



Final Report

# City of Barrie Parking Strategy Update

Submitted to the City of Barrie  
by IBI Group  
March 19, 2020

# Document Control Page

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<b>CLIENT:</b>	City of Barrie
<b>PROJECT NAME:</b>	City of Barrie Parking Strategy Update
<b>REPORT TITLE:</b>	City of Barrie Parking Strategy Update
<b>IBI REFERENCE:</b>	122191
<b>VERSION:</b>	3.0
<b>DIGITAL MASTER:</b>	J:\122191_BarriePrking\6.0_Technical\6.3_Tech-Reports\Task 9 Prepare Final Report\TTR_ParkingStrategyUpdateReport_2020-03-19_v3.0.docx\2020-03-19\AH
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<b>HISTORY:</b>	1.0 Draft Report 2.0 Final Report 3.0 Revised Final Report

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Executive Summary

# City of Barrie Parking Strategy Update

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## Executive Summary

In 2011, the City of Barrie completed the Parking Study (as part of the Multi-Modal Active Transportation Master Plan) with the objective of identifying existing and future parking needs of the Downtown and Waterfront Areas. Since the study, the City has undergone significant changes in terms of intensification, parking operations, and updates to major planning documents such as the Official Plan and the Transportation Master Plan.

Considering the extent of the changes, the City of Barrie initiated the Parking Strategy Update project to develop a forward looking plan for managing parking operations to the 2041 horizon year. The study includes the tasks outlined in **Executive Summary Exhibit 1**.

### Executive Summary Exhibit 1: Parking Strategy Update Task Objectives

Task	Objective
Task 1: Develop and Execute Engagement Plan	Consult key stakeholders and the general public
Task 2: Evaluate Existing Parking System	Assess existing parking operations in Downtown Barrie and the Waterfront Area
Task 3: Forecast Future parking Scenarios	Forecast future parking operations in Downtown Barrie and the Waterfront Area
Task 4: Propose Solutions to Business Problems	Develop optimal solutions to the business problems identified in the Request for Proposal (RFP)
Task 5: Integrate Technology into Solutions	Identify technologies considered appropriate given Barrie's unique needs and opportunities
Task 6: Complete Financial Analysis	Develop a recommended parking price plan with the objective of achieving financial sustainability
Task 7: Synthesize Findings into Cohesive Strategy	Summarize recommendations of Tasks 1 through 6 and develop a recommended implementation plan

## Develop and Execute Engagement Plan

Extensive web-based and in-person consultation was carried out as part of the Parking Strategy Update. The following common themes and issues were identified:

- Wayfinding and information about occupancy and availability of parking was noted as inadequate by both stakeholders and members of the public. There is also a desire for alternative ways of paying for parking, such as parking apps. It should be noted that not all users are able to use parking apps;
- The relative cost of parking fines are low in comparison to the price for full-day parking. This may encourage users to park inappropriately or to fail to pay for parking, as accepting the risk of a fine may be more cost effective;
- Parking policies, fees, and accommodation strategies should make a distinction between 'locals', 'out-of-towners' and 'tourists'. As well, a distinction should be made between Downtown visitors and Downtown employees;
- There is broad support for increasing parking fees at the Waterfront, and satisfaction with the Resident Parking Waterfront Pass program;
- There is support for extending paid parking into the evening and on weekends;

- There is resistance to implementing paid parking for Barrie residents in the Waterfront Area; and
- There are more season pass holders for the Marina than there are parking spaces, and there is limited space for boat trailer parking. This creates frustration, as Marina users feel that they have paid for services they cannot utilize.

In addition to the web-based and in-person consultation, the study team also received individual submissions from members of the public and obtained insight from other City of Barrie public consultation efforts.

The input received through these engagement activities has been used to inform the study recommendations.

## Evaluate Existing Parking System

An understanding of existing parking operations in Barrie is critical as it provides the foundation from which new strategies are developed. Desired outcomes are often a function of current parking patterns and the knowledge of existing parking issues.

Based on industry standards, parking systems are considered “effectively full” at an occupancy of approximately 85-90%, depending on lot size and other characteristics. This represents the point where finding a space becomes challenging for drivers, resulting in an increased likelihood of a driver having to search for an available parking space. Additionally, the publicly accepted walking distance between a parking space and the user’s final destination ranges between 300–400 metres.

To provide a solid basis for the parking demand study and a meaningful needs analysis, parking supply and demand surveys were conducted by an external consultant in June and August 2018.

### Waterfront Area

The following parking opportunities are provided in the defined Waterfront study area:

- Off-street: 761 parking spaces (including 26 accessible spaces);
- On-street: 81 parking spaces (including 6 accessible spaces); and,
- Total: 842 parking spaces.

Based on a review of existing conditions, the Waterfront Area parking system is operating over capacity on summer weekends during the daytime. As the majority of lots exceed 85% capacity, the average visitor is likely unable to find a parking space. While some visitors may divert to the Downtown parking area, the instances of lots exceeding 100% capacity (5 of 13 lots) may be due to visitors resorting to illegal parking practices. Parking demand during the summer weekend evenings, and all day on summer weekdays was within system capacity.

Based on these findings, strategies that help meet the peak seasonal demand, alternative to a parking supply expansion, are considered appropriate. These strategies include leveraging the Downtown parking system and/or managing Waterfront Area parking demand through parking price increases and parking user restrictions.

### Downtown

The following parking opportunities are provided in the defined Downtown study area:

- Off-street: 1,598 parking spaces (including 26 accessible spaces);
- On-street: 770 parking spaces (including 10 accessible spaces); and,
- Total: 2,368 parking spaces.

Analysis of the Downtown area, which consists of off-street facilities and on-street segments, indicates that the Downtown parking system is sufficient to accommodate the existing parking demand. While capacity is sufficient overall, there are some parking facilities that were observed to operate near or above effective capacity. It is likely valid that some users perceive a shortage in parking with occasional difficulty in finding a spot at some of the busier parking facilities. However, sufficient parking opportunities were observed to be available within acceptable walking distance (300-400m). Therefore, the existing parking system is considered sufficient to meet the current demand.

Based on the existing conditions assessment, Barrie's short term parking improvements should be ideally catered towards improving parking user experience and better distributing parking demand to the lesser used parking facilities.

### **Strengths, Weaknesses, Opportunities, Threats (SWOT) Assessment**

A SWOT assessment was completed for the City's existing parking system resulting in the following high level findings:

- **Strengths:** The Downtown parking system operates within capacity limits, with only a small number of localized capacity constraints.
- **Weaknesses:** The Waterfront Area parking system is known to experience significant seasonal parking demand fluctuations. This creates the incorrect perception that the parking supply is not sufficient.
- **Opportunities:** Growth and redevelopment within Downtown Barrie may present opportunities for the private sector to incorporate public paid parking within future development. Additionally, TDM strategies can be leveraged to manage parking demand.
- **Threats:** Significant population growth is projected in Barrie by 2041, which depending on how parking demand grows as a function of population, may create parking capacity issues.

## **Forecast Future Parking Scenarios**

Through the accurate projection of future parking demand, educated long term parking decisions can be made to support successful Downtown and Waterfront Area parking systems. The assessment was completed under five horizon scenarios: 2021, 2026, 2031, 2036, and 2041.

The future parking supply and demand is anticipated to be impacted by several factors.

**Existing parking patterns** form the base layer for the forecast future parking demand. To estimate the future parking demand, the existing parking demand was adjusted based on the other factors.

**Parking demand growth** due to population growth creating a larger customer base for downtown businesses, and due to general commercial and retail growth in the core responding to the needs of the City's future residents. By the 2041 horizon year, parking demand is anticipated to grow by 647 vehicles in the Downtown and by 432 vehicles in the Waterfront Area as a result of background population growth.

**Parking demand reduction** since the future personal vehicle mode share is anticipated to be slightly lower than today. One of the Official Plan's parking-related objectives is to promote and facilitate alternative modes of transportation such as rail, transit, cycling, and walking. In support of this, Barrie is committed to constructing dedicated bicycle lanes, and growing the Waterfront pedestrian trails. Parking demand by the 2041 horizon year is anticipated to decrease by 130 vehicles in the Downtown and 86 vehicles in the Waterfront Area.

**New developments in the study area** that generate more parking demand than the supply provided onsite. A total of 150 vehicles are anticipated to need to park in the Downtown municipal parking system from the planned new developments.

**Parking supply losses** due to redevelopment or new on-street cycling and transit facilities. In the Downtown, 191 parking spaces are expected to be lost due to the provision of new cycling and transit facilities, and the re-development / decommissioning of existing parking facilities.

### **Waterfront Area**

The Waterfront Area parking system is projected to continue operating above capacity during summer weekends. The 3 isolated parking lots (Johnson's Beach, Minet's Point, and Tyndale Park parking lots) are all projected to operate over capacity, and 7 of the 9 parking facilities in the main Waterfront Area are projected to reach or exceed 100% capacity.

However, on summer weekdays the main Waterfront Area is expected to have sufficient capacity to meet demand. Therefore, Barrie is not recommended to construct additional parking facilities to meet the summer weekend parking demand since the facilities would remain unused during the majority of days of the year.

With respect to the isolated Waterfront Area parking facilities, all three parking lots (Johnson's Beach, Minet's Point, and Tyndale Park) are projected to operate above capacity during summer weekends, while only Johnson's Beach and Tyndale Park are projected to operate over capacity on the weekdays (110% and 109% utilization, respectively). Therefore, strategies to manage summer weekday and weekend parking demand, as well as potential alternative locations to accommodate some parking demand, are considered appropriate.

### **Downtown**

Overall, parking operations in the Downtown are projected to remain under capacity in all horizon years except 2041. Parking users are anticipated to experience difficulty in finding an available parking space in some of the busier on-street and off-street parking facilities, which is anticipated to become more widespread as time progresses. The parking supply issues are projected to be most pronounced along the eastern edge of the Downtown, which is highly impacted by the decommissioning of existing parking facilities. 2041 parking operations are projected to experience capacity issues unless strategies that better distribute parking demand are implemented.

Based on these findings, an expansion of the Downtown on-street or off-street parking system is not recommended due to the system's ability to accommodate future demand. However, given that both the on-street and off-street parking facilities are projected to operate at effective capacity by 2041, decommissioning of parking facilities is also not recommended. In other words, all surplus parking lots are recommended to be maintained. Should circumstances dictate that facilities be decommissioned, consideration should be given to obtaining replacement capacity in close proximity.

Strategies aimed at better distributing parking demand from the parking facilities operating near or at capacity to the facilities with available capacity are recommended.

## **Propose Solutions to Business Problems**

Based on the findings of Tasks 1 through 3, existing and future parking issues were identified. Given this understanding, appropriate solutions aimed at addressing the issues unique to the City of Barrie are developed.

The proposed solutions are categorised based on the eight Business Problems identified in the Request for Proposal (RFP), which are:

- **Convenience:** Improve the parking user experience.
- **Waterfront Parking:** Reduce confusion regarding the Downtown and Waterfront Area parking boundary.
- **Competitiveness:** Increase the appeal of Downtown businesses compared to similar businesses located elsewhere by improving the parking user experience. Note that the proposed strategies do not include reserving municipal parking spaces for private developments.
- **Long-Term Parking:** Increase the availability of short term parking spaces by better managing long term employee parking.
- **Free/Discounted Parking:** Ensure consistency when evaluating and granting requests for free and discounted parking.
- **Spillover Parking:** Minimize parking demand spillover into residential neighbourhoods.
- **Parking Inventory:** Meet existing and future parking needs in the Downtown and Waterfront Areas.
- **Financial Sustainability:** Achieve financial parking operations where revenues are sufficient to fund expenses.

A minimum of three solutions were identified for each Business Problem with at least one of these three recommended as a solution. The recommended solutions are discussed in the *Synthesize Findings into Cohesive Strategy* section of the Executive Summary.

## Integrate Technology into Solutions

Parking technologies have the potential to increase the efficiency of parking operations and improve the parking user experience. Barrie's existing parking technologies were reviewed and state-of-the-art technologies were researched to support the solutions identified in Task 4.

New and updated methods of parking payment will facilitate parking enforcement and provide customers with easier and more accessible payment options. Collaboration with a third-party parking app provides an opportunity for more options for users to pay for parking. In addition to in-person purchasing of monthly and resident parking permits, digital permits are recommended to be made available for purchasing online.

Smart meters compatible with credit card payments can replace existing coin machines at busy on-street and off-street parking locations. As the existing coin-based meters need replacing, they should be replaced with single-space, double-space, and multi-space smart meters. All permit and smart meter parking transactions should eventually be made using the user's license plate information for integration with the proposed LPR technology. LPR handheld devices and a mobile vehicle-mounted camera are specific options to be purchased for parking enforcement.

The proposed parking information and wayfinding technologies will assist customers in finding parking. The current Downtown and Waterfront parking signage should be updated and colour-coded to better distinguish these zones. For off-street lots, parking occupancy technologies can disseminate availability information to the public. Barrier gate systems could be installed at the Collier Street Parkade and loop controllers could be installed at larger lots with high utilization. Utilization information would be fed to variable message sign (VMS) displays located at lot entrances. Additionally, block sensors placed at EV parking locations will determine their usage regardless if a vehicle is charging. Static wayfinding signage, directing drivers towards the location of off-street parking lots should be added to the Downtown and Waterfront areas.

## Complete Financial Analysis

The financial analysis task evaluated the financial health of Barrie’s current parking system and recommended strategies to help establish a long term financially sustainable system.

A peer review of ten comparator municipalities determined that municipalities were either self-sufficient and/or moving towards a self-sustaining enterprise governance model if currently tax supported. Given this best practice, a financial model was developed to project Barrie’s financial operations and identify a parking price plan that achieves long term financial sustainability.

As of 2019, the uncommitted parking reserve fund is expected to be in a deficit of \$1,350,000 and is projected to continue decreasing without an intervention. City staff projected the 2020 parking revenues and expenses if no intervention strategies were adopted, and found the following:

- The parking system is projected to generate \$2,350,000 in revenue and incur \$3,100,000 in expenditures in 2020. Only 75.9% of expenditures are forecasted to be recovered through revenues. Overall the parking system operations are not projected to be financially sustainable without intervention.
- Debt servicing for the Parkade represent 31.5% of existing expenditures. This annual debt servicing payments will be complete in 2024. However, a facility condition assessment has been completed and lifecycle capital costs for the parkade are anticipated to increase as the asset ages.

Note that the projected revenues and expenses do not account for planned parking system improvements such as wayfinding improvements, technology enhancements, and the implementation of financial, demand distribution, and communication strategies.

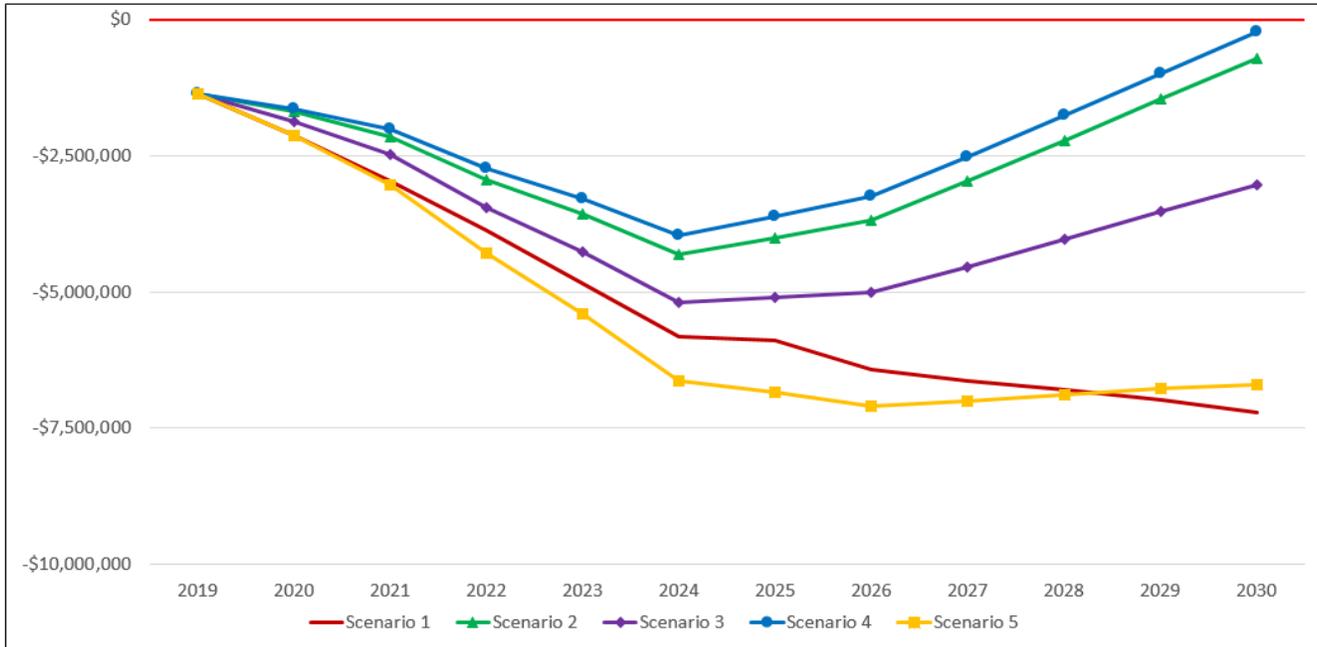
The long term financial performance of five parking price plans was evaluated: **Executive Summary Exhibit 2** provides an overview of the Scenarios.

### Executive Summary Exhibit 2: Parking Price Scenario Overview

Strategies	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Description	Status Quo	Paid Evening Parking	Paid Saturday Parking	Paid Waterfront Residents	Rate Increases Only
Transient Rate Increase Downtown (every 5 years)	No	\$0.25/hour	\$0.25/hour	\$0.25/hour	\$0.25/hour
Transient Rate Increase Waterfront, Non-Residents (one time increase)	No	To \$5.00/hour	To \$5.00/hour	To \$5.00/hour	To \$5.00/hour
Permit Rate Increase (every 5 years)	No	10%	10%	10%	10%
RVH Area Rate Increase (one time increase)	No	To \$5.00/hour	To \$5.00/hour	To \$5.00/hour	To \$5.00/hour
Evening Pay Parking	No	Yes	No	No	No
Saturday Pay Parking	No	No	Yes	No	No
Waterfront Pay Parking for Residents	No	No	No	Yes	No
Additional Staff Resources	None	\$90,720 annually	\$42,120 annually	None	None
Service Improvements	No	\$136,000 annually	\$136,000 annually	\$136,000 annually	\$136,000 annually

The financial model findings are presented in **Executive Summary Exhibit 3**. The parking financial model inputs and assumptions have been developed in collaboration with City Staff.

**Executive Summary Exhibit 3: Annual Projected Reserve Fund Balances**



Scenario	2030 Reserve Fund Balance
1	-\$7,220,386
2	-\$711,543
3	-\$3,039,650
4	-\$218,690
5	-\$6,701,418

By 2030, all Scenarios are projected to remain in deficits ranging from \$219,000 to \$7,220,000. However, Scenarios 2, 3, and 4 are observed to be trending towards financial sustainability shortly after the 2030 horizon year.

To achieve financial sustainability, Barrie is recommended to adopt Scenario 2 and extend weekday pay parking operations into the evening and implement the recommended price increases. Scenario 4 (paid waterfront parking for residents) may also be considered as a future strategy to manage parking demand at the waterfront and achieve financial sustainability for the parking system.

## Synthesize Findings into Cohesive Strategy

The recommendations proposed throughout Tasks 1 and 6 were compiled into three alternative strategies.

- **Basic Strategy:** A set of recommendations that are relatively inexpensive and quick to implement but typically have low impacts. These strategies generally include policies and the optimization of parking operations using the existing system.
- **Enhanced Strategy:** A set of recommendations that have higher impacts than the Basic Strategy, but are also typically more expensive than the basic strategies. These strategies generally include new software and hardware aimed at improving parking user experience and parking operations.
- **State-of-the-Art Strategy:** A set of state-of-the-art recommendations considered optimal if cost was not a factor. While these strategies are high impact, they can often be considered financially unfeasible within the confines of a sustainable financial system.

Note that the strategies are intended to build upon one other. In other words, the enhanced strategy includes the enhanced recommendations plus the basic recommendations, while the state-of-the-art strategy includes all of the state-of-the-art, enhanced, and basic recommendations.

Barrie is recommended to adopt the enhanced strategy as outlined in **Executive Summary Exhibit 4**.

### Executive Summary Exhibit 4: Recommended Strategies

Recommended Action	Targeted Issue	Cost
<b>Convenience</b>		
Procure a third party parking app system	More options to pay for parking Confusing parking restrictions	No costs to partner with a service provider <i>(Note: There may be capital costs for enforcement tools, additional signage, and staff time for communication of launch and reconciliation).</i>
Sell parking permits online	More options to pay for parking	3% + \$0.30 transaction fee
Improve static parking wayfinding system	Customers can't find parking	\$100,000 (\$500 per sign)
Harmonize parking restrictions	Confusing parking restrictions	\$15,000 - \$20,000
Adopt variable parking prices	Customers can't find parking	\$10,000
Upgrade pay parking technologies (smart meters)	More options to pay for parking Confusing parking restrictions	Single space meter: \$800 Double space meter: \$1,000 Multi-space meter: \$15,000
<b>Waterfront Area Parking</b>		
Adopt the Midtown Lots designation	Confusing Waterfront Area and Downtown boundary	\$5,000 - \$10,000
Accept the seasonal Marina Lot parking passes in the Lakeshore Drive Lot, Spirit Catcher Lot, and Marina North Lot	Seasonal Marina Lot parking pass holders struggle to find an available parking during summer weekends	No cost

Recommended Action	Targeted Issue	Cost
Implement permit parking management system and link resident parking passes to license plates	Resident Parking Pass administration is inconsistent and susceptible to exploitation	\$15,000 - \$30,000
<b>Competitiveness</b>		
Improve static parking wayfinding system	Increase competitiveness of Downtown businesses when compared to businesses located else where	See Convenience Business Problem
Procure a third party parking app system	Increase competitiveness of Downtown businesses when compared to businesses located else where	See Convenience Business Problem
Improve reinvestment strategy	Increase competitiveness of Downtown businesses when compared to businesses located else where	\$5,000 - \$10,000
Upgrade pay parking technologies (smart meters)	Increase competitiveness of Downtown businesses when compared to businesses located else where	See Convenience Business Problem
<b>Long-Term Parking</b>		
Improve static parking wayfinding system	Employees parking for long periods are making it difficult for users to access amenities for shorter periods	See Convenience Business Problem
Procure handheld LPR technology	Employees parking for long periods are making it difficult for users to access amenities for shorter periods	\$148,000 capital + \$94,000 annually
Adopt variable parking prices	Employees parking for long periods are making it difficult for users to access amenities for shorter periods	See Convenience Business Problem
Refrain from reserving parking spaces	There is no framework for evaluating requests for overnight parking or reserved parking	No cost
<b>Free/Discounted Parking</b>		
Adopt a cost recovery policy for free parking events	Minimize free parking event's impact on parking financial sustainability	\$5,000 - \$10,000
Adopt the recommended free/discounted parking requests framework	There is no framework for evaluating requests for free and discounted parking	\$5,000 per request
<b>Spillover Parking</b>		
Implement parking restrictions along the affected streets	Certain neighbourhoods are experiencing spillover from busy destinations nearby	\$20,000 - \$40,000 + \$10,000 - \$42,000 annually

Recommended Action	Targeted Issue	Cost
<b>Parking Inventory</b>		
Adopt the parking supply equilibrium policy	It is unclear if the surplus designation should still apply to some lots, and if public parking needs to be replaced if surplus lots are redeveloped	\$5,000 - \$10,000
Improve static parking wayfinding system	Better distribute Downtown parking demand	See Convenience Business Problem
Implement a shuttle bus service between the Downtown and Waterfront Area	Better meet the Waterfront Area summer weekend parking demand	\$30,000 - \$45,000 annually
Increase Parking Prices for Non-Residents	Better meet the Waterfront Area summer weekend parking demand	No cost
Adopt variable parking prices	Better distribute Downtown parking demand	See Convenience Business Problem
Implement TDM strategies outlined in the 2019 TMP	Manage Downtown parking demand	\$50,000 - \$100,000
<b>Financial Sustainability</b>		
Extend weekday pay parking operations to 9:00 PM in the Downtown	The parking reserve is in a deficit There is no long-range financial strategy	\$10,000 - \$20,000 to implement. These strategies are intended to increase parking revenues to achieve financial sustainability
Increase Downtown, Waterfront, and RVH parking prices	The parking reserve is in a deficit There is no long-range financial strategy	

To build upon the study recommendations, Barrie is recommended to complete the following tasks as next steps after the Parking Strategy Update:

- Complete the request for proposals process to select the optimal third party app, smart meters, and LPR service provider. These strategies provide many benefits across several Business Problems including providing parking users with more payment options, improving parking user experience, and increasing the efficiency of enforcement;
- Investigate multi-day passes at the Collier Street Parkade to meet the commonly requested overnight parking permit. Barrie residents sometimes park in the Downtown and proceed out of the City for several nights. The multi-day pass would help meet these parking user needs;
- Assess the Waterfront Shuttle Bus feasibility (business case) and finalize the service details if feasible (route planning, schedule details, etc.). The shuttle bus would allow Barrie to leverage the Downtown parking system to help meet the Waterfront Area's summer weekend parking demand;

- Consider an Autonomous Vehicle Readiness Study. Autonomous vehicles are anticipated to have significant impacts on parking operations. Without knowing the exact magnitude, parking demand is anticipated to be reduced. Additionally, on-street parking supply may have to be reduced to provide additional curbside space for increased pick-up/drop-off activities. Completing an autonomous vehicle readiness study would help Barrie prepare for the widespread adoption of autonomous vehicles, which is anticipated in the foreseeable future. Note that many municipalities are not completing autonomous vehicle studies at this time due to the uncertainty regarding the technology's widespread deployment;
- Consider a Residential Parking Study to develop a formal strategy for managing, administering, and enforcing on-street parking operations in residential neighbourhoods;
- Develop a Special Event Parking Policy. Special events are known to draw large crowds and in turn, generate a localized peak in parking demand. A Special Event Parking Policy would help Barrie meet the local parking needs when such events occur;
- Collect parking utilization data periodically and update implementation plan as needed. Regularly collected parking data will allow Barrie to remain aware of how parking operations change over time and respond accordingly;
- Implement the TDM strategies outlined in the TMP to manage Downtown parking demand and help meet future parking needs, With reduced demand, the identified issues are also anticipated to be managed;
- Complete the Wayfinding Master Plan. As part of the broader study, Barrie should develop a parking wayfinding strategy to help Barrie visitors quickly find available and convenient parking opportunities; and
- Update the Parking Strategy at least every 10 years or when the need arises due to significant unforeseen parking operations changes (whichever comes sooner).

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# 1 Introduction

In 2019, the City of Barrie initiated the Parking Strategy Update project to develop a forward looking plan for managing parking operations to the 2041 horizon year. The study was initiated in August 2019 and is scheduled to be completed in early 2020.

## 1.1 Study Background and Objectives

In 2011, the City of Barrie completed the Parking Study (as part of the Multi-Modal Active Transportation Master Plan) with the objective of identifying existing and future parking needs of the Downtown and Waterfront Areas. The 2011 Parking Study was an update to the 2005 Waterfront Parking Study and the 2007 Downtown Parking Study, and was intended to reflect 2011 conditions and consider the parking demand generated by future higher-density development. The 2011 Parking Study proposed several recommendations aimed at managing parking demand (increased parking prices, extended pay parking hours, and parking restrictions) and a strategy to monitoring parking operations as the City grows.

Since the study, the City has undergone significant changes in terms of intensification, parking operations, and updates to major planning documents such as the Official Plan and the Transportation Master Plan. Considering the extent of the changes, the City has initiated an update to the 2011 Parking Study.

This Parking Strategy Update builds upon the findings of the 2011 Parking Study, by developing a new plan to guide Barrie's parking operations to the 2041 horizon year. The key study deliverable was a plan that identifies solutions to Barrie's eight predefined Business Problems: Convenience, Waterfront Parking, Competitiveness, Long-Term Parking, Free Discounted Parking, Spillover Parking, Financial Sustainability, and Parking Inventory.

High level cost estimates were provided for the recommended solutions and connections were made where relevant to the Guiding Principles: Financial Sustainability, Transportation Diversification, Downtown Enrichment, and Continuous Improvement. Additional solutions Barrie could consider were also identified. These solutions, while beneficial, were not included in the recommended implementation plan due to the significant costs.

## 1.2 Study Scope

The Parking Strategy Update consisted of the following nine Tasks:

- Task 1: Develop and Execute Engagement Plan: Consult key stakeholders and the general public;
- Task 2: Evaluate Existing Parking System: Assess existing parking operations in Downtown Barrie and the Waterfront Area;
- Task 3: Forecast Future Parking Scenarios: Project future parking operations in Downtown Barrie and the Waterfront Area;
- Task 4: Propose Solutions to Business Problems: Develop optimal solutions to the business problems identified in the Request for Proposal (RFP);
- Task 5: Integrate Technology into Solutions: Identify technologies considered appropriate given Barrie's unique needs and opportunities;
- Task 6: Complete Financial Analysis: Develop a recommended parking price plan with the objective of achieving financial sustainability;
- Task 7: Synthesize Findings into Cohesive Strategy: Summarize the study recommendations into an implementation plan;

- Task 8: Prepare Draft Report: Summarize the study findings in a draft report; and,
- Task 9: Prepare Final Report: Finalize the study report based on comments received from Barrie staff.

A technical memorandum was submitted for Tasks 1 through 7 outlining each task's analysis, findings, and conclusions. This document is the Draft Final Report which summarizes the findings of the previously submitted memorandums.

## 2 Develop and Execute Engagement Plan

Given that parking is often a contentious issue, productive public and stakeholder engagement is critical to the success of this Parking Strategy Update. Parking in Downtown areas must cater to various users ranging from employees and residents with long term parking needs to visitors and retail patrons with short term parking needs. The existing and future parking demands are often driven by the needs of the customers, as well as their satisfaction of the current operations. An understanding of these needs, and future travel patterns based on a change to the existing model, is critical.

### 2.1 Public and Stakeholder Consultation Summary

The project team consulted with both the general public and key stakeholder groups within Barrie, and has documented the observations, insights, comments, and concerns of these various groups. Consultation and outreach carried out as part of the Parking Strategy Update can be grouped into the following two categories, with multiple consultation activities in each category:

#### **Web-Based Consultation**

- Building Barrie Online Survey;
- Stakeholder Survey; and
- Map-based Consultation Tool.

#### **In-Person Consultation**

- Stakeholder Roundtable and Walking Tour;
- Business Improvement Area (BIA) Town Hall; and
- Public Open House Meeting.

In addition to the web-based and in-person consultation, the study team also received individual submissions from members of the public, and obtained insight from other City of Barrie public consultation efforts.

#### **2.1.1 Building Barrie Online Survey**

A questionnaire was prepared by IBI Group in coordination with the City of Barrie project team. These survey questions were intended to identify current trends for people travelling to the area and reveal their opinions on the key issues surrounding parking in Barrie.

The survey tool was implemented by Barrie staff and made available to the general public via [buildingbarrie.ca](http://buildingbarrie.ca) the City's online engagement platform. The online survey was activated on September 9, 2019 and closed on October 11, 2019, and received a total of 467 responses.

### **2.1.2 Stakeholder Survey**

A second questionnaire was prepared by IBI Group and Barrie staff for distribution to key stakeholders in order to better understand which issues were most important to them and to hear their thoughts on ways to improve parking in Barrie.

The questionnaire was distributed by Barrie staff to business owners via email or directly during in person visits, with responses received between September 13, 2019 and October 4, 2019. A total of 60 responses were received, with 18 self-identifying as retail establishment, 12 as food and beverage establishments, 2 as an entertainment establishment, and 25 as service establishments.

### **2.1.3 Map-based Consultation Tool**

An online map-based consultation tool was developed to collect location-specific issues and allow for parking issue hot spots to be identified. In addition to identifying locations using a series of pre-set issues, respondents were also able to add their own detailed comments at specific locations. The map-based consultation tool was actively collecting responses between September 9, 2019 and October 11, 2019. Over this time period 101 responses were collected.

### **2.1.4 Stakeholder Roundtable and Walking Tour**

A stakeholder engagement session was held on September 23, 2019 with representatives from the Downtown Barrie BIA, City of Barrie Library, Georgian College, City of Barrie Marina, Allandale Neighbourhood Association, and Tourism Barrie. This session featured a presentation introducing the study and its preliminary findings. Following the presentation, attendees engaged in separate roundtable discussions and walking tours of the Downtown and Waterfront Parking Areas. These discussions were each guided by a representative from IBI Group and another from the City of Barrie.

A second engagement session was conducted with members of the Downtown Barrie BIA Board on October 21, 2019. This session featured a presentation discussing findings to date, followed by a roundtable discussion.

### **2.1.5 BIA Town Hall**

A Town Hall meeting was held for Downtown Barrie BIA members on October 9, 2019 at the Sandbox Centre (24 Maple Ave, Barrie, Ontario). The Town Hall meeting was a “breakout session” format, where BIA members cycled through different sessions at set intervals. Each session was hosted by a different partner of the BIA, including the City of Barrie Parking Strategy department. City Staff gave a brief presentation outlining the Parking Strategy Update, including project approach, objectives, and preliminary results from stakeholder engagement.

The event was well-attended, recording 32 attendees, including business owners, BIA staff, BIA board members, and councillors. Attendees were encouraged to provide input and feedback via discussion with the project team in attendance.

### **2.1.6 Public Open House Meeting**

A Public Open House was held on November 6, 2019 at the City Hall Rotunda (70 Collier Street, Barrie, Ontario). The Public Open house was a “drop-in” open house format, with presentation boards on display to help lead discussions on each key project tasks completed or substantially completed at the time of the event, including:

- Project scope and objectives;
- Stakeholder engagement;
- Existing conditions in the Downtown and Waterfront areas;

- Future conditions in the Downtown and Waterfront areas;
- Potential solutions to business problems;
- Integrating technology; and
- Next steps.

This event was well attended with an estimated 50 attendees. Attendees were encouraged to provide input and feedback via discussion with the project team in attendance.

## 2.2 Key Findings

Across all engagement mediums, the following common themes and issues were identified:

- Wayfinding and information about occupancy and availability of parking was noted as inadequate by both stakeholders and members of the public. There is also a desire for alternative ways of paying for parking, such as parking apps. It should be noted that not all users are able to use parking apps;
- The relative cost of parking fines are low in comparison to the price for full-day parking. This may encourage users to park inappropriately or to fail to pay for parking, as accepting the risk of a fine may be more cost effective;
- Parking policies, fees, and accommodation strategies should make a distinction between 'locals', 'out-of-towners' and 'tourists'. As well, a distinction should be made between Downtown visitors and Downtown employees;
- There is broad support for increasing parking fees at the Waterfront, and satisfaction with the Resident Parking Waterfront Pass program;
- There is support for extending paid parking into the evening and on weekends;
- There is resistance to implementing paid parking for Barrie residents in the Waterfront Area; and
- There are more season pass holders for the Marina than there are parking spaces, and there is limited space for boat trailer parking. This creates frustration, as Marina users feel that they have paid for services they cannot utilize.

The input received via these engagement activities has been used to inform the measures recommended as part of *Task 4: Proposed Solutions to Business Problems* and *Task 5: Integrate Technology into Solutions*.

## 3 Evaluate Existing Parking System

An understanding of existing parking operations in Barrie is critical as it provides the foundation from which new strategies are developed. Desired outcomes are often a function of current parking patterns and the knowledge of existing parking issues. Task 2 assessed existing parking operations in Barrie's Downtown and Waterfront Area. The following topics were discussed in Technical Memorandum 2:

- Background Document Review;
- Data Collection;
- Existing Conditions Assessment; and,
- Strengths, Weaknesses, Opportunities, Threats (SWOT) Assessment.

## 3.1 Existing Conditions Summary

### 3.1.1 Background Document Review

The background document review revealed that Barrie has a strong policy framework to help guide parking decisions. In general, the main parking objective of Barrie's Official Plan and Transportation Master Plan is to provide adequate and convenient parking opportunities while managing parking demand through parking price increases and the promotion of alternative modes of transportation.

In addition to parking policies, Barrie regularly completes parking master plan level strategies to develop specific recommendations aimed at meeting existing and future parking needs. Specifically, Barrie has completed the 2005 Waterfront Parking Study, 2007 Downtown Parking Study, 2011 Parking Study, 2012 Parking Strategy and Rate Review, and is currently in the process of completing this Parking Strategy Update study.

### 3.1.2 Data Collection

To provide a solid basis for the parking demand study and a meaningful needs analysis, parking supply and demand surveys were conducted by an external consultant during the following times:

- August 2018: Waterfront Parking Area (10 off-street lots totalling 761 parking spaces and 2 on-street parking segments totalling 81 parking spaces); and,
- June and August 2018: Downtown Parking Area (29 off-street lots totalling 1,598 parking spaces and 70 on-street parking segments totalling 770 parking spaces).

Parking operations in the Waterfront Area are known to peak during the summer months. Therefore, the August 2018 data set was adopted for this assessment. The June 2018 data set was adopted for the Downtown since the parking demand was higher than the August 2018 data.

### 3.1.3 Existing Conditions Assessment

The existing conditions assessment is intended to evaluate the health of Barrie's existing Downtown and Waterfront parking operations. Based on industry standards, parking systems are considered "effectively full" at an occupancy of approximately 85-90%, depending on lot size and other characteristics. This represents the point where finding a space becomes challenging for drivers, resulting in an increased likelihood of a driver having to search for an available parking space. Using the provided parking supply and demand data and a targeted 85% effective capacity threshold, the parking facilities that are under-utilized and over-utilized were identified. In other words, locations with parking supply deficiencies were identified.

Based on industry research, the publicly accepted walking distance between a parking space and the user's final destination ranges between 300–400 metres. For each location identified with a parking supply deficiency, the available parking supply within a 300–400 metres radius was assessed to determine whether sufficient parking supply is available nearby to accommodate the excess parking demand or if additional parking supply is required.

The Barrie Waterfront Area and Downtown parking systems are illustrated geographically in **Exhibit 3-1** and **Exhibit 3-2**, respectively.

Exhibit 3-1: Barrie Waterfront Area Parking Map

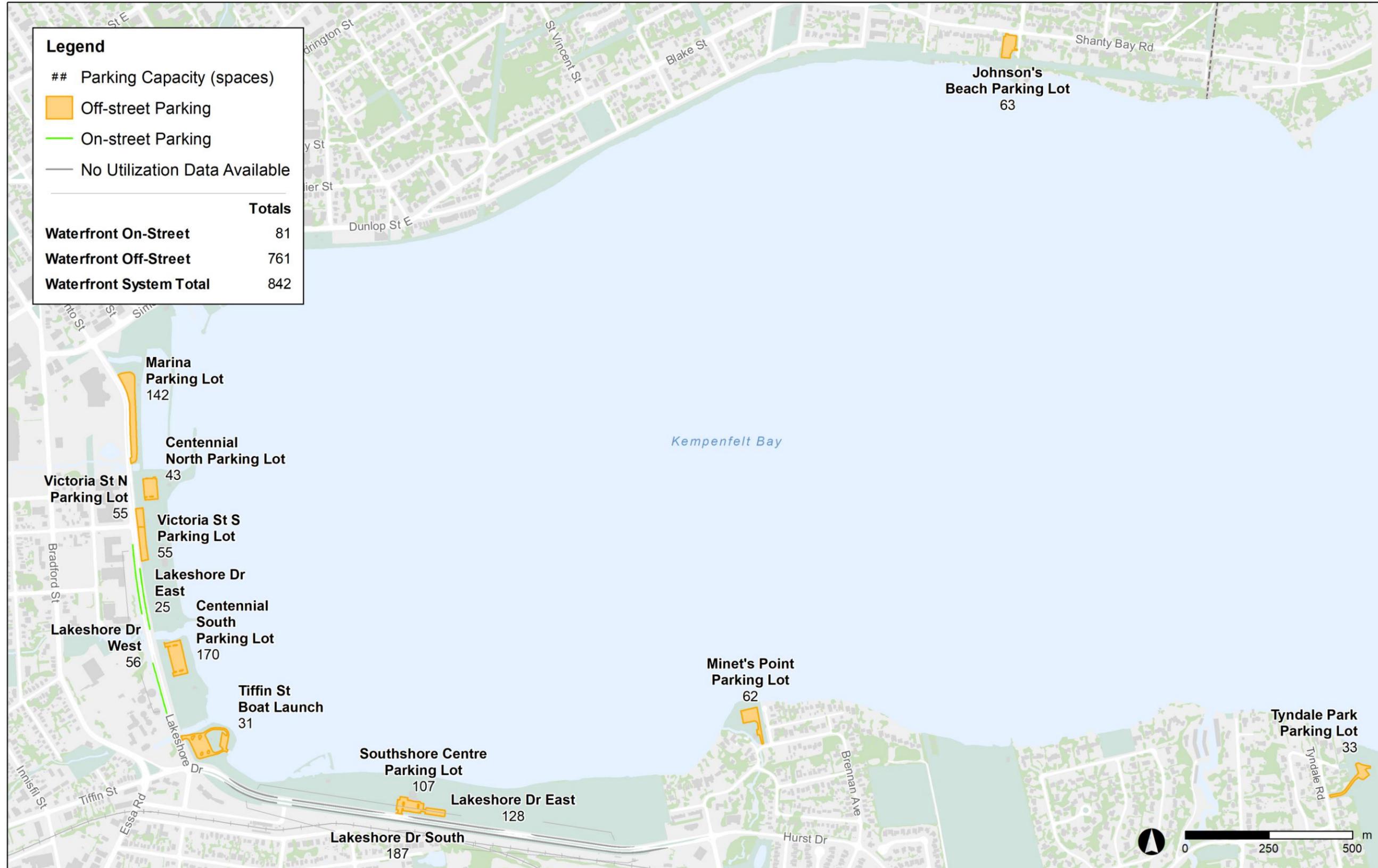


Exhibit 3-2: Barrie Downtown Parking Map



### **Parking Supply**

The following parking opportunities are provided in the defined Waterfront study area:

- Off-street: 761 parking spaces (including 26 accessible spaces);
- On-street: 81 parking spaces (including 6 accessible spaces); and,
- Total: 842 parking spaces.

The following parking opportunities are provided in the defined Downtown study area:

- Off-street: 1,598 parking spaces (including 26 accessible spaces);
- On-street: 770 parking spaces (including 10 accessible spaces); and,
- Total: 2,368 parking spaces.

### **Parking Operations**

The Waterfront Area parking demand peaked at 14:45 on a weekend, with overall utilization reaching 100%. During this peak period, 10 of 12 Waterfront Area parking facilities reached or exceeded 85% capacity, with 5 of the facilities reaching or exceeding 100% capacity. The greater than 100% utilization parking operations is anticipated to be a result of illegal parking. Parking operations remained underutilized on weekdays and weekend evenings. Given that the Waterfront Area parking capacity is only exceeded during summer weekends, this study investigated strategies Barrie can adopt to help meet the peak seasonal demand, alternative to a parking supply expansion. A parking supply expansion is not considered appropriate as it is expensive and the parking facility is not anticipated to be required during the 9 non-summer months.

Off-street parking demand in the Downtown peaked at 11:45 on the weekday with a utilization of 50%. During the weekday peak, 8 of 29 Downtown lots reached or exceeded 85% capacity, with 1 of the lots reaching or exceeding 100% capacity. Parking operations remained relatively consistent throughout the weekend, with parking operations peaking at 27% utilization at 14:00. The on-street municipal system peaked at 12:30 on the weekday, with a utilization of 55%. Of the 70 on-street segments, 14 segments exceeded 85% capacity and 9 segments reached or exceeded 100% capacity. While some on-street and off-street parking facilities operated at or above effective capacity, there are surrounding parking facilities within a 300-400m walking distance that can accommodate the excess demand. Given that the system wide parking occupancy is below the 85% effective capacity threshold, and that parking opportunities remain available near facilities that are operating above effective capacity, the existing supply is considered sufficient to accommodate the existing parking demand.

#### **3.1.4 Strengths, Weaknesses, Opportunities, Threats (SWOT) Assessment**

Based on the existing conditions assessment findings a SWOT assessment was completed for the City's existing parking system. The SWOT analysis findings, which examines the existing system's strengths, weaknesses, opportunities for improvement, and threats to future parking operations, are summarized in **Exhibit 3-3**.

**Exhibit 3-3: SWOT Assessment**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Aside from summer weekend capacity concerns in the Waterfront parking area, both the Waterfront and Downtown parking systems operate within capacity limits, with only a small number of localized capacity constraints.</li> <li>• The majority of the publicly available parking in Downtown Barrie is municipally managed. This limits the ability for the redevelopment of a single large private parking lot to place a sudden influx of demand on the municipal parking system.</li> <li>• Downtown Barrie is relatively compact, which reduces the walking distance for those unable to find parking immediately adjacent to their intended destination.</li> </ul>	<ul style="list-style-type: none"> <li>• There are limited opportunities to expand existing parking facilities, due to adjacent land use or due to a small lot footprint which may preclude conversion to a parking structure.</li> <li>• Major employment trip generators, such as City Hall, the Simcoe County Courthouse, and the Canada Revenue Agency, are located in close proximity. This results in the heaviest weekday parking demand being concentrated in a relatively small area. In some cases, this results in parking demand spillover into the surrounding residential areas.</li> <li>• The Waterfront Area parking system is known to experience significant seasonal parking demand fluctuations (parking demand during the summer is significantly higher than the non-summer demand). This creates the perception that the parking supply is not sufficient while the supply was determined to be sufficient during summer weekdays and at all times during non-summer months.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Growth and redevelopment within Downtown Barrie may present opportunities for the private sector to incorporate public paid parking within future development.</li> <li>• The presence of the GO Transit railway station can facilitate non-auto travel into the city centre. Based on current service patterns, the weekend recreational travel market is most likely to utilize the service as an alternative to automobile travel. As part of the Barrie GO Expansion project, GO Transit will offer all day two-way train service between Toronto and the Allandale (Barrie).</li> <li>• Future development can be designed with transportation demand management considerations as a forethought, potentially reducing automobile usage by residents and employees in Downtown Barrie.</li> <li>• The Allandale GO Transit station's close proximity to the Waterfront Area provides an opportunity to promote transit as a mode of transportation for Waterfront Area visitors.</li> </ul>	<ul style="list-style-type: none"> <li>• Redevelopment of existing buildings in the Downtown is likely to result in fewer parking spaces per dwelling unit (or per 100 m<sup>2</sup> of use, as the case may be) than presently exist. This may exacerbate demand pressures if mode share changes do not materialize.</li> <li>• Waterfront Area parking demand, once capacity is reached, may spill into the Downtown parking area. This would place additional pressure on the Downtown parking system.</li> <li>• Presently, the system experiences two distinct demand peaks – daytime and evening. As demand increases, there is a risk that these peaks will begin to overlap and produce capacity concerns in the late afternoon.</li> <li>• Significant population growth is projected in Barrie by 2041, which depending on how parking demand grows as a function of population, may create parking capacity issues.</li> </ul>

## 3.2 Key Findings

### Waterfront Area

Based on a review of existing conditions, the Waterfront Area parking system is operating over capacity on weekends during the daytime. As the majority of lots exceed 85% capacity, the average visitor is likely unable to find a parking space. While some visitors may divert to the Downtown parking area, the instances of lots exceeding 100% capacity (5 of 13 lots) may be due to visitors resorting to illegal parking practices. Parking demand during the weekend evenings, and all day on weekdays was within system capacity.

Based on these findings, strategies that help meet the peak seasonal demand, alternative to a parking supply expansion, are considered appropriate. These strategies include leveraging the Downtown parking system and/or managing Waterfront Area parking demand through parking price increases and parking user restrictions.

### Downtown

Analysis of the Downtown parking area, which consists of off-street facilities and on-street segments, indicates that the Downtown parking system is sufficient to accommodate the existing parking demand. While capacity is sufficient overall, there are some parking facilities that were observed to operate near or above effective capacity. It is likely valid that some users perceive a shortage in parking with occasional difficulty in finding a spot at some of the busier parking facilities. However, sufficient parking opportunities were observed to be available within acceptable walking distance (300-400m). Therefore, the existing parking system is considered sufficient to meet the current demand.

Based on the existing conditions assessment, Barrie's short term parking improvements should be ideally catered towards improving parking user experience and better distributing parking demand to the lesser used parking facilities.

## 4 Forecast Future Parking Scenarios

Through the accurate projection of future parking demand, educated long term parking related decisions can be made to support a successful Downtown and Waterfront Area parking systems. The future parking supply and demand is anticipated to be impacted by several factors including:

- Existing parking patterns;
- Parking demand growth due to population growth outside the Downtown core;
- New developments within the Downtown study area;
- Modal split changes; and
- Parking supply losses and gains.

The assessment was completed under five horizon scenarios: 2021, 2026, 2031, 2036, and 2041.

### 4.1 Future Conditions Methodology

Using the projected future parking supply and demand, and the targeted effective capacity threshold, parking facilities with parking deficiencies and surpluses were identified. Using this as a guide, locations where additional parking supply will be needed and locations with potentially surplus parking lots were identified.

#### **4.1.1 Existing Parking Patterns**

The existing parking patterns will form the base layer for the forecasted future parking demand. To estimate the future parking demand, the existing parking demand will be adjusted based on background parking demand growth, personal vehicle modal split changes, new developments, and parking supply changes.

#### **4.1.2 Background Parking Demand Growth**

Parking demand in Downtown Barrie is expected to grow in the future, both due to population growth creating a larger customer base for downtown businesses, and due to general commercial and retail growth in the core responding to the needs of the City's future residents. In order to estimate the impact of population growth on parking demand, the City of Barrie Long-Term Growth Scenarios Review (Watson & Associates, October 2018) and the 2016 Transportation Tomorrow Survey (TTS) were consulted.

By the 2041 horizon year, parking demand is anticipated to grow by 647 vehicles in the Downtown and by 432 vehicles in the Waterfront Area as a result of background population growth.

#### **4.1.3 Modal Split Changes**

One of the Official Plan's parking-related objectives is to promote and facilitate alternative modes of transportation such as rail, transit, cycling, and walking. In support of this, Barrie is committed to constructing dedicated bicycle lanes, and growing the Waterfront pedestrian trails. Considering this goal and these commitments, the future single occupant personal vehicle mode share is anticipated to be slightly lower than today, resulting in reduced parking demand.

Based on the Barrie Transportation Master Plan (2019), the Region is targeting a personal vehicle mode share of 78% by the 2041 horizon year. Based on the 2016 TTS, 88% of 2016 trips made in Barrie were through personal vehicles. Through interpolation, the personal vehicle mode share is anticipated to decrease by approximately 0.4% annually, resulting in a proportional decrease in parking demand.

Assuming the City is able to achieve the mode share targets established in the Transportation Master Plan, parking demand by the 2041 horizon year is anticipated to decrease by 130 vehicles in the Downtown and 86 vehicles in the Waterfront Area compared to existing conditions.

#### **4.1.4 New Study Area Developments**

While the background parking demand growth and mode share reduction of personal vehicles are anticipated to result in a net growth in parking demand across the study areas, specific developments are expected to have localized impacts to nearby parking facilities. Therefore, a micro level assessment of each potential future development was undertaken to develop an understanding of the parking related impacts. Through discussions with Barrie staff, planned/anticipated future developments were identified – though it must be noted that additional developments not otherwise identified may be proposed, approved, and constructed in the future.

In general, new developments provide sufficient parking supply on-site to meet the generated demand. Barrie regulates a development's onsite parking supply through the Zoning By-law requirements. However, in Downtown areas where space is often limited, providing sufficient on-site parking supply is not always possible. In these cases, parking demand is anticipated to spillover onto the municipal parking system.

A total of 150 vehicles are anticipated to need to park within the municipal parking system from these planned new developments. The parking demand spillover was assigned to the closest municipal off-street parking facility with available parking.

#### **4.1.5 Municipal Parking Supply Changes**

As a City grows and evolves, the existing municipal parking system will typically change as well. For example, existing surface lots may be redeveloped and consolidated into one large parking structure to support intensification while maintaining the existing parking supply. On-street parking spaces may be lost in favour of new cycling and transit facilities.

Through discussions with City staff, a list of anticipated changes to the municipal parking system was obtained. In the Downtown, 191 parking spaces are expected to be lost due to the provision of new cycling and transit facilities, and the re-development / decommissioning of existing parking facilities.

The parking demand displaced from the parking facilities anticipated to be closed was assigned to the closest municipal parking facility with available parking and of similar type (permit or transient).

#### **4.2 2041 Parking Operations**

The 2041 forecasted parking operations for the Downtown is presented geographically in **Exhibit 4-1** and **Exhibit 4-2**.

Exhibit 4-1: 2041 Barrie Downtown Forecasted Parking Demand – Off-street Parking

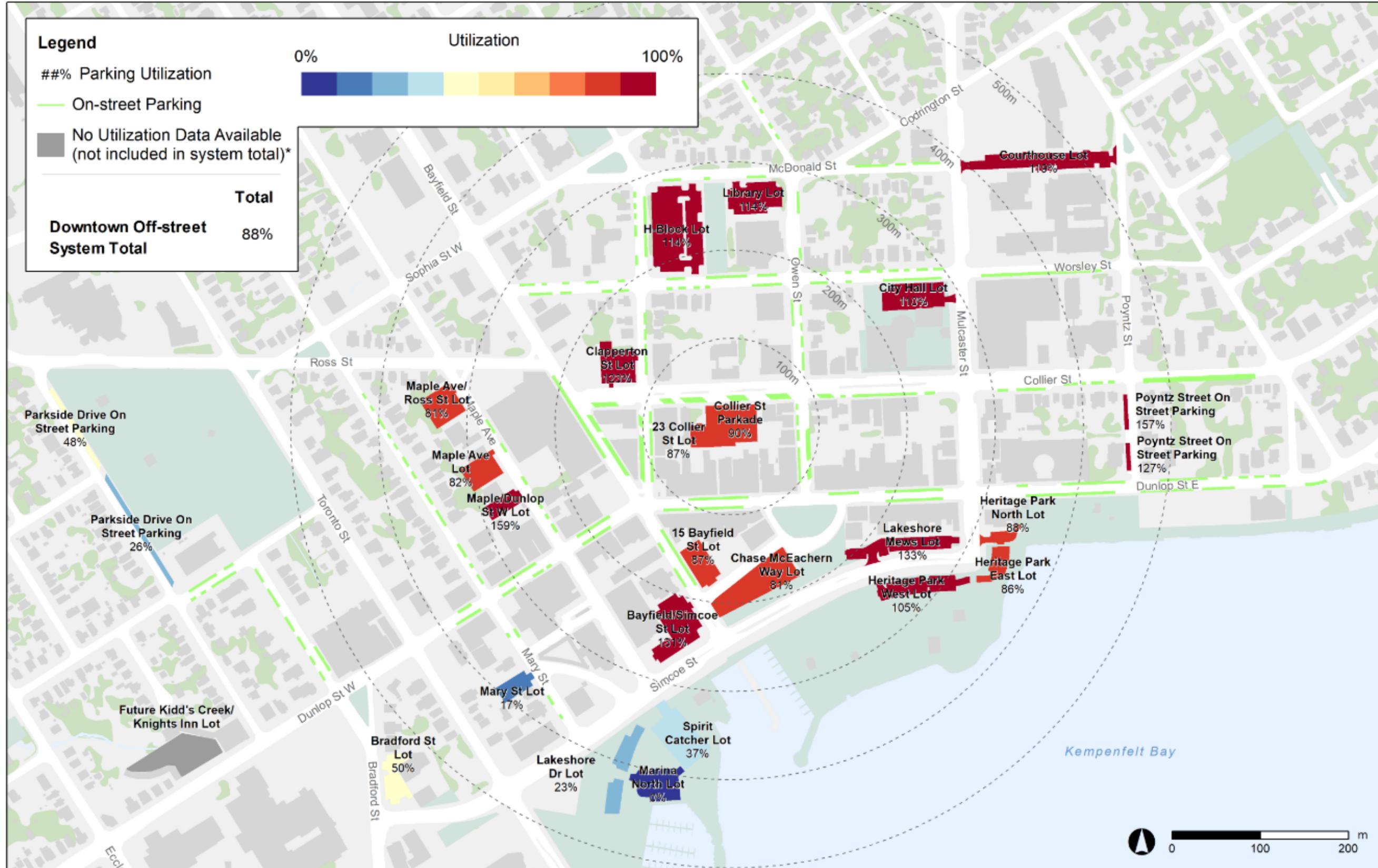
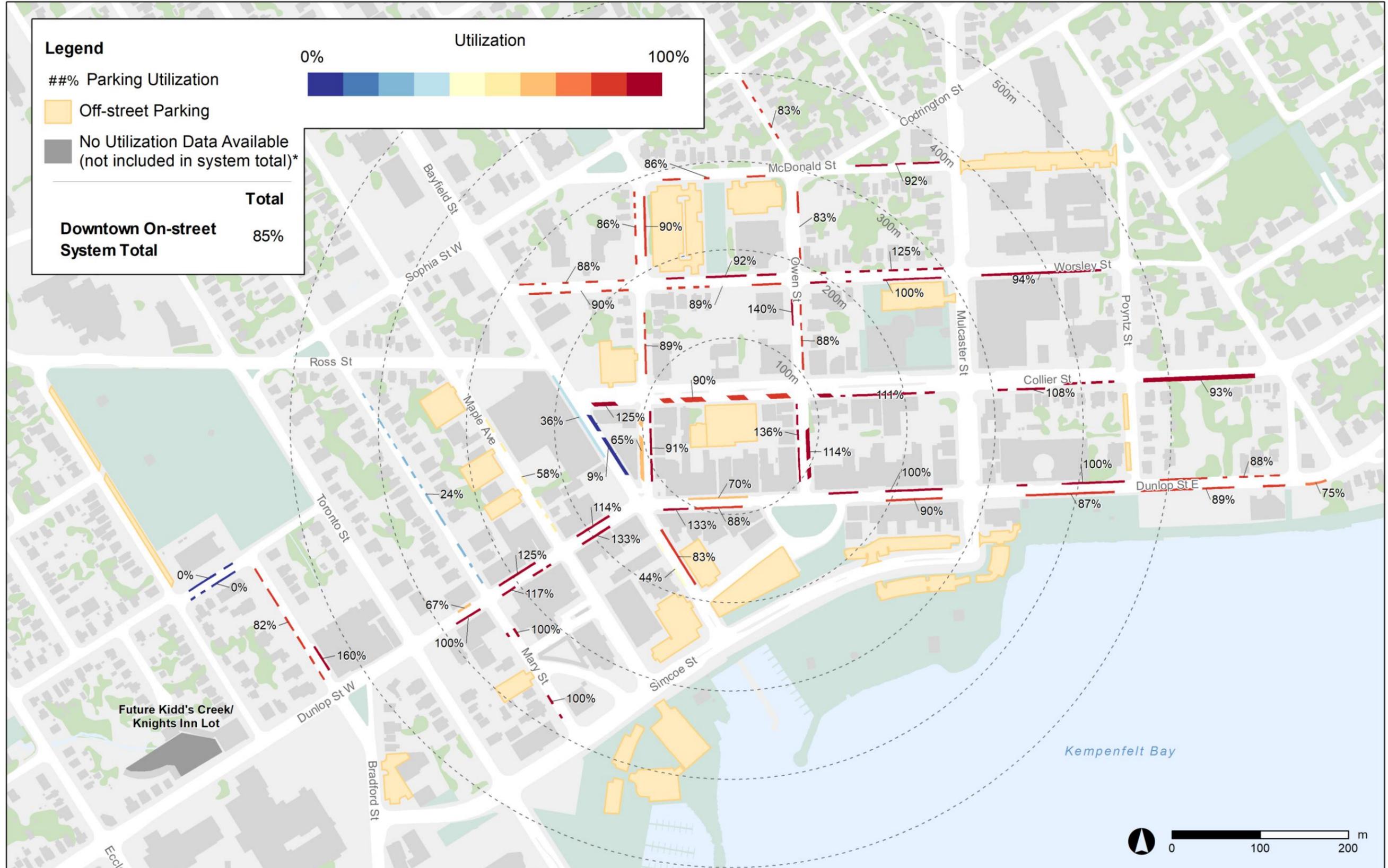


Exhibit 4-2: 2041 Barrie Downtown Forecasted Parking Demand – On-Street Parking



As shown in **Exhibit 4-1** and **Exhibit 4-2**, the assessment of the 2041 forecasted parking operations revealed the following:

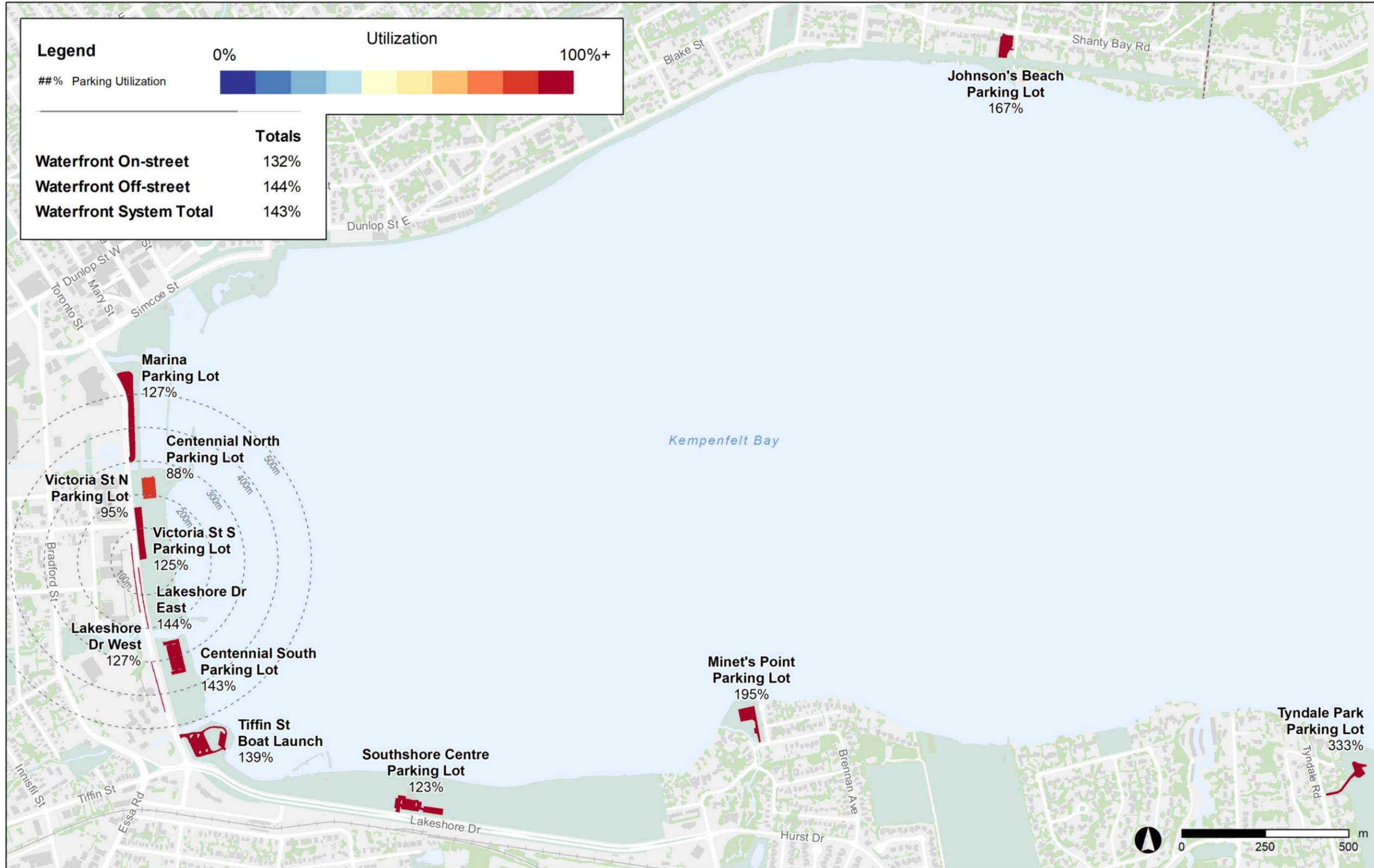
- During the period of peak demand for the Downtown Area, the overall parking system is projected to operate at effective capacity (87% utilization). This indicates that, overall, the system is largely able to accommodate projected demand. However, due to the excessive distance between areas of high parking demand and areas with available parking, 2041 parking operations are not projected to be acceptable.
- The off-street parking facilities are expected to operate at effective capacity (88% utilization), with 16 of 26 facilities reaching or exceeding 85% capacity, and 11 of the facilities reaching or exceeding 100% capacity. Similar to the overall parking operations, the facilities which are expected to experience the highest demand are clustered around areas of high employment – generally in the central-east area of the Downtown core.
- The on-street parking segments are expected to operate at effective capacity (85% utilization), with 38 of 53 facilities reaching or exceeding 85% capacity, and 19 of the facilities reaching or exceeding 100% capacity. As with off-street facilities, the road segments that are expected to experience the highest demand are clustered around areas of high employment and retail activity - generally in the central-east area of the Downtown core and along Dunlop Street West. Note that on-street users may elect to park in off-street parking lots if on-street capacity is unavailable.
- The Lake Shore Drive and Marina North lots are considered to be within the Downtown parking system, but due to their location they may experience demand pressures consistent with those of the Waterfront Parking system. If summer weekend demand were considered at these lots, then peak utilization would reach 20% and 76%, respectively, in 2041.

In summary, the Downtown Parking area is expected to operate at effective capacity in 2041. While there is expected to be sufficient supply to accommodate demand, 2041 parking operations are not projected to be acceptable without the implementation of strategies that better distribute parking demand.

#### **4.2.1 Waterfront Area**

The 2041 forecasted parking operations for the Waterfront Parking Area, which considers increases in demand due to population growth and reductions due to changes in mode share, is presented in **Exhibit 4-3**.

Exhibit 4-3: 2041 Barrie Waterfront Area Forecasted Parking Demand



As shown in **Exhibit 4-3**, the assessment the 2041 forecasted parking operations revealed the following:

- During the period of peak demand for the Waterfront Area, the overall parking system is projected to operate above capacity (143% utilization), with 10 of 12 facilities reaching or exceeding 100% capacity. This indicates that the average visitor in 2041 will be unable to locate a parking space.
- There may be limited opportunities to redistribute demand into the Downtown Parking Area, as the western edge of the Downtown core is expected to operate with lower levels of demand than the eastern edge of the core. Specifically, the Lakeshore Drive and Marina North lots (considered to be within the downtown parking system) are forecasted to be operating at 20% and 76%, respectively, on summer weekends in 2041. However, only the Waterfront Marina Lot is within a 300m to 400m desirable walking distance of these facilities. This limits the usefulness of this strategy.
- The isolated Waterfront Area parking facilities (Johnson's Beach, Minet's Point, and Tyndale Park lots) are expected to exceed capacity, and spillover into adjacent residential communities is anticipated to occur.

In summary, the Waterfront Parking Area is expected to operate above capacity in 2041, with almost all parking users experiencing difficulty finding an available parking space.

#### **4.2.1.1 2041 Waterfront Parking Operations – Supplemental Weekday Analysis**

Under existing conditions, the Waterfront Area parking capacity was only exceeded during summer weekends. In other words, no parking supply issues were observed during summer weekdays (Monday to Friday). Given the nature of the waterfront and its seasonal recreational uses, parking operational issues are not anticipated during the non-summer months.

To determine whether weekday existing conditions parking patterns are anticipated to continue to 2041, parking operations were projected for the Waterfront Area during the period of peak summer weekday parking demand. This assessment revealed the following:

- In 2021 through to 2036, the overall weekday system utilization increases from 61% utilization with no facilities operating at or above 80%, to 75% utilization with 4 of 12 facilities operating at or above 85% utilization. In 2036, 2 of these facilities operate at or above 100% utilization.
- In 2041, during the period of peak weekday demand for the Waterfront Area, the overall parking system is projected to operate slightly below effective capacity (81% utilization).
- In 2041, the off-street parking facilities are expected to operate below effective capacity (80% utilization), with 4 of 10 facilities reaching or exceeding 85% capacity, and 3 of the facilities (Victoria Street North, Johnson's Beach, and Tyndale Park lots) reaching or exceeding 100% capacity.
- In 2041, the on-street parking segments are expected to operate slightly above effective capacity (86% utilization), with the east side and west side of Lakeshore Drive operating at 88% and 86% utilization, respectively.

Based on these results, the parking supply in the main Waterfront Area is expected to be sufficient to accommodate anticipated weekday (Monday to Friday) demand in 2041. While the on-street segments and the Victoria Street North lot are expected to slightly exceed effective capacity or exceed capacity outright, sufficient capacity supply is projected to exist in adjacent off-street lots to accommodate this demand.

With respect to the isolated Waterfront Area parking facilities, Johnson's Beach and Tyndale Park lots are projected to operate at 110% and 109% utilization, respectively, on weekdays. As a result, spillover into adjacent residential communities is anticipated to occur.

### 4.3 Key Findings

To monitor this study's future parking operation projections, Barrie is recommended to collect hourly parking demand data for both weekday and weekends regularly as the City continues to grow.

#### **Waterfront Area**

The Waterfront Area parking system is projected to continue operating above capacity during summer weekends. The 3 isolated parking lots (Johnson's Beach, Minet's Point, and Tyndale Park parking lots) are all projected to operate over capacity, and 7 of the 9 parking facilities in the main Waterfront Area are projected to reach or exceed 100% capacity.

However, on summer weekdays the main Waterfront Area is expected to have sufficient capacity to meet demand. Therefore, Barrie is not recommended to construct additional parking facilities to meet the summer weekend parking demand since the facilities would remain unused during the majority of days of the year.

With respect to the isolated Waterfront Area parking facilities, all three parking lots (Johnson's Beach, Minet's Point, and Tyndale Park) are projected to operate above capacity during summer weekends, while only Johnson's Beach and Tyndale Park are projected to operate over capacity on the weekdays (110% and 109% utilization, respectively). Therefore, strategies to manage summer weekday and weekend parking demand at the Johnson's Beach and Tyndale Park parking lots, as well as potential alternative locations to accommodate some parking demand, are considered appropriate. Regarding Minet's Point lot, strategies aimed specifically at managing the parking demand during summer weekends are recommended.

#### **Downtown**

Overall, parking operations in the Downtown are projected to remain under capacity in all horizon years except 2041. Parking users are anticipated to experience difficulty in finding an available parking space in some of the busier on-street and off-street parking facilities, which is anticipated to become more widespread as time progresses. The parking supply issues are projected to be most pronounced along the eastern edge of the Downtown, which is highly impacted by the decommissioning of existing parking facilities (Owen and Mulcaster Lots). 2041 parking operations are projected to experience capacity issues unless strategies that better distribute parking demand are implemented.

Based on these findings, an expansion of the Downtown on-street or off-street parking system is not recommended due to the system's ability to accommodate future demand. However, given that both the on-street and off-street parking facilities are projected to operate at effective capacity by 2041, decommissioning of parking facilities is also not recommended. In other words, all surplus parking lots are recommended to be maintained. Should circumstances dictate that facilities be decommissioned, consideration should be given to obtaining replacement capacity in close proximity.

Strategies aimed at better distributing parking demand from the parking facilities operating near or at capacity to the facilities with available capacity are recommended.

## 5 Propose Solutions to Business Problems

Based on the findings of Tasks 1 through 3, existing and future parking issues and needs were identified. Given this understanding, appropriate solutions aimed at addressing the issues unique to the City of Barrie are developed.

The proposed solutions are categorised based on the eight Business Problems identified in the Request for Proposal (RFP), which are:

- **Convenience:** Improve the parking user experience.
- **Waterfront Parking:** Reduce confusion regarding the Downtown and Waterfront Area parking boundary.
- **Competitiveness:** Increase the appeal of Downtown businesses compared to similar businesses located elsewhere by improving the parking user experience. Note that the proposed strategies do not include reserving municipal parking spaces for private developments.
- **Long-Term Parking:** Increase the availability of short term parking spaces by better managing long term employee parking.
- **Free/Discounted Parking:** Ensure consistency when evaluating and granting requests for free and discounted parking.
- **Spillover Parking:** Minimize parking demand spillover into residential neighbourhoods.
- **Parking Inventory:** Meet existing and future parking needs in the Downtown and Waterfront Areas.
- **Financial Sustainability:** Achieve financial parking operations where revenues are sufficient to fund expenses.

A minimum of three solutions were identified for each Business Problem with at least one of these three recommended as a solution. In some cases, all of the identified solutions are recommended for adoption by the City. For each Business Problem, an accompanying case study was provided that investigated the operations of a North American municipality where a similar solution has been implemented. High level costs were estimated for the recommended solutions and connections were made to the relevant Guiding Principles.

**Exhibit 5-1** outlines the recommended solutions for each Business Problem.

**Exhibit 5-1: Barrie Business Problems and the Proposed Recommendations**

Business Problem	Recommendations
Convenience	<p><b>Procure a third party parking app system:</b> To provide an alternative method of payment, Barrie is recommended to procure a third party parking app system. The parking app is recommended to have the functionality to connect with handheld and mobile license plate recognition (LPR) enforcement technologies.</p> <p><b>Sell parking permits online:</b> To provide another alternative method of payment. Barrie is recommended to sell parking permits online. To maximize the benefits of LPR technology, online permit sales are recommended to be limited to digital permits.</p> <p><b>Install smart parking meters:</b> To provide alternative methods of payment, Barrie is recommended to replace the existing parking meters with smart meters as they near service life. Smart meters that can integrate with LPR technology are recommended.</p>

Business Problem	Recommendations
	<p><b>Implement variable parking prices:</b> To improve the distribution of parking demand, Barrie is recommended to implement the variable parking prices strategy in the Downtown. Western parking facilities are intended to have parking prices set lower than the central and eastern parking facilities to increase appeal. Parking prices are envisioned to be updated annually until a parking demand equilibrium of sorts has been achieved.</p> <p><b>Improve parking wayfinding:</b> To help increase public awareness of parking opportunities and better distribute parking demand, Barrie is recommended to complete a Wayfinding Master Plan that is aligned with the currently on-going Tourism Master Plan and other municipal initiatives. As part of the study, Barrie should implement introduction and pedestrian wayfinding signage and upgrade the existing identification signs to include information such as parking rates, hours of operation, maximum duration, and whether the Resident Parking Pass is accepted. If Barrie procures a third party parking app system, a parking map similar to the online GIS map should be added to the app as an additional feature. Barrie could also consider implementing dynamic wayfinding technologies that provide users with real time parking occupancy data.</p> <p><b>Harmonize parking restrictions:</b> To reduce confusion regarding parking operations, Barrie is recommended to harmonize on-street and off-street parking restrictions. On-street parking is intended to serve short term visitors (2 hour maximum), while off-street parking facilities are intended to provide long term parking opportunities.</p>
Waterfront Parking	<p><b>Re-designate the Marina lot, North Marina lot, Spirit Catcher lot, and the Lakeshore Drive lot as “Midtown lots”:</b> To reduce confusion regarding the Waterfront and Downtown boundary, Barrie is recommended to re-designate these lots as Midtown Lots, with pay parking operations in effect 24/7 at the Downtown prices and the Resident Parking Passes not accepted. Note that the third designation’s title may be revised as necessary by Barrie staff to best suit the local context.</p> <p><b>Accept seasonal Marina Lot parking pass in the Lakeshore Drive Lot, Spirit Catcher Lot, and Marina North Lot:</b> To provide alternative parking opportunities for seasonal Marina Lot parking pass holders, Barrie is recommended to accept the passes in the Lakeshore Drive Lot, Spirit Catcher Lot, and Marina North Lot. These lots are located within a 200m walk of the Marina Lot.</p> <p><b>Procure a permit parking management system and link resident parking passes to license plate:</b> To minimize Resident Parking Pass misuse and facilitate LPR technology, Barrie is recommended to develop a permit parking management system, and to link the Resident Parking Passes to vehicle license plates.</p>
Competitiveness	<p><b>Install smart meters capable of printing discount codes:</b> The selected smart meters are recommended to be capable of printing receipts with unique codes so parking users can obtain discounts from the business or establishment they visit.</p> <p><b>Procure a third party parking app system capable of transferring the cost of parking to third party entities:</b> A parking app system capable of transferring the cost of parking to a third party entities through a discount code is recommended.</p> <p><b>Improved Reinvestment Strategy:</b> To improve transparency on how parking revenues are spent, Barrie is recommended to communicate planned parking improvements on the City website to outline how the parking revenue is being spent.</p>

Business Problem	Recommendations
	<p><b>Variable parking prices and wayfinding improvements:</b> See “implement variable parking prices” and “improve parking wayfinding” under the Convenience Business Problem.</p>
Long-Term Parking	<p><b>Variable parking prices and wayfinding improvements:</b> See “implement variable parking prices” and “improve parking wayfinding” under the Convenience Business Problem.</p> <p><b>Improve on-street enforcement through LPR:</b> To increase the efficiency of on-street parking enforcement, handheld LPR technology is recommended for adoption. Officers are automatically notified when a parking violation is detected. The devices should be chosen based on the ability to communicate with the third-party parking app and the smart meters.</p> <p><b>Refrain from reserving parking spaces for private developments:</b> To help meet future parking needs, Barrie is generally recommended to not reserve parking spaces in municipal lots for private developments. The Downtown parking system is anticipated to operate at the effective capacity threshold by 2041.</p>
Free/Discounted Parking	<p><b>Adopt a cost recovery policy for free parking events:</b> To minimize the impact of the requests on financial sustainability, Barrie is recommended to adopt a cost recovery policy.</p> <p><b>Free/discounted parking request:</b> To determine if free/discounted parking should be granted, Barrie is recommended to assess whether the parking system can accommodate the additional parking demand generated.</p>
Spillover Parking	<p><b>Implement parking restrictions along the affected streets:</b> To manage Downtown and Waterfront parking demand spillover into residential neighbourhoods, Barrie is recommended to implement parking restrictions along the affected streets. LPR technology could be leveraged to efficiently enforce these restrictions if adopted by Barrie. A solution to visualize on-street regulations may also be useful to identify areas most at risk of experiencing spillover parking.</p> <p>The parking restrictions are envisioned to be signed similar to existing parking restrictions throughout Barrie. Based on research completed by the Victoria Transport Policy Institute, a distance of approximately 500 meters measured from the municipal parking system boundary is considered appropriate for defining the area in which these restrictions should be applied. Applying these restrictions in this broad of an area will dissuade most drivers looking for free long-term parking from parking in these residential areas.</p>
Parking Inventory	<p><u>Downtown</u></p> <ul style="list-style-type: none"> <li>• <b>Adopt a parking supply equilibrium policy:</b> To maintain the existing Downtown parking supply and meet future parking needs, Barrie is recommended to adopt a parking equilibrium policy where any parking supply lost due to redevelopment is replaced on-site or elsewhere nearby. Note that Planning staff are working on a supporting policy for the draft of the Official Plan update.</li> <li>• <b>Adopt a variable parking price strategy:</b> See “implement variable parking prices” under the Convenience Business Problem.</li> <li>• <b>Implement TDM strategies outlined in the 2019 Transportation Master Plan (TMP):</b> To manage Downtown parking demand and help meet future parking needs, Barrie is recommended to implement the TDM strategies outlined in the TMP.</li> </ul>

Business Problem	Recommendations
	<ul style="list-style-type: none"> <li>• <b>Improve parking wayfinding:</b> See “improve parking wayfinding” under the Convenience Business Problem.</li> </ul> <p><u>Waterfront Area</u></p> <ul style="list-style-type: none"> <li>• <b>Implement a shuttle bus service between the Downtown and the Waterfront Area during summer weekends:</b> To help meet the Waterfront Area’s peak parking demand during summer weekends, Barrie is recommended to implement a shuttle bus service between the Downtown and the Waterfront Area. The shuttle bus service would allow Barrie to leverage the available Downtown parking system to help meet Waterfront demand.</li> <li>• <b>Increase non-Barrie resident pay parking prices:</b> To manage Waterfront parking demand, Barrie is recommended to increase pay parking prices for non-Barrie residents. This strategy is also anticipated to generate additional revenue to help achieve financial sustainability.</li> </ul>
Financial Sustainability	<p><b>Increase Downtown, Waterfront Area, and RVH parking prices:</b> To help achieve financial sustainability, Barrie is recommended to increase Downtown and Waterfront Area parking prices every 5 years. Transient parking prices should be increased by \$0.25 per hour and parking permit prices should be increased by 10% every 5 years. Additionally, the RVH and Waterfront hourly parking price is recommended to be increased onetime to \$5.00 per hour. The objective is not to maximize parking revenue, but to generate sufficient funds to cover all parking prices.</p> <p><b>Extend weekday pay parking operations:</b> To further generate additional revenue and achieve financial sustainability, Barrie is recommended to extend weekday pay parking operations to 9:00 PM in the Downtown.</p>

## 6 Integrate Technology into Solutions

Parking technologies have the potential to increase the efficiency of parking operations and improve the parking user experience. Examples where technology can enhance the parking experience include parking lot entrance/egression, payment (pay & display, pay by phone, etc.), reporting systems, enforcement, and wayfinding signage through the delivery of real time parking information (variable message signs, smart phone apps, and online webpages).

### 6.1 Parking Technologies Summary

The work completed as part of Task 5 included an evaluation of Barrie’s existing parking technologies, state-of-the-art parking technologies research to support the solutions identified in Task 4, and the identification of technologies considered appropriate given Barrie’s unique needs and opportunities.

#### 6.1.1 Existing Parking Technologies

##### Pay Parking Technologies

The City operates approximately 620 parking meters (single-space, double-space, and multi-space meters) within the study area. The majority of parking meters are single-space meters that only accept coins. The remaining single-space and multi-space smart meters also accept credit cards. The City also provides 16 pay and display meters in the Collier Street Parkade.

Monthly parking permits can be purchased for Downtown off-street parking for frequent users of the Downtown parking system. Permits are hangtags to be displayed in a vehicle's rear-view mirror. Three monthly parking permit types are available in the Downtown (yellow, green, and blue permits) at varying costs, and the resident parking permit is accepted in the Waterfront Lots.

### **Electric Vehicle (EV) Charging Stations**

Currently, the City of Barrie has a total of 54 EV charging stations, spread around its Downtown and Waterfront areas:

- Collier Street Parkade: 24 charging stations (16 Tesla-only and 8 universal);
- Library Lot: 6 charging stations (4 Tesla-only and 2 universal);
- Heritage Parking West Lot: 12 charging stations (8 Tesla-only and 4 universal); and
- Marina Lot: 12 charging stations (8 Tesla-only and 4 universal).

### **Parking Enforcement**

Parking is enforced manually by enforcement officers. The City currently owns 18 handheld ticketing devices that are used to write and print parking infraction notices to those violating the parking rules 7 days per week, city-wide. These devices are currently not set up to digitally chalk vehicles or communicate with other devices.

## **6.1.2 Parking Technology Opportunities**

Parking technology has the capability to address some of Barrie's business problems, specifically those related to Convenience and Waterfront Parking.

### **Problem: Customers can't find parking (Convenience)**

- **Opportunity:** An interactive map interface can be used to display the locations of all parking spaces in the City's Downtown and Waterfront Areas. Additionally, real-time parking availability can be gathered from occupancy technologies including parking meter sensors, cameras, and in-pavement loops. This information could be displayed online or an app could be developed that communicates with the occupancy technologies to display the occupancy information. To supplement information provided online or by the app, variable message signs (VMS) could be placed at lot entrances and strategic locations on the roadside entering downtown to indicate whether that lot is full and the general direction of the closest lot with available parking.

### **Problem: Customers want more options to pay for parking (Convenience)**

- **Opportunity:** Smart meters are a versatile tool for providing multiple fare payment methods, as they can simultaneously provide the option for cash and coin, credit and debit, and smart card payments. With multiple options available for customers, parking payment is not restricted to only one method, which may not work for all customers. Additionally, a third-party parking app may be used such that customers can pay hourly or daily for parking. In collaboration with license plate recognition (LPR) enforcement technology<sup>1</sup>, monthly permits and resident passes can be purchased through the app, associated with a vehicle's license plate information, removing the need for customers to display physical permits or passes.

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<sup>1</sup> City of Barrie is currently planning a pilot for mobile LPR via a single vehicle.

**Problem: Customers struggle to understand parking restrictions (Convenience)**

- **Opportunity:** Updating the City of Barrie’s existing parking webpage, Geo Hub, Pingstreet app, or a new app displaying curbside restrictions and parking areas could benefit the general public. Signage at parking locations may also be updated to reflect restrictions in a more easily understandable fashion. Smart meters may also display parking availability and time restrictions when customers park and pay.

**Problem: The boundary between the Waterfront and Downtown is confusing (Waterfront Parking)**

- **Opportunity:** Parking spaces may be clearly distinguished between the City’s Downtown and Waterfront areas through colour-coding systems, signage that delineates which zone the parking area is located within, implementing variable message signs at off-street lot entrances, or through the interactive map on a website or an app. Note that the colour coding system is intended to be adopted alongside the third “Midtown” designation.

**Problem: The administration of the Resident Parking Pass is inefficient, inconsistent, and susceptible to exploitation (Waterfront Parking)**

- **Opportunity:** Resident Parking Passes can be registered with a vehicle’s license plate information, thereby removing the need for physical passes. As a result, a Resident Parking Pass cannot be transferred between vehicles. By associating passes with license plate information, LPR can be purchased and used for enforcement.

Resident Parking Passes may be acquired through the app and existing passes can be registered on the app, overall making the Resident Parking Pass system consistent. For residents without access to cell phones, the existing option to acquire a Resident Parking Pass in person will remain. Alternatively, an option to purchase the app through Barrie’s website could be integrated into the existing system.

## 6.2 Key Findings

A cohesive set of parking technology hardware and software solutions are recommended for the City’s Parking Technology Update.

New and updated methods of parking payment will facilitate parking enforcement and provide customers with easier and more accessible payment options. Collaboration with a third-party parking app provides opportunity for more options for users to pay for parking. In addition to in-person purchasing of monthly and resident parking permits, digital permits are recommended to be made available for purchasing online.

Smart meters compatible with credit card payments are recommended to replace existing coin machines at busy on-street and off-street parking locations. As the existing coin-based meters need replacing, they should be replaced with single-space, double-space, and multi-space smart meters. All permit and smart meter parking transactions should eventually be made using the user’s license plate information for integration with the proposed LPR technology. Because of this, physical hang tags currently used to display parking permits will no longer be necessary. LPR handheld devices and a mobile vehicle-mounted camera are specific options to be purchased for parking enforcement.

The proposed parking information and wayfinding technologies will assist customers in finding parking. The current Downtown and Waterfront parking signage should be updated and colour-coded to better distinguish these zones. For off-street lots, parking occupancy technologies are recommended to disseminate availability information to the public. Barrier gate systems could be installed at the Collier Street Parkade and loop controllers could be installed at larger lots with high

utilization. Utilization information would be fed to variable message sign (VMS) displays located at lot entrances. Additionally, block sensors placed at EV parking locations will determine their usage regardless if a vehicle is charging. This information will also be made available on the VMS displays. Static wayfinding signage, directing drivers towards the location of off-street parking lots should be added to the Downtown and Waterfront area entrances.

A summary of recommendations and their high-level cost estimates are presented in **Exhibit 6-1**.

**Exhibit 6-1: Technology Recommendations**

Recommendation	Description	Cost
Purchase handheld LPR enforcement technology	LPR enforcement technology would provide efficiency with proactive enforcement by communicating with other handhelds to identify when a vehicle was last digitally chalked. It will also identify who has a parking permit without the need to check for a hang tag. The devices should be chosen based on the ability to communicate with the third-party parking apps.	First Year = approximately \$90,000 for the city-wide 30,000 annual permits and violations required. Hardware = \$1,700 (android device and printer). Annual costs after the first year = \$3,500 per device Annual cell data fees = \$1,200 per device
Replace hang tags with permits linked to vehicle license plates	Parking permits distributed through registration to a vehicle's license plate number would eliminate the problems with hang tags being illegally transferred or sold. It would also streamline enforcement. Note: This is dependent on LPR technology purchase and integration.	Approximately \$5,000 to \$10,000 per year of staff hours to launch and maintain.
Introduce the option to purchase permits online	Monthly and resident parking permits purchasable online and registered using a vehicle's license plate number in consolidation with both the piloted mobile LPR and recommended handheld LPR enforcement technology would provide more ways for users to pay for parking.	Approximately \$5,000 to \$10,000 per year of staff hours to launch and maintain. <i>Note: LPR technology costs are separate</i>
Update Static Wayfinding Signage	Static wayfinding signage helps customers distinguish whether a parking location is located within the City's Downtown or Waterfront through a colour-coded zonal system. It also informs customers of the general location where parking is available.	Approx. \$500 per sign
Introduce a third-party Parking App	Parking apps offering pay-by-phone provide another option for customers to pay for parking. It also can be integrated with LPR enforcement or using the app's optional enforcement services.	No costs to partner with a third-party parking app solution. <i>Note: There may be capital costs for enforcement tools, additional signage, staff time for communications, etc.</i>
Implement Mobile License Plate Enforcement	As more smart meters are installed, mobile license plate enforcement would provide a more efficient way of enforcing on-street parking. The current mobile LPR system being piloted should be able to communicate with the handheld LPR devices and third-party parking apps.	First Year = \$60,000 for hardware (2 camera set-up) and software. Annual costs after the first year = \$4,500 per vehicle Annual cell data fees = \$1,200 per vehicle

Recommendation	Description	Cost
Implement Occupancy Technology and VMS Occupancy Displays	Occupancy information technology using VMS, a barrier gate system at the Collier Street Parkade, and loop sensors at larger lots of high utilization, such as the H-Block lot in the Downtown section as well as the Minet's Point and Centennial South lots in the Waterfront section would provide information to drivers whether or not a lot is full. Installing block sensors (1 for every 10 spaces) at the EV charging stations would capture utilization data whether or not a vehicle is plugged into the charging station.	<p><b>Block Sensors:</b> \$300-\$400 per sensor</p> <p><b>Loop Sensors:</b> \$15,000-\$20,000 per lot entrance/exit</p> <p><b>Smart Gates:</b> \$20,000 - \$30,000 (per lane)</p> <p><b>Variable Message Signage:</b> \$50,000 to \$150,000 per sign Annual maintenance = \$10,000 per lot</p> <p><b>Total Cost for the noted 4 lots</b> = approximately \$270,000 to \$750,000 plus \$40,000 annual maintenance</p>
Introduce Additional Smart Meters	Smart meters should be purchased in place of existing parking hardware as it becomes in need of replacement. For off-street lots, pay-by-plate smart meters could seamlessly be integrated with LPR enforcement.	<p><b>Single-space:</b> \$800</p> <p><b>Double-space meter:</b> \$1,000</p> <p><b>Multi-space meter:</b> 15,000</p>
Adopt an EV Policy	Moving EV charging stations can be expensive due to the costs associated with altering the conduits. Therefore, Barrie should adopt a policy to plan EV stations well into the future, and install conduits simultaneously with new parking facility construction or existing parking facility rehabilitation projects to manage overall costs.	<p>Minimal costs associated with the policy adoption</p> <p>\$10,000 to install an EV charging station per space (decreases with multiple adjacent spaces)</p>

## 7 Complete Financial Analysis

The financial analysis task objective is to evaluate the current financial health of the parking system and recommend potential interventions to help establish a parking system that is financially sustainable in the long term. The following tasks are completed as part of the financial analysis:

- **Peer Review:** A summary of the discussions with each comparator municipality around whether parking departments are self-sustaining through user fees, or if parking operations are supplemented through property taxes;
- **Base Year Revenues and Expenses:** An overview of the current revenues by stream and expenses by type used in the parking financial model; and
- **Parking Price Optimization:** The output of each of the parking price plan Scenarios that were modelled by IBI Group. The figures provided within this document are supported by assumptions and inputs that have been developed in collaboration with City staff.

### 7.1 Financial Operations Summary

#### 7.1.1 Peer Review

A peer review of ten comparator municipalities was completed to gain an insight into financial best practices in each comparator municipality. To complete this review, IBI Group reached out to both financial and parking departments at each municipality to arrange phone interviews to gain an understanding of their financial practices. The central question being answered is whether the parking departments operate as an enterprise governance model, where parking is self-sustaining through user fees, or if parking is a tax-supported department.

A summary table outlining the Peer Review findings is presented in **Exhibit 7-1**. IBI Group contacted but was unable to collect responses from Greater Sudbury, Oakville, St. Catharines, and Burlington.

#### Exhibit 7-1: Peer Review Summary

Municipality	Current Financial Practice	Planned Financial Practice
Guelph	Tax supported	Self-sufficient (by 2044)
Orillia	Self-sufficient	Potential deficit if a parking structure is built
Kingston	Self-sufficient	Self-sufficient
Kitchener	Self-sufficient	Self-sufficient
Wasaga	Self-sufficient	Self-sufficient
Toronto	Self-sufficient	Self-sufficient

In general, municipalities were determined to be self-sufficient and/or moving towards a self-sustaining enterprise governance model if currently tax supported. The majority of municipal contacts suggested that covering operating costs are manageable, and it is usually capital expenditures and associated debt servicing that prompt deficits given the high cost of building and maintaining structured parking.

### 7.1.3 Current Parking Revenues and Expenses

The financial performance of Barrie's current parking system is examined in this section.

As of 2019, the uncommitted parking reserve fund is at a deficit of \$1,350,000 and is projected to continue decreasing without an intervention. A detailed financial model has been developed to forecast the projected reserve balance to 2030 and to investigate potential parking price plans aimed at achieving long term financial sustainability. The financial model findings are discussed in Section 7.1.4.

**Exhibit 7-2** outlines the projected 2020 annual operating and capital summary based on existing conditions. Note that the presented data was projected and provided by the City of Barrie.

**Exhibit 7-2: 2020 Projected Operating and Capital Expenditures and Revenues**

Category	Amount	%
<b>Expenses</b>		
Salaries and Benefits	\$406,648	13.1%
Corporate Overhead	\$334,371	10.8%
Debt Servicing – Parkade	\$976,794	31.5%
Capital Renewal – Parking Lots	\$325,930	10.5%
Repairs and Maintenance	\$703,047	22.7%
Other Operating	\$356,047	11.5%
<b>Total Expenses</b>	<b>\$ 3,102,837</b>	
<b>Revenues</b>		
Downtown (On-Street)	\$332,352	14.1%
Downtown (Lots)	\$861,654	36.6%
Waterfront	\$432,585	18.4%
RVH Area	\$131,886	5.6%
Permit Revenue	\$422,332	17.9%
Development Charges	\$174,035	7.4%
<b>Total Revenues</b>	<b>\$2,354,844</b>	
<b>Net</b>	<b>- \$747,993</b>	

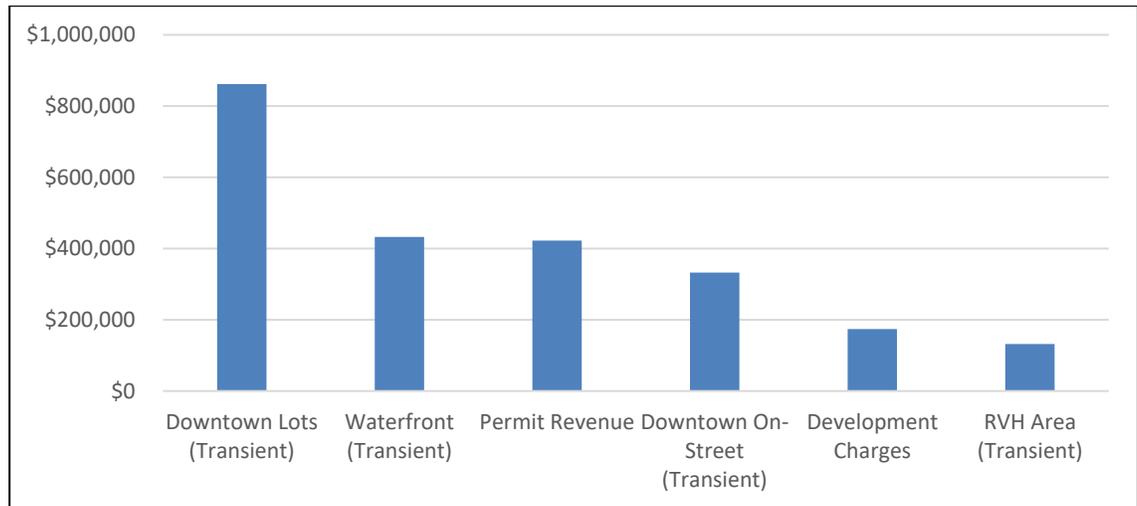
Based on **Exhibit 7-2**, the following is observed:

- The parking system is projected to generate \$2,350,000 in revenue and incur \$3,100,000 in expenditures in 2020. Overall the parking system operations are not projected to be financially sustainable without intervention.
- Only 75.9% of expenditures are forecasted to be recovered through revenues. Parking operations are desired to be 100% funded through parking user fees.
- Debt servicing for the Parkade represent 31.5% of existing expenditures. This annual debt servicing payments will be complete in 2024. However, a facility condition assessment has been completed and lifecycle capital costs for the parkade are anticipated to increase as the asset ages.

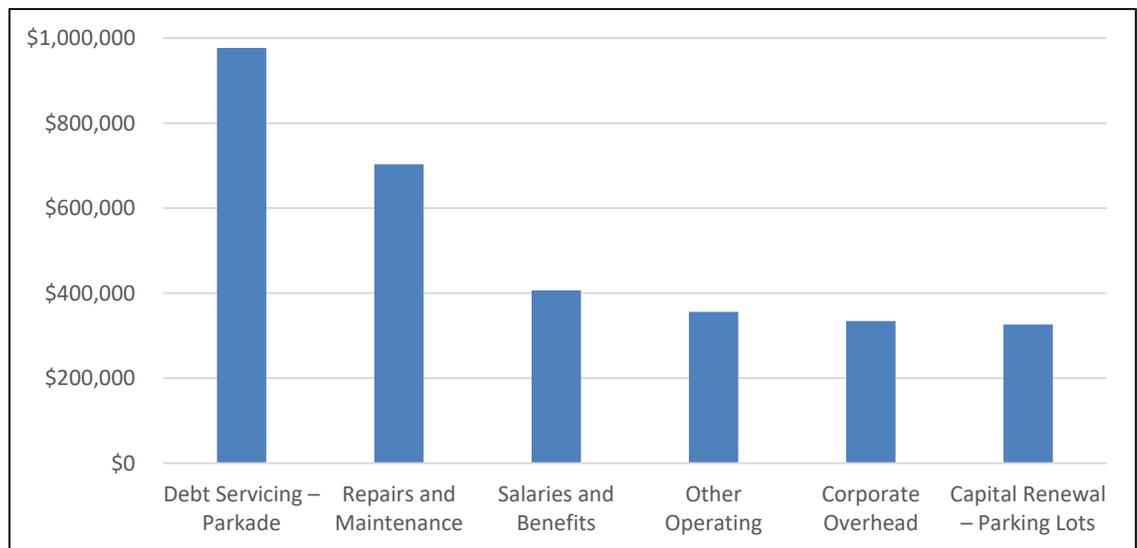
It is important to note that the revenues and expenses presented in **Exhibit 7-2** do not account for planned parking system improvements such as wayfinding improvements, technology enhancements, and the implementation of financial, demand distribution, parking restriction, and communication strategies.

The projected 2020 revenues and expenses were divided into finer categories to examine individual revenue streams, the results of which is presented in **Exhibit 7-3** and **Exhibit 7-4**. Revenues identified as transient represent hourly and daily parking charges for both on-street and off-street facilities.

**Exhibit 7-3: Summary of Revenue Generation by Stream**



**Exhibit 7-4: Summary of Operating Expenses by Type**



Both revenue and expenses have been relatively consistent over the past several years indicating there is no obvious trend that would suggest the financial health will improve or deteriorate beyond current state without intervention.

### 7.1.4 Parking Price Optimisation

The long term financial performance of five parking price Scenarios was evaluated:

- Scenario 1: Status Quo;
- Scenario 2: Service Improvements, Rate Increases and Paid Evening Parking;
- Scenario 3: Service Improvements, Rate Increases and Paid Saturday Parking;
- Scenario 4: Service Improvements, Rate Increases and Residents Pay for Parking at Waterfront; and
- Scenario 5: Service Improvements, Rate Increases and Rate Increases.

The parking financial model inputs and assumptions have been developed in collaboration with City Staff. **Exhibit 7-5** provides an overview of the five parking price Scenarios.

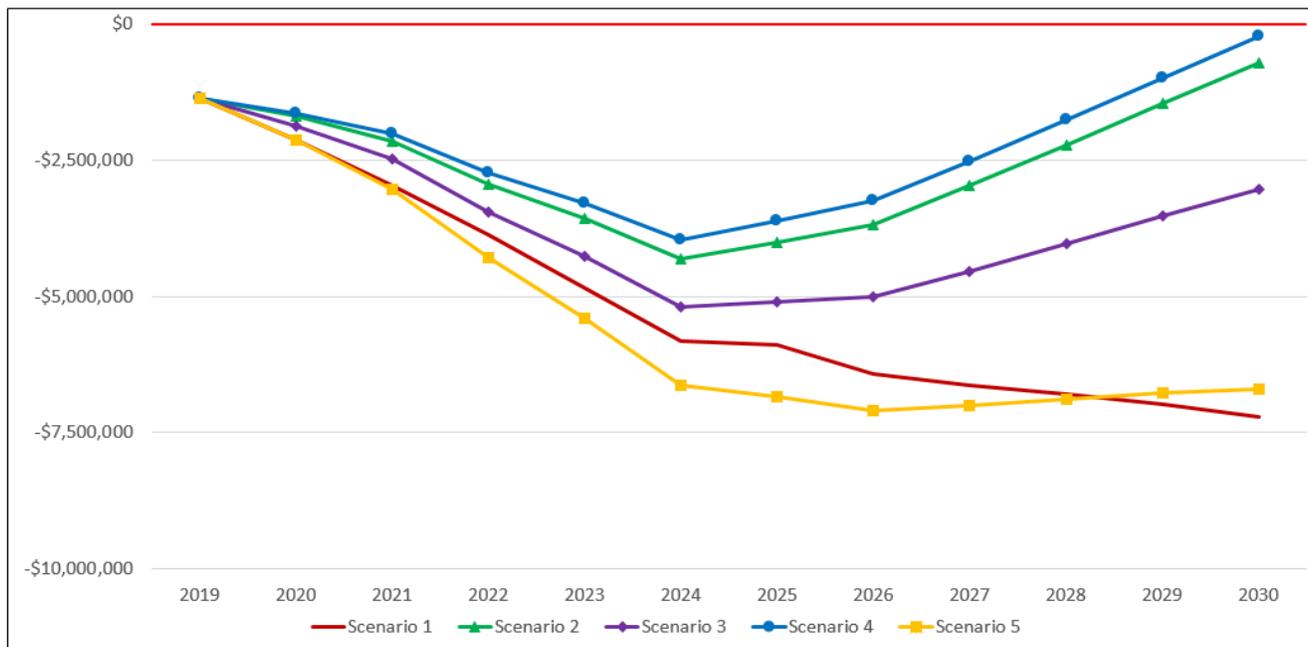
**Exhibit 7-5: Parking Price Scenario Overview**

Strategies	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Description	Status Quo	Paid Evening Parking	Paid Saturday Parking	Paid Waterfront Residents	Rate Increases Only
Transient Rate Increase Downtown (every 5 years)	No	\$0.25/hour	\$0.25/hour	\$0.25/hour	\$0.25/hour
Transient Rate Increase Waterfront, Non-Residents	No	To \$5.00/hour	To \$5.00/hour	To \$5.00/hour	To \$5.00/hour
Permit Rate Increase (every 5 years)	No	10%	10%	10%	10%
RVH Area Rate Increase	No	To \$5.00/hour	To \$5.00/hour	To \$5.00/hour	To \$5.00/hour
Evening Pay Parking	No	Yes	No	No	No
Saturday Pay Parking	No	No	Yes	No	No
Waterfront Pay Parking for Residents	No	No	No	Yes	No
Additional Staff Resources	None	\$90,720 annually	\$42,120 annually	None	None
Service Improvements	No	\$136,000 annually	\$136,000 annually	\$136,000 annually	\$136,000 annually

The financial model findings are presented in **Exhibit 7-6**, where the projected reserve fund balance of all five Scenarios is illustrated on an annual basis. The first year of each Scenario (2019) reflects the uncommitted reserve fund balance of negative \$1.35 million. Both operating and capital expenditures, excluding service improvements, are held constant throughout all of the Scenarios. Expenditures are informed by historical financial figures and have also been developed through discussions with City staff.

As discussed with Barrie staff, the financial model does not include funding set aside for a future parking supply expansion.

**Exhibit 7-6: Annual Projected Reserve Fund Balances**



Scenario	2030 Reserve Fund Balance
1	-\$7,220,386
2	-\$711,543
3	-\$3,039,650
4	-\$218,690
5	-\$6,701,418

By 2030, all Scenarios are projected to remain in deficits ranging from \$219,000 to \$7,220,000. However, Scenarios 2, 3, and 4 are observed to be trending towards financial sustainability shortly after the 2030 horizon year.

## 7.2 Key Findings

The parking price projection Scenarios demonstrate that, if the City takes no action, the reserve fund balance is anticipated to reach negative \$7,220,000 by the year 2030. If this route is pursued, the City would have to fund the estimated deficit from other revenue sources such as property taxes. It was gleaned from interviews with the comparator municipalities that parking is generally not a tax-supported department.

To achieve financial sustainability in the long term Barrie should adopt policies included in Scenarios 2 (paid evening parking) or Scenario 3 (paid weekend parking) as well as the recommended price increases. Scenario 4 (paid waterfront parking for residents) may also be considered as a future strategy to manage parking demand at the waterfront and achieve financial sustainability for the parking system.

## 8 Synthesize Findings into Cohesive Strategy

Task 7 summarizes the recommendations of Tasks 1 through 6, develops three potential strategies, and creates an implementation plan for the recommended strategy. The implementation plan is presented in a tabular format and outlines each recommendation’s impact level (low medium, or high), timeline, estimated cost, and a measure of effectiveness.

### 8.1 Cohesive Strategy Summary

The recommendations proposed throughout Tasks 1 and 6 were compiled into three alternatives:

- **Basic Strategy:** A set of recommendations that are relatively inexpensive and quick to implement but typically have low impacts. These strategies generally include policies and the optimization of parking operations using the existing system.
- **Enhanced Strategy:** A set of recommendations that have higher impacts than the Basic Strategy, but are also typically more expensive than the basic strategies. These strategies generally include new software and hardware aimed at improving parking user experience and parking operations.
- **State-of-the-Art Strategy:** A set of state-of-the-art recommendations considered optimal if cost was not a factor. While these strategies are high impact, they can often be considered financially unfeasible.

Note that the strategies are intended to build upon one other. In other words, the enhanced strategy includes the enhanced recommendations plus the basic recommendations, while the state-of-the-art strategy includes all of the recommendations.

**Exhibit 8-1** outlines the recommendations included in each Strategy and compares the effectiveness of each strategy related to the eight Business Problems. The Strategy’s effectiveness is based on the Harvey Ball system, where the fullness of the icon represents the degree to which the recommended solutions address the issues outlined by the corresponding business problem. The strategy that best addresses the Business Problem is assigned a full Harvey Ball with decreasing rates for the other strategies based on their relative level of effectiveness. The ratings were assigned based on past experience and engineering judgment.

**Exhibit 8-1: Parking Strategy Comparison**

Business Problem	Basic Strategy	Enhanced Strategy	State-of-the-Art Strategy
Convenience	<ul style="list-style-type: none"> <li>• Third party parking app</li> <li>• Online parking permits</li> <li>• Variable parking prices</li> <li>• Harmonize parking restrictions</li> </ul> 	<ul style="list-style-type: none"> <li>• Smart parking meters</li> <li>• Handheld LPR</li> <li>• Static wayfinding system</li> </ul> 	<ul style="list-style-type: none"> <li>• Dynamic wayfinding system</li> <li>• Mobile LPR</li> </ul> 
Waterfront Parking	<ul style="list-style-type: none"> <li>• Midtown Lot designation</li> <li>• Marina Lot pass in the Spirit Catcher Lot, Lakeshore Drive Lot, and Marina North Lot</li> </ul> 	<ul style="list-style-type: none"> <li>• Permit management system</li> <li>• Permits linked to license plates</li> </ul> 	

Business Problem	Basic Strategy	Enhanced Strategy	State-of-the-Art Strategy
Competitiveness	<ul style="list-style-type: none"> <li>Variable parking prices</li> <li>Parking discount codes</li> <li>Improved Reinvestment Strategy</li> </ul> 	<ul style="list-style-type: none"> <li>Smart parking meters</li> <li>Static wayfinding system</li> </ul> 	<ul style="list-style-type: none"> <li>Dynamic wayfinding system</li> </ul> 
Long-Term Parking	<ul style="list-style-type: none"> <li>Variable parking prices</li> <li>No reserved parking</li> </ul> 	<ul style="list-style-type: none"> <li>Static wayfinding system</li> <li>Handheld LPR</li> </ul> 	<ul style="list-style-type: none"> <li>Dynamic wayfinding system</li> <li>Mobile LPR</li> </ul> 
Free/Discounted Parking	<ul style="list-style-type: none"> <li>Adopt cost recover policy</li> <li>Consideration given to free and discounted parking requests</li> </ul> 		
Spillover Parking	<ul style="list-style-type: none"> <li>Parking restrictions along affected residential streets</li> </ul> 		
Parking Inventory	<ul style="list-style-type: none"> <li>Parking supply equilibrium</li> <li>Variable parking prices</li> <li>Waterfront pay parking operations for Barrie residents</li> <li>Increase Waterfront parking prices</li> </ul> 	<ul style="list-style-type: none"> <li>Implement TDM strategies outlined in the 2019 TMP</li> <li>Static wayfinding system</li> <li>Shuttle bus service</li> </ul> 	<ul style="list-style-type: none"> <li>Dynamic wayfinding system</li> </ul> 
Financial Sustainability	<ul style="list-style-type: none"> <li>Increase Waterfront, Downtown, and RVH parking prices</li> <li>Weeknight pay parking operations</li> </ul> 	<ul style="list-style-type: none"> <li>Enhanced Strategy requires more funding</li> </ul> 	<ul style="list-style-type: none"> <li>State-of-the-Art Strategy requires most funding</li> </ul> 

Barrie is recommended to adopt the Enhanced Strategy. The Basic Strategy, while the most budget friendly, can be improved upon without significant additional costs by adopting the Enhanced Strategy recommendations. While the State-of-the-art Strategy has the highest impact, the cost associated with Mobile LPR and Dynamic Wayfinding System is considered too great given that Barrie’s parking operations are currently in a deficit.

## 8.2 Key Findings

The recommended implementation plan, presented in **Exhibit 8-2**, includes all recommendations contained in the Enhanced Strategy. The implementation timelines are categorized as either short term (1-2 years), medium term (3-5 years), long term (6-10 years), or on-going.

Many of the recommendations are complementary and work together towards addressing a specific Business Problem. For example, the desire for alternative methods of payment is addressed by the third party parking app, the smart parking meters, and the online permit sales recommendations.

Certain recommendations also contribute to addressing multiple business problems. For example, the variable parking price strategy is intended to better distribute parking demand throughout the Downtown parking system by providing a financial incentive to park in the less desirable parking facilities. An improved distribution of parking demand contributes to solving the following Business Problems:

- **Convenience:** by better distributing parking demand throughout the Downtown system, parking opportunities at parking facilities (often found at capacity) increases.
- **Competitiveness:** by better distributing parking demand throughout the Downtown system, the parking user experience of Downtown customers is anticipated to increase as finding an available parking spaces would be easier.
- **Long-Term Parking:** by reducing the parking prices in traditionally underutilized parking facilities, long term parking users are anticipated to migrate to the less expensive facilities which is anticipated to open up premium parking spaces for short term users.
- **Parking Inventory:** by better distributing parking demand throughout the Downtown system, there is less likely to be parking operational issues (parking facilities operating near or at capacity with no alternative parking opportunities available nearby).

While each recommendation can be adopted individually for the desired effect, many of the recommendations are synergistic. For example:

- The rollout of a third-party parking app encourages the cohesion of parking payment, parking availability information dissemination, wayfinding, and enforcement (with the addition of LPR enforcement).
- Creating a parking permit management system and tying parking permits to license plates facilitates LPR enforcement and graduated parking fines (increasing parking fines as a function of number of violations). For monthly or annual parking, residents and non-residents may purchase permits through the City of Barrie's parking website or the parking app using their license plate number. Additionally, this system removes the possibility of residents illegally transferring passes between vehicles.
- Increasing parking prices helps achieve financially sustainable parking operations and manages parking demand which by making driving and parking a personal vehicle less appealing. Given that 2041 parking operations are projected to be at effective capacity, managing parking demand is anticipated to help Barrie meet future parking needs.

These are just a few examples of how the implementation plan recommendations are tied together for a holistic parking solution.

**Exhibit 8-2: Implementation Plan**

Recommended Action	Targeted Issue	Potential Impact Level	Timeline	Cost	Measure of Effectiveness	Policy Document Connections
<b>Convenience</b>						
Procure a third party parking app system	Customers want more options to pay for parking Customers struggle to understand parking restrictions	High	Short	No costs to partner with a third-party parking app solution <i>(Note: There may be capital costs for enforcement tools, additional signage, and staff time for communication of launch and reconciliation).</i>	Parking app usage	2019 Transportation Master Plan 2010 Official Plan Fees By-law Traffic By-law
Sell parking permits online	Customers want more options to pay for parking	Low	Medium	3% + \$0.30 transaction fee	Number of permits purchased online	
Improve static parking wayfinding system	Customers can't find parking	Medium	Short	\$100,000 (\$500 per sign)	Parking Utilization / Fewer parking facilities operating above effective capacity	
Harmonize parking restrictions	Customers struggle to understand parking restrictions	Low	Short	\$15,000 - \$20,000	Fewer parking violations	
Adopt variable parking prices	Customers can't find parking	Medium	Short and On-going	\$10,000	Parking Utilization / Fewer parking facilities operating above effective capacity	
Upgrade pay parking technologies (smart meters)	Customers want more options to pay for parking Customers struggle to understand parking restrictions	High	On-going	Single space meter: \$800 Double space meter: \$1,000 Multi-space meter: \$15,000	Customer satisfaction measured through feedback	
<b>Waterfront Area Parking</b>						
Adopt the Midtown Lots designation	The boundary between the Waterfront Area and Downtown is confusing	Low	Short	\$5,000 - \$10,000	Fewer parking violations	2010 Official Plan Traffic By-law
Accept the seasonal Marina Lot parking passes in the Lakeshore Drive Lot, Spirit Catcher Lot, and Marina North Lot	Seasonal Marina Lot parking pass holders struggle to find an available parking space during summer weekends	Medium	Short	No cost	Customer satisfaction measured through feedback	
Implement permit parking management system and link resident parking passes to license plates	The administration of the Resident Parking Pass is inconsistent and susceptible to exploitation	Medium	Medium	\$15,000 - \$30,000	Percent of parking permits released that linked to license plates	
<b>Competitiveness</b>						
Improve static parking wayfinding system	Providing parking for employees can be a barrier to Downtown employers Inconvenient parking can make businesses less competitive when compared to businesses located else where	Medium	Short	See Convenience Business Problem	Fewer parking facilities operating above effective capacity	2010 Official Plan Fees By-law
Procure a third party parking app system	Inconvenient parking can make businesses less competitive when compared to businesses located else where	Medium	Short	See Convenience Business Problem	Discount code usage	
Adopt variable parking prices	Providing parking for employees can be a barrier to Downtown employers Inconvenient parking can make businesses less competitive when compared to businesses located else where	Medium	Short and On-going	See Convenience Business Problem	Fewer parking facilities operating above effective capacity	
Improve reinvestment strategy	Providing parking for employees can be a barrier to Downtown employers Inconvenient parking can make businesses less competitive when compared to businesses located else where	Low	On-going	\$5,000 - \$10,000	Barrie parking website hits	
Upgrade pay parking technologies (smart meters)	Inconvenient parking can make businesses less competitive when compared to businesses located else where	Medium	On-going	See Convenience Business Problem	Discount code usage	

Recommended Action	Targeted Issue	Potential Impact Level	Timeline	Cost	Measure of Effectiveness	Policy Document Connections
<b>Long-Term Parking</b>						
Improve static parking wayfinding system	Employees parking for longer periods are making it difficult for users to access amenities for shorter periods	Medium	Short	See Convenience Business Problem	Fewer parking facilities operating above effective capacity	2010 Official Plan Fees By-law Traffic By-law
Procure handheld LPR technology	Employees parking for longer periods are making it difficult for users to access amenities for shorter periods	High	Short	\$148,000 capital + \$94,000 annually	Reduced number of hours required to enforce parking	
Adopt variable parking prices	Employees parking for longer periods are making it difficult for users to access amenities for shorter periods	Medium	Short and On-going	See Convenience Business Problem	Fewer parking facilities operating above effective capacity	
Refrain from reserving parking spaces	There is no framework for evaluating requests for overnight parking or reserved parking	Low	Short and On-going	No cost	Number of municipal parking spaces that remain open for public consumption	
<b>Free/Discounted Parking</b>						
Adopt a cost recovery policy for free parking events	Minimize free parking event's impact on parking financial sustainability	Low	Short	\$5,000 - \$10,000	Financial sustainability maintained	2010 Official Plan Fees By-law Traffic By-law
Adopt the recommended free/discounted parking requests framework	There is no framework for evaluating requests for free and discounted parking	Low	On-going	\$5,000 per request	Number of over effective capacity parking lots (85-90% utilization) created by approved free/discounted parking	
<b>Spillover Parking</b>						
Implement parking restrictions along the affected streets	Certain neighbourhoods are experiencing spillover from busy destinations nearby	High	Short	\$20,000 - \$40,000 + \$10,000 - \$42,000 annually	Reduced parking demand spillover	2011 Parking Study 2010 Official Plan Traffic By-law
<b>Parking Inventory</b>						
Adopt the parking supply equilibrium policy	It is unclear if the surplus designation should still apply to some lots, and if public parking needs to be replaced if surplus lots are redeveloped	Low	Short	\$5,000 - \$10,000	Municipal parking supply remains constant	2011 Parking Study 2019 Transportation Master Plan 2010 Official Plan Fees By-law Traffic By-law
Improve static parking wayfinding system	Better distribute Downtown parking demand	Medium	Short	See Convenience Business Problem	Fewer parking facilities operating above effective capacity	
Implement a shuttle bus service between the Downtown and Waterfront Area	Better meet the Waterfront Area summer weekend parking demand	High	Short	\$30,000 - \$45,000 annually	Shuttle bus ridership	
Increase Parking Prices for Non-Residents	Better meet the Waterfront Area summer weekend parking demand	Medium	Short	No cost	Reduced Waterfront Area parking demand	
Adopt variable parking prices	Better distribute Downtown parking demand	Medium	Short and On-going	See Convenience Business Problem	Fewer parking facilities operating above effective capacity	
Implement TDM strategies outlined in the 2019 TMP	Manage Downtown parking demand	Medium	Medium	\$50,000 - \$100,000	Reduced personal vehicle mode share	
<b>Financial Sustainability</b>						
Extend weekday pay parking operations to 9:00 PM in the Downtown	The parking reserve is in a deficit There is no long-range financial strategy	High	Short	\$10,000 - \$20,000 to implement. These strategies are intended to increase parking revenues to achieve financial sustainability	Parking revenues are sufficient to fund parking expenses	2011 Parking Study 2012 Parking Strategy and Rate Review 2019 Transportation Master Plan Fees By-law
Increase Downtown, Waterfront, and RVH parking prices	The parking reserve is in a deficit There is no long-range financial strategy	High	Short			

## 9 Conclusions and Recommendations

### Existing Parking Operations

Based on a review of existing conditions, the Waterfront Area parking system is operating over capacity on summer weekends during the daytime. As the majority of lots exceed 85% capacity, the average visitor is likely unable to find a parking space. While some visitors may divert to the Downtown parking area, the instances of lots exceeding 100% capacity (5 of 13 lots) may be due to visitors resorting to illegal parking practices. Parking demand during the summer weekend evenings, and all day on summer weekdays was within system capacity.

Analysis of the Downtown parking area indicates that the Downtown parking system is sufficient to accommodate the existing parking demand. While capacity is sufficient overall, there are some parking facilities that were observed to operate near or above effective capacity. It is likely valid that some users perceive a shortage in parking with occasional difficulty in finding a spot at some of the busier parking facilities. However, sufficient parking opportunities were observed to be available within acceptable walking distance (300-400m). Therefore, the existing parking system is considered sufficient to meet the current demand.

### Forecast Future Parking Scenarios

While the main Waterfront Area is projected to operate near capacity on summer weekends, sufficient capacity is projected to meet summer weekday demand. Therefore, Barrie is not recommended to construct additional parking facilities to meet the summer weekend parking demand since the facilities would remain unused during the majority of days of the year.

With respect to the isolated Waterfront Area parking facilities, all three parking lots (Johnson's Beach, Minet's Point, and Tyndale Park) are projected to operate above capacity during summer weekends, while only Johnson's Beach and Tyndale Park are projected to operate over capacity on the weekdays (110% and 109% utilization, respectively). Therefore, strategies to manage summer weekday and weekend parking demand, as well as potential alternative locations to accommodate some parking demand, are considered appropriate.

Overall, parking operations in the Downtown are projected to remain under capacity in all horizon years except 2041. However, parking users are anticipated to experience difficulty in finding an available parking space in some of the busier on-street and off-street parking facilities, which is anticipated to become more widespread as time progresses. The parking supply issues are projected to be most pronounced along the eastern edge of the Downtown, which is highly impacted by the decommissioning of existing parking facilities. 2041 parking operations are projected to experience capacity issues unless strategies that better distribute parking demand are implemented.

Based on these findings, an expansion of the Downtown on-street or off-street parking system is not recommended due to the system's ability to accommodate future demand. However, given that both the on-street and off-street parking facilities are projected to operate at effective capacity by 2041, decommissioning of parking facilities is also not recommended. In other words, all surplus parking lots are recommended to be maintained. Should circumstances dictate that facilities be decommissioned, consideration should be given to obtaining replacement capacity on-site or in close proximity. Strategies aimed at better distributing parking demand from the parking facilities operating near or at capacity to the facilities with available capacity are recommended.

## Financial Analysis

A peer review of ten comparator municipalities determined that municipalities were either self-sufficient and/or moving towards a self-sustaining enterprise governance model if currently tax supported. Given this best practice, a financial model was developed to project Barrie's financial operations and identify a parking price plan that achieves long term financial sustainability.

As of 2019, the uncommitted parking reserve fund is expected to be at a deficit of \$1,350,000. Based on City projections, the parking system is projected to generate \$2,350,000 in revenue and incur \$3,100,000 in expenditures in 2020. In other words, the reserve fund balance is projected to continue decreasing without an intervention.

By 2030, all Scenarios are projected to remain in deficits ranging from \$219,000 to \$7,220,000. However, Scenarios 2, 3, and 4 are observed to be trending towards financial sustainability shortly after the 2030 horizon year.

To achieve financial sustainability, Barrie is recommended to adopt Scenario 2 and extend weekday pay parking operations into the evening, and implement the recommended price increases.

## Recommendation Strategies

Barrie is recommended to adopt the Enhanced Strategy consisting of recommendations aimed at addressing all eight Business Problems. The recommended implementation plan is presented in Section 8, **Exhibit 8-2**.

## Future Work and Next Steps

To build upon the implementation plan, Barrie is recommended to complete the following tasks as next steps after the Parking Strategy Update:

- Complete the request for proposals process to select the optimal third party app, smart meters, and LPR service provider. These strategies provide many benefits across several Business Problems including providing parking users with more payment options, improving parking user experience, and increasing the efficiency of enforcement;
- Investigate multi-day passes at the Collier Street Parkade to meet the commonly requested overnight parking permit. Barrie residents sometimes park in the Downtown and proceed out of the City for several nights. The multi-day pass would help meet these parking user needs;
- Assess the Waterfront Shuttle Bus feasibility (business case) and finalize the service details if feasible (route planning, schedule details, etc.). The shuttle bus would allow Barrie to leverage the Downtown parking system to help meet the Waterfront Area's summer weekend parking demand;
- Consider an Autonomous Vehicle Readiness Study. Autonomous vehicles are anticipated to have significant impacts on parking operations. Without knowing the exact magnitude, parking demand is anticipated to be reduced. Additionally, on-street parking supply may have to be reduced to provide additional curbside space for increased pick-up/drop-off activities. Completing an autonomous vehicle readiness study would help Barrie prepare for the widespread adoption of autonomous vehicles, which is anticipated in the foreseeable future. Note that many municipalities are not completing autonomous vehicle studies at this time due to the uncertainty regarding the technology's widespread deployment;

- Consider a Residential Parking Study to develop a formal strategy for managing, administering, and using technology to enforce on-street parking operations in residential neighbourhoods that are impacted by spillover from paid-parking;
- Develop a Special Event Parking Policy. Special events are known to draw large crowds and in turn, generate a localized peak in parking demand. A Special Event Parking Policy would help Barrie meet the local parking needs when such events occur;
- Collect parking utilization data periodically and update implementation plan as needed. Regularly collected parking data will allow Barrie to remain aware of how parking operations change over time and respond accordingly;
- Implement the TDM strategies outlined in the TMP to manage Downtown parking demand and help meet future parking needs, with reduced demand, the identified issues are also anticipated to be managed;
- Complete the Wayfinding Master Plan. As part of the broader study, Barrie should develop a parking wayfinding strategy to help Barrie visitors quickly find available and convenient parking opportunities; and
- Update the Parking Strategy at least every 10 years or when the need arises due to significant unforeseen parking operations changes (whichever comes sooner).