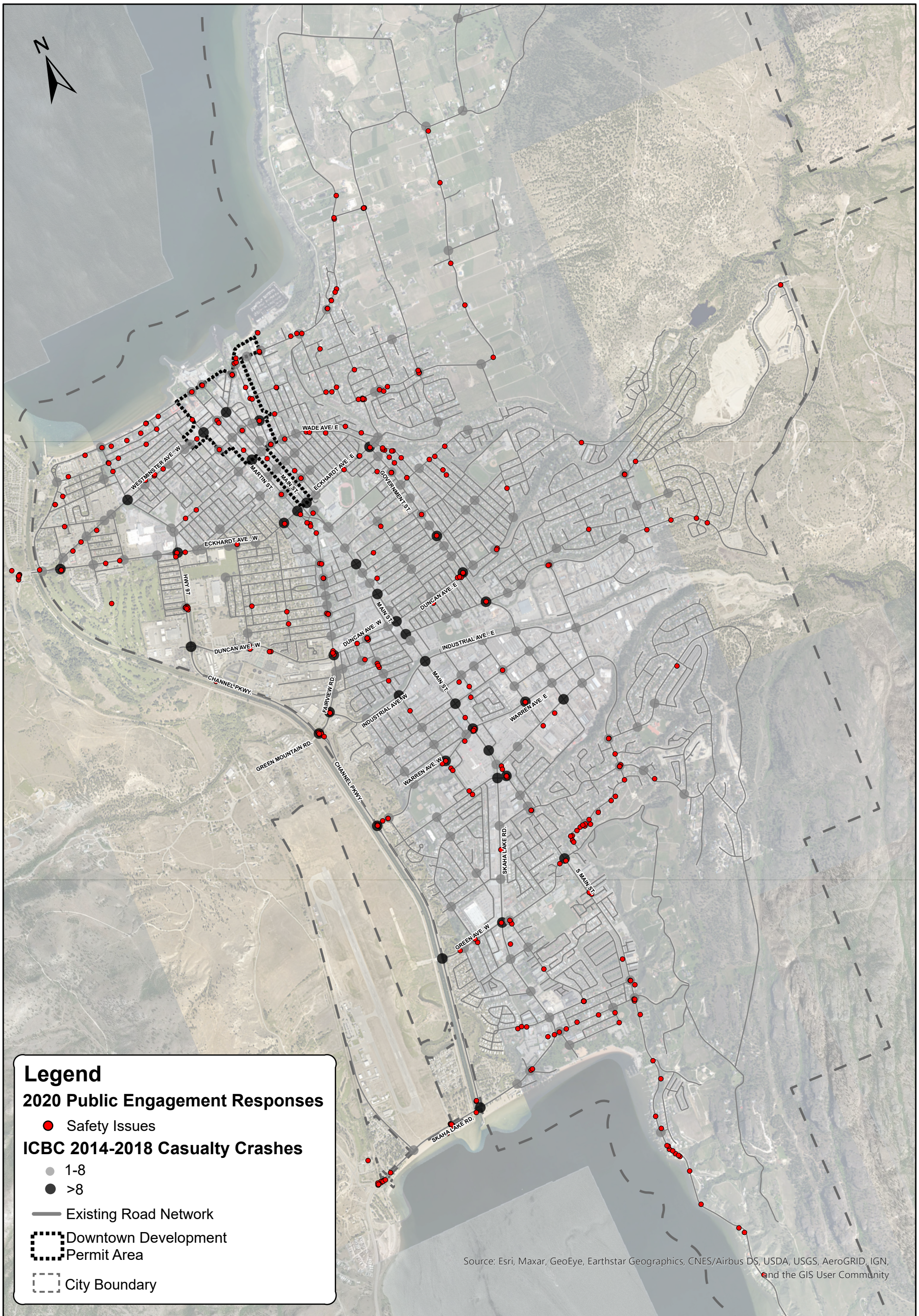

North Vancouver Office,
#210 - 889 Harbourside Drive
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Client:

CITY OF Penticton

PENTICTON IIMP

Figure 4-13
Traffic Calming Concerns

Project No.: **20M-00462-00**

Date: **23/03/2021**

Scale: **1:25,000**

0 50 100 200 Meters

Path: C:\2020-07-08 Penticton IIMP\Transportation.aprx

4.7.1 REVIEW EXISTING TRANSPORTATION SAFETY POLICY

The *Transportation Safety Policy* provides a procedure that standardizes the approach to addressing traffic concerns based on a transportation safety or traffic calming issue. Transportation safety considers all modes and might include intersection improvements, traffic signals, signage, lane markings, pedestrian crossings, sidewalks, speeding, parking, shortcutting and sightlines and apply to all City roads. Traffic calming issues may include speeding, high traffic volumes, and short cutting on local roads. Traffic calming does not apply to collector roads except where they are in front of elementary schools and in playground zones.

Traffic safety and traffic calming requests are currently evaluated based on a six-step process as described in the Transportation Safety Policy:

1. Initial Screening: City reviews completed transportation safety/traffic calming request form or traffic calming petition form and determines the nature of the concern.
2. Problem Identification: data is collected and reviewed based on categories included in **Table 4-13**. If RCMP or Bylaw deem the nature of the concern as significant, a plan for traffic calming may proceed without any other criteria; if the average number of collisions exceed two per year, speed and volume criteria do not need to be met; road, speed and volume data must be met where collision rates are below two per year and RCMP or bylaw do not deem the concern significant in order to proceed with a traffic calming plan.

TABLE 4-13 TRAFFIC CALMING CRITERIA

Criterion	Measurement	Requirement
RCMP	Nature of complaints or concerns	RCMP confirms if the nature of concern is significant
Bylaw	Nature of complaints or concerns	Bylaw confirms if the nature of concern is significant
Collisions	Collision rate and severity of reported collisions (most recent data available)	Average collision rate per year must be greater than 2
Road	Classification of road as defined by current City of Penticton Road Classification Map	Road must be a local residential through road OR any section of road in an Elementary School Zone or Playground Zone
Speed	Vehicle speed measured 24hr/day for duration of 1 week minimum - School Zones 8am-5pm on school days - Playground zones dawn to dusk on all days	The 85th Percentile speed of daily traffic in both directions is ≥10km/hr over the posted speed limit
Volume	Daily traffic volume	≥500 vehicles per day (vpd) in both directions
Safety	Effect on emergency services and transit vehicles	Negligible effect on provision of emergency services and transit vehicles

Support	Affected residents in support of plan	≥24% of affected residents should be in favor of the proposed plan

3. Develop Traffic Calming Plan or Transportation Safety Plan: A traffic consultant or the City will review the requests based on a prioritized list of traffic calming or transportation safety projects and develop a plan through consultation with stakeholders.
4. Public Review of Traffic Calming: Public consultation and surveys are held to collect feedback on the proposed plan. The City will proceed to detailed design and funding if at least 40% of residents in the affected area complete the survey and at least 60% of survey respondents support the proposed Traffic Calming Plan.
5. Detailed Design and Funding: develop construction plans for the highest priority projects for the current year based on available budget.
6. Construction: installation of measures.

The policy and procedure set a clear expectation for residents on the process to address traffic safety and traffic calming concerns. Some elements that require further clarification include:

- the process applied to traffic safety reviews and criteria,
- methodology for prioritizing traffic safety and traffic calming projects and
- traffic calming criteria.

4.7.2 REVIEW OF STUDY AREA LOCATIONS:

The Traffic Calming review consisted of a check of known traffic calming priority locations and areas of concern throughout the City as expressed by City and public stakeholders as described in **Table 4-14**. This included:

1. Several traffic safety and traffic calming studies were completed throughout the City from 2017 to 2019 and provide sound risk assessments of the physical infrastructure and recommendations for those areas.
2. Two local resident reports for Lakeside Road improvements was also shared by the City and reviewed by WSP.
3. Speed and collision data were also collected and reviewed across the City, including the Naramata Road / Benches area and Lakeside Road. Although there were few reported crashes, speeding was confirmed. High-level speed reduction recommendations were proposed in accordance with the Transportation Safety Policy and Transportation Association of Canada Guideline for Traffic Calming, Second Edition (2018).

Table 4-14 provides a summary of locations and potential traffic calming measures as identified by the City.

TABLE 4-14 TRAFFIC CALMING STUDY LOCATIONS

Study Area Locations	Potential Traffic Calming Measures
Johnson Road (Upper Bench Road to Middle Bench Road)	• Measures for transition from rural to urban areas at Johnson Road and Middle Bench Road • Intersection improvement or roundabout at Alder Street
Lakeside Road (Brantford Avenue to City Limits) • S. Main Street (Skaha Lake Road, Yorkton Avenue, Lee Avenue) – Most complaints have been at Skaha, Yorkton and residential areas • Brantford Avenue • Finnerty Road	• Speed Reduction • Narrowing of Vehicle Lanes • Widening of bike lane/shoulder area • Measures for transition from rural to urban area (in vicinity of Brantford Avenue and Smythe Drive)

• Smythe Drive – The City has done some work reviewing this location with the future proposed development • City Limits	• Intersection improvement or roundabout at Smythe Drive
Naramata Road (City Limits to McMillan Avenue) • Randolph Road • Riddle Road • KVR Crossing • Three Mile Road • Reservoir Road • All intersections but particularly those with Wineries	• Speed Reduction • Narrowing of vehicle lanes • Widening of bike lane/shoulder area • Intersection improvement or roundabout at Naramata Road and Reservoir Road
Lower Bench Road (Bankview Road to Tupper Avenue)	• Speed Reduction • Narrowing of vehicle lanes • Widening of bike lane/shoulder area • Measures for transition from rural to urban areas • Intersection improvement or roundabout at Lower Bench Road and Tupper Avenue
Middle Bench Road (Tupper Avenue to Munson Avenue)	• Speed Reduction • Narrowing of vehicle lanes • Widening of bike lane/shoulder area • Intersection improvement or roundabout at Middle Bench Road and Tupper Avenue
Upper Bench Road (Johnson Road to McMillan Avenue)	• Speed Reduction • Narrowing of vehicle lanes • Widening of bike lane/shoulder area • Intersection improvement or roundabout at Upper Bench Road and Naramata Road

The Transportation Safety process was applied at each location and assessed based on available data. Traffic safety / traffic calming requests and public engagement results were reviewed to understand the nature of the safety issue at each location. The Transportation Association of Canada (TAC) *Canadian Guide for Traffic Calming, Second Edition (2018)* was used to assess potential applications of speed reduction traffic calming measures for each location with a focus on addressing speed reduction at transitions from rural to urban areas. This process is summarized in **Appendix C**.

Summary of Assessment:

A high-level review of each location was completed to determine potential traffic calming measures and is included in **Appendix D**. All study locations except for Johnson Road and Middle Bench Road/Alder Street and South Main Street warrant traffic calming reviews. Speed data collected at Johnson Road and Middle Bench Road/Alder Street and South Main Street indicate an 85th percentile speed within 10 km/hr of the posted speed limit. Potential traffic calming measures vary by context and location but generally include horizontal deflections, road narrowing, surface treatments, pavement marking, and emerging technology measures. Vertical deflections have noise impacts and can reduce emergency service response times which may not be desirable for residential areas. A combination of traffic calming measures to create gateways is appropriate for Johnson Road, Lakeside Road and Lower Bench Road in advance of residential areas.

Speed reductions and the narrowing of lanes to allocate space towards bike facilities requires careful consideration. Speed reduction through reduced posted speed limits needs to be considered with vehicle operating capabilities, driver capability, behaviour and comfort, mixed modes, collision history, physical characteristics of the road and roadway surrounding (e.g. urban versus rural / adjacent land uses). Speed management strategies are intended to

establish operating speeds that match the context of a road using a safe systems approach. Where the operating speed does not match the context of the road, the application of strategies to reduce operating speed may be warranted. The methods cover a range of traffic safety areas such as engineering (road design), enforcement, education, and engagement. Isolated speed limit changes are unlikely to be very effective when the posted speed limit is changed but no other change to the road environment or enforcement is made.

Bike facilities should be focused on serving all ages and abilities in order to support high use of the facility. In order to achieve this, bike facilities need to have appropriate widths and may need to be separated from vehicles based on vehicle volumes and speeds. Road narrowing to provide accessible shoulders should be carefully considered based on context to ensure safety of cyclists. Significant investments may be required to widen roadways in order to provide a high-quality and safe cycling facility.

A more detailed corridor review is required for each location to create a traffic safety and traffic calming plan. The analysis completed through this study identifies possible design interventions that require further review. Although each measure was evaluated independently, the application within a corridor design should include a combination of measures.