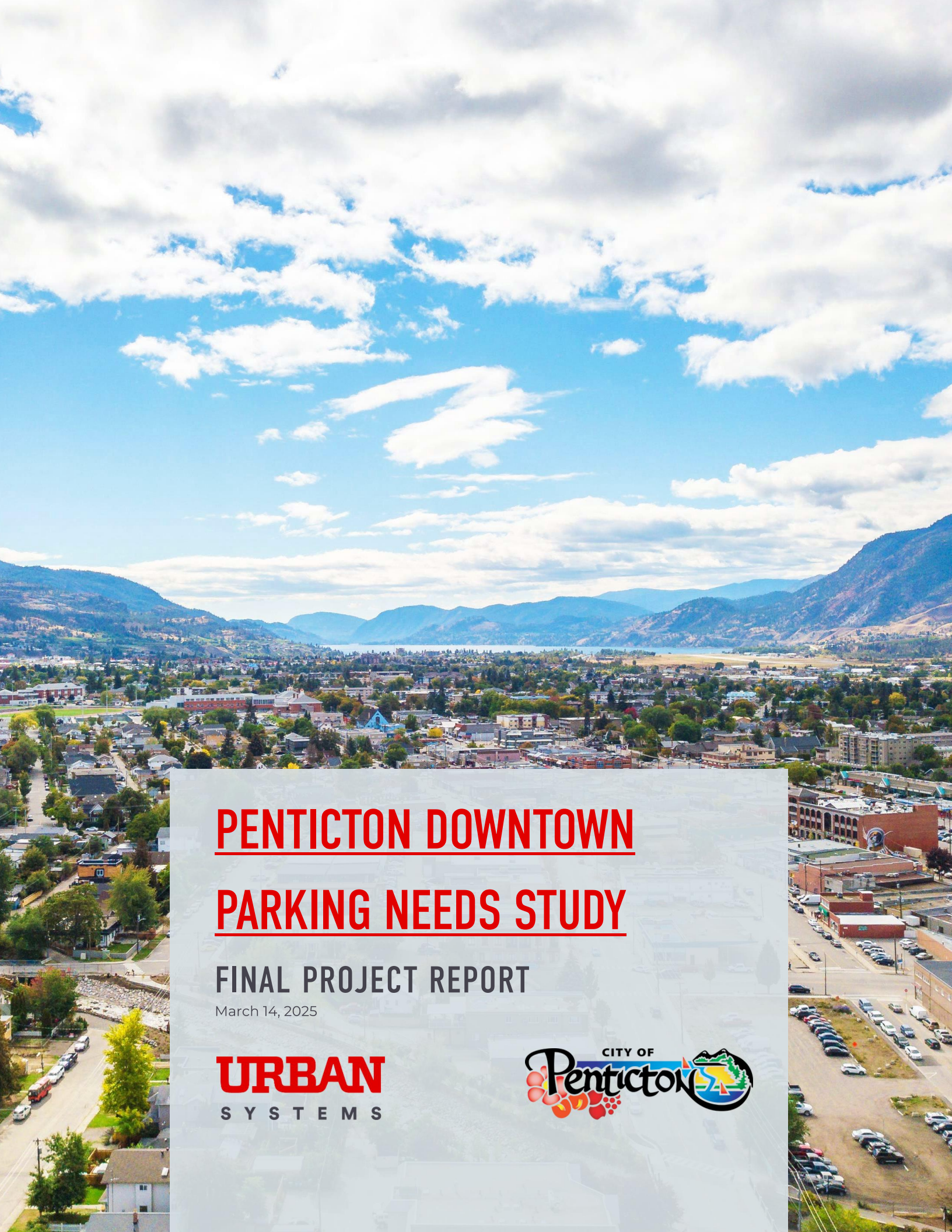




PENTICTON DOWNTOWN PARKING NEEDS STUDY

FINAL PROJECT REPORT

March 14, 2025

URBAN
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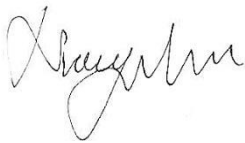
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Engineers and Geoscientists BC (EGBC)	

Permit No:

Date issued:	November 18, 2024	Draft Report
	December 12, 2024	Final Draft Report
	January 7, 2025	Final Draft Report R1
	January 9, 2025	Final Report
	February 26, 2025	Final Report R1
	March 14, 2025	Final Report R2

File: 1017.0107.01

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EXECUTIVE SUMMARY

Urban Systems Ltd. was retained by the City of Penticton to develop a parking needs assessment for the downtown area to support planning for future parking needs.

Problem Definition and Objectives

With Penticton's projected population growth of up to 20,000 new residents by 2046, the trips to and from the downtown also increases. While there are vacancies in some parking lots, the combination of increasing population and downtown redevelopment of parking lots will increase the pressure on parking resources. As land use policies evolve, such as the removal of parking minimums in C5, C6, and RM5 zones, parking demand is expected to increase further, a combination of approaches to address downtown parking is needed. At the same time, the City is committed to reducing vehicle dependency through investments in alternative transportation modes to meet its climate goals. This assessment addresses the need to balance parking demand with sustainable transportation solutions, evaluate parkade feasibility, and explore transportation demand management (TDM) strategies.

Key objectives of this Downtown Parking Needs Assessment are as follows:

- ✓ Update the downtown parking inventory, including a review of existing parking plans, policies, management and conditions.
- ✓ Forecast future parking needs with sensitivity scenarios to account for changing mode share, land use changes, new development, and population growth.
- ✓ Identify an optimal parking supply that meets demand without encouraging additional vehicle trips.
- ✓ Evaluating potential parkade locations and include financial feasibility analyses for different configurations.
- ✓ Explore travel demand management options to promote sustainable transportation and reduce the need for downtown parking.

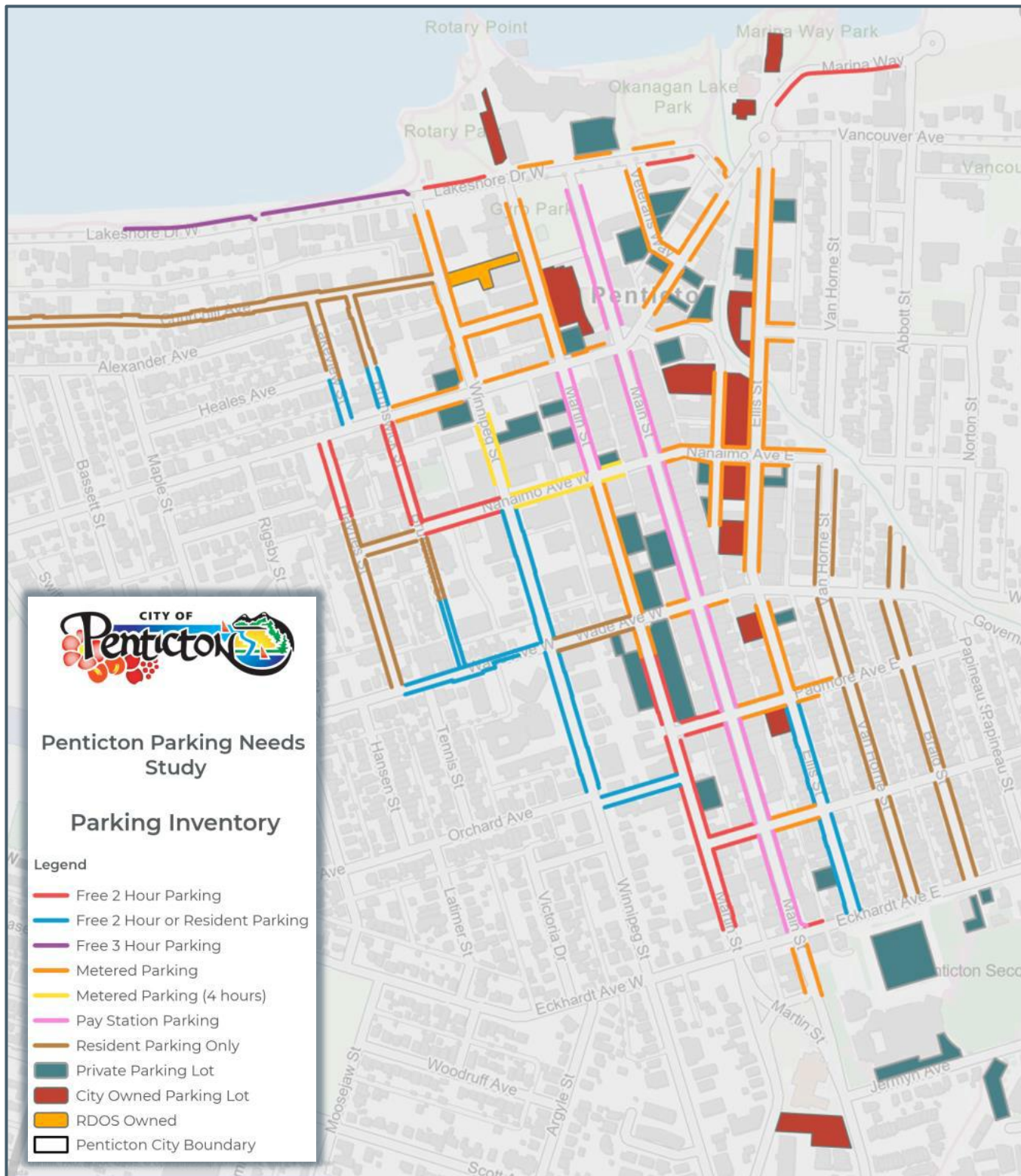
Existing Parking Inventory

Downtown Penticton's parking inventory includes both on-street and off-street options. The on-street parking consists of approximately 1,747 spaces, with 30% designated as resident-only and the remaining 70% (around 1,217 spaces) available to the public. These spaces include a mix of time-restricted, metered, and pay station parking. The inventory was verified through a desktop review of aerial imageries, Google Street View, and field visits.

The City also maintains approximately 646 off-street parking spaces, including hourly, monthly reserved, monthly scramble, and permit-only parking. Approximately 569 City-owned parking spaces are available to public, and the remaining 77 spaces are permit-only for City staffs. Additionally, Regional District of Okanagan-Similkameen (RDOS) owns a parking lot that offers 72 parking spaces reserved for staffs only on weekdays. Private lots offer around 841 reserved spaces, and company-owned pay parking lots contribute another 539 spaces that are available to the public. In total, there are approximately 2,325 on-street and off-street parking spaces available to the public in the downtown area surveyed.

The locations of on-street parking, and both City-owned and Private parking lots are illustrated **Figure E.1** below.

Figure E.1: Parking Inventory



Existing Parking Utilization

Parking in downtown Penticton serves a diverse group of users, including employees, residents, visitors, and tourists. Commuters primarily rely on long-term monthly rental spaces, while short-term visitors use hourly or daily parking. New residential developments in the C5, C6, and RM5 zones, which have no minimum parking requirements, might have an increased reliance on nearby on- or off-street parking.

The off-street parking utilization data was collected by City staff through both a review of aerial imagery and on-site manual counts. The data was collected over four days in 2023 and 2024, and provides a snapshot of downtown parking utilization, which may not reflect year-round patterns. The results indicate that off-street parking utilization is around 40% of capacity, which suggests that the current parking supply exceeds demand. This data has been used to forecast future parking needs and guide parking management strategies.

Future Parking Needs Assessment

With future population growth and new potential developments in downtown, parking needs are projected on 2028, 2033, 2038, and 2048. Key factors considered include population and dwelling units growth, mode-share target scenarios, and downtown development permits. The 2021 population and dwelling units in downtown Penticton were determined using Census Program Data Viewer Dashboard at dissemination area level from Statistic Canada. The number of dwelling units is expected to increase by about 750 by 2046. It is assumed that the number of population and dwelling units will grow linearly to 2048.

The study also evaluated the impact of no parking minimums on future parking supply. Data from similar policies in Vancouver suggest that while strata projects maintain parking supply similar to past bylaw -defined levels, rental developments provide a reduced amount of parking spaces. This could lead to increased demand for on-street and off-street parking, which may necessitate more parking management strategies.

Future parking inventory in downtown Penticton is expected to decrease due to new development. Based on the development permits approved by the City over the past few years, downtown Penticton is expected to lose 220 stalls, including 176 publicly available parking spaces between 2028 and 2033. If this trend is assumed to continue beyond 2033, there will be a loss rate of 176 publicly available stalls every five years until 2048.

Future parking utilization forecasts are based on parking utilization data and projected downtown car trips which are based on both population growth and shifts in mode share. Two mode share scenarios, Status Quo and Target, are analyzed. In Status Quo scenario, the mode share of car trips is assumed to remain the same as today and the results of analysis shows that the parking demand will grow significantly with population and dwelling units growth. In Target scenario, the mode share of car trips is assumed to achieve the mode share target, a decrease of 13% by 2046. The analysis results show that the parking demand will have minimal increase in Target scenario. Despite anticipated increases in demand and decrease in supply, the projected parking supply is expected to remain sufficient relative to actual utilization.

Parkade Feasibility and Cost Estimation

A high-level investigation into the feasibility and cost of a new parkade was completed. Two potential locations were analyzed: a City-owned lot at 223 Backstreet Boulevard (the City Lot) and a private lot at 188 Westminster Avenue West (the Budget Lot). Additionally, the Old Greyhound Lot on 307 Ellis Street and other sites may also be considered.

This feasibility study assumes a baseline return-on-investment (ROI) period of 20-years, assuming that the parkade will open in 2028, and the forecast period will extend until 2048. The goal of this feasibility

study was to determine the required monthly and daily rental rate for the parkade's revenue to break even with the cost in ROI period. Several key assumptions related to parkade cost, site, and revenue were also made to conduct this feasibility analysis.

The results indicate that for the City Lot to break even in 20 years without subsidy, the monthly rental rate should be approximately \$181.00, and the daily rental rate should be approximately \$13.00. For the Budget Lot to break even, a monthly rental rate of approximately \$197.00 and a daily rental rate of approximately \$14.50 are required.

Other ROI periods are also analyzed, for the City Lot to break even in 25 and 30 years, the monthly rental rate should be approximately \$149.50, and \$129.00, respectively. For the Budget Lot to break even in 25 and 30 years, the monthly rental rate should be approximately \$164.00 and \$141.50, respectively. In addition, the findings also suggest that constructing additional parking levels will not substantially change required ROI period or monthly rental rate.

Currently, downtown Penticton's parking lot monthly rental rate is \$65.20. Thus, the findings show that even with a 30-year ROI period, the required rental rate is above what would be acceptable, which is from \$70.00 to \$100.00, in the current parking rate market in downtown Penticton. Therefore, subsidy levels required were analyzed. At the 20-year ROI period, the required subsidy for the City Lot ranges from \$8.5 million to \$11.6 million to achieve a monthly rental rate of \$100.00 to \$70.00. For the Budget Lot at the 20-year ROI period, the required subsidy ranges from \$11.4 million to \$14.9 million to achieve a monthly rental rate of \$100.00 to \$70.00.

Alternative TDM Options

To manage future parking demand and achieve the City's mode-share targets, several Transportation Demand Management (TDM) strategies were reviewed. These strategies focus on reducing parking demand by promoting alternative transportation options such as walking, cycling, and transit, and implementing new parking management tools.

Existing TDM strategies that can be enhanced include upgrading transit stops, improving active transportation infrastructure connections, increasing parking prices to manage demand more effectively, implementing downtown infill development, and transit-oriented development. Additionally, the City may consider adjusting the pricing structure to make monthly parking more expensive than daily parking, encouraging occasional use of alternative modes. Renting or subsidizing underutilized parking spaces, such as those at the Lakeside Parkade, could also provide a cost-effective solution for downtown parking needs.

New TDM strategies under consideration include the introduction of micro-mobility options, such as e-scooters and e-bikes, with an RFP planned for early 2025. Furthermore, the upcoming increase in bus Route #5's frequency to 15-minute intervals by 2026 will serve as a reliable downtown shuttle service that encourages a shift from private vehicle use to public transit. These strategies will help to create an optimal balance of parking utilization and supply in the downtown while promoting sustainable transportation alternatives.

Next Steps

To address the identified parking challenges and optimize the use of available parking supply, the following steps are recommended:

1. Continue to monitor parking supply, utilization and parkade feasibility
2. Improve choices for parking rates
3. Regular Review of Parking Revenue Program
4. Consider subsidizing / renting stalls from the Lakeside Resort Parkade
5. Improve public transit and active transportation
6. Evaluate additional TDM strategies
7. Consider future parking needs in new developments

CONTENTS

EXECUTIVE SUMMARY	1
1.0 INTRODUCTION.....	1
1.1 PROBLEM DEFINITION AND OBJECTIVES	1
1.2 STUDY AREA.....	2
2.0 DOWNTOWN TRAVEL AND PARKING POLICY CONTEXT	3
2.1 COMMUNITY PROFILE.....	3
2.2 BYLAWS & POLICIES.....	4
2.3 TDM STRATEGIES	6
3.0 EXISTING PARKING CONDITIONS	7
3.1 ON-STREET PARKING INVENTORY	7
3.2 OFF-STREET PARKING INVENTORY	8
3.3 OFF-STREET PARKING UTILIZATION	10
4.0 FUTURE PARKING NEEDS ASSESSMENT	12
4.1 POPULATION & DWELLING UNITS GROWTH	12
4.2 COMMUTE & MODE-SHARE SCENARIOS	14
4.3 DOWNTOWN DEVELOPMENT PERMITS.....	16
4.4 EFFECT OF NO PARKING MINIMUMS.....	17
4.5 FUTURE PARKING INVENTORY	18
4.6 FUTURE PARKING UTILIZATION	19
5.0 PARKADE FEASIBILITY AND COST ESTIMATION	21
5.1 PARKADE PARAMETERS AND ASSUMPTIONS	22
5.2 ANALYSIS RESULTS	24
5.3 ALTERNATIVE RETURN-ON-INVESTMENT SENSITIVITY ANALYSIS.....	27
5.4 CITY SUBSIDY SENSITIVITY ANALYSIS	28
6.0 ALTERNATIVE TDM OPTIONS.....	29
7.0 KEY FINDINGS AND NEXT STEPS	32
7.1 KEY FINDINGS	32
7.2 RECOMMENDED NEXT STEPS.....	33

APPENDICES

APPENDIX A: UPDATED PARKING INVENTORY MAP

TABLES

Table 2-1: City of Penticton Main Mode of Commuting	4
Table 2-2: Parking Rates.....	5
Table 3-1: Downtown Penticton Parking Inventory.....	8
Table 3-2: Off-Street Parking Utilization	10
Table 4-1: Future Transportation Trips by Horizon and Mode-Share Scenario	16
Table 4-2: Future Parking Stall Loss from Downtown Penticton Development Permits	17
Table 5-1: Cost Parameters and Assumptions.....	22
Table 5-2: Parkade Site Parameters and Assumptions.....	23
Table 5-3: Revenue Parameters and Assumptions.....	24
Table 5-4: Pricing Options.....	24
Table 5-5: City Lot Cost and Revenue Summary	25
Table 5-6: Budget Lot Cost and Revenue Summary	26
Table 5-7: Alternate ROI Sensitivity Analysis on City Lot Rental Rates	27
Table 5-8: Alternate ROI Sensitivity Analysis on Budget Lot Rental Rates	27
Table 5-9: City Lot Subsidy Required	28
Table 5-10: Budget Lot Subsidy Required	28
Table 6-1: Considerations to Enhance Existing TDM Strategies.....	29
Table 6-2: New TDM Strategy Considerations.....	30

FIGURES

Figure 1.1: Study Area	2
Figure 3.1: Parking Inventory	9
Figure 4.1: Population Density by Dissemination Area	13
Figure 4.2: Percentage of Car Trips by Dissemination Area	15
Figure 4.3: Available to Public Parking Inventory Forecast	18
Figure 4.4: Parking Inventory Forecast.....	19
Figure 5.1: Existing and Potential Parkade Locations	21

1.0 INTRODUCTION

Urban Systems Ltd. was retained by the City of Penticton (the City) to develop a parking needs assessment for the downtown area to support planning for future parking needs as the community's population grows. The City is anticipating significant population growth, with projections of up to 20,000 new residents by 2046, a 54% increase from 2021. This growth brings opportunities and challenges, particularly in the downtown area where diverse housing, businesses, and recreational spaces converge.

1.1 PROBLEM DEFINITION AND OBJECTIVES

With population growth and a growing residential development market in the downtown, the downtown community in Penticton is concerned about the increased pressure these conditions will have on existing parking resources. In addition, four City-owned parking lots have monthly permit waitlists and two other City-owned parking lots have permits oversold. Residential areas adjacent to downtown are seeing a rise in parking due to downtown employees parking in these neighborhoods.

As land use evolves, including the removal of parking minimums in C5, C6, and adjacent RM5 zones, there could be a compounded effect in the loss of parking. At the same time, the City is committed to reducing vehicle dependence through investments in active transportation, transit, and other alternative transportation modes to meet its climate and transportation goals from the City's Community Climate Action Plan, including reducing vehicle kilometers traveled by 13%. To that effect, the City has recognized the need for an updated downtown parking needs assessment. This assessment aims to clarify existing parking inventory conditions, evaluate the feasibility of a downtown parkade, and identify opportunities to align the City's mode share targets with transportation demand management measures (TDM).

By taking this approach, the City is working to provide parking options and choices while also providing alternative transportation options to reduce vehicle dependency, promote active transportation, and support integrated developments.

The key objectives of this Downtown Parking Needs Study are as follows:

- ✓ Update the downtown parking inventory, including a review of existing parking plans, policies, management and conditions.
- ✓ Forecast future parking needs with sensitivity scenarios to account for changing mode share, land use changes, new development, and population growth.
- ✓ Identify an optimal parking supply that meets demand without encouraging additional vehicle trips.
- ✓ Evaluating potential parkade locations and include financial feasibility analyses for different configurations.
- ✓ Explore travel demand management options to promote sustainable transportation and reduce the need for downtown parking.

1.2 STUDY AREA

This study focuses on the streets and parking lots within downtown Penticton. A map of the study area boundary is illustrated in **Figure 1.1**.

Figure 1.1: Study Area



2.0 DOWNTOWN TRAVEL AND PARKING POLICY CONTEXT

The first step in Downtown Parking Needs Study involved a review of the community's travel profile followed by a summary of existing parking policies and TDM programs.

2.1 COMMUNITY PROFILE

As Penticton's population grows, there will be a linear correlation to the growth of commute- and recreation-based trips across all modes. To mitigate the challenges associated with motor vehicle trips, which often stem from large land allocations for roads, parking, and intersections, the City has and continues to invest in the use of public transit and active transportation infrastructure. By fostering a shift toward public transit and active transportation, the City is aiming to sustainably manage the growth potential for parking in the downtown area. Three key elements that are examined in this downtown parking study include population growth, trip type and mode share, and land use / zoning changes.

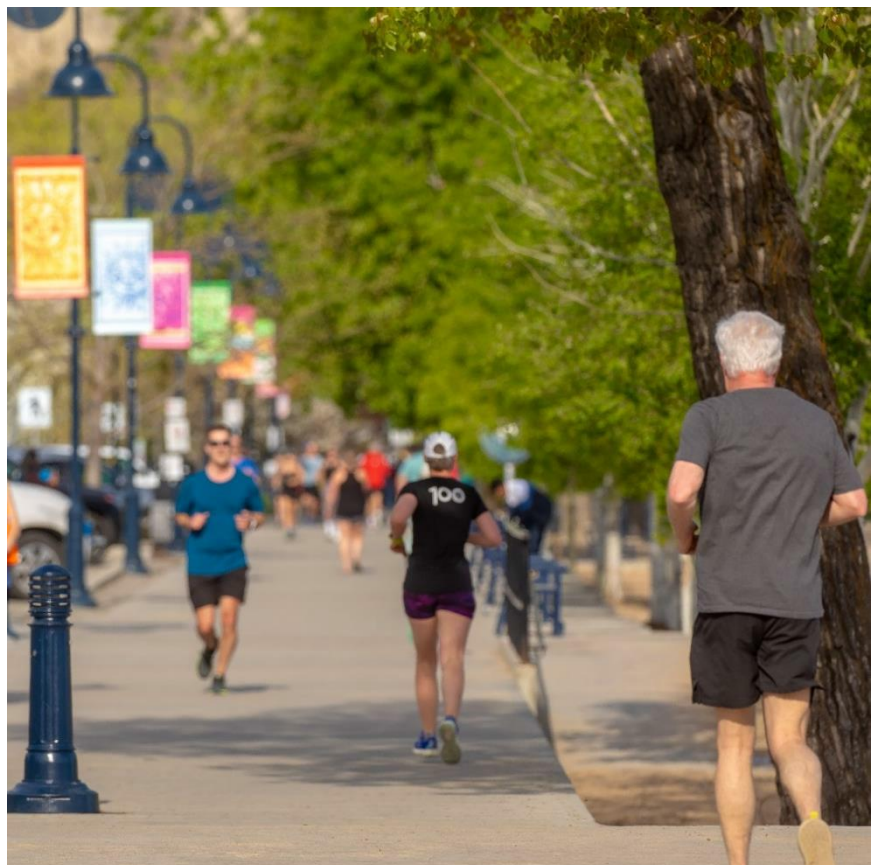
2.1.1 POPULATION AND GROWTH

According to the most recent census data, the City's population grew from 33,761 in 2016 to 36,885 in 2021, which equates to a 1.9% annual growth rate. By applying the annual population growth rate observed between 2016 and 2021, it is projected that the population will grow by up to 20,000 over the next 25 years, resulting in approximately 54,000 residents in the year of 2046. This population increase will have significant implications for the number of commute and mode share percentage.

2.1.2 MODE SHARE

Based on the 2021 census, the mode share in City of Penticton is summarized in **Table 2-1** below. The majority of trips in the city are made by cars, trucks, or vans which reflects a strong reliance on personal vehicles as they have historically been the most convenient option for getting around the city. Public transit usage is quite low at 1.9%. There is a moderately robust level of trips by active transportation at 14.2% of the mode share.

The City's Official Community Plan underscores the importance of planning and investing in active transportation modes and transit as it offers significant social, environmental, economic, and health benefits. The City has a vision to shift away from car dependency and towards more sustainable and inclusive transportation options. These include improving the ease of mobility for all residents, making efficient use of land, and providing safer, more enjoyable, and convenient options for walking, cycling,



and taking transit. With these goals, the City is striving to reduce Vehicle Kilometres Travelled (VKT) by 13% by 2046. 44% of the VKT reduction is to Active Transportation, 28% is to Transit, and the remaining 28% is to Land Use.

The impact of this VKT reduction to the City's overall mode share is estimated to be a decrease of 13% mode share by Car, Truck, Van as a Driver, an increase of 6.5% mode share by Active Transportation and an increase of 3.25% mode share by Transit by 2046. The target mode splits of car trips, active transportation and transit are summarized below in **Table 2-1**.

Table 2-1: City of Penticton Main Mode of Commuting

Modality	2021 Mode Split	2046 Targets
Trips by Personal Vehicle	80.5%	70.7%
• Car, truck, van as a driver	73.2%	60.2%
• Car, truck, van as a passenger	7.3%	10.5%
Public Transit	1.9%	5.2%
Trips by Active Transportation	14.2%	20.7%
• Walk	12.1%	
• Cycle	2.1%	
Other method	3.4%	3.4%

2.2 BYLAWS & POLICIES

2.2.1 ZONING BYLAWS

City of Penticton's Zoning Bylaw No. 2024-22 defines the land use for different areas including rural, residential, commercial, industrial, and recreation. It also defines requirements for off-street parking which include requirements on loading spaces, bicycle parking, electric vehicle parking, and accessible parking. These requirements ensure that developments provide adequate parking to meet the needs of their users. The Zoning Bylaw also includes design standards for layout of parking areas, including dimensions, access points, and landscaping.

Notably, parking minimums in C5, C6, and adjacent RM5 zones are no longer required.

2.2.2 PARKING AND TRAFFIC BYLAWS

Section 3, Part 2 of City of Penticton Traffic Bylaw No. 94-39 defines parking regulations, parking metres, and parking exceptions. It is noted that paid parking is in effect Monday to Saturday (except Sunday and statutory holidays) between 9:00 a.m. and 6:00 p.m.

To inform subsequent feasibility analysis of a parkade in downtown Penticton, it is important to understand the existing parking fee and revenue model. The current parking meter and permit rates, as noted in the City's Fees and Charges Bylaw No. 2014-07, is summarized in **Table 2-2**.

Observation: Of the City's on-street and off-street parking rates in effect downtown, there is no daily parking rate option. People parking downtown must either pay by the hour or obtain a monthly parking permit to park downtown any day of the month. The equivalent cost of parking for an 8-hour day downtown is \$16 / day if paying by the hour, or is \$2.82 / day if paying for a monthly reserved parking permit and parking downtown for 22 average business days of the month. This significant gap in parking rates either encourages people commuting downtown to purchase a monthly parking pass (even if just to park a handful of days a month downtown), or to avoid parking downtown for any longer than 3-4 hours at a time.

Table 2-2: Parking Rates

Parking Rates by Type	2024	2025
City-Owned Parking		
• Off Street Scramble Parking permit (unassigned stall lots) per month	\$52.50	\$54.50
• Off Street Reserved Parking Permit - monthly rate	\$62.75	\$65.20
• Meters Bagged, No Parking or Reserved Parking – daily rate	\$11.75	\$12.20
• Sidewalk closure and parking meter rental permit - administration fee per application	\$11.75 \$26.75	\$12.20 \$28.60
Company-Owned Parking		
• Lakeside Parkade ○ 1 Hour (Tax & Service Fee Incl) ○ 2 Hours (Tax & Service Fee Incl) ○ 5 Hours (Tax & Service Fee Incl) ○ Daily Rate (Tax & Service Fee Incl)	\$2.51 \$4.68 \$11.36 \$17.03	-
• 450 Martin Street Parking Lot ○ Hourly rate	\$2.00	-
Parking Meters		
• For one (1) hour	\$2.00	\$2.00
Ticket Kiosks		
• For one (1) hour	\$2.00	\$2.00
• Daily maximum rate (excluding Downtown)	\$10.00	\$10.00
Electric Vehicle Charging Stations		
• Level II electric vehicle charging	First two hours are free, then \$2.00 per hour	Flat rate of \$1.20 per hour
• Level III electric vehicle charging	N/A	Flat rate of \$0.38 per kWh.

2.3 TDM STRATEGIES

The City's Transportation Master Plan (TMP) developed in 2021, outlines a vision for creating and managing a transportation system that is safe, inclusive of all ages and abilities, and supportive of various modes of travel. In addition, the TMP is designed to meet environmental objectives and ensure responsible use of transportation infrastructure. The TMP has identified several priorities to align with and support the 2045 Official Community Plan (OCP) objectives, emphasizing a strategic approach to transportation design, investment, and renewal.

These strategies include:

- Ensure that residents and workers can walk to parks, schools, shopping, jobs and other destinations in safety and comfort.
- Develop a connected network of safe and convenient cycling infrastructure that meets the needs of recreational riders, casual riders and commuters.
- Support public transit as a comfortable, affordable, safe and convenient means of local and regional transportation.
- Support thriving industrial and commercial growth by ensuring the safe and efficient movement of goods and provision of services in Penticton.
- Ensure that driving is safe for both drivers and other users of the road.

The City is continuing to advance initiatives on several of these strategies through the development of its active transportation infrastructure, involvement with BC Transit's system service reviews, and supportive land use and transit-oriented development areas.

3.0 EXISTING PARKING CONDITIONS

The City is responsible for maintaining all on-street parking and some of the off-street parking in downtown Penticton. The on-street and off-street parking inventory within the study area was updated with refreshed stall counting, starting with the City's existing parking shapefile, as described in the following sections. In addition, the City's staff collected utilization data for a sample of the off-street parking lots downtown, which is analyzed and documented separately in Section 3.3 and Section 4.6.

3.1 ON-STREET PARKING INVENTORY

On-street parking in downtown Penticton currently consists of a combination of time-restricted parking, pay parking, and resident-only parking spaces. The current inventory of on-street parking was verified by a desktop review including using aerial imagery, Google Street View and some field visit confirmations (including the Lakeside Resort Parkade). In addition, the inventory for unmarked parallel on-street parking was estimated by dividing the length of the segment by the typical parking space length of 7 meters, excluding areas with no parking and driveways. Specifically, the on-street parking inventory includes approximately 1,747 parking spaces, of which around 530 or about 30% are resident-only parking, leaving approximately 1,217 or about 70% available to the public. The existing on-street parking inventory is summarized in **Table 3-1** on the next page.

The city collects parking fees using various methods including coin meters, ticket kiosks, and the Passport Parking Canada app. These systems ensure that the collection process is efficient and user-friendly, catering to different preferences and technological capabilities of the city's residents and visitors.



3.2 OFF-STREET PARKING INVENTORY

Along with on-street parking, the city also offers off-street parking options. The current inventory includes approximately 646 City-Owned off-street parking spaces consisting of hourly, monthly reserved, monthly scramble, and permit-only parking. Approximately 569 City-owned parking spaces are available to public, and the remaining 77 spaces are permit-only for City staffs. Regional District of Okanagan-Similkameen (RDOS) owns a parking lot that offers 72 parking spaces reserved for staffs only on weekdays. In addition to these, there are privately-owned off-street parking lots, of which approximately 841 are reserved or time-limited for specific customer use. Notably, there are some company-owned public pay parking lots, which offer about 539 paid parking spaces.

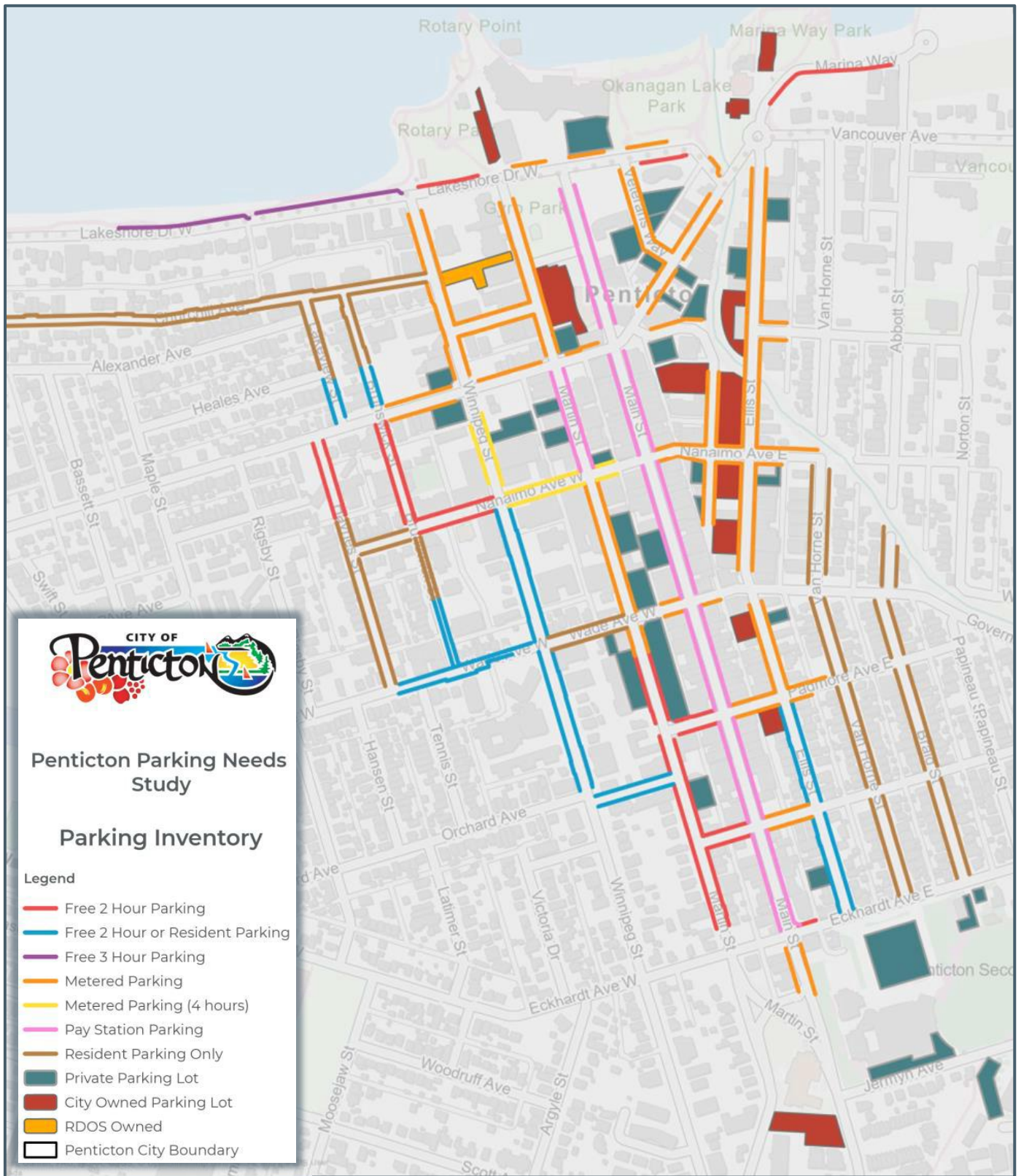
The existing off-street parking inventory is summarized in **Table 3-1** below. As the table shows, there are approximately 2,325 on-street and off-street general purpose parking spaces that are available to the public in the downtown.

Table 3-1: Downtown Penticton Parking Inventory

PARKING TYPE	# OF STALLS	AVAILABLE TO PUBLIC
ON-STREET PARKING		
Free 2-Hour or Resident Parking	212	✓
Free 2-Hour Parking	161	✓
Free 3-Hour Parking	108	✓
Metered Paring	492	✓
Metered Parking (4-Hour)	51	✓
Pay Station Parking	193	✓
Resident Parking Only	530	✗
SUB-TOTAL	1,747	1,217
OFF-STREET PARKING		
City-Owned – Hourly	329	✓
City-Owned – Reserved Monthly	161	✓
City-Owned – Scramble	79	✓
City-Owned – Permit Only	77	✗
RDOS-Owned – Permit Only	72	✗
Private - Reserved	841	✗
Company-Owned Public Paid Parking	539	✓
SUB-TOTAL	2,098	1,108
TOTAL ON-STREET & OFF-STREET PARKING INVENTORY	3,845	2,325

The locations of on-street parking, and both City-Owned and Private parking lots are illustrated in **Figure 3.1**, providing a comprehensive overview of available parking resources. The parking inventory map is also provided in **Appendix A**.

Figure 3.1: Parking Inventory



3.3 OFF-STREET PARKING UTILIZATION

Downtown parking in Penticton serves a diverse range of users. People parking downtown include employees of local businesses, residents who live in downtown housing, and visitors who come for shopping, dining, or recreational activities. Additionally, tourists and people attending special events or using city services also contribute to parking demand.

Commuters working in the downtown core rely on long-term parking options like monthly rental spaces, while shorter-term visitors typically use hourly or daily parking for quick access to shops, restaurants, or services. With new residential developments in the C5, C6, and RM5 zones (with no minimum parking requirements), an increasing number of residents might also start to rely on on-street parking or nearby off-street parking lots.

Understanding who parks downtown is crucial in projecting future parking demand, especially considering shifting trends toward active transportation, transit, and potential changes in working patterns such as remote or hybrid work, which could alter long-term parking needs. Parking utilization data for off-street parking in downtown provides valuable insights into current and future parking demand. A sample of off-street parking utilization data was collected by City Staff by using a combination of aerial imagery and manual counts on the following days:

Aerial Imagery Counts

- Friday, 2023-05-12
- Wednesday, 2024-06-19

Manual Counts

- Thursday, 2024-10-17 (Morning)
- Tuesday, 2024-11-14 (Afternoon)

The average of the utilization sampled over these four days was determined and was inferred to approximately represent the off-street parking utilization for downtown overall. While helpful for understanding the general demand, it is important to note that the data may not fully capture all parking patterns throughout the year, as it only represents specific points in time. This data was also used to forecast future parking demand and for making informed decisions regarding parking management strategies.

The parking utilization data covers all City-Owned parking lots except the Public Library Parking Lot. Not all Private-Reserved or Company-Owned Public Paid parking lots were included in the parking inventory surveyed. The utilization rates on different off-street parking types are show in **Table 3-2** below.

Table 3-2: Off-Street Parking Utilization

OFF-STREET PARKING	Number of Stalls	Avg. Count	Utilization
City-Owned – Hourly	163	56	35%
City-Owned – Reserved Monthly	161	141	59%
City-Owned – Scramble	79	15	19%
City-Owned – Permit Only	77	52	67%
Private - Reserved	141	66	46%
Company-Owned Public Paid Parking	432	141	33%
TOTAL AVAILABLE TO PUBLIC	835	301	36%
TOTAL	1053	419	40%

The utilization data reveals that the overall parking utilization is about 40% of existing parking capacity, suggesting that the current parking supply significantly exceeds the existing parking demand in downtown Penticton.

Parking lots near Main Street, Martin Street, and Ellis Street show higher demand, with average utilization exceeding 50% or 60% in some lots. In contrast, parking lots closer to the lake, such as the Lakeside Resort Parkade and the lot at the end of Martin Street and Lakeshore Drive West, have much lower demand, with average utilization below 20%. To enhance the accuracy of the geographical analysis, incorporating data on on-street parking utilization would provide a more comprehensive understanding of parking patterns.

It is worth noting that there are some City-owned parking lots with permit waitlists and some have oversold permits, despite not consistently being fully utilized. A deeper investigation into permit holder usage patterns would be valuable to better understand this discrepancy and optimize parking management strategies.

4.0 FUTURE PARKING NEEDS ASSESSMENT

To forecast future parking inventory needs, population growth as well as the future mode split targets scenarios were examined in correlation to existing parking inventory. The ratio between the existing parking inventory and the commuting mode of car, truck or van as a driver was calculated and used to estimate future parking needs. Additionally, downtown land developments were reviewed to identify potential losses in parking inventory and to forecast future parking inventory should a similar rate of land development continue to replace privately owned parking lots into the future.

In this study, the future parking forecast were assessed for the following horizon years.

- 2028 – Forecast starting year
- 2033 – 5-year Horizon
- 2038 – 10-year Horizon
- 2048 – 20-year Horizon

4.1 POPULATION & DWELLING UNITS GROWTH

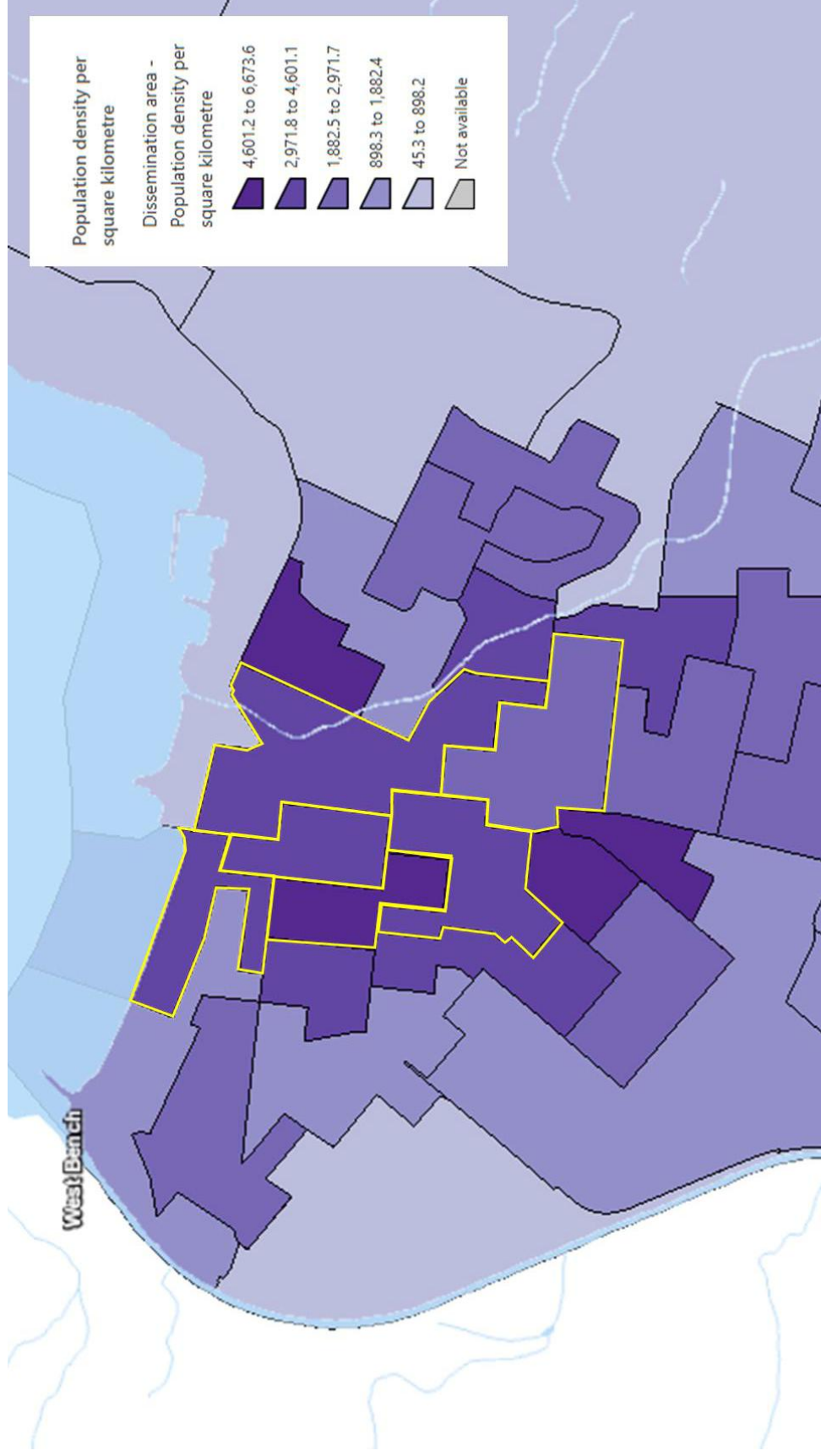
4.1.1 POPULATION GROWTH

As discussed in Section 2.1.1 above, population is assumed to grow linearly over the study period with the annual growth rate calculated from 2016 and 2021 census data from Statistics Canada. It is assumed that the population will continue to grow at the same rate after 2046 to 2048. The estimated population in 2024, 2028, and the three horizon years are shown in **Table 4-1** on the following page.

To analyze the downtown population specifically, Census Program Data Viewer Dashboard from Statistics Canada was used. Six dissemination areas encompass the downtown area were selected as shown in **Figure 4.1**. It is important to note that the six dissemination areas defined by the Dashboard do not perfectly align with the downtown boundary defined by the City. These areas extend beyond the core downtown, capturing parts of adjacent neighborhoods such as Abbott Street and Westminster Avenue. As a result, the population estimate includes some residents from these nearby areas.

To calculate the population, the population density (in persons per square kilometer) for each dissemination area is sourced from the Census Program Data Viewer. The area of each dissemination zone is measured using Google Maps, and the estimated population of each area is then derived by multiplying the density by the area's size. After summing up the population in all six areas, the result gives a population of approximately 3,973 in downtown Penticton in 2021.

Figure 4.1: Population Density by Dissemination Area



4.1.2 DWELLING UNIT GROWTH

The total number of dwelling units for the entire city was also derived from 2016 and 2021 Statistics Canada census data. It is assumed that the number of dwelling units will grow at a steady, linear rate based on the observed annual growth rate from 2016 to 2021.

For downtown, the number of dwelling units in 2021 was estimated by dividing the downtown population by the city's average household size of 2.1. The number of downtown dwelling units is assumed to grow at the same rate as the number of dwelling units in entire city until 2024. According to information provided by City staff, downtown is expected to gain an additional 750 units by 2046. This results in a linear annual growth rate of 1.7% from 2024, which is then applied to forecast the number of downtown dwelling units until 2048. The future downtown population forecast was determined by multiplying the projected number of dwelling units by the city's average household size of 2.1.

The population and dwelling unit growth play a crucial role in this study because they are assumed to directly relate to the total number of commuting trips made within the City. As the population increases, the overall demand for transportation services, including parking, will rise. Therefore, population growth was an essential factor in developing this future parking needs assessment.

4.2 COMMUTE & MODE-SHARE SCENARIOS

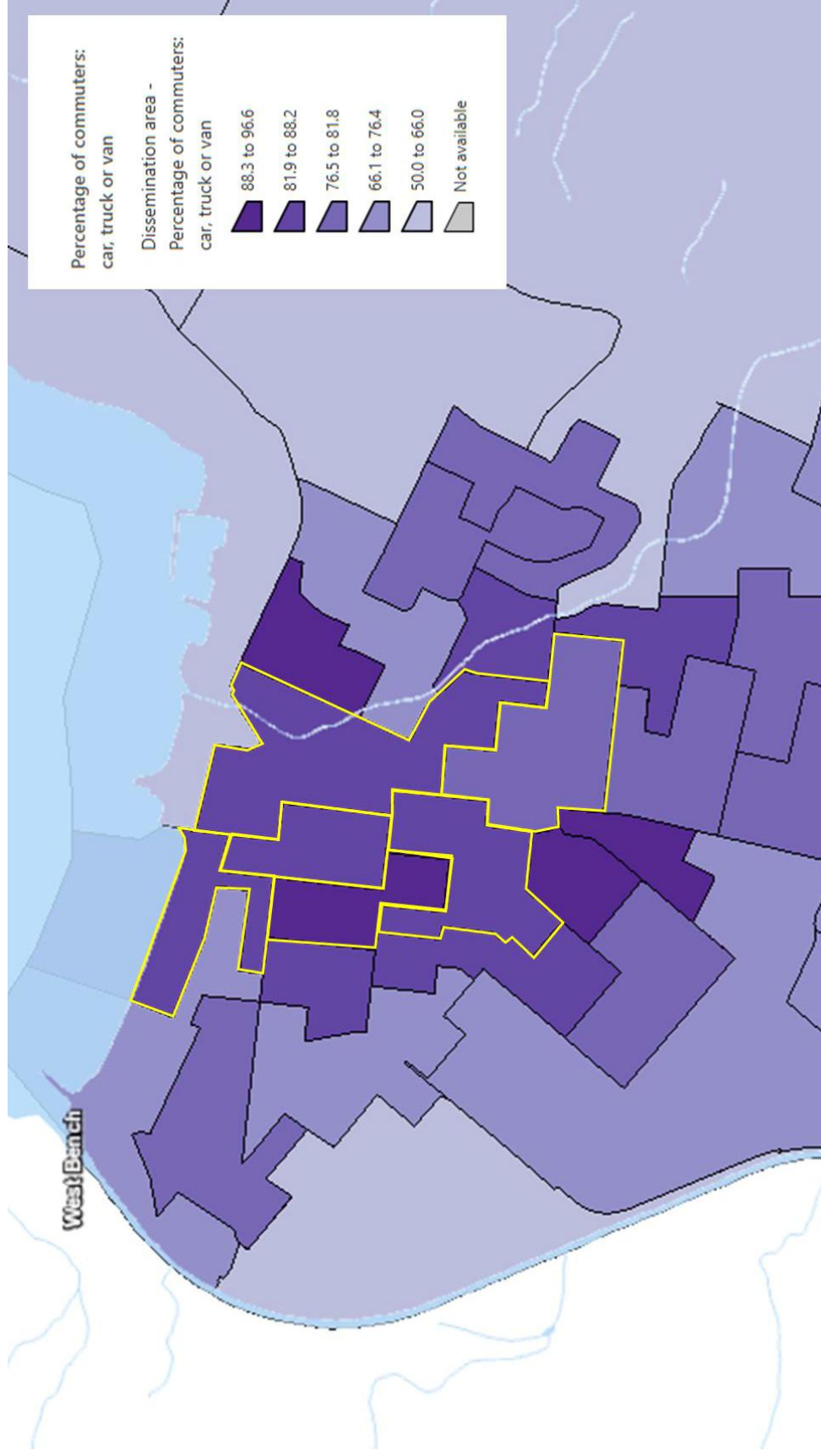
To project future commuting trips and parking demand, the 2016 and 2021 data from Statistics Canada were reviewed, which provides detailed information on the number of commute trips by mode. This data is essential for understanding both the total number of commutes and the number of trips made by Car, Truck, or Van (car trips) as a driver which is a key indicators of parking demand.

While the 2021 census data captures recent trends, it is important to consider the lingering effects of the COVID-19 pandemic during that period. With a significant portion of the workforce still working remotely in 2021, the total number of commuting trips may be lower than under normal conditions. Therefore, to provide a more stable projection for future trips, the ratio of commuting trips to population was calculated using the 2016 data, which represents pre-pandemic conditions and offers a more typical baseline. The ratio of commuting trips to population in 2016 was applied to estimate the total number of commuting trips in 2024 and beyond, based on projected population growth.

For the total commuting trips in downtown, it is assumed that the ratio of trips per person (regardless of mode) is the same whether a person lives downtown or in another part of the City. The next factor in projecting future parking demand is mode share. Downtown mode share data was analyzed using Census Program Data Viewer Dashboard from Statistics Canada, focusing on the same six dissemination areas used to calculate the downtown population as shown in **Figure 4.2**. The average car trip percentage across these six areas was 68% compared to the full City car trip share at 73% in 2021, and it is assumed that this mode share remains constant from 2021 to 2024.

For future projection, the downtown mode share targets are aligned with city-wide goals, which aim for a 13% reduction in car trips by 2046. It is assumed that the car trip mode share will decline annually at a steady, linear rate from 2024 to 2048.

Figure 4.2: Percentage of Car Trips by Dissemination Area



Looking ahead, this study examines two future scenarios for mode-share, each reflecting varying levels of success in shifting trips from cars to active transportation and transit:

- **Scenario 1: Status Quo** – Future percentage of car-trips-as-a-driver will be the same as today (2024).
- **Scenario 2: Target** – Future percentage of car-trips-as-a-driver will fully reach the City’s mode-share goal.

In each scenario, the projected total number of commuting trips is multiplied by the percentage of car trips to determine the number of future car trips. This calculation is key to estimating future parking demand, as it reflects the expected need for parking spaces based on how many people will continue to commute by car.

Table 4-1 below shows a summary of population, number of commute trips and car trips in 2024, 2028, and three future horizon years in each mode-share scenario.

Table 4-1: Future Transportation Trips by Horizon and Mode-Share Scenario

2024			2028 EARLIEST PARKADE OPENING YEAR		2033 5-YEAR		2038 10-YEAR		2048 20-YEAR	
City-Wide										
Population	39,000		41,700		45,000		48,500		55,300	
Dwelling Units	18,300		19,600		21,200		22,900		26,100	
Total Commute Trips	17,200		18,400		19,900		21,400		24,400	
Downtown										
Population	4,200		4,500		4,800		5,200		5,900	
Dwelling Units	2,000		2,100		2,300		2,500		2,800	
Total Commute Trips	1,900		2,000		2,100		2,300		2,600	
Downtown	Car Trip %	Car Trips	Car Trip %	Car Trips	Car Trip %	Car Trips	Car Trip %	Car Trips	Car Trip %	Car Trips
Scenario 1 – Status Quo	68%	1,260	68%	1,340	68%	1,450	68%	1,560	68%	1,780
Scenario 2 - Target			64%	1,270	62%	1,320	59%	1,360	54%	1,410

4.3 DOWNTOWN DEVELOPMENT PERMITS

Downtown development permits are expected to impact the future parking inventory as some of the developments will displace existing parking lots. Two categories of development permits are considered in this analysis:

- **Issued Permits:** These developments are already approved and are assumed to be completed by 2028 in this study. They will result in a reduction of parking spaces as the parking lots they displace are repurposed.

- **Potential Developments:** These are projects still in the planning stages and are assumed to be completed by 2033 in this study. Similar to issued permits, these developments will further reduce the downtown parking inventory once constructed.

Most of these developments will be rental housing projects. While these developments will provide parking spaces for residents, the parking they offer will be private and reserved for tenants, meaning that no additional parking spaces will be added to the public parking inventory. As a result, the overall downtown parking supply will decrease in both 2028 and 2033. The developments that will result in parking inventory loss are summarized in **Table 4-2**.

As the table shows, there will be about a total of 176 publicly available parking spaces displaced by 2033.

Table 4-2: Future Parking Stall Loss from Downtown Penticton Development Permits

CIVIC ADDRESS	PARKING LOT TYPE	# OF STALL LOSS	CURRENTLY AVAILABLE TO PUBLIC
Issued Permits – Complete by 2028			
86 Veterans Way	Private – Reserved	12	X
372 Martin Street	Private – Reserved	46	X
TOTAL (2024-2028)		58	0
Potential Development – Complete by 2033			
32 Backstreet Blvd	Private – Reserved	44	X
251 Ellis St	City-Owned – Reserved Monthly	69	✓
450 Martin St	Company-Owned Public Paid	107	✓
TOTAL (2028-2033)		220	176

4.4 EFFECT OF NO PARKING MINIMUMS

The policy of no parking minimums removes the requirement for developers to provide a minimum number of parking spaces for new projects. As this policy was introduced in the C5, C6, and adjacent RM5 zones in City of Penticton, it will be important to consider and evaluate the effects of this policy on parking supply.

City of Vancouver Council Report on Elimination of Minimum Parking Requirements – Phase 2 indicates that in downtown Vancouver, after the removal of minimum parking requirements in 2019, strata projects continued to supply parking at a similar rate to before the by-law change, with an average of 1.15 spaces per dwelling unit, which exceeds the previous by-law minimum. However, rental projects significantly reduced their parking provision, with new developments providing close to zero parking spaces for a total of 717 new units.

In addition, City of Penticton's data on market and below-market rental projects following the removal of zoning bylaw requirements shows a similar trend, with 155 parking spaces provided for 271 new rental units which equals to about 0.57 spaces per unit. This indicates that developers are adjusting to the no-minimum policy by reducing parking supply, particularly in rental developments.

The introduction of no parking minimums could lead to increased demand for on-street parking, particularly if new developments provide fewer off-street parking spaces. Implementing tools such as residential parking permits or time-limited parking can help managing the potential increase in on-street parking demand. These measures can help ensure parking turnover, prioritize local residents, and prevent long-term parking congestion. Additionally, investment in public transit and active transportation infrastructure is essential to encourage more residents and visitors to shift toward alternative transportation modes, reducing the overall reliance on private vehicle parking.

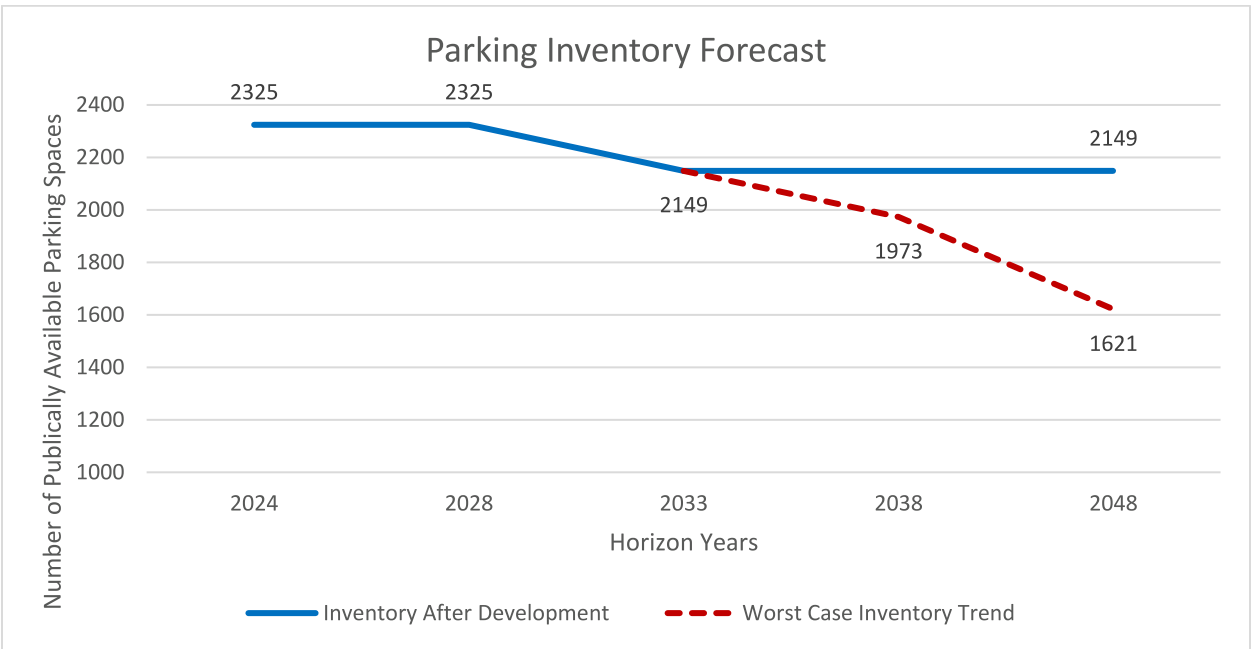
4.5 FUTURE PARKING INVENTORY

Future parking inventory forecast is based on anticipated parking stall losses due to downtown development. As shown in **Section 4.3**, due to new development, downtown is expected to lose a total of 220 parking stalls, 176 of which are available to public stalls between 2028 to 2033. It is important to note that this graph does not illustrate the potential for additional parking stalls that could be provided by a potential parkade, as discussed in Section 5.0 of this report.

It could be assumed that parking inventory will continue to decrease at a same rate beyond 2033, with a loss of 176 available to public stalls every five years through 2048. While not confirmed nor planned, a steady decline that reflects a current trend of downtown infill development could continue to reduce the number of available parking spaces in the long-term under a worst-case scenario for parking inventory.

Figure 4.3 below illustrates the parking inventory level for both on-street and off-street parking stalls available to public in downtown. The blue line represents the parking inventory after downtown development and assumes that there will not be any more development after 2033, whereas the dashed red line assumes that there will be continuous development in downtown and will result in parking inventory loss at a rate same as the rate of inventory loss from 2028 to 2033.

Figure 4.3: Available to Public Parking Inventory Forecast



4.6 FUTURE PARKING UTILIZATION

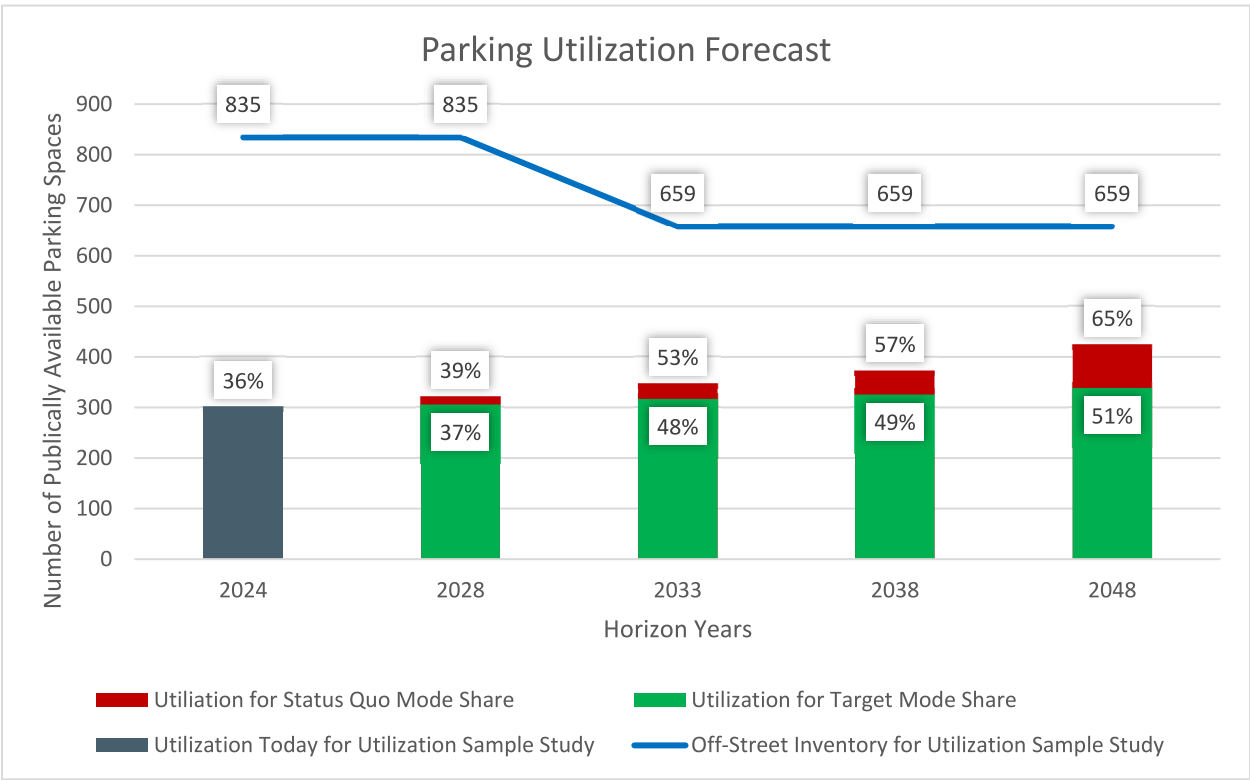
The future parking utilization forecast is based on the available utilization data collected from City-owned lots and certain company-owned off-street parking lots. Since the data collection did not cover all off-street lots, this forecast will focus on the lots where utilization data was collected.

To estimate future utilization, it is assumed that parking demand is proportional to the number of downtown car trips. The current ratio of parking utilization to downtown car trips is determined by dividing the observed parking utilization by the number of downtown car trips in 2024. This ratio represents the number of parking spaces required per car trip and forms the foundation for projecting future parking needs.

For each future scenario in the horizon years, the projected number of downtown car trips is multiplied by this parking demand ratio to forecast future parking utilization. This method provides a way to estimate how changes in car trips will impact the demand for parking, considering both population growth and shifts in mode share over time.

Figure 4.4 below illustrates the forecast of parking utilization in each scenario, as well as parking inventory level in future horizon years.

Figure 4.4: Parking Inventory Forecast



As **Figure 4.4** illustrates, the blue line represents the parking inventory for the Utilization Sample Study, which includes 659 stalls after accounting potential developments. The bars show parking utilization including both the current observed utilization and the forecasted future utilization, with data labels indicating the utilization percentage relative to the inventory.

In Status Quo mode share scenario, where car trips remain the dominant mode of transportation, parking demand will increase significantly alongside population and dwelling unit growth. Despite this increase, there will still be more parking supply than utilization.

In Target mode share scenario, where there will be a shift towards active transportation and public transit, leading to a decrease in car trips. While the number of parking demand will have minimal increase, the percentage of parking demand will rise due to the anticipated reduction in parking inventory resulting from new developments. Even with fewer spaces, the projected demand will still be lower than the available supply.

As a final note, the generally acceptable guideline and practice in parking lot management is to introduce new parking management measures when utilization begins to exceed a threshold of 85% of total parking capacity. Parking management measures can include a large variety of measures including changes to parking rates, time-limited parking, TDM measures and providing new parking. Based on the current and future estimated parking inventory and utilization forecast presented in this study, there remains ample parking supply in the downtown for the foreseeable future.



5.0 PARKADE FEASIBILITY AND COST ESTIMATION

A high-level investigation of a new parkade was completed to understand the feasibility and cost implications if such a solution were to be implemented to offset the loss of parking spaces due to various developments downtown. Currently, downtown Penticton has one parkade near Penticton Lakeside Resort (Lakeside Parkade). Two potential locations have been identified and analyzed for a new parkade. The first site is one of the City-owned parking lots located at 223 Backstreet Boulevard. The second site is currently occupied by Budget Car Rental, a private lot located at 188 Westminister Avenue West. In addition to these sites, Old Greyhound Lot on 307 Ellis Street, and other sites may also be considered as potential parkade locations.

Figure 5.1 below illustrates the locations of the Lakeside Parkade and the two potential sites, along with an estimated 10-minute walking circle for each location, based on an average 10-minute walk distance of 700 metres.

In the following section, a financial feasibility study and cost estimation have been completed to evaluate both these potential parkade locations.

Figure 5.1: Existing and Potential Parkade Locations



5.1 PARKADE PARAMETERS AND ASSUMPTIONS

This feasibility study assumes a baseline return-on-investment (ROI) period of 20-years, with the assumption that the parkade will open in 2028, and the forecast period will extend until 2048. To inform this feasibility assessment, several key assumptions related to cost, parkade site, and revenue were identified in consultation with the City’s project team.

5.1.1 COST PARAMETERS & ASSUMPTIONS

Parameters and assumptions related to the cost of parkade are summarized in **Table 5-1** below, these parameters are the same for both sites and can be applied to other potential sites.

Table 5-1: Cost Parameters and Assumptions

PARAMETER	VALUE
Per-Stall Capital Construction Cost \$	\$51,000
Per-Stall Annual Operating Expense \$	\$1,500
Land Cost (\$/m²)	\$741
Project Discount Rate to Obtain Net Present Value	6%
Annual Expense Inflation Rate	2%

The per-stall capital construction cost represents the total cost of building the parkade, expressed on a per-stall basis, which includes expenses related to planning, site preparation, material, and labor. The cost is calculated by multiplying the average per-square-meter construction cost of a freestanding, above-grade parking garage by the average area occupied by each parking stall. The per-square-meter construction cost is sourced from 2024 Canadian Cost Guide (Page 5, Atlas Group). It estimates the cost for an above-grade parking garage in Vancouver to range between \$120 and \$205 per square foot which equal to approximately \$1,291 and \$2,207 per square metre. For this study, the average cost of approximately \$1750.00 per square metre is used. Additionally, this study assumes that 30% of the ground floor would be designated for commercial space, which will be discussed in further detail in the following section. It’s important to note that the parkade construction costs do not include expenses related to the build-out of the commercial space, such as plumbing, heating, drywall, and finishing work.

The average stall size is based on data from a reference parkade location. For the purpose of this feasibility review, the City of Kelowna’s Library Parkade was used as the reference location. At this parkade, the top-level spans 3,880 square metre and accommodates 133 stalls, resulting in approximately 29 square metre of space per stall (Note: this figure includes proportional area for driving aisles and other non-parking features such as stairs, elevators, etc.). Using these numbers, the capital construction cost is estimated to be \$51,000 per stall. This construction cost is assumed to be paid upfront before the opening of the parkade.

The per-stall annual operating and maintenance cost covers expenses such as utilities, cleaning, security, and routine maintenance. The assumption is based on data from the Victoria Transport Policy Institute (VTPI)’s Parking Pricing Implementation Guidelines (Page 9, Todd Litman) which estimated the operating and maintenance cost for a 4-level parking structure at \$1,000 per stall in 2007. Adjusting for inflation and applying conservative assumptions, the annual operating and maintenance cost is projected to be approximately \$1,500 per stall in 2028, the parkade opening year for this study.

The land cost of \$741 per square metre is derived from the estimated land cost of \$3 million per acre, as provided by City Staff. This rate is applied to the Budget Lot as an upfront capital cost, and to the City Lot as an opportunity cost.

A discount rate is applied to account for the time value of money when assessing long-term costs and revenues. The assumption of 6% is based on an industrial standard discount rate.

An inflation rate is used to project future increases in both construction and operating costs over time. The annual expense inflation rate is assumed to be 2%.

5.1.2 PARKADE SITE PARAMETERS & ASSUMPTIONS

Parameters and assumptions related to both potential parkade sites are summarized in **Table 5-2** below. These parameters change for different sites as each site has different location, size, and shape.

Table 5-2: Parkade Site Parameters and Assumptions

PARAMETER	VALUE – CITY LOT	VALUE – BUDGET LOT
Lot Area (m ²)	2,600	3,160
Ground Floor Commercial Space %	30%	30%
# of Stalls per Floor	89	108
# of Floors	3	3
1 st Floor # of Stalls	62	75
Total # of Stalls	240	291
Existing Stalls Displaced	79	70
Net Total Stalls	161	221

The estimated land areas for each potential parkade site are sourced from the City's Property Viewer. The number of stalls per floor is calculated by dividing the total land area by the average area of a single parking stall, which is assumed to be 29 square metre based on previous calculations.

In addition, it is assumed that 30% of the ground floor will be allocated for commercial space, which reduces the number of parking stalls on that level. This adjustment will affect the overall total stall count, as the ground floor will have fewer stalls compared to the upper floors.

For the base case, it is assumed that the parkade will be designed with three floors. Scenarios with additional floors will be explored later in the analysis.

A three-level parkade at the City Lot would result in a total of approximately 240 stalls. While there are currently 79 stalls in the lot, the net total increase in stalls will be 161. For the Budget Lot, a three-level parkade can provide a total of 291 stalls. While the Budget Car Rental currently occupies about 70 stalls, the new parkade would reserve the same number of stalls for Budget Car Rental which result in a net increase of 221 in total stalls.

5.1.3 REVENUE PARAMETERS & ASSUMPTIONS

Parameters and assumptions related to the revenue that will be generated by the parkade are summarized in **Table 5-3** below, these parameters account for both parking and commercial lease

income and are the same for both sites. These parameters also apply to any other potential sites under consideration.

Table 5-3: Revenue Parameters and Assumptions

PARAMETER	VALUE
Weekday Occupancy Percentage	80%
Weekend Occupancy Percentage	50%
Scramble Monthly Permit Stalls Allocation Percentage	20%
Open Daily Stalls Allocation Percentage	80%
Non-Reserved Stall Oversell Rate	0%
Annual Commercial Space Lease Rate per ft ²	\$20
Ground Floor Lease Occupancy Percentage	100%
Annual Parking Rate Inflation	2%

Weekday and weekend occupancy percentage represents the estimated portion of parking stalls that will be occupied. It is assumed that both Saturday and Sunday will be subject to paid parking.

For parking allocation, it is assumed that 20% of the stalls will be allocated for monthly scramble rentals, providing stable long-term revenue, while the remaining 80% will be allocated for daily rentals, catering to short-term parking demand.

The ground floor commercial space lease rate is set at \$20 per square foot per year, based on industry standards for comparable locations. It is further assumed that the entire commercial space will be fully leased throughout the study period, providing consistent income from leasing.

5.2 ANALYSIS RESULTS

The analysis focuses on determining the monthly rental rate required for the parkade to achieve a payback period of 20 years. The ground floor commercial lease rate is set at \$20 per square foot, with annual increases based on the assumed inflation rate of 2%. The monthly rental rate is a variable in this analysis, and the daily rental rate is calculated using a day-to-monthly fee ratio of approximately 0.0725, which is based on the ratio between daily and monthly rates from Kelowna Library Parkade. This factor ensures that the daily rate is consistently proportional to the monthly rate.

For parking rates, several scenarios are explored and summarized in **Table 5-4**.

Table 5-4: Pricing Options

OPTIONS	SCRAMBLE MONTHLY RENTAL RATE	DAILY RENTAL RATE
Base Case	\$65.20	\$4.50
Option 1	\$81.50	\$6.00
Option 2	\$98.00	\$7.00
Option 3	\$114.00	\$8.50
Break Even Option	Depends on Parkade Location	Depends on Parkade Location

Monthly rental rate for the base case is set at \$65.20, which aligns with the City's existing parking lot rental rate as specified in the bylaw. This results in a daily rate of \$4.50. For Option 1, 2, and 3, the monthly rental rate and daily rental rate are set to increase by 25%, 50%, and 75%, respectively.

The break-even option identifies the monthly rental rate required to ensure the parkade can fully recover its costs over a 20-year payback period. This rate is calculated based on capital and operating costs, as well as projected occupancy rates. This is analyzed separately for the City Lot and the Budget Lot as their revenue structures are different.

5.2.1 CITY LOT

The costs associated with the parkade in the City Lot include the initial capital construction cost, which is paid upfront, and the ongoing annual operating and maintenance cost. Additionally, the land value is factored in to account for the opportunity cost, should the site be sold or developed for other purposes. These costs remain consistent for all options.

Revenue for the City Lot is generated from three sources: commercial space rental, scramble monthly rental, and non-reserved daily rental. The commercial rental revenue is steady and uniform across all options, as the lease rate is assumed to be constant and only increase annually by the inflation rate. Scramble monthly rental comes from 20% of the stalls designated for monthly tenants, while the non-reserved daily rental comes from the remaining 80% of stalls allocated for daily parking.

For the City Lot, the calculation indicates that Options 1, 2, and 3 would all result in negative ROI in 20 years. To break even within 20 years, the monthly rental rate should be approximately \$181.00, which results in a daily rate of approximately \$13.00. The detailed cost and revenue for each option is shown in **Table 5-5** below.

Table 5-5: City Lot Cost and Revenue Summary

City Lot					
Benefit Cost Summary (20 Years)	Base Case	Option 1	Option 2	Option 3	Break-Even Option
Financial Account					
Project Capital Cost	\$12.2 M	\$12.2 M	\$12.2 M	\$12.2 M	\$12.2 M
Reduced Value of Developable Land Potential	\$1.9M	\$1.9M	\$1.9M	\$1.9M	\$1.9M
Maintenance Costs	\$9.0 M	\$9.0 M	\$9.0 M	\$9.0 M	\$9.0 M
Total Life Cycle Cost	\$23.2 M	\$23.2 M	\$23.2 M	\$23.2 M	\$23.2 M
Parkade Revenue					
Commercial Space Rental	\$4.2 M	\$4.2 M	\$4.2 M	\$4.2 M	\$4.2 M
Scramble Monthly Rental	\$0.9 M	\$1.2 M	\$1.4 M	\$1.6 M	\$2.3 M
Non-Reserved Daily Rental	\$5.62 M	\$7.49 M	\$8.74 M	\$10.61 M	\$14.98 M
Total Revenue	\$11.4 M	\$13.6 M	\$15.2 M	\$17.4 M	\$21.5 M
Economic Indicators					
Revenue Minus Costs	\$(10.5 M)	\$(8.4 M)	\$(6.9 M)	\$(4.8 M)	\$0.3 M
Net Present Value (Revenue Minus Costs)	\$(10.0 M)	\$(9.0 M)	\$(8.2 M)	\$(7.2 M)	\$(4.7 M)

5.2.2 BUDGET LOT

The costs associated with the parkade in the Budget Lot includes the initial capital construction cost, land cost which are paid upfront, and the ongoing annual operating and maintenance cost. These costs remain consistent for all options.

Revenue for the parkade in the Budget Lot is generated from four sources: commercial space rental, Budget Reserved Rental, scramble monthly rental, and non-reserved daily rental. The commercial rental revenue is steady and uniform across all options, as the lease rate is assumed to be constant and only increase annually by the inflation rate.

Budget Car Rental currently has about 70 stalls, therefore the new parkade will reserve the same number of stalls for their use, but at a discounted monthly rate compared to the standard rate as it will provide stable revenue. In the base case, the Budget reserved rate is assumed to be \$60.00 per stall compared to the regular monthly rental rate of \$65.20. This discount is applied proportionally in each of the rate increase options, resulting in reserved rate of \$75.00, \$90.00, and \$105.00 for Option 1, 2, and 3, respectively.

Scramble monthly rental comes from 20% of the stalls designated for monthly tenants, while the non-reserved daily rental comes from the remaining 80% of stalls allocated for daily parking.

The calculation indicates that Options 1, 2, and 3 would all result in negative ROI in 20 years. To break even in 20 years, the monthly rental rate should be about \$197.00 which result in a Budget discount rate of \$181.50 and a daily rate of \$14.50. The detailed cost and revenue for each option is shown in **Table 5-6** below.

Table 5-6: Budget Lot Cost and Revenue Summary

Budget Lot					
Benefit Cost Summary (20 Years)	Base Case	Option 1	Option 2	Option 3	Break-Even Option
Financial Account					
Project Capital Cost	\$14.8 M	\$14.8 M	\$14.8 M	\$14.8 M	\$14.8 M
Land Cost	\$2.3 M	\$2.3 M	\$2.3 M	\$2.3 M	\$2.3 M
Maintenance Costs	\$10.9 M	\$10.9 M	\$10.9 M	\$10.9 M	\$10.9 M
Total Life Cycle Cost	\$28.1 M	\$28.1 M	\$28.1 M	\$28.1 M	\$28.1 M
Parkade Revenue					
Commercial Space Rental	\$5.1 M	\$5.1 M	\$5.1 M	\$5.1 M	\$5.1 M
Budget Reserved Rental	\$1.3 M	\$1.6 M	\$1.9 M	\$2.2 M	\$3.8 M
Scramble Monthly Rental	\$0.86 M	\$1.08 M	\$1.29 M	\$1.50 M	\$2.60 M
Non-Reserved Daily Rental	\$5.1 M	\$6.9 M	\$8.0 M	\$9.7 M	\$16.6 M
Total Revenue	\$12.4 M	\$14.6 M	\$16.3 M	\$18.5 M	\$28.1 M
Economic Indicators					
Profit in 20 Years	\$(13.4 M)	\$(11.1 M)	\$(9.5 M)	\$(7.2 M)	\$0.0 M
Net Present Value (Revenue Minus Costs)	\$(12.5 M)	\$(11.4 M)	\$(10.5 M)	\$(9.4 M)	\$(6.8 M)

5.3 ALTERNATIVE RETURN-ON-INVESTMENT SENSITIVITY ANALYSIS

In addition to the base assumption of 20-year ROI amortization period, 25-year and 30-year periods were also analyzed. The purpose is to determine how much the monthly rental rate must be so that the revenue and the cost can break even within each ROI period.

5.3.1 CITY LOT SENSITIVITY

The results of the break-even monthly and daily rental rate for the City Lot are shown in **Table 5-7** below. The existing monthly rental rate represents the current City-owned off-street parking monthly reserved rate, and the existing daily rental rate represents the current Lakeside Parkade daily rate.

Table 5-7: Alternate ROI Sensitivity Analysis on City Lot Rental Rates

ROI PERIODS	MONTHLY RENTAL RATE		DAILY RENTAL RATE	
	New Parkade Rate	Existing Rate	New Parkade Rate	Existing Rate at Lakeside Resort Parkade
20 Year	\$181.00	\$65.20	\$13.00	\$17.03
25 Year	\$149.50		\$11.00	
30 Year	\$129.00		\$9.50	

5.3.2 BUDGET LOT SENSITIVITY

The results of the break-even monthly and daily rental rate for the Budget Lot are shown in **Table 5-8** below. The existing monthly rental rate represents the current City-owned off-street parking monthly reserved rate, and the existing daily rental rate represents the current Lakeside Parkade daily rate.

Table 5-8: Alternate ROI Sensitivity Analysis on Budget Lot Rental Rates

ROI PERIOD	MONTHLY RENTAL RATE		DAILY RENTAL RATE	
	New Parkade Rate	Existing Rate	New Parkade Rate	Existing Rate at Lakeside Resort Parkade
20 Year	\$197.00	\$65.20	\$14.50	\$17.03
25 Year	\$164.00		\$12.00	
30 Year	\$141.50		\$10.50	

5.3.3 ADDITIONAL NOTES

The ROI findings for a parkade do not change substantially if additional parking levels and parking inventory is provided. Specifically, providing four or five levels of parking results in both higher construction and maintenance costs as well as higher revenues. Potential efficiencies gained from constructing a larger parkade are expected to be small due to high material and labour costs.

The financial feasibility analysis results may have slightly generous assumptions for parking revenues on weekends and evenings given other cities, like the Kelowna Parkade reference example, provide free parking on weekends, holidays and evenings when no major events are happening.

5.4 CITY SUBSIDY SENSITIVITY ANALYSIS

Longer ROI periods reduce the required monthly and daily rental rates, but extend the financial commitment over a longer time. The findings show that even with a 30-year ROI period, the required rental rate is above what would be acceptable in the current parking rate market in downtown Penticton.

To make the parkade financially viable while keeping monthly rental rates affordable for users, the analysis focuses on aligning the current parking rates with the market, targeting a range between \$70 to \$100 per month. This pricing is significantly lower than the 20-year ROI period break-even rates calculated for full cost recovery, which require monthly rates of \$162 and \$197 for the City Lot and the Budget Lot, respectively. Therefore, for the parkade to be feasible, some form of City-paid subsidy or financial support will be required to offset the costs of a potential parkade investment.

The analysis examines three ROI periods, 20, 25, and 30 years to understand the level of subsidy necessary for monthly rates of \$70, \$80, \$90, and \$100. **Table 5-9** and **Table 5-10** summarizes the subsidies needed for the City Lot and the Budget Lot, respectively.

Table 5-9: City Lot Subsidy Required

MONTHLY RATE	CITY LOT – SUBSIDY REQUIRED		
	20 Year	25 Year	30 Year
\$70.00	\$11.6 M	\$10.9 M	\$10.0 M
\$80.00	\$10.6 M	\$9.5 M	\$8.3 M
\$90.00	\$9.5 M	\$8.1 M	\$6.6 M
\$100.00	\$8.5 M	\$6.8 M	\$4.9 M

Table 5-10: Budget Lot Subsidy Required

MONTHLY RATE	BUDGET LOT – SUBSIDY REQUIRED		
	20 Year	25 Year	30 Year
\$70.00	\$14.9 M	\$14.2 M	\$13.5 M
\$80.00	\$13.7 M	\$12.7 M	\$11.6 M
\$90.00	\$12.6 M	\$11.2 M	\$9.7 M
\$100.00	\$11.4 M	\$9.7 M	\$7.8 M

6.0 ALTERNATIVE TDM OPTIONS

To mitigate potential demand growth for downtown parking and to reach the mode-share target, several Transportation Demand Management (TDM) strategies have been reviewed in the context for Penticton. These strategies focus on reducing parking demand by enhancing travel options for other modes of transportation, including walking, cycling, and transit and by considering new parking management tools to optimize parking demand to supply.

A summary of existing and new TDM strategies are outlined in **Table 6-1** and **Table 6-2**, respectively that the City may continue to advance or develop new programs around. Existing TDM strategies consist of initiatives that the City already has underway (by bylaw or procedure) and which could be enhanced through greater resource allocation. New TDM Focus strategies consist of initiatives requiring greater effort to start and potentially new costs (e.g. FTE staff and/or other fixed costs) to support over the long-term.

Table 6-1: Considerations to Enhance Existing TDM Strategies

Strategy	Description	Timeline
Upgraded Transit Stops	➤ Improve the accessibility and comfort of transit stops by adding shelters, and benches to encourage greater use of public transit and reduced reliance on downtown parking.	Short
Active Transportation Infrastructure Connections	➤ Enhance downtown walkability and cycling by improving sidewalk connections, pathways, and bike routes. Expanding and upgrading these networks will provide safe and convenient routes for pedestrians and cyclists, making active transportation a more viable and attractive alternative to driving.	Medium
Parking Demand Management	➤ Increase parking prices to manage demand more effectively. By adjusting parking fees upward, particularly during peak times or in the most congested areas, this strategy can help decrease the number of people driving downtown and promote the use of alternative modes of transportation, such as transit or cycling.	Short - Medium
	➤ Another approach to managing parking demand can be through flipping the parking fee revenue structure to make monthly parking a higher-cost option than daily parking rates. This approach can affect behaviour change among drivers who regularly park downtown, who may feel they need to always drive and park to obtain the benefits of their sunk-cost investment (i.e. their parking permit). By making daily parking rates marginally more affordable than monthly parking rates, residents are more likely to consider cycling, transit, and car-pooling on a handful of days per week / month when those modes work for them.	Short - Medium

Strategy	Description	Timeline
	➤ In addition, there are several on-street parking areas with low parking utilization. Providing a daily rate for these on-street areas that is lower than an equivalent hourly rate but not overly-discounted can provide a good option for employees or visitors to the downtown who don't need to drive downtown every day. This would provide a practical solution for employee parking while helping to manage overall parking supply more efficiently.	Short - Medium
	➤ With the potential redevelopment of the City Hall parking lot, renting or subsidizing a portion of underutilized stalls from the nearby Lakeside Parkade could help maintain parking availability for people coming downtown in a vehicle. This may provide an efficient win-win solution to accommodate parking needs and optimize the use of an existing resource without building more new parking at a likely higher cost.	Short - Medium
Downtown infill development	➤ Infill development within downtown will increase residential and commercial density. This strategy brings more people into the downtown area, allowing more residents and workers to walk, cycle, or take short transit trips instead of driving and requiring parking.	Medium - Long
Transit-oriented development	➤ Encourage development near major transit hubs to support the use of public transportation. Transit-oriented development reduces the need for car travel by providing residents and employees with easy access to transit services, lowering the demand for parking in the downtown core.	Medium - Long

Table 6-2: New TDM Strategy Considerations

Strategy	Description	Timeline
Micro-Mobility Programs	➤ The City is preparing to release a Request for Proposal (RFP) in early 2025 to introduce micro-mobility options such as e-scooters and e-bikes. These services will provide residents and visitors with a convenient alternative to driving, especially for short trips within downtown. By increasing access to micro-mobility, the City can reduce the number of car trips, particularly for commuting and recreational trips, contributing to less pressure on parking infrastructure downtown.	Short

On-Demand Downtown Shuttle Service	➤ Consideration was given for an on-demand downtown shuttle service to provide convenient, short-distance travel within the downtown area. Shuttles can serve as a circulator, reducing the need for residents and visitors to park near their destination. However, starting in 2026, bus Route #5 will operate with 15-minute frequencies, essentially offering a reliable shuttle service for commuters and visitors to downtown Penticton. The increased frequency will encourage a shift from private vehicles use towards public transit use.	Medium
Enhanced Bike/Scooter Storage in Developments	➤ The City should consider strengthening its Development Permit (DP) guidelines to ensure high-quality amenities for bike and scooter storage are provided, particularly in developments with limited vehicle parking. This would support and encourage the use of active transportation in new residential and commercial projects.	Short
More Secure Bike Parking	➤ The City should consider providing additional secure, long-term bike parking options in the downtown area, accommodating employees and other users needing all-day bike storage. This would go beyond short-term bike racks and offer secure, protected areas for those who rely on cycling to commute.	Short



7.0 KEY FINDINGS AND NEXT STEPS

This section summarizes key findings from the future parking needs assessment and parkade financial feasibility study. Based on the study process completed, the following recommendations are provided to guide future decisions related to downtown parking and TDM strategies.

7.1 KEY FINDINGS

Future Parking Demand

As the population grows and the mode-share gradually shifts toward increased use of active transportation and transit, parking demand is expected to have minimal increase under the Target mode-share scenario. However, if the existing mode-share remains mostly unchanged, the forecast parking demand is expected to rise.

Additionally, with land developments happening in downtown Penticton over the near to long-term, the parking supply is expected to decrease, which may lead to more balanced parking supply or somewhat lower parking supply relative to utilization in the long-term (2048).

Parkade feasibility

The financial analysis indicates that constructing a parkade is not feasible without public and/or private investment subsidy support. To achieve a 20-year payback period without city subsidy, the required monthly rental rates would be approximately \$162.00 for the City Lot and \$197.00 for the Budget Lot. These rates are significantly higher than what is likely to be acceptable within the local marketplace, making the project financially unviable under current market conditions without additional funding sources or subsidies.

However, it is more viable to achieve a 30-year payback period without subsidies, in which case, monthly rental rates of \$118.0 and \$141.50 are required for the City Lot and the Budget Lot, respectively. These rates are more aligned with a reference parkade in the City of Kelowna; however, they are still significantly higher than Penticton's existing parking rates.

Options for subsidizing the parkade cost from City Reserves or other funding sources are analyzed. For the parkade monthly rate to be in the range of \$70.00 to \$100.00, the subsidy required for the City Lot ranges from \$6.5 to \$9.7 millions, and from \$11.4 to 14.9 millions for the Budget Lot for a ROI period of 20 years.

Ground Floor Commercial Space for Parkade

The inclusion of ground floor commercial space in the parkade design would be beneficial, as it not only generates stable revenue but would also contribute to making the downtown area more vibrant and lively. The commercial space can enhance the downtown atmosphere, promoting walkability, and encouraging local business growth.



7.2 RECOMMENDED NEXT STEPS

To address the identified parking challenges and optimize the use of available parking supply, the following steps are recommended:

1. Continue to Monitor Parking Supply, Utilization and Parkade Feasibility:

It is recommended that the City continue to regularly review parking supply and utilization patterns as new infill development, population growth and trip types by mode evolve over time. In alignment with this monitoring activity, the City may want to periodically review the feasibility of constructing a parkade as parking supply, utilization, pay parking rates and construction costs evolve. The City may also want to re-evaluate its parking permits to balance demand and supply across its existing lots.

2. Improve Choices for Parking Rates:

The City should address areas of downtown where on-street parking is underutilized and consider providing daily parking rates for people who need to park downtown for longer durations on an occasionally basis, but who do not need a monthly parking permit. Daily parking rates should be set such that they are lower than the equivalent hourly rates.

In addition, the City may consider setting monthly parking permit rates such that they are slightly higher than if a driver were to pay a daily rate to park downtown over approximately 22 typical business days of the month. This pricing structure can help incentivize drivers to park downtown occasionally with a more affordable daily rate and to use other modes of transport (e.g. walking, cycling or transit) to get downtown when those choices are available to them (i.e. on fair-weather days).

3. Regular Review of Parking Revenue Program

The City should conduct regular reviews of its parking revenue program. This process would involve obtaining comprehensive data on all parking-related revenue and costs, including City-owned parking lots, meters, kiosks, bylaw enforcement, repairs, and maintenance. Analyzing the profit and loss (P&L) of the City's parking operations will help determine whether a surplus or profit is being generated. If a surplus exists, various scenarios can be explored to assess how that surplus could be allocated toward subsidizing the construction and operation of a parkade.

4. Consider Subsidizing / Renting Stalls from Lakeside Parkade:

The underutilized parking spaces in Lakeside Resort Parkade present an opportunity for the City to partner with the resort and offer parking at rate that is more on-par with current on-street and off-street parking rates. This could be beneficial for the City's municipal workforce if the City Hall parking lot were to be redeveloped in the future.

5. Improve Public Transit and Active Transportation:

Continue to invest in transit service improvements, such as the introduction of 15-minute frequency for Bus Route #5 in 2026, and in active transportation infrastructure. These initiatives will encourage alternative modes of transport, reducing parking demand over time.

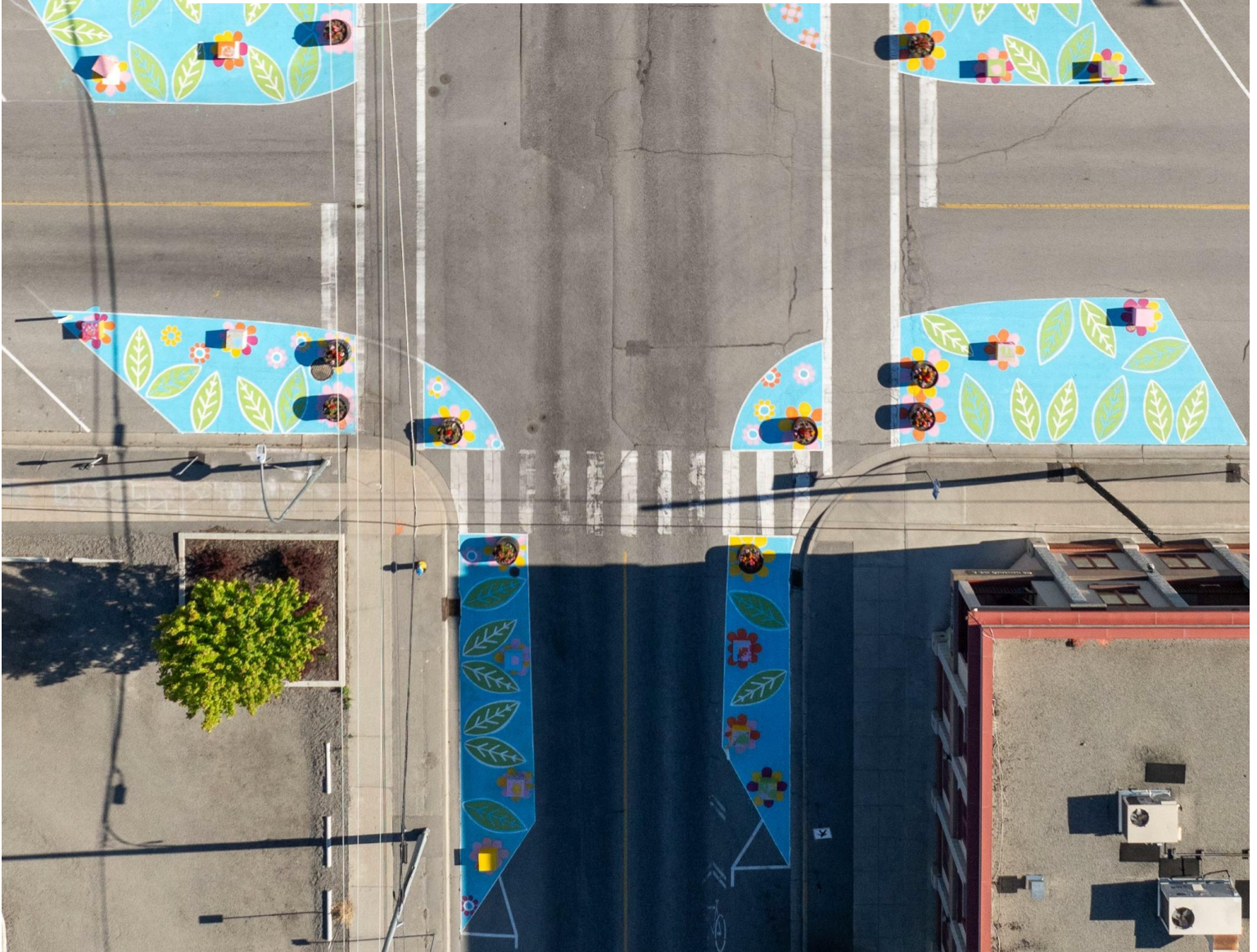
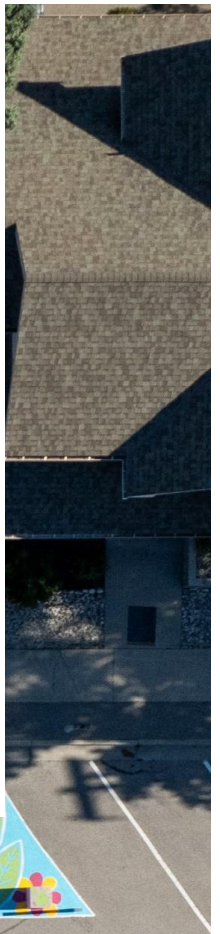
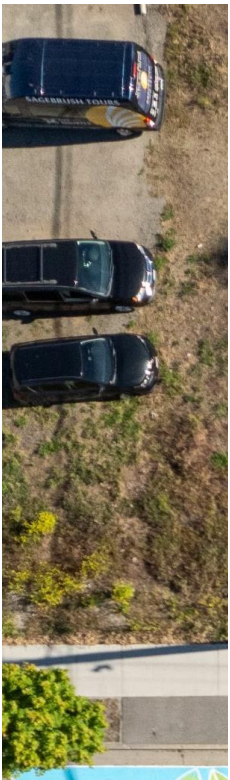
6. Evaluate Additional TDM Strategies:

The City should explore and evaluate the effectiveness of other Transportation Demand Management (TDM) strategies, such as the RFP for micro-mobility services being issued in early 2025, to provide alternative travel options and reduce parking pressures.

7. Consider Future Parking Needs in New Developments:

As new developments occur downtown, especially in areas with no minimum parking requirements, the City should closely monitor parking demand and consider additional parking strategies.

APPENDIX A: UPDATED PARKING INVENTORY MAP





Parking Inventory

- Free 2 Hour Parking
- Free 2 Hour or Resident Parking
- Free 3 Hour Parking
- Metered Parking
- Metered Parking (4 hours)
- Pay Station Parking
- Resident Parking Only
- Private Parking Lot
- City Owned Parking Lot
- RDOS Owned
- Penticton City Boundary

