

Appendix A – Technical Memorandum 1



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Memorandum

To/Attention	City of Oshawa	Date	April 18, 2019
From	Peter Richards - IBI Group Attila Hertel - IBI Group	Project	119276 No
cc	Morgan Jones - City of Oshawa		
Subject	Oshawa Parking Study - Technical Memorandum 1 - Draft #1		

1. Introduction

To remain ahead of a developing city, the parking system in the City of Oshawa also needs to evolve. Altering an existing parking system can be a complex process, requiring the consideration of different user groups, geographic zones, price ranges, and time periods. For example, parking in the Urban Growth Centre (U.G.C.) 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. This Parking Study will balance the needs and objectives of the City of Oshawa and its' various stakeholders.

The City of Oshawa will need to develop a parking strategy that proactively anticipates growth in parking demand. This demand is then accommodated through environmentally, socially and economically sustainable policies, rather than simply reacting to parking issues after growth and economic development has occurred. By understanding existing problems and identifying sustainable parking solutions, the City has the opportunity to support and foster new development in the U.G.C. and have the right balance of parking.

Significant intensification is also planned in Oshawa's two future Transportation Hubs (T.H.s):

- A new centrally located GO Station midway between Simcoe Street South and Ritson Road South; and
- A new Transitway Station located near the Simcoe Street North Highway 407 interchange.

Substantial travel patterns changes are anticipated in the T.H.s including a shift towards alternative modes of transportation (transit, cycling, walking, etc.). This study will develop area specific residential development parking requirements appropriate for the future T.H.s. In addition to the T.H.s, the study will examine residential parking requirements for student housing and new subdivisions.

To develop a long term parking plan, the City of Oshawa initiated the Parking Study project. The Study is divided into the following nine tasks:

- **Task 1: Study Commencement:** Commences the project and confirms the project scope and schedule.
- **Task 2: Background and Existing Conditions Review:** Examines Oshawa's historical and existing parking operations to develop a foundation on which the study conclusions and recommendations can be formed.
- **Task 3: Parking Supply Review for the U.G.C. and T.H.:** Develops a parking management plan by reviewing existing parking supply and demand in Oshawa's U.G.C. and T.H.s, and projecting future parking needs. Also develops a decision making framework for the allocation of limited curbside space.
- **Task 4: Develop a Citywide Parking Policy Framework:** Develops a decision making framework to aid Oshawa staff in making parking policy and strategy decisions.
- **Task 5: Financial Review;** Reviews potential sources of funding to support Oshawa's parking operations, and provides recommendations aimed at achieving long term financial sustainability.
- **Task 6: Cash-in-lieu (C.I.L.) of parking Program Review;** Determines whether implementing a C.I.L. program as a funding tool to support municipal parking operations is feasible.
- **Task 7: Public and Stakeholder Engagement;** Consults stakeholders and the general public to obtain feedback regarding existing parking operations, knowledge of parking issues, and desired study outcomes. A second phase of consultation will collect feedback regarding the study's preliminary findings.
- **Task 8: Draft Study Report:** Prepares a draft study report summarizing the Parking Study findings.
- **Task 9: Final Study Report.** Finalizes the draft study report based on comments received from City staff.

Technical memorandum 1 summarizes the *Task 2: Background and Existing Conditions Review* findings. The following topics are discussed:

- Background Document Review;
- Oshawa Parking Operations;
- Municipal Best Practices Review; and
- Minor Variance Applications.

2. Background Document Review

As part of the initial data request, a collection of parking related background documents were obtained for review. The review's intent is to help establish the groundwork for the Parking Study by examining Oshawa's parking history and to ensure the Parking Study recommendations are compatible with other studies, policies, and initiatives. This section summarizes the reviewed documents and discusses how each document impacts the Parking Study. The following documents were reviewed:

- City of Oshawa Zoning By-law 60-94 (November 2018);
- City of Oshawa Official Plan (November 2018);
- CS-18-62 Residential Parking Permits on Celina Street (September 2018);
- CS-18-14 Update on Free Downtown Parking Pilot Project (February 2018);
- City of Oshawa 2017 Development Charges Update Study (April 2017);
- City of Oshawa Integrated Transportation Master Plan (September 2015);
- U.O.I.T. Downtown Oshawa Framework and Action Plan – Transportation and Parking Strategy (March 2011); and
- CS-10-21 Municipal Parking System Downtown Parking Update (February 2010).

2.1 City of Oshawa Zoning By-law 60-94 (November 2018)

The City of Oshawa Zoning By-law (Z.B.L.) outlines a set of provisions that are intended to regulate all aspects of development within the City of Oshawa. The Z.B.L. Section 39 outlines all parking and loading related requirements.

- **Section 39.1 Parking and Loading Requirement:** Introduces the parking and loading requirement section.
- **Section 39.2 Multiple Uses:** States that the parking requirements for developments with multiple land uses are calculated by adding the individual requirements of each land use.
- **Section 39.3 Number of Parking Spaces Required:** Outlines the number of parking spaces required per land use.
- **Section 39.4 Parking Space Standards:** Outlines parking space and aisle width dimensions. Parking spaces are generally required to be

2.60m by 5.40m. However, the dimensions are increased to 2.75m by 5.75m for several residential land uses.

- **Section 39.5 Calculation of Requirement:** Parking requirements are to be rounded to the nearest whole number.
- **Section 39.6 Number of Loading Spaces Required:** Outlines the number of loading spaces required per gross floor area.
- **Section 39.7 Loading Space Standards:** Outlines loading space dimensions.
- **Section 39.8 Loading Space Requirements:** Identifies the correct location for loading spaces.
- **Section 39.9 Driveway Requirements:** Outlines driveway dimensions.
- **Section 39.10 Exemption:** Outlines the Oshawa Urban Growth Centre exemption zone boundaries and discusses how the exemption zone functions.

Special attention will be given to ensuring that the study conclusions and recommendations support the policies set out by the Z.B.L. by comparing the study findings with the Z.B.L. requirements. Several components of Oshawa's Z.B.L. are also reviewed in detail as part of this study including residential parking requirements and parking space dimensions, and recommended updates will be made where appropriate.

2.2 City of Oshawa Official Plan (November 2018)

The purpose of the Official Plan is to provide a set of policies to help guide development within the City of Oshawa. The City of Oshawa is anticipated to experience significant population and employment growth, and the Official Plan puts an emphasis on urban intensification to foster development within the U.G.C. The Official Plan also sets out to foster an integrated transportation network and higher development density in the T.H.s. To help achieve this goal, the Official Plan outlines a list of guidelines and criteria to foster growth and development. Specific to parking, the Official Plan states:

- The amount of surface parking provided on-site for new developments should generally not exceed minimum requirements. Parking within structures, including underground parking, is preferred;
- Parking provided for all developments should ensure accessibility and provide safe and convenient linkages for pedestrians and cyclists;
- Promote and facilitate the provision of sheltered bicycle parking as part of new developments; and

- Support transit-oriented design and transportation demand management (T.D.M.) measures to reduce the number of vehicle trips. This will in turn reduce parking demand.

One study outcome will be to inform the residential parking requirements for developments in T.H.s, taking into account the initiatives to encourage alternative modes of transportation and increased development density. The recommendations formulated through this study will aim to support the policies and goals presented in the Official Plan.

2.3 CS-18-62 Residential Parking Permits on Celina Street (September 2018)

This report was created in response to a request that residents living on Celina Street be permitted to park on Celina Street due to a lack of available parking spaces on resident property. On-street parking is not permitted for periods exceeding three hours, unless otherwise stated. Currently, the City of Oshawa has the following permits available:

- **Residential Parking Permits:** on-street parking areas available for residents living in areas with high non-resident parking demand; three hour maximum duration still applies;
- **Occasional Use Parking Permits:** on-street parking exemptions for residents' visitors or for special circumstances; exempt from three hour maximum parking duration; and
- **Special Use Parking Permits:** allows residents to park on-street temporarily for special circumstances were an Occasional Use Parking Permit does not apply.

The resident is requesting a Long-Term Residential Parking Permit, which is not covered in any of the existing permit types in the City of Oshawa. To explore the implementation of a Long-Term Residential Parking Permit, Oshawa reached out to several municipalities in Canada asking for information of their Long-Term Residential Permit programs (if applicable) related to typical parking maximum durations, permit costs, permit media, eligibility, and other regulations. After investigation, the City of Oshawa did not recommend implementing Long-Term Residential Parking Permits, citing issues with snow removal, improved T.D.M. initiatives, and a desire to maintain on-street parking for short-term uses.

2.4 CS-18-14 Update on Free Downtown Parking Pilot Project (February 2018)

A Free Downtown Parking Pilot was implemented in Oshawa between December 11, 2017 and December 22, 2017. During this time, parking at all on-street Pay and Display and Metered spaces were free of charge between 12:00

PM and 6:00 PM on weekdays, paid parking was still in effect on-street between 8:00 AM and 12:00 PM, and all day for off-street lots. During the time the pilot project was in effect, there was no maximum parking duration during the free parking period. This resulted in a small number of complaints regarding the turnover of parking spaces noted by the Downtown BIA. When compared to the same period in 2016, the lost parking revenue was \$6,194. This initiative was implemented again in December 2018. The study recommended that the City of Oshawa adopt the free Downtown parking strategy on an annual basis.

The financial data provided by the City is assumed to account for the lost revenue resulting from the limited time free parking pilot project. In other words, the Task 5 financial assessment will account for the financial impacts associated with initiative. From an operations point of view, free parking with no maximum parking duration is not considered optimal for day-to-day operations as parking turnover is anticipated to be significantly reduced and it places pressure on funding parking operations and capital costs. However, temporary free parking during the holiday periods can be an effective promotion strategy since it provides a financial incentive to conduct holiday shopping and activities in the U.G.C.

2.5 City of Oshawa 2017 Development Charges Update Study (April 2017)

This document outlines the regulations involved for development charges in Oshawa. Development charges help fund municipal services that accompany growth and development of infrastructure. The Development Charges Update Study outlines instances where development charges need to be paid to the City, as well as rules related to the calculation and payment of the charges. The 2017 study revised the development charges proposed in the 2014 Development Charges Study based on new capital costs for services that have been updated since the 2014 study.

As stated in the Development Charges study, a portion of the revenue gained through development charges goes toward funding transportation services. Currently, Oshawa does not fund parking related expenses through development charges. However, Oshawa is considering adding a separate development charge category in 2019 which would allow the City to fund parking projects as capital works. Given that the outcome is unknown and to remain conservative, development charges will not be considered as a source of funding in this study's financial assessment.

2.6 City of Oshawa Integrated Transportation Master Plan (September 2015)

The purpose of the Integrated Transportation Master Plan (I.T.M.P) is to facilitate the growth of a balanced transportation network, and to find areas where improvements to the transportation network benefit goals in other policy areas. The main goals of the I.T.M.P are to improve mobility, alleviate congestion on roads, and encourage sustainability. It is projected that by 2031, the population of Oshawa will grow by 29% compared to the population in 2011, and employment is forecasted to grow by 39% over the same time period. If current vehicle mode shares are maintained, the existing road network is anticipated to be extremely congested. The I.T.M.P proposes several mitigation measures and initiatives to reduce the number of vehicles on the road, and thereby parking demand. The following recommendations require action in the short term:

- Mobility Hubs: Maximize transit oriented development around mobility hubs;
- Improving Connectivity in the Downtown: Conduct a study investigating the conversion of one-way Downtown streets to two-way;
- Active Transportation: Begin implementing the recommended active transportation facilities;
- Transit: Ensure development is transit oriented and coordinate with Durham Region Transit and Metrolinx.
- T.D.M.: Prepare a T.D.M. plan;
- Goods Movement: Undertake a freight audit to better understand the goods movement industry and investigate ways goods movement can be optimized within the City.
- Roundabouts: Adopt roundabout guidelines and consider roundabouts in any location traffic signals are being proposed.
- Roads: Periodically monitor traffic volumes and begin implementing the road projects recommended by the I.T.M.P

The recommendations formulated through this parking study will aim to support the policies and goals presented in the I.T.M.P.

2.7 U.O.I.T. Downtown Oshawa Framework and Action Plan – Transportation and Parking Strategy (March 2011)

The University of Ontario Institute of Technology (U.O.I.T.) Downtown Oshawa Framework and Action Plan was created to guide the growth of Downtown Oshawa and the U.O.I.T. Downtown Campus into a multi-modal network, where

mobility is accessible to all users and residents through a variety of travel modes. The report outlines the existing conditions and recommended improvements related to the active transportation, transit, and road network.

Recommendations include but are not limited to:

- implementing more cyclist facilities,
- Enhancing the pedestrian realm near Bus Rapid Transit corridors;
- Providing more crossing opportunities for pedestrians;
- Adopting greater T.D.M. measures; and
- Developing “Complete Streets” guidelines to help foster downtown growth and development.

These recommendations aim to reduce the single occupancy vehicle mode share, which will in turn reduce parking demand.

With respect to the municipal parking system, the study projects the need for an additional 600 parking spaces by 2015 to maintain an overall utilization of 90-95%. To help meet the projected parking demand, the study identified Lots 15 and 16 as potential locations for structured parking supply intensification. The study estimates the capital cost of a 600 space parking structure to be approximately \$25,000,000. The study also recommends providing a parking exemption to residential developments with less than 7 units.

The recommendations formulated through this parking study will aim to support the policies and goals presented in the U.O.I.T. Downtown Oshawa Framework and Action Plan.

2.8 CS-10-21 Municipal Parking System Downtown Parking Update (February 2010)

In 2010, the City of Oshawa issued a report outlining the current state of Downtown parking. The Downtown parking system is divided into four quadrants (north, east, south, and west), with major parking lots or parkades serving each sector. The report stated the desired walking distance between a parking space and the user’s destination ranges between 135 and 185 m to their destinations. The walking distance acceptable to Oshawa residents will be refined through the public consultation process and more modern industry best practices.

The City retained BA Consulting Group to review the parking policies, practices, and existing operation of Downtown parking in Oshawa. Parking surveys were conducted, and found that the municipal parking system operated below capacity during typical weekday operations (74% utilization), and no parking supply expansion was warranted. The impact of future developments were also considered (i.e., new Durham Consolidated Courthouse, U.O.I.T. downtown expansion, development of vacant sites, redevelopment or sale of City parking

lots, etc.), and it was found that the municipal parking system will be near capacity in 2011. The City was recommended to:

- Closely monitor the impacts of any future developments on the Downtown parking system;
- Work with the U.O.I.T. to evaluate the impacts their future plans have on Downtown parking operations; and
- Prepare draft terms of reference of a municipal parking system business plan review.

The parking utilization observed during this 2010 study will be compared to the results of the parking surveys conducted as part of this parking study. Recommendations presented in the 2010 report will be revisited, and if appropriate, will be included as part of the recommendations of this study.

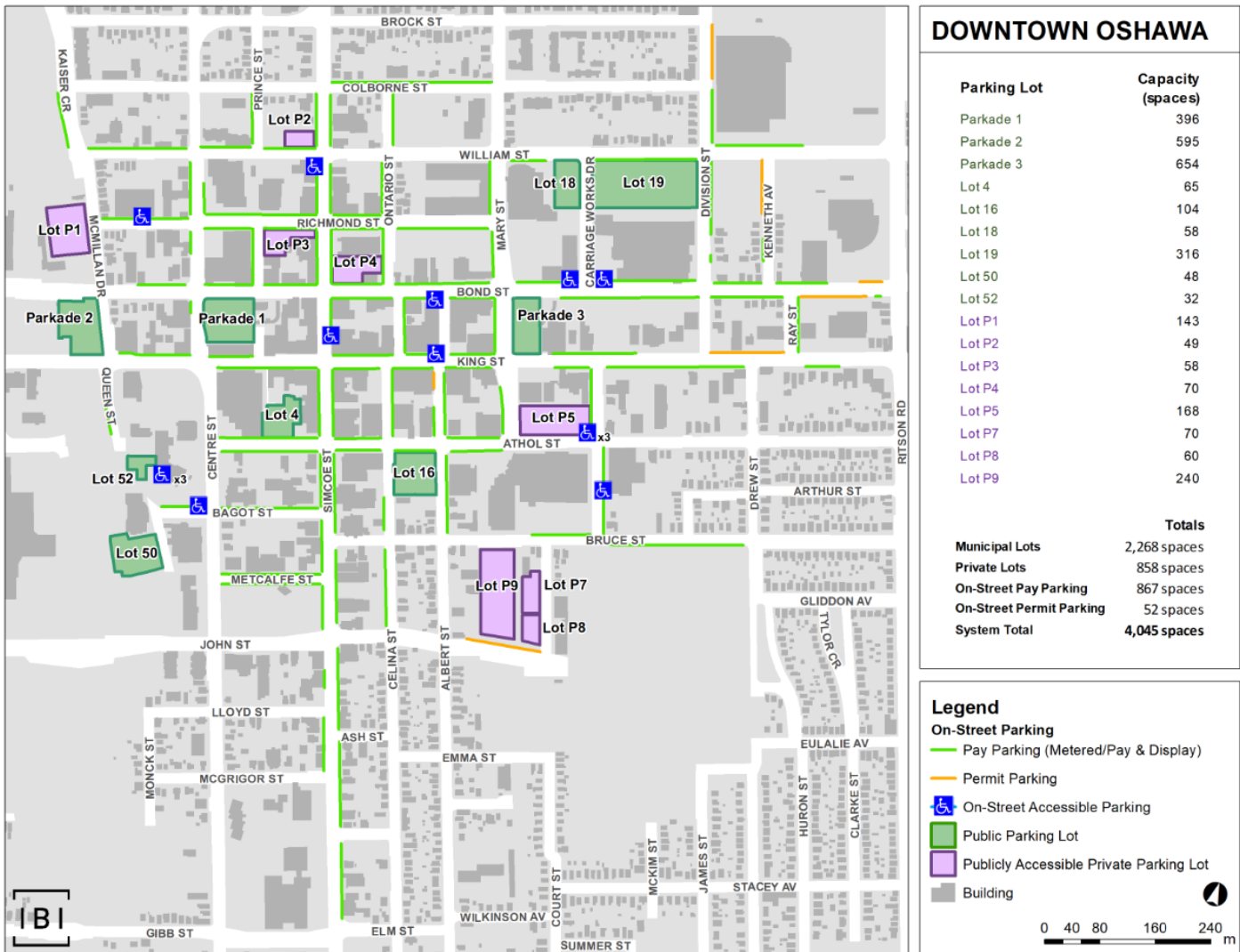
3. Oshawa Parking Operations

Oshawa's existing parking operations are discussed in this section. This assessment is divided into the U.G.C., the future T.H.s, and the rest of the City.

3.1 Urban Growth Centre (U.G.C.)

The U.G.C. parking system is composed of municipal on-street parking, municipal off-street parking, and privately owned parking that is available to the general public. A comprehensive parking inventory map was developed which provides an overview of the on- and off-street parking facilities within Oshawa's U.G.C. The location and parking supply of each facility is presented in **Exhibit 3.1**.

Exhibit 3.1: Parking Inventory Map



As displayed in **Exhibit 3.1**, the U.G.C. parking system provides 4,075 parking spaces consisting of the following:

- 933 municipal on-street parking spaces composed of 862 pay parking, 57 permit parking, and 16 accessible parking spaces;
- 2,282 municipal off-street parking spaces; and
- 860 publicly accessible private off-street parking spaces.

Note that the parking capacities may be adjusted slightly as the values are confirmed during the parking supply and demand surveys.

On-street parking mainly provides pay parking opportunities, with maximum parking durations ranging between 2 and 10 hours depending on the location. Pay parking operations are generally in effect between 8:00 AM and 6:00 PM Monday to Friday. On-street parking is free weekday evenings and on

weekends. In addition to pay parking, 57 daily permit parking spaces are provided. On-street parking is prohibited between 3:00 AM and 6:00 AM between December 1 and April 1 of the following year to facilitate snow clearing activities.

Municipal off-street parking consists of a mix of pay parking and permit parking operations. Lot 19 and Parkades 1, 2, and 3 provide permit parking opportunities, while all other off-street facilities provide pay parking opportunities. Note that Parkades 1 and 3 provide a mix of permit and pay parking opportunities. Similar to on-street, off-street parking is free after 6:00 PM on weekdays and on weekends. Additional off-street parking opportunities are also available in reserved private lots. Through discussions with Oshawa staff, these lots are known to sell parking permits similar to permits in municipal off-street lots.

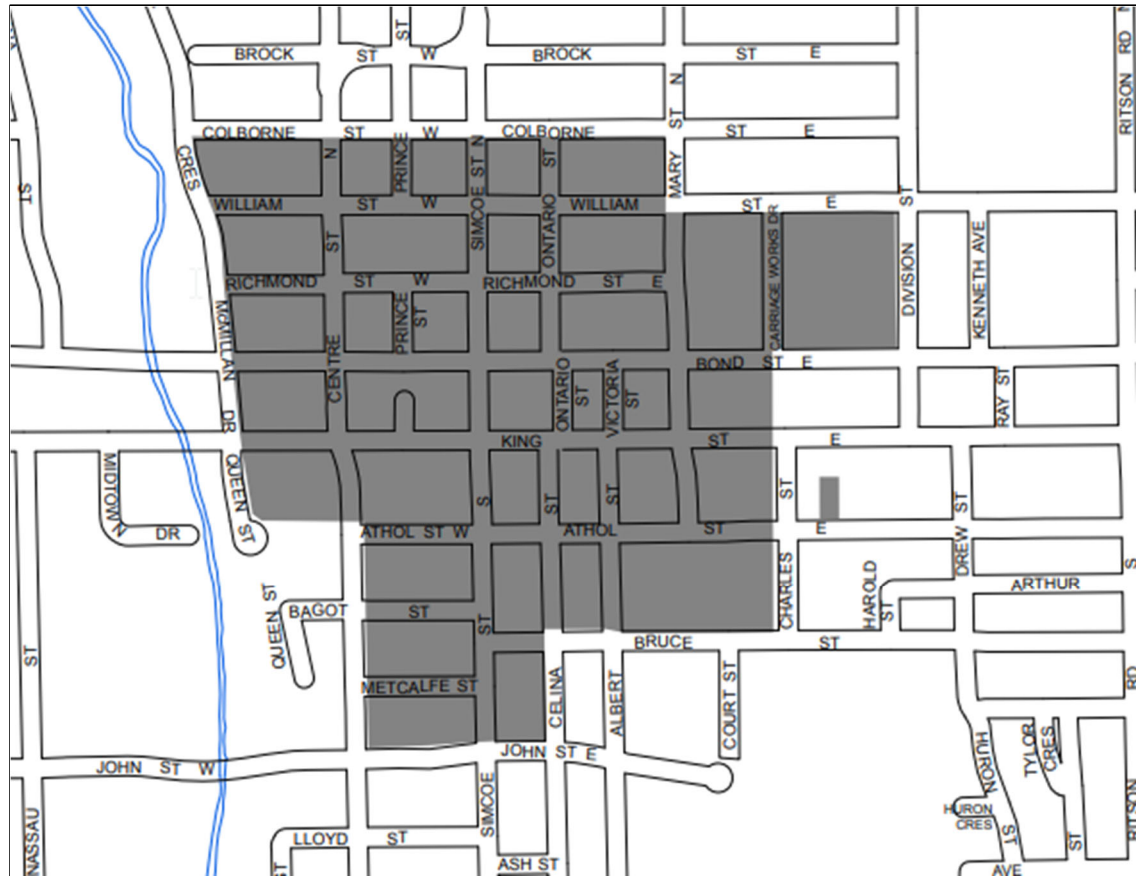
Pay parking costs \$1.25 per hour throughout the U.G.C. Monthly parking permits prices range between \$73 and \$83 per month depending on the location, and daily on-street permits can be purchased in person at Service Oshawa for \$12.50.

With respect to parking standards, the U.G.C. contains a parking and loading exemption zone for some uses. Non-residential developments within the zone are not required to provide on-site parking. The following land uses require parking:

- Residential developments with more than 3 units require 1 parking space per unit;
- Senior citizen apartments with more than 3 units require 0.5 parking spaces per unit; and
- Buildings with 10 or more flats require 1 parking space per flat for each flat in excess of 10.

The U.G.C. exemption zone is illustrated in **Exhibit 3.2**.

Exhibit 3.2: U.G.C. Exemption Zone



3.2 Rest of City

Parking operations outside of the U.G.C. generally consists of privately owned off-street parking lots dedicated to serving specific developments. Municipal on-street parking is allowed where signed and is free with a maximum duration of 3 hours. On-street parking is prohibited between 3:00 AM and 6:00 AM between December 1 and April 1 of the following year to facilitate snow clearing activities.

Off-street parking for developments is regulated by the City of Oshawa Zoning By-laws.

3.3 Future Transportation Hubs

Currently, parking operations within the future T.H.s are similar to the rest of the City. Private developments provide off-street parking opportunities on-site while on-street parking (where allowed) is free with a maximum duration of 3 hours. On-street parking is prohibited between 3:00 AM and 6:00 AM between December 1 and April 1 of the following year to facilitate snow clearing activities

As discussed in the Oshawa Official Plan, future T.H.s are envisioned to encourage alternative modes of transportation including transit, cycling, and walking. Given this focus, vehicle parking demand for residential developments in the T.H.s are anticipated to be lower than similar developments in the rest of the City. Therefore, as part of this study, the parking requirements for residential developments in the T.H.s will be reviewed and reduced rates will be recommended, as appropriate.

4. Municipal Best Practices

The parking related best practices of municipalities similar to Oshawa are reviewed in this section. Through discussions with Oshawa staff, the following municipalities were selected as the comparators:

- Town of Clarington;
- Town of Whitby;
- Town of Ajax;
- City of Pickering;
- City of Kingston;
- City of Peterborough;
- City of Barrie;
- City of Burlington;
- City of Guelph; and
- City of St. Catharines.

4.1 Official Plan Review

The Official Plans of each comparator municipality was reviewed to identify parking related best practices policies. In general, parking policies support the provision of sufficient parking supply to meets the needs of residents and businesses while promoting efficient urban design, protecting the environment, and encouraging alternative modes of transportation. **Exhibit 4-1** cross references the identified Official Plan best practice policies by municipality.

Exhibit 4-1: Official Plan Policy Best Practices

Municipality / Policy	Clarington	Whitby	Ajax	Pickering	Kingston	Peterborough	Barrie	Burlington	Guelph	St. Catharines
Minimize surface parking by promoting structured parking.	✓	✓	✓		✓	✓	✓		✓	✓
Integrate parking within the urban fabric.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Encourage alternative modes of transportation.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Promote shared parking, access point consolidation, area specific parking standards, off-site parking, and cash-in-lieu of parking in Downtown areas.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pursue on-street parking where appropriate.	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Parking structures should have alternative uses on the ground level.	✓		✓	✓			✓	✓	✓	
Periodically review parking regulations.	✓				✓					✓
Parking facilities provide safe pedestrian walkways.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Provide sufficient accessible parking opportunities.	✓	✓			✓	✓		✓	✓	
Establish maximum parking requirements.							✓		✓	
Consider parking requirement reductions if the reduced supply is sufficient to meet the development's parking needs.	✓	✓	✓	✓			✓	✓	✓	✓
Incorporate pervious pavement in parking facilities.	✓	✓		✓	✓				✓	✓
Implement tree canopies and vegetation in areas with extensive surface parking.	✓	✓	✓						✓	✓

The Oshawa Official Plan was noted to not contain a section outlining general parking policies. Oshawa is recommended to amend the Official Plan by adding a designated parking section as a sub-section of *Section 3: Transportation* consisting of general parking policies such as the best practices outlined above.

4.2 Parking Requirements

Oshawa’s existing parking standards are evaluated in this section including parking space requirements, and parking space dimensions for both general and accessible parking.

General Parking

Oshawa’s parking requirements, as specified in By-law # 60-94, are compared to those of the comparator municipalities. Several of the studied municipalities specify different requirements for different zones. If multiple zones are identified, the parking requirements within the Downtown core are presented.

The residential, office, retail, and restaurant land uses were selected for the comparison as these land uses are anticipated to comprise the majority of the Oshawa U.G.C. land uses, and is the most effective comparison. Given the residential land use focus of this Parking Study, the residential land use is further divided into condominiums, apartments, and single detached dwellings.

Exhibit 4-2 summarizes the comparison results.

Exhibit 4-2: Parking Requirement Comparison (Spaces)

Municipality	Land Use				
	Apartment	Single Detached Dwelling	Office	Retail	Restaurant
Clarington	1 per 1 Bedroom unit 1.25 per 2 Bedroom unit 1.5 per 3+ Bedroom unit 0.25 per unit for unit for visitor parking (10% accessible)	2 per unit	3.33 per 100 m ² of GFA	3.33 per 100 m ² of GFA	14.29 per 100 m ² of GFA
Whitby	1.25 per unit 0.25 per unit for visitor parking	2 per unit	3.33 per 100 m ² of GFA	4.35 per 100 m ² of GFA	5.26 per 100 m ² of GFA
Ajax	1.25 per unit 0.25 per unit for visitor parking	2 per unit	2.00 per 100 m ² of GFA	3.57 per 100 m ² of GFA	6.67 per 100 m ² of GFA
Pickering	0.8 per unit 0.15 per unit for visitor parking	2 per unit	2.50 per 100 m ² of GFA	3.50 per 100 m ² of GFA	3.50 per 100 m ² of GFA
Barrie	1 per unit	1 per unit	3.33 per 100 m ² of GFA	3.33 per 100 m ² of GFA	1 per 4 persons

Municipality	Land Use				
	Apartment	Single Detached Dwelling	Office	Retail	Restaurant
Burlington	1.25 per 1 Bedroom unit 1.5 per 2 Bedroom Unit 1.75 per 3+ Bedroom unit 0.35 per unit for visitor parking	2 per unit	3.50 per 100 m ² of GFA	4.00 per 100 m ² of GFA	1 per 4 persons
Guelph	1.5 per unit (for first 20 units) 1.25 per unit (after first 20 units)	1 per unit	3.03 per 100 m ² of GFA	6.06 per 100 m ² of GFA	13.33 per 100 m ² of GFA
St. Catharines	1.25 per unit	1 per unit	3.57 per 100 m ² of GFA	5.00 per 100 m ² of GFA	5.00 per 100 m ² of GFA
Kingston	1 per unit	1 per unit	1.45 per 100 m ² of GFA	1.20 per 100 m ² of GFA	7.00 per 100 m ² of GFA
Peterborough	1 per unit	1 per unit	2.22 per 100 m ² of GFA	2.85 per 100 m ² of GFA	Greater of 6 or 1 per 5 seats plus 11.1 per 100 m ² of GFA
Oshawa	1 per unit 0.33 per unit for visitor parking	2 per unit	3.57 per 100 m ² of GFA	4.17 per 100 m ² of GFA	9.09 per 100 m ² of GFA
Average	1.14 per unit 0.26 per unit for visitor parking	1.54 per unit	2.89 per 100 m ² of GFA	3.76 per 100 m ² of GFA	8.02 per 100 m ² of GFA or 1 per 4 persons
Minimum	0.8 per unit 0.15 per unit for visitor parking	1 per unit	1.45 per 100 m ² of GFA	1.20 per 100 m ² of GFA	3.50 per 100 m ² of GFA
Maximum	1.25 per 1 Bedroom unit 1.5 per 2 Bedroom Unit 1.75 per 3+ Bedroom unit 0.35 per unit for visitor parking	2 per unit	3.57 per 100 m ² of GFA	6.06 per 100 m ² of GFA	14.29 per 100 m ² of GFA

With the exception of the apartment land use, Oshawa’s parking requirements are observed to be slightly higher than the average of comparable municipalities. To support the Official Plan policy of promoting alternative modes of transportation, Oshawa is recommended to investigate the impacts of reduced parking requirements for non-residential land uses within the U.G.C. Note that this study will investigate updates to the citywide residential parking requirements as part of *Task 4 Develop a Citywide Parking Policy Framework*. These results will be one of the factors considered when developing new residential parking requirements.

While included in the parking requirement comparison, the condominium land use is not presented in **Exhibit 4-2** since only Oshawa provided a separate parking rate for this land use. Oshawa is recommended to maintain a separate condominium category as it provides a more tailored requirement representative of the expected parking demand.

Some Southern Ontario municipalities, including Oshawa, provide a parking and loading exemption zone where new developments are not required to provide any on-site parking. The exemption zone’s objective is to promote new developments within the targeted area. Oshawa’s parking and loading exemption zone will be reviewed as part of *Task 4 Develop a Citywide Parking Policy Framework*. The review will evaluate whether the zone is an appropriate strategy for Oshawa, and if so, the boundaries will be rationalized.

Oshawa’s parking space dimension standards were also compared to the comparator municipalities. The comparison results are summarized in **Exhibit 4-3**.

Exhibit 4-3: Parking Space Dimension Requirement Comparison

Municipality	Width (m)	Length (m)
Clarington	2.75	5.70
Whitby	2.75	5.80
Ajax	2.70	6.00
Pickering	2.60	5.30
Barrie	2.70	5.50
Burlington	2.75	6.00
Guelph	2.75	5.00
St. Catharines	2.60	5.20
Kingston	2.75	5.80
Peterborough	2.50	5.50
Oshawa	2.60	5.40
Average	2.68	5.56

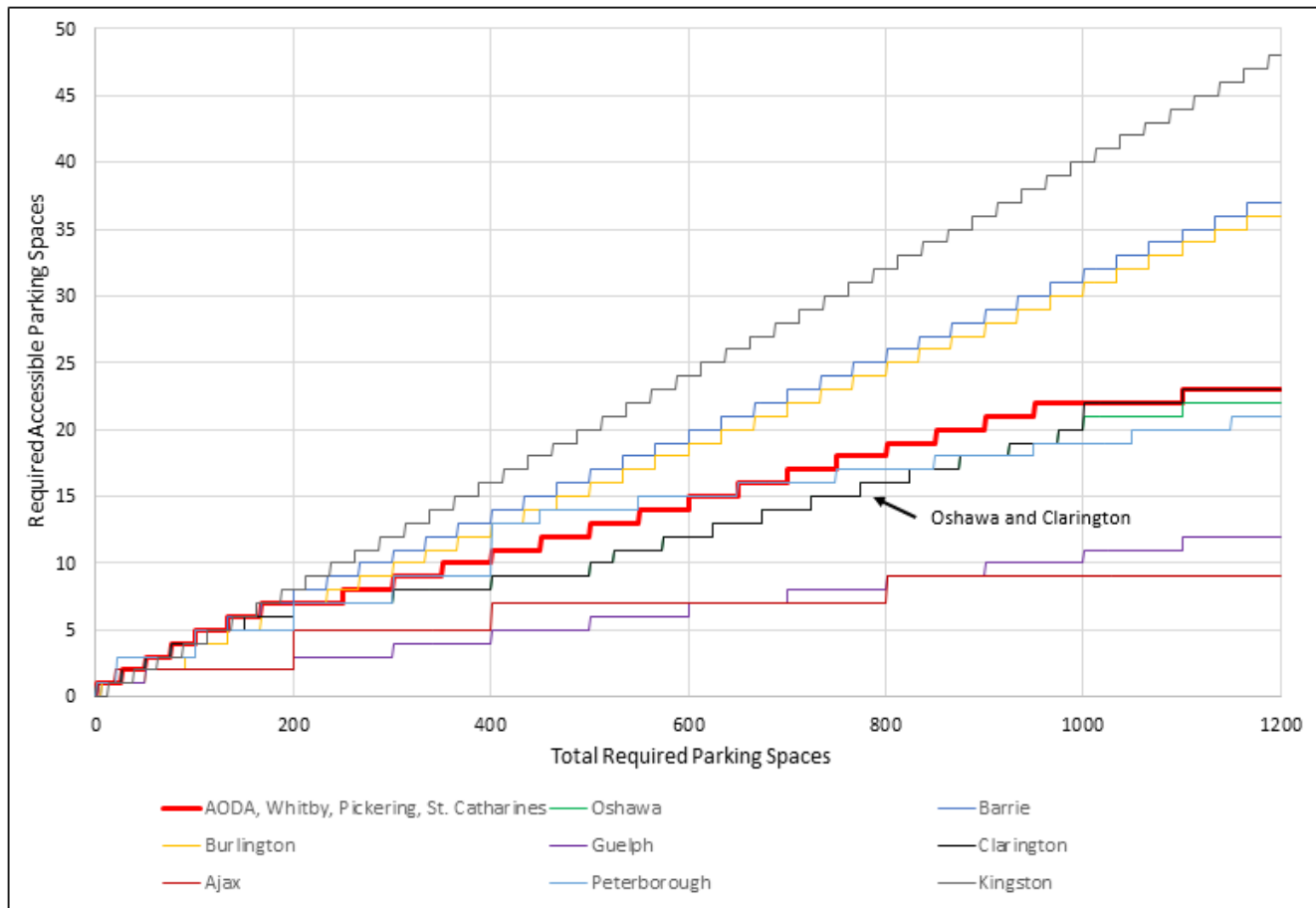
As presented in **Exhibit 4-3**, the Oshawa's parking space dimension requirements are consistent with the average of similar sized municipalities. This suggests that no changes are necessary. The appropriateness of the parking space dimensions will be further investigated during the public and stakeholder consultation. As part of the online survey, participants are asked whether they find the parking spaces too small, too large, or an appropriate size.

Note that Oshawa's parking space dimensions are increased to 2.75m by 5.75m for single detached dwellings, semi-detached dwellings, semi-detached buildings, street townhouse dwellings, and a bed and breakfast land uses. Additionally, the parking space width requirement is further increased to 3.0m for parking spaces located adjacent to a solid barrier for land uses other than single detached dwellings, semi-detached dwellings, semi-detached buildings, street townhouse dwellings, and a private garage serving an individual block townhouse dwelling. This strategy is considered a best practice since it provides the additional space needed for vehicles to complete turning movements into and out of these parking spaces.

Accessible Parking

Municipalities are generally moving towards adopting accessible parking requirements that are consistent with the requirements outlined by the Accessibility for Ontarians with Disabilities Act (A.O.D.A.). Ontario's Accessibility Action Plan outlines a timeline to fully mandate A.O.D.A. guidelines by 2025, which includes the provision of accessible parking spaces. Oshawa's accessible parking requirements are compared to those of similar municipalities and A.O.D.A., the result of which is illustrated in **Exhibit 4-4**.

Exhibit 4-4: Accessible Parking Requirement Comparison



It can be observed from **Exhibit 4-4** that Barrie generally requires the most accessible parking spaces, while Guelph and Ajax require the least. Note that Oshawa is currently in the process of adopting accessible parking requirements that are consistent with A.O.D.A.'s requirements.

A.O.D.A. does not specify on-street accessible parking requirements. Section 80.39 suggests the municipality consult with its Accessibility Advisory Committee (A.A.C.) in establishing the number and locations of on-street accessible spaces. This consultation process is recommended for Oshawa.

Oshawa is recommended to conduct annual occupancy studies of existing on-street accessible parking spaces. Spaces shown to be underutilized should be considered for relocation to areas where accessible spaces are anticipated to be in higher demand. This would also provide the City with a mechanism to keep better abreast of changes to the location of businesses or service providers who serve clients with accessible needs, and incorporate this into the review of the allocation of accessible parking spaces on a regular basis.

5. Minor Variance Applications

As part of the initial data request, parking minor variance applications between 2016 and 2018 were gathered. The applications were reviewed to identify trends related to the request to reduce or change the number of parking spaces, parking space width, and parking space length required. The identified trends may provide an indicator towards the appropriateness of Oshawa's existing Zoning By-law requirements. The gathered minor variance applications were sorted based on location and variance type.

Based on the reviewed applications, the following parking space dimension trends were observed:

- All minor variance applications for parking space length were for the *Single with Acc* and *Street Town* residential land uses indicating that the 5.75m standard for these land uses may not be appropriate.
- Similar to the parking space length applications, the majority of parking space width applications (3 of 4) were for residential land uses indicating that the 2.75m standard may not be appropriate.

Currently, parking spaces are required to be 2.6m wide and 5.4m long except for several residential land uses, where the requirement is increased to 2.75m wide and 5.75m long. Based on the minor variance application results, Oshawa could consider requiring the standard 2.6m by 5.4m parking spaces for all land uses.

Exhibit 5-1 presents a summary of the parking supply reduction minor variances.

Exhibit 5-1: Parking Space Reduction Summary

Address	Land Use	Parking Required (spaces)	Parking Supplied (spaces)	Difference (spaces)	Difference (%)
Urban Growth Centre					
27,29, 29 1/2, 33 Simcoe St S	Mixed Use	10	0	10	100.0%
40 King St W	Mixed Use	54	0	54	100.0%
6 1/2 - 18 King St E	Mixed Use	13	6	7	53.8%
100 Bond St E	Mixed Use	0.65 spaces/unit	0.62 spaces/unit	0.03 spaces/unit	4.6%
68-72 King St E	Apartment	76	0	76	100.0%
36 Richmond St E	Single w/acc	1	0	1	100.0%
86 Colborne St W	Office	8	7	1	12.5%
157-161 Athol St E	Student Housing	246	43	203	82.5%
Future Transit Hub					
215 Toronto Ave	Mixed Use	6	5	1	16.7%
440 Bloor St E	Affordable Housing	28	5	23	82.1%
454 Bloor St E	Affordable Housing	37	3	34	91.9%
Rest of City					
Block 17, RP 2548	Apartments	180	161	19	10.6%
692 King St E	Office	5.26 spaces/100m ²	3.57 spaces/100m ²	1.69 spaces/100m ²	32.1%
1720-1800 Simcoe St N	Apartments	196	77	119	60.7%
1900 Simcoe Street N*	Mixed Use	562 to 595	85	477 to 510	84.9% to 85.7%
1658 Ritson Road N	Apartment	60	56	4	6.7%
222 Bond St W	Retail	9	2	7	77.8%
287 Arthur St	apartment	4	3	1	25.0%
179 Prince St	Single	2	0	2	100.0%

* Note that a parking space requirement range is shown for 1900 Simcoe Street development as the exact type of commercial land use is unknown. The range shown was calculated using the office and restaurant land uses.

Based on the data presented in **Exhibit 5-1**, the following parking space requirement trends were observed:

- Four residential and mixed use developments within the U.G.C. were granted an exemption to the parking space requirements. Two other U.G.C. developments (mixed use and student housing) were observed to obtain requirement reductions exceeding 50%. Note that an exemption zone is in effect within the U.G.C. for all land non-residential land uses. The following land uses are still required to provide parking:
 - Residential developments with more than 3 units require 1 parking space per unit;
 - Senior citizen apartments with more than 3 units require 0.5 parking spaces per unit; and
 - Buildings with 10 or more flats require 1 parking space per flat for each flat in excess of 10
- Within the future T.H.s, significant parking requirement reductions were approved for two affordable housing developments (80-90% reductions).
- Outside of the U.G.C. and future T.H.s, only minor parking requirements reductions (6 to 25%) were generally approved for residential developments. Note that the 25% reduction was a reduction to 3 spaces from 4 spaces.
 - However, two developments along Simcoe Street North obtained parking requirements reductions greater than 60%. These reductions are likely due to the development's proximity to Durham College and that the majority of residents are anticipated to be students.

These trends will be one of the factors considered when recommending adjustments to Oshawa's Zoning By-law residential parking requirements. The parking exemption zone and the corresponding residential parking requirements will be further investigated as part of *Task 4 Develop a Citywide Parking Policy Framework*:

6. Technical Memorandum 1 Summary

Technical memorandum 1 summarizes the findings *Task 2: Background and Existing Conditions Review*.

Background Document Review

Oshawa was determined to have a strong policy planning framework to help guide parking related decisions throughout the City U.G.C., the T.H.s, and the

City as a whole. The Official Plan's main parking objective is to ensure sufficient parking opportunities are provided to meet the existing and future demand while promoting alternative modes of transportation.

Oshawa Parking Operations

The U.G.C. parking system consists of 4,075 parking spaces divided in the following manner:

- 933 municipal on-street parking spaces composed of 862 pay parking, 57 permit parking, and 14 accessible parking spaces;
- 2,282 municipal off-street parking spaces; and
- 860 publicly accessible private off-street parking spaces.

Hourly pay parking, daily permit parking, and monthly permit parking opportunities are provided. Pay parking operations are in effect between 8:00 AM and 6:00 PM Monday to Friday with free parking on weekday evenings and weekends.

Parking operations outside the U.G.C. generally consists of privately owned off-street parking lots dedicated to serving specific developments. Municipal on-street parking is allowed where signed and is free with a maximum duration of 3 hours.

Municipal Best Practices Review

Similar to Oshawa, the Official Plans of the comparator municipalities were determined to promote alternative modes of transportation while supplying sufficient parking to meet existing and future needs. However, unlike the comparator municipalities, the Oshawa Official Plan was noted to not contain a section outlining general parking policies. Oshawa is recommended to add a designated parking section to the Official Plan as a sub-section of *Section 3: Transportation*.

The following conclusions were determined regarding Oshawa's parking standards:

- Oshawa's parking requirements are observed to be slightly higher than the average of comparable municipalities. These results will be one of the factors considered when developing new residential parking requirements as part of this Study.
- Oshawa has a parking and loading exemption zone within the U.G.C. where all developments (excluding residential) are not required to provide any parking or loading spaces. This study will evaluate whether the zone is an appropriate strategy for Oshawa, and if so, the boundaries will be rationalized.
- Oshawa's parking space dimension requirements are consistent with the average of similar sized municipalities. This suggests that changes are not necessary.

- Oshawa's accessible parking requirements are observed to be slightly lower than A.O.D.A. To meet the Ontario's Accessibility Action Plan mandate of meeting A.O.D.A. guidelines, Oshawa is recommended to adopt accessible parking requirements consistent with A.O.D.A.

Minor Variance Applications

Based on the reviewed minor variance applications, the following trends were observed:

- All minor variance applications for parking space length were for the *Single with Acc* and *Street Town* residential land uses indicating that the 5.75m standard for these land uses may not be appropriate.
- Similar to the parking space length applications, the majority of parking space width applications (3 of 4) were for residential land uses indicating that the 2.75m standard may not be appropriate.
- The majority of parking space reduction applications in the U.G.C. were residential developments requesting 0 parking spaces, indicating that including residential developments in the parking exemption may be appropriate.
- Significant parking requirement reductions were approved for two affordable housing developments in the future T.H.s.
- Only minor parking requirement reductions were granted outside of the U.G.C. and future T.H.s.

Accessibility Report

Filename: Technical Memorandum 1 - 2019-04-18_v2.0.pdf

Report created by: [Enter personal and organization information through the Preferences > Identity dialog.]

Organization:

Summary

The checker found no problems in this document.

- Needs manual check: 0
- Passed manually: 2
- Failed manually: 0
- Skipped: 0
- Passed: 30
- Failed: 0

Detailed Report

Document

Rule Name	Status	Description
Accessibility permission flag	Passed	Accessibility permission flag must be set
Image-only PDF	Passed	Document is not image-only PDF
Tagged PDF	Passed	Document is tagged PDF
Logical Reading Order	Passed manually	Document structure provides a logical reading order
Primary language	Passed	Text language is specified
Title	Passed	Document title is showing in title bar
Bookmarks	Passed	Bookmarks are present in large documents
Color contrast	Passed manually	Document has appropriate color contrast

Page Content

Rule Name	Status	Description
Tagged content	Passed	All page content is tagged
Tagged annotations	Passed	All annotations are tagged
Tab order	Passed	Tab order is consistent with structure order
Character encoding	Passed	Reliable character encoding is provided
Tagged multimedia	Passed	All multimedia objects are tagged
Screen flicker	Passed	Page will not cause screen flicker
Scripts	Passed	No inaccessible scripts
Timed responses	Passed	Page does not require timed responses
Navigation links	Passed	Navigation links are not repetitive

Forms

Rule Name	Status	Description
Tagged form fields	Passed	All form fields are tagged
Field descriptions	Passed	All form fields have description

Alternate Text

Rule Name	Status	Description
Figures alternate text	Passed	Figures require alternate text
Nested alternate text	Passed	Alternate text that will never be read
Associated with content	Passed	Alternate text must be associated with some content
Hides annotation	Passed	Alternate text should not hide annotation
Other elements alternate text	Passed	Other elements that require alternate text

Tables

Rule Name	Status	Description
Rows	Passed	TR must be a child of Table, THead, TBody, or TFoot
TH and TD	Passed	TH and TD must be children of TR
Headers	Passed	Tables should have headers
Regularity	Passed	Tables must contain the same number of columns in each row and rows in each column
Summary	Passed	Tables must have a summary

Lists

Rule Name	Status	Description
List items	Passed	LI must be a child of L
Lbl and LBody	Passed	Lbl and LBody must be children of LI

Headings

Rule Name	Status	Description
Appropriate nesting	Passed	Appropriate nesting

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Appendix B – Technical Memorandum 2



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Memorandum

To/Attention	City of Oshawa	Date	July 05, 2019
From	Peter Richards - IBI Group Attila Hertel - IBI Group	Project	119276 No
cc	Morgan Jones - City of Oshawa		
Subject	Oshawa Parking Study - Technical Memorandum 2		

1. Introduction

The City of Oshawa initiated the Parking Study to develop a long term parking strategy that proactively anticipates and plans for a growing city. The study objective is to analyze Oshawa's citywide parking opportunities and needs with a focus on the Urban Growth Centre (U.G.C.). Parking within the U.G.C. must serve a variety of different users ranging from employees, residents, visitors, and patrons of the businesses in the U.G.C. This Parking Study will balance the needs and objectives of the City of Oshawa and its' various stakeholders.

Technical memorandum 2 summarizes the findings of Task 3. *Task 3: Parking Supply Review for the Urban Growth Centre (U.G.C.) and Transportation Hubs (T.H.s)* is intended to develop a parking management plan by reviewing existing parking supply and demand in Oshawa's U.G.C. and T.H.s, and projecting future parking needs. A decision making framework for the allocation of limited curbside space is also developed.

The following topics are discussed in Technical Memorandum 2:

- **Existing Parking Supply, Demand, and Policy Review:** examines existing parking operations in Oshawa's U.G.C. to identify any existing issues and parking hot spots;
- **Future Parking Demand:** projects future parking demand to identify future parking needs;
- **Curbside Decision Making Framework:** develops a framework to help Oshawa decision makers in allocating the limited curbside space; and

- **Parking Management Plan:** develops a strategy intended on optimizing parking operations in Oshawa's U.G.C. and T.H.s.

2. Existing Parking Supply, Demand, and Policy Review

Municipal parking is intended to serve the parking needs of visitors to the U.G.C. while promoting alternative modes of transportation. Sufficient parking is envisioned to be provided without an oversupply. Note that some parking permits are leased to residential developments in the U.G.C.

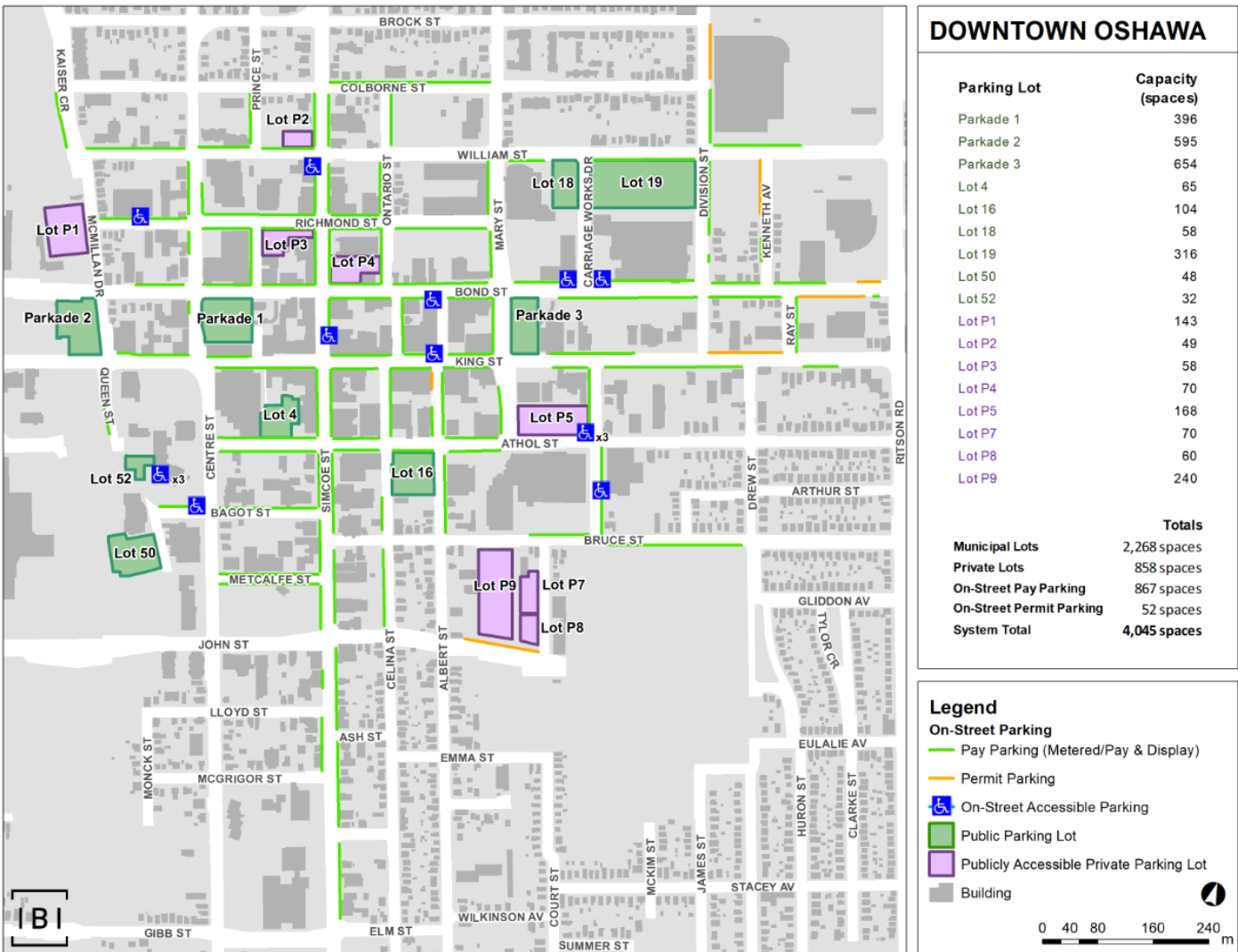
To promote alternative modes of transportation, Oshawa can adopt transportation demand management parking strategies such as a designated carpool program, tying parking permit prices to monthly transit passes, increasing bicycle parking opportunities, and bringing a carshare service provider to the City.

2.1 U.G.C. Parking Inventory

The U.G.C. parking system is composed of municipal on-street parking, municipal off-street parking, and privately owned parking that is available to the general public.

A comprehensive parking inventory map was developed which provides an overview of the on- and off-street parking facilities within Oshawa's U.G.C. The location and parking supply of each facility included in the study is presented in **Exhibit 2-1**.

Exhibit 2-1: Parking Inventory Map



As displayed in **Exhibit 2-1**, the U.G.C. parking system provides 4,045 parking spaces consisting of the following:

- 919 municipal on-street parking spaces, composed of 867 pay parking spaces and 52 permit parking spaces;
- 2,268 municipal off-street parking spaces; and
- 858 publicly accessible private off-street parking spaces.

On-street parking primarily provides pay parking opportunities, with maximum parking durations ranging between 2 and 10 hours, depending on the location. Municipal off-street parking consists of a mix of pay parking and permit parking operations with various maximum durations (location dependant):

- Parkade 1 and 3: 48 hours;

- Parkade 2 and Lot 19: no posted limit (parking permits only); and,
- All other parking facilities: 24 hours.

On- and off-street pay parking costs \$1.25 per hour and is generally in effect between 8:00 a.m. and 6:00 p.m. Monday to Friday. Monthly parking permits prices range between \$73 and \$87 per month depending on the location. Daily on-street permits can be purchased in person at Service Oshawa for \$12.50.

2.2 U.G.C. Parking Operations

A review of the existing U.G.C. parking operations was undertaken during a typical weekday and weekend. The parking surveys capture on- and off-street parking utilization during three periods on each survey day. The days and times that surveys were conducted are shown in **Exhibit 2-2**.

Exhibit 2-2: Parking Survey Periods

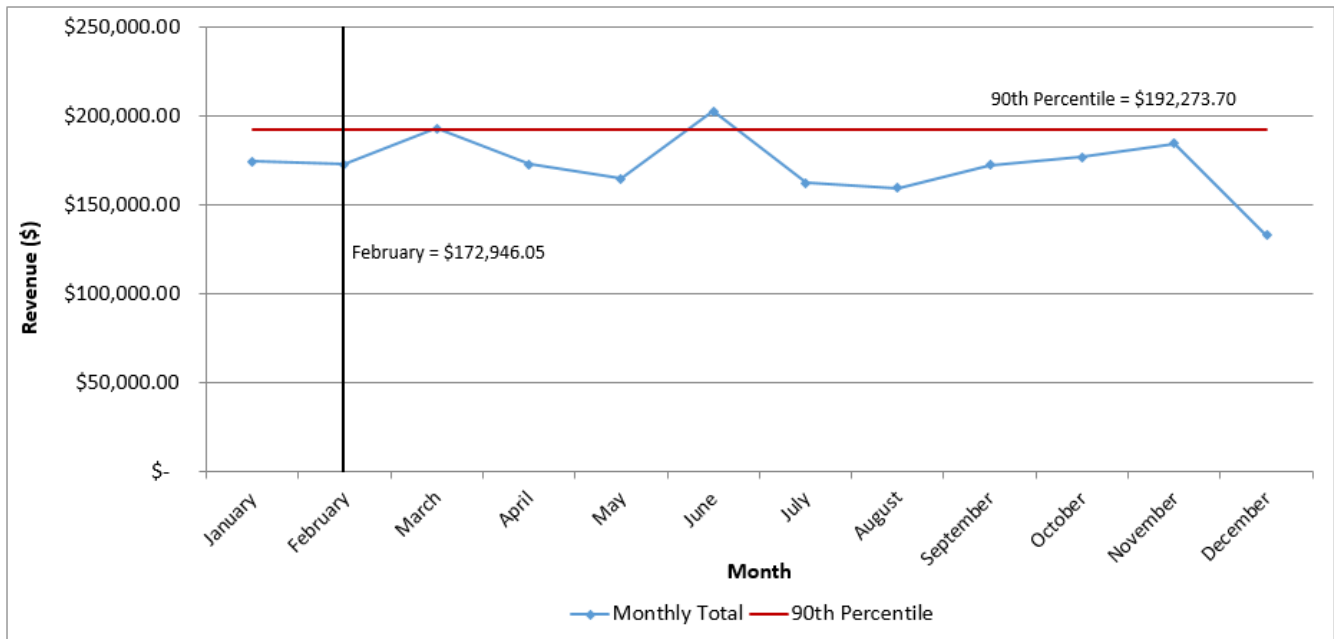
Survey Period	Date	Times
Weekday	Wednesday, February 20, 2019	9:00 a.m. – 11:00 a.m. 11:30 a.m. – 1:30 p.m. 3:00 p.m. – 5:00 p.m.
Weekend	Saturday, February 23, 2019	9:00 a.m. – 11:00 a.m. 11:30 a.m. – 1:30 p.m. 5:00 p.m. – 7:00 p.m.

2.2.1 Seasonal Parking Adjustment Factor

Parking patterns are known to vary throughout the calendar year. For example, parking demand may be slightly lower during the winter months due to cold weather and heavy snow fall. Parking systems are generally designed to accommodate the 85-90th percentile peak annual parking demand. This ensures that the parking supply is sufficient to accommodate all but the highest parking demand experienced throughout the year. Parking systems are not designed to accommodate the peak annual parking demand since there would be excess parking capacity available during the remainder of the year.

To seasonally adjust the collected parking data, the City of Oshawa provided monthly parking revenue data for 2018. To determine the seasonal adjustment factor, the parking revenue collected during the months the utilization surveys were completed were compared to the 90th percentile parking revenue (\$192,237.70). **Exhibit 2-3** shows the 2018 monthly parking revenues.

Exhibit 2-3: Monthly Parking Revenue



Based on the assessment of 2018 monthly parking revenues, a seasonal adjustment factor of 1.112 ($\$192,273.70 / \$172,946.05$) was applied to the observed parking demand data.

2.2.2 Parking Utilization

A parking utilization analysis was conducted using the seasonally adjusted parking demand data to identify locations where parking operates at or near capacity. 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 is challenging for drivers, resulting in an increased likelihood of a driver having to search for an available parking space.

Exhibit 2-4 and **Exhibit 2-5** show the U.G.C. parking occupancy for the weekday and weekend periods, respectively.

Exhibit 2-4: System Wide Parking Utilization (Weekday)

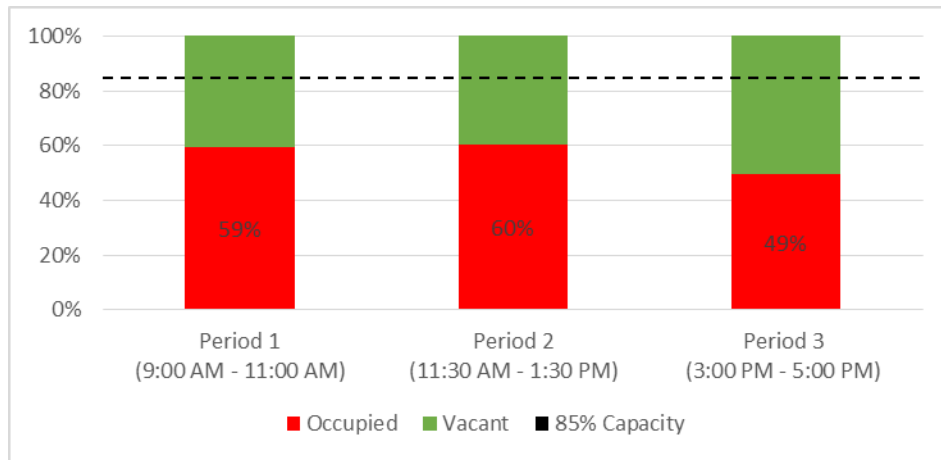
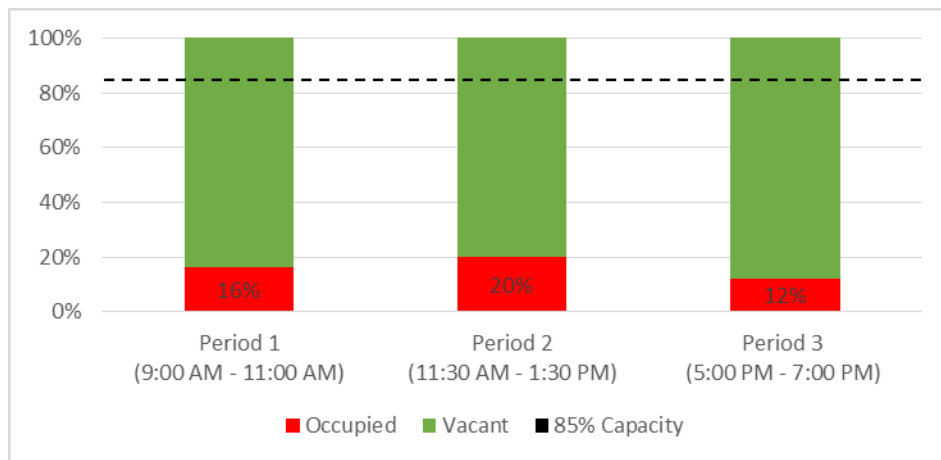


Exhibit 2-5: System Wide Parking Utilization (Weekend)



Based on **Exhibit 2-4** and **Exhibit 2-5** the following conclusions can be drawn:

- The weekday period experienced the highest overall parking utilization, peaking at 60% utilization; and
- Parking demand was lower during the weekend when compared to the weekday, with a peak parking utilization of only 20%.

Based on these results, the overall Oshawa parking system is considered sufficient to accommodate the existing parking demand. Since the weekday period between 11:30 a.m. and 1:30 p.m. experienced the highest parking demand, the study analysis and findings will focus on that period.

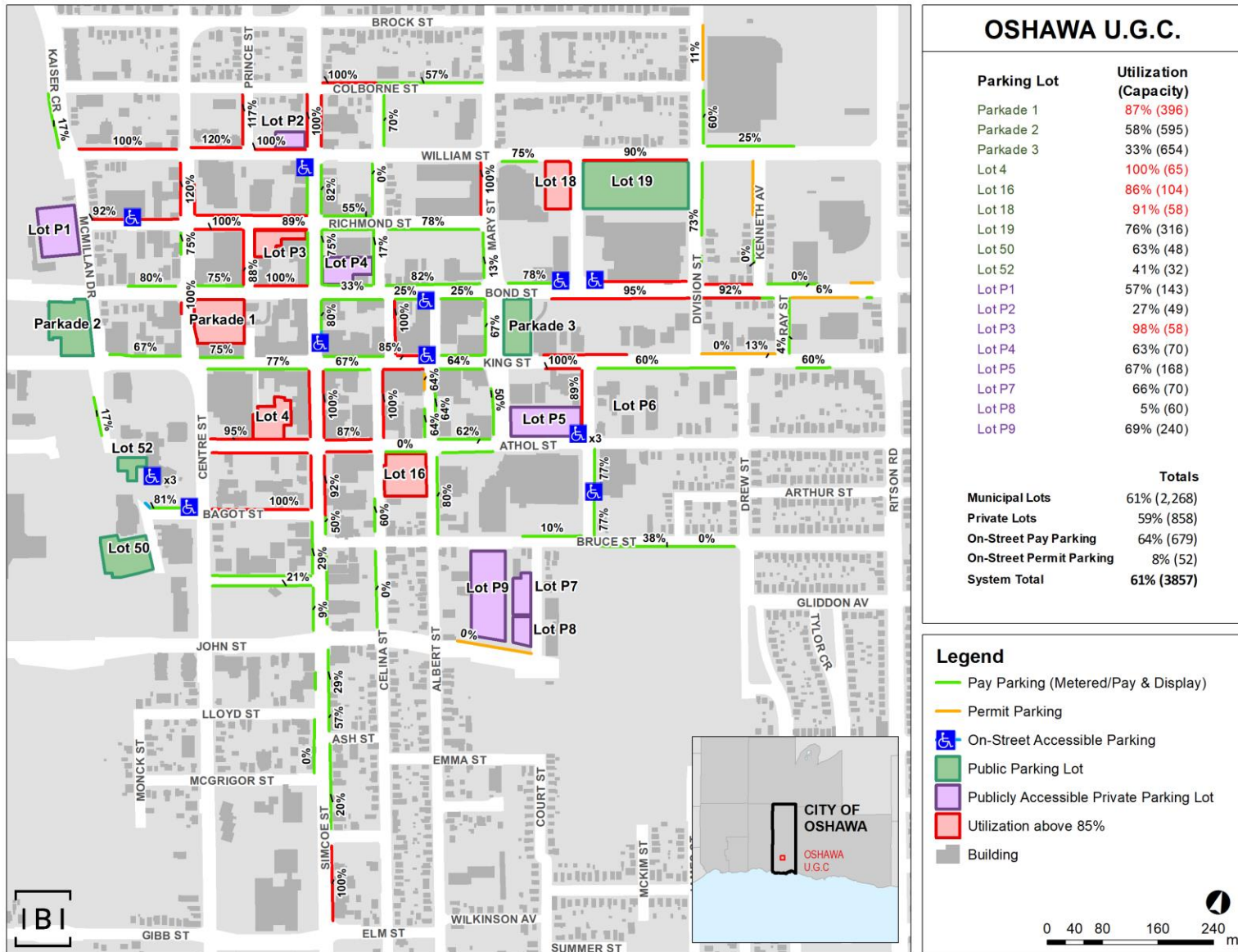
While the overall parking demand is well below the 85% effective capacity threshold, there are some parking facilities that were observed to operate at or near effective capacity. **Exhibit 2-6** geographically displays the parking utilization by on-street segment and off-street parking lot observed during the peak period of parking demand (11:30 a.m. to 1:30 p.m.).

City staff noted that a high number of parking permits were released for Parkade 1, 2, and 3, and Municipal Lot 19, sometimes exceeding the facility's total parking supply. Since the City is obligated to meet the parking demand associated with parking permits sold, parking supply issues would arise if all permit parking users tried to park at the same time. While all permit parking users are not realistically anticipated to park at the same time, a more conservative approach is adopted when assessing existing and future parking operations to capture fluctuations in permit parking demand.

To remain conservative, the maximum demand observed in permit parking facilities (Parkade 1, 2, 3, and Municipal Lot 19) was adopted as the peak period parking demand, regardless of when the peak demand occurred. Note that this only led to a small increase in demand (between 4 and 20 vehicles) when compared to the demand observed in the field.

City staff also requested that IBI investigate how parking demand would change in permit parking facilities if the demand were proportionally increase based on Parkade 2 (which serves strictly permit parking users). In other words, a ratio was calculated between the parking demand observed during the system wide peak and the peak parking demand observed regardless of the time the peak occurred. The assessment concluded that parking demand in Parkade 2 peaked during the system wide peak, which results in a 1:1 ratio. Given this result, the maximum demand observed in permit parking facilities (Parkade 1, 2, 3, and Municipal Lot 19) was adopted as the peak period parking demand versus the factored approach the City suggested.

Exhibit 2-6: Oshawa Weekday Parking Utilization Map (11:30 a.m. – 1:30 p.m.)



Based on **Exhibit 2-6**, the following conclusions can be drawn:

- Out of 88 on-street segments, 27 operated at or above effective capacity (85% utilization);
- Out of 17 off-street parking lots, 5 operated at or above effective capacity;
- Three on-street parking segments were observed to operate above 100% capacity, this was due to illegal parking; and
- High parking demand was observed to be concentrated near the Simcoe Street and Athol Street intersection, as well as near the Richmond Street and Prince Street intersection.

While some parking facilities are operating at or above effective capacity, there are surrounding facilities within walking distance that can accommodate the excess demand. Based on industry research, the typical publicly accepted walking distance between a parking space and the user's final destination ranges between 300 to 400 metres, depending on land use. A utilization map similar to **Exhibit 2-6** illustrating how parking demand in facilities operating over effective capacity could theoretically be redistributed to nearby locations with available parking supply is located in Appendix A.

Given that the system wide parking occupancy is below the 85-90% effective capacity threshold, and that parking opportunities remain available near facilities that are operating above effective capacity, the existing parking supply is considered sufficient to accommodate the existing parking demand.

Through discussions with Oshawa staff, a small percentage of U.G.C. visitors were determined to park at the Midtown Mall for free and walk into the core. This likely occurs because some drivers do not mind walking farther distances for free parking.

2.3 Parking Policies Review

The U.G.C. municipal parking system is envisioned to provide sufficient parking opportunities to meet future demand needs, while promoting alternative modes of transportation. To complement the municipal parking system, private developments provide some on-site parking according to zoning by-law parking requirements that are tailored to an intensification area environment.

As discussed in the Oshawa Official Plan, the future Transportation Hubs (T.H.s) are envisioned to encourage alternative modes of transportation including transit, cycling, and walking. Given this focus, vehicle parking demand is anticipated to be lower than similar developments in the rest of the City. The T.H.s parking needs are envisioned to be met on-site by private developers according to parking requirements tailored to neighbourhoods prioritizing

alternative modes of transportation. A municipal parking system is not considered necessary to support the future T.H.s parking needs.

Oshawa's existing parking policies and regulations and their relationship with facilitating development in the U.G.C. and the T.H. are examined in this section, including:

- Best practice policies;
- On-street parking regulations; and
- Parking requirements for new developments (general and accessible) are reviewed.

2.3.1 Best Practice Policies

Based on the Official Plan research conducted as part of *Task 2: Background and Existing Conditions Review*, the following parking policies were identified as best practice in supporting and facilitating development in the U.G.C. and the T.H.s:

- Surface parking should be minimized and structured parking that is integrated into the urban fabric and compliments the surrounding area's character should be promoted. Where required, surface parking should be located in the rear of the development and tree canopies and vegetation should be implemented to manage the urban heat island effect and protect against climate change.
- High density mixed land uses should be promoted. Above ground parking structures should have alternative uses on the ground floor with green roofs to manage the urban heat island effect.
- The zoning by-laws or guidelines should allow for innovative parking strategies that optimize the parking system's utilization. Potential strategies include, shared parking, unbundled parking, off-site parking, parking maximums, and transportation demand management (T.D.M.) strategies aimed at reducing parking demand. T.D.M. measures and their impacts on parking demand will be examined as part of Technical Memorandum 3.
- Parking requirement reductions should be considered where it is demonstrated that the reduced parking supply will be sufficient to meet the development's parking needs.

A more in depth review of Oshawa's and the comparator municipality's Official Plans is presented in Technical Memorandum 1.

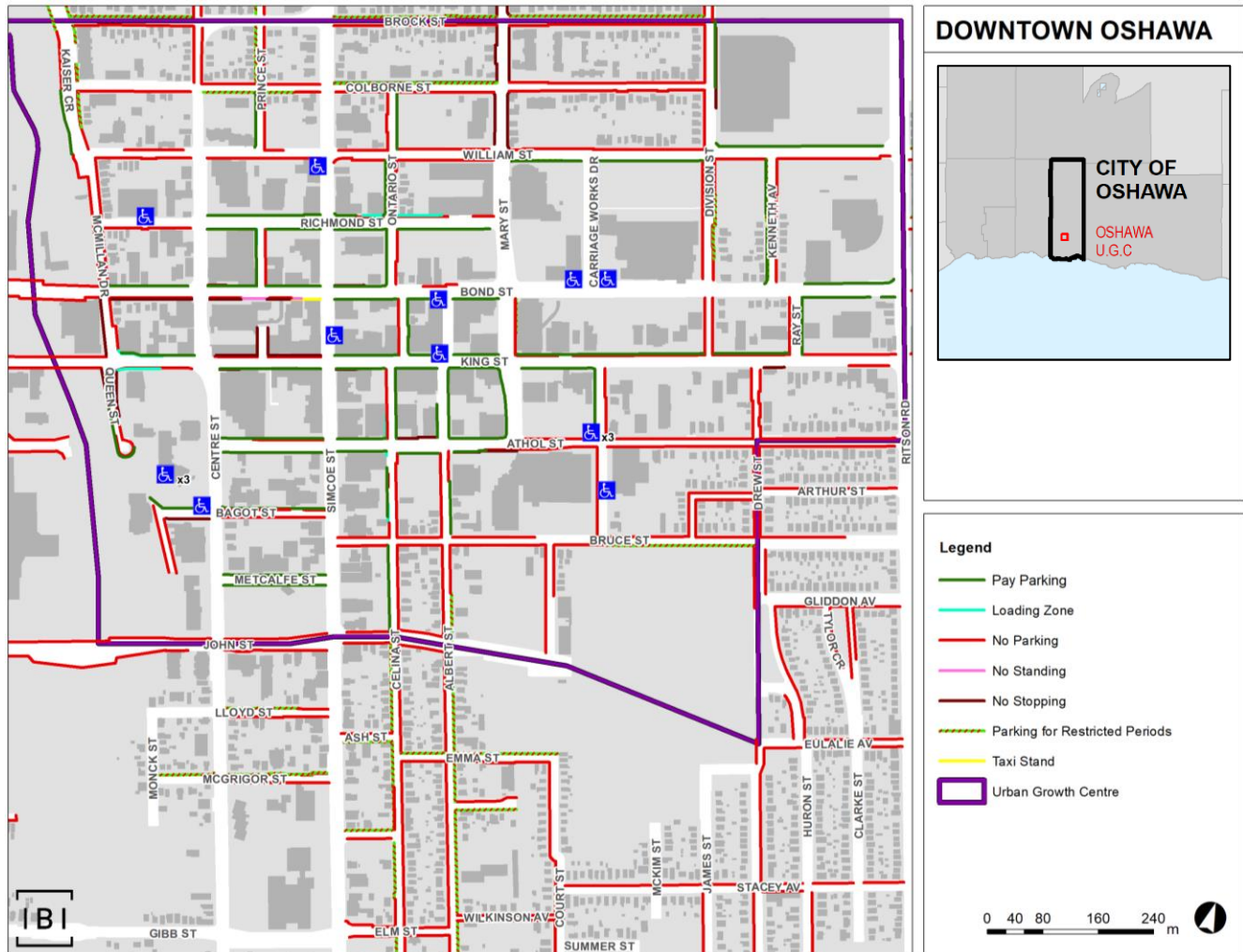
2.3.2 On-street Parking Regulations

Oshawa's traffic and parking by-laws are governed in By-law 79-99 which defines parking operation rules such as angle parking, right-side-of-road parking, interference with snow clearing, blocking traffic, etc. With respect to this study, the following schedules were reviewed to gain an understanding of curbside activities in the U.G.C.:

- Schedule 01: No Stopping;
- Schedule 02: No Parking;
- Schedule 03: Parking for Restricted periods;
- Schedule 04: No Standing;
- Schedule 08: Loading Zones; and
- Schedule 09: Taxicab Stands.

These schedules are geographically illustrated for the U.G.C. in **Exhibit 2-7**.

Exhibit 2-7: On-street Parking Regulations



As illustrated in **Exhibit 2-7**, a modest portion of streets in the U.G.C. provide on-street parking opportunities. There are 919 municipal on-street parking spaces available consisting of hourly/daily pay and permit parking opportunities. In addition to on-street parking, there are seven loading zones and one taxicab stand.

In the residential areas surrounding the U.G.C., free on-street parking is typically permitted on one side of the street while being restricted on the other.

The curbside decision making framework developed in Section 5 was cross referenced with **Exhibit 2-7** and recommended adjustments to Oshawa's existing on-street regulations are provided.

2.3.3 Parking Requirements

Parking standards regulate the supply and design of off-street parking facilities and are one of the most significant tools available to a municipality for influencing private off-street parking supply. Off-street parking supply, in turn, has significant implications for transportation behaviour, urban design, and development patterns.

Oshawa's parking requirements are specified in By-law 60-94, which were compared to the parking requirements of the comparator municipalities as part of *Task 2: Background and Existing Conditions Review*. The residential, office, retail, and restaurant land uses were selected for the comparison as these land uses are anticipated to comprise the majority of the Oshawa U.G.C. land uses, and is considered the most effective comparison. The review determined that:

- Oshawa's parking requirements are generally higher than the comparator municipality average.
- Through the Accessibility Design Standards Guidelines, Oshawa's accessible parking requirements are in line with those of the Accessibility for Ontarians with Disabilities Act (A.O.D.A.). Note that the Guidelines are legislated and private developers must follow the requirements.

The review also identified multiple municipalities that provide a second set of parking requirements for specific areas where travel patterns are known to be different from citywide conditions. These areas are typically Downtown cores or mobility hubs where the personal vehicle mode split is lower than the rest of the city, and therefore lower parking requirements are feasible.

Developing separate parking requirements tailored to specific zones is considered a best practice. As part of *Task 4: Develop a Citywide Parking Policy Framework*, this study will examine residential land use parking requirements in detail with the objective of developing requirements appropriate for Oshawa. If justified, separate residential parking requirements will be developed for intensification areas (U.G.C. and T.H.s) and the rest of the City.

3. U.G.C. Future Parking Operations

While the existing U.G.C. parking supply is considered sufficient to meet the current parking demand, significant growth is projected by 2031. Given the projected growth, long term planning is required to ensure the parking supply remains sufficient to accommodate the future demand.

Future parking operations in Oshawa's U.G.C are anticipated to change as a function of parking supply and demand changes. To project future parking operations, the following factors are considered:

- Parking demand growth due to new non-residential developments (1.7% annually);
- Parking demand growth due to new residential developments not providing sufficient on-site parking;
- Personal vehicle modal split reduction (0.6% annual reduction); and
- Municipal parking supply changes.

Future parking operations are assessed under the 2024, 2029, and 2031 horizon years.

3.1 New Non-Residential Developments

Given the existing parking exemption zone, new non-residential developments are not required to provide any on-site parking supply in this zone. The parking demand generated by new non-residential developments is therefore assumed to be accommodated by the municipal parking system. Note that this is considered a conservative assumption as many of the developments will likely provide some on-site parking.

Given that it's impossible to predict exactly what new developments will be constructed over the 12 year horizon, a method of estimating parking demand growth needs to be established. For the purposes of this planning exercise, the U.G.C. employment growth projections is considered an appropriate proxy.

The employment growth projection is based on data received from Durham Region. The Region provided a Durham Transportation Zone (D.T.Z.) shapefile that contained the population and employment growth projections for 2016 and 2031. Using the provided data, forecasted employment values for D.T.Z. zones within the U.G.C. were aggregated, and an annual growth rate of 1.7% was calculated. Note that the calculated growth rate is slightly higher than the 1.4% annual growth rate presented in the City of Oshawa Official Plan. It is assumed that an increase in employment will result in a proportional increase in parking demand. Therefore, the observed U.G.C. parking demand is assumed to growth at the same rate as employment (1.7% per year).

Exhibit 3-1 presents the projected parking demand growth due to new non-residential developments under the 5, 10, and 12 horizon years.

Exhibit 3-1: Parking Demand Growth due to New Non-Residential Developments

Type	Existing Peak Demand	2024 Demand Growth	2029 Demand Growth	2031 Demand Growth	Comments
On-Street	558	48	100	122	1.7% growth per year for 12 years.
Off-Street	1878	161	337	411	
Total	2436	209	437	533	

Assuming the City is able to achieve the employment growth targets established in the D.T.Z. forecasts, parking demand in the U.G.C. is anticipated to increase by 533 vehicles by 2031. Oshawa is recommended to monitor the parking situation moving forward and adjust the parking demand projections as necessary. This can be done by periodically collecting new parking utilization data and examining the U.G.C. employment forecast to ensure they are in line with the assumptions used at this point in time.

3.2 New Residential Developments

Residential developments in the U.G.C. are not included under the parking and loading exemption. Therefore, the generated parking demand is anticipated to be accommodated on-site. In other words, new residential developments in the U.G.C. are not anticipated to impact the municipal parking system operations.

However, the parking variance review completed as part of *Task 1: Background and Existing Conditions Review* determined that two of the planned residential developments were approved with no on-site parking supply. Assuming that these residential developments will generate zero parking demand is not considered conservative. To estimate the parking demand generated by the two residential developments, parking demand data gathered at the following residential buildings in close proximity was examined:

- 45 Colborne Street West;
- 30 Colborne Street East; and,
- 100 Bond Street.

It was found that during the system peak period in Oshawa (Weekday between 11:30 a.m. and 1:30 p.m.), the peak residential parking rate was 0.58 vehicles per unit (observed at 45 Colborne Street W). This was calculated by dividing the parking demand during the system peak (14 vehicles) by the number of dwelling units (24 units). This ratio was applied to the number of units at the two

residential developments to estimate the parking demand during the system peak period. The estimated parking demand is outlined in **Exhibit 3-2**.

Exhibit 3-2: Future Residential Developments with No On-site Parking

Location	Municipal Parking System Impact	Nearest Off Street Parking Facility
40 King Street West	38 parking spaces	Parkade 1
68-72 King Street East	45 parking spaces	Parkade 3
Total	83 parking spaces	

The generated parking demand is assigned to the nearest off-street parking facility with available capacity. All developments are anticipated to be complete in the near future, and therefore are included as part of the 5 year horizon analysis period.

3.3 Modal Split Reduction

The Official Plan’s main parking related objective is to provide sufficient parking opportunities to meet the existing and future demand while promoting alternative modes of transportation (transit, cycling, and pedestrian). Considering this goal, the future single occupant personal vehicle mode share is anticipated to be slightly lower than today, resulting in reduced parking demand.

Based on the Durham Transportation Master Plan (2017), the Region is targeting a personal vehicle mode share reduction of 15% over a 20 period. Through interpolation, the personal vehicle mode share is anticipated to decrease by approximately 0.8% annually. City staff stated that this rate is for Durham Region as a whole, and that it is meant as a target rather than an expected outcome therefore the reduction rate could be lower for Oshawa.

The existing modal shift numbers for Oshawa’s U.G.C. were examined using data from the Transportation Tomorrow Survey (TTS). The TTS is a comprehensive travel survey and is among the largest travel surveys ever undertaken anywhere. Funded by The Ministry of Transportation, Metrolinx, the Toronto Transit Commission, and 19 municipal governments, the 2016 survey presents travel patterns and travel behaviour information obtained from 162,708 validated surveys. When comparing the 2011 and 2016 TTS survey responses, personal vehicle trips destined for Oshawa’s U.G.C. were observed to decrease by 2%, or 0.4% per year. Since an annual 0.4% auto trips reduction was achieved with minimal improvements to alternative modes of transportation, the planned active transportation and transit network improvements are anticipated to have a larger impact on personal vehicle mode share. Therefore, a personal vehicle mode share reduction of 0.6% was adopted, which is halfway between the achieved rate between 2011 and 2016 and the targeted 0.8% annual

reduction rate. The 0.6% annual reduction assumption was confirmed with Oshawa staff.

Exhibit 3-3 presents the anticipated parking demand reduction due to the modal split changes.

Exhibit 3-3: Parking Demand Reduction due to Modal Split Changes

Type	Peak Demand	2024 Demand Reduction	2029 Demand Reduction	2031 Demand Reduction	Comments
On-Street	558	17	33	39	0.6% reduction per year for 12 years.
Off-Street	1,878	56	110	131	
Total	2,436	73	143	170	

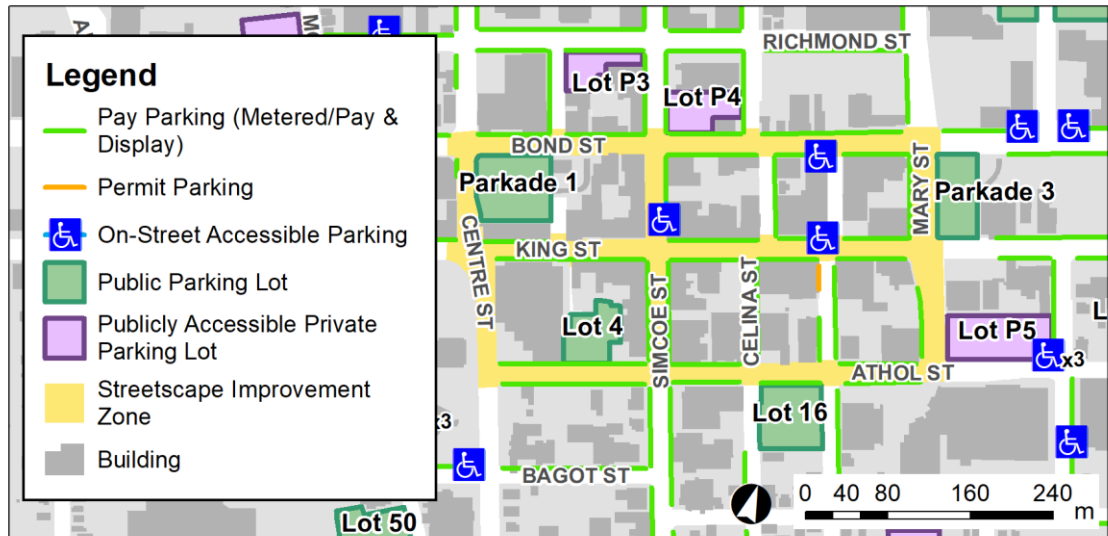
Assuming the City is able to achieve the mode share targets established in the Transportation Master Plan (2017), parking demand in the 2031 horizon year in Oshawa is anticipated to decrease by 170 vehicles compared to existing conditions.

3.4 Parking Supply Losses

Through a review of Oshawa’s planning documents (Official Plan, Transportation Master Plan, etc.), several active transportation, transit network, and streetscape projects were identified for the near future. These projects are anticipated to have significant impacts to the U.G.C on-street parking supply.

In addition, City staff advised that there are several street segments that may potentially be undergoing streetscape improvements. Since the impacts to on-street parking within the Streetscape Improvement Zone is not known yet, City staff requested that the assessment assume an 85% reduction to the existing on-street parking supply within the Zone. **Exhibit 3-4** shows the Streetscape Improvement Zone.

Exhibit 3-4: Streetscape Improvement Zone



The parking supply losses and their anticipated impacts on the Oshawa parking system is displayed in **Exhibit 3-5**. Note that lost parking supply represents a reduction to the municipal parking supply.

Exhibit 3-5: Future Parking Supply Losses

Location	Development	Municipal Parking System Impact
King Street East Pilot Streetscape Project	Public realm improvements along the north side of King St E between Ontario St and Mary St	11 spaces lost
Outdoor Patio Cafes Program	Potential seasonal loss of on-street parking throughout the study area	Details and impact to on-street parking are not known
Athol Street Cycle Track	Implementation of a cycle track along the south side of Athol St between Centre St and Mary St	34 spaces lost
Bond Street Streetscape Improvement	Assumed loss of 85% of on-street parking to account for potential streetscape improvement between Centre St and Mary St	42 spaces potentially lost
King Street Streetscape Improvement*		51 spaces potentially lost
Athol Street Streetscape Improvement**		19 spaces potentially lost
Centre Street Streetscape Improvement	Assumed loss of 85% of on-street parking to account for potential streetscape	2 spaces potentially lost

Location	Development	Municipal Parking System Impact
Simcoe Street Streetscape Improvement	improvement between Bond St and Athol St	19 spaces potentially lost
Mary Street Streetscape Improvement		11 spaces potentially lost
King Street	Potential implementation of Light Rail Transit (L.R.T) and one-way to two-way street conversion	Details of project and impact to on-street parking are not known
Bond Street	Conversion from one-way to two-way street to facilitate L.R.T implementation on King Street	Details of project and impact to on-street parking are not known
Simcoe Street	Potential implementation of L.R.T	Details of project and impact to on-street parking are not known
William Street	Proposed active transportation facility	Details of project and impact to on-street parking are not known
Total		178 parking spaces lost

* Note: the spaces lost due to the King Street E Pilot Streetscape project were not included as part of this assessment

** Note: the spaces lost due to the Athol Street Cycle Track were not included as part of this assessment

The vehicles parking on streets targeted for closure were reassigned to parking facilities with available capacity within 300 – 400 metre (publically accepted walking distance) that also offer transient parking opportunities.

Note that the L.R.T is still being debated and the parking supply impacts are unknown, therefore the municipal parking system impacts were not included as part of the analysis. Once more details are known about the proposed transit improvements, the future parking analysis and recommendations should be revisited by the City of Oshawa.

3.5 Future Parking Operations

This section consolidates all parking supply and demand changes outlined in the previous sections, and examines the U.G.C. parking system’s projected future performance.

To evaluate whether sufficient parking capacity is available, parking demand at parking facilities operating above effective capacity was redistributed to facilities within walking distance that had available capacity. Note that this redistribution is strictly a planning exercise to evaluate whether sufficient parking supply is available in close proximity to lots operating near or at capacity.

The presented parking projections are based on all known and potential redevelopment projects identified at the time this report was prepared. The results are subject to change as the details of these projects are finalized. Oshawa is recommended to periodically re-evaluate parking operations and revise the recommendations as needed.

3.5.1 2024 Parking Operations

The assessment of Oshawa's 2024 parking situation revealed the following:

- During the period of peak demand, the U.G.C. parking system is projected to operate below effective capacity (68% utilization);
- The municipal off-street parking system is projected to operate with available capacity (73% utilization), with Parkade 1 anticipated to operate above effective capacity. Overall, the surveyed private off-street lots are projected to operate with available capacity (62% utilization), with Private Lot 3 operating at 100% capacity
- Overall, the on-street system is projected to operate at 64% utilization;
- The street segments located within the Streetscape Improvement Zone are anticipated to operate at 100% capacity. Excess demand has been reallocated to nearby off-street facilities; and
- Outside the Streetscape Improvement Zone, 4 on-street segments are anticipated to operate above effective capacity with 35 of the 70 segments approaching effective capacity.

Based on these results, the Oshawa parking system is anticipated to be able to accommodate the projected parking demand in 2024.

3.5.2 2029 Parking Operations

To project 2029 parking operations, the 5 year parking demand projections were further grown as a function of employment growth and modal split reduction. The assessment of Oshawa's future 10 year parking situation revealed the following:

- During the period of peak demand, the U.G.C. parking system is projected to operate below capacity (72% utilization);
- Overall, on-street system is projected to operate with available capacity (68% utilization);
- Streets located within the Streetscape Improvement Zone are anticipated to continue operating at 100% capacity;
- Outside the Streetscape Improvement Zone, 8 out of 70 on-street segments are anticipated to operate above 85% capacity. These segments were along Athol Street (cycle track), King Street (pilot

streetscape project), and Centre Street. The excess demand can be accommodated in nearby off-street facilities; and

- The municipal and private off-street systems are projected to operate below capacity, with utilizations of 77% and 66%, respectively.

Given these findings, the existing parking system is anticipated to accommodate the projected parking demand. However, close attention should be paid to on-street parking operations, especially near the central core, as the majority of segments are approaching effective capacity. This could be further compounded with the loss of on-street parking associated with the potential L.R.T. Measures should be implemented that encourage drivers parking for longer periods to park in the off-street facilities to promote higher on-street space turnover.

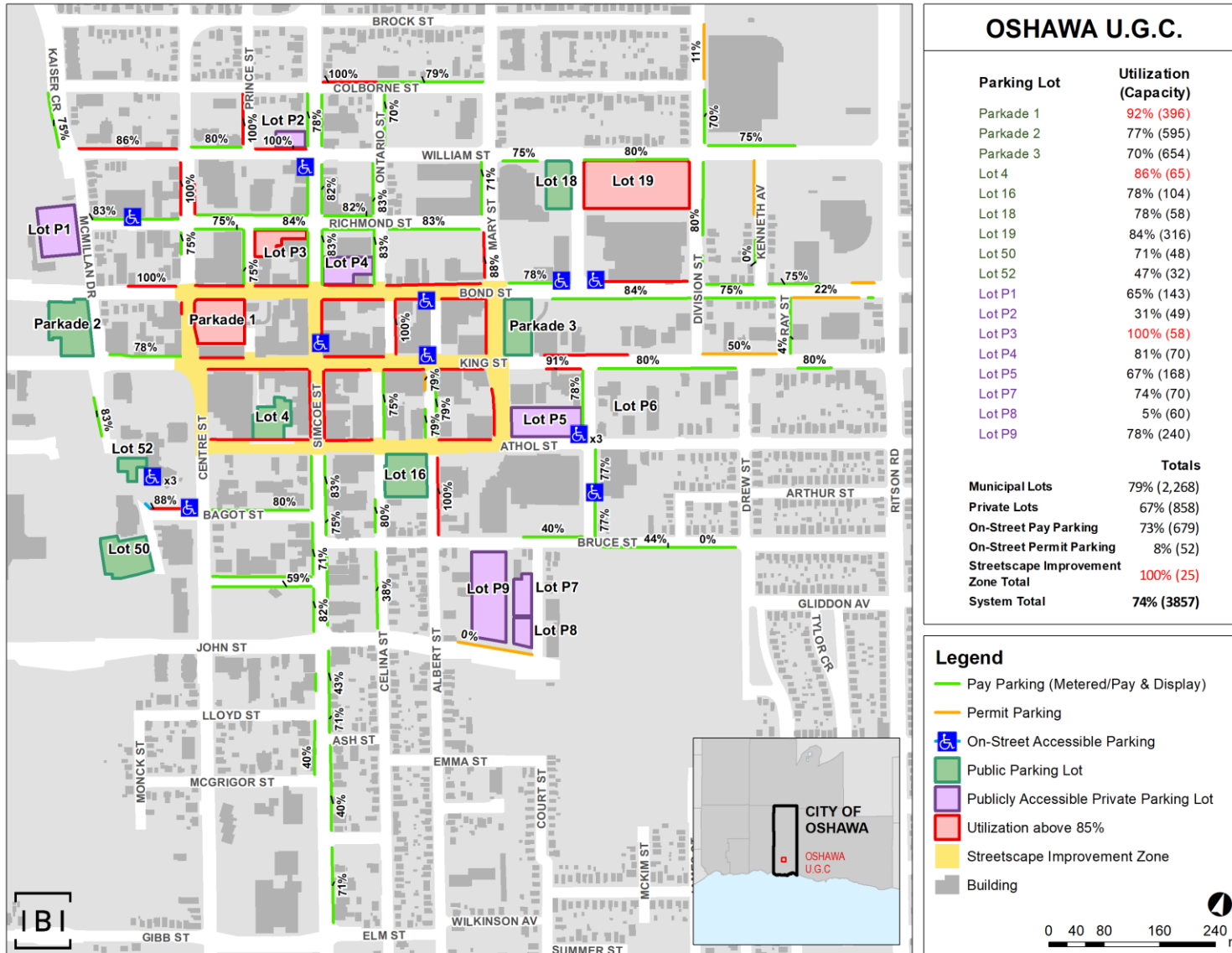
Parkade 1 and 2 are operating at 93% and 74% utilization during the peak period, respectively. Parkade 2 can accommodate approximately 60 additional vehicles before reaching effective capacity. Measures should be implemented to encourage drivers to park in other underutilized lots.

3.5.3 2031 Parking Operations

To project 2031 parking operations, the 2029 parking demand projections were further grown as a function of employment growth and modal split reduction.

Exhibit 3-6 shows a map of the anticipated parking demand within the U.G.C.

Exhibit 3-6: Anticipated 2031 U.G.C. Parking Demand Map



Note that **Exhibit 3-6** displays parking operations where parking demand in facilities operating over effective capacity have been redistributed to nearby locations with available parking supply. A utilization map illustrating future parking operations without the redistribution exercise is located in Appendix A.

The assessment of Oshawa's projected 2031 year parking situation revealed the following:

- During the period of peak demand, the U.G.C. parking system is projected to operate below capacity (74% utilization);
- Overall, on-street system is projected to operate with available capacity (68% utilization);
- Streets located within the Streetscape Improvement Zone are anticipated to continue operating at 100% capacity;
- Outside the Streetscape Improvement Zone, 12 out of 70 on-street segments are anticipated to operate above 85% capacity. These segments were along Athol Street, King Street, and Centre Street, excess demand can be accommodate in nearby off-street facilities; and
- The municipal and private off-street systems are projected to operate below capacity, with utilizations of 79% and 67%, respectively.

Based on these results, the Oshawa parking system is anticipated to be able to accommodate the projected parking demand. Similar to 2029 conditions, close attention should be paid to on-street parking facilities, as a majority of segments are approaching effective capacity.

While municipally owned off-street facilities are still projected to be underutilized during the peak period, Parkade 1 and 2 are operating at 92% and 77% utilization, respectively. Parkade 2 can accommodate approximately 40 additional vehicles before they are at effective capacity. Parkade 3 is underutilized (70% utilization) and is within walking distance of Parkade 1. Measures should be implemented to distribute drivers parking in off-street facilities approaching effective utilization to underutilized lots; recommendations are presented in Section 6.2.

3.6 Parking Permits

3.6.1 Reserving Permits for Private Developments

No issues are foreseen with the City releasing parking permits to residential developments in a controlled manner. The existing lease agreements are recommended to be maintained while the City is recommended to critically evaluate whether new residential developments are provided with leases.

Reason being is that it is difficult to rethink leases once a residential development is constructed with an on-site parking supply shortfall.

With the objective of achieving 85-90% utilization, the City is recommended to first release the agreed upon residential permits, followed by releasing permits to the general public while targeting 85-90% utilization. Permits in addition to those released today are recommended to be released in a phased manner where each release is followed by a monitoring period to ensure periods are not oversold. If additional capacity remains available, the City can release more permits. To help ensure permit holders find a parking space, Parkade permits are recommended to be accepted at any of the Parkades. Similarly, lot permits should be accepted at any permit lot.

To inform City decision makers, additional parking utilization is recommended to be collected prior to releasing additional permits. Hourly parking demand counts are recommended to be collected between 8:00 a.m. and 6:00 p.m. over multiple weekdays and 8:00 a.m. and 8:00 p.m. over multiple weekend days to ensure daily parking demand fluctuations are captured.

3.6.2 Parking Structure Management

Currently, Parkades 1 and 3 serve both transient and permit parking users, while Parkade 2 only serves permit users. With respect to Parkades 1 and 3, both transient and permit parking users can park in any non-accessible parking space on a first-come-first-serve basis. The City of Oshawa staff requested that potential strategies for improving the management of transient and permit parking users be investigated. The following practices were identified:

- No restrictions: transient and permit parking users can park in any non-accessible parking space on a first-come-first-serve basis. Based on IBI Group's past experience, the majority of parking structures serving both permit and transient users are operated in this manner.
- Soft restrictions: while no physical barriers are provided and operations are not enforceable, long term parking users (permits) are encouraged to park on the higher floors. This strategy allows the lower floors to remain available for the short term high turnover parking users. Therefore, the more easily accessible parking spaces serve a higher number of users. Permit parking users can be encouraged to park on the higher floors through signage in the parking structures or through parking user information on the City's website, notifications on permit receipts, etc.
- Physical barriers: transient and permit parking areas are physically separated using gates and barriers. One approach is to have one entry lane dedicated to pay parking users which enters the parking structure's ground floor. A second entry lane grants entrance to permit users who are directed to floors 2 and above.

If Oshawa wishes to separate transient and pay parking users, soft restrictions is the preferred approach. When operating as intended, the lower levels remain available for high turnover short term parking users, which is desirable since they serve a higher quantity of users when compared to long term parking spaces. Physical barriers are not considered optimal as it reduces the parking structure's ability to meet the combined parking demand of both transient and permit parking users. For example, if the dedicated permit parking supply reaches capacity, permit parking users cannot park in the transient parking area even if there is an abundance of parking opportunities. Similarly, the permit parking supply cannot be used to accommodate excess transient parking users.

The City of St. Catharines has implemented the soft restrictions approach in their "Ontario Garage". The parking garage serves transient parking users, general public permit holders, and City staff permit holders. City staff parking in the Ontario Street garage are required to park in floors 3 and above, while all general public permit holders and transient parking users can park anywhere.

Following St. Catharines' example, Oshawa could require that parking users with permits released to specific developments park on the higher levels. This approach would leave the desirable lower level parking spaces available for transient users and general public permit holders.

4. Future Transportation Hub Parking Operations

The future parking demand in the two future T.H.s are envisioned to be met through private parking supply as part of development applications. In other words, the municipal parking system is not proposed to serve the T.H.s.

Oshawa's primary strategy for managing private parking supply is through the Zoning By-law parking requirements. Given the high density, mixed use, and transit oriented developed planned for the T.H.s, the parking demand generated by developments within the T.H.s are expected to be lower than they would be elsewhere in the City. To ensure that sufficient on-site parking is provided without an oversupply, Zoning By-law parking requirements tailored to the T.H.s unique context need to be developed (in addition to other policies and planning strategies outlined by the Official Plan, Integrated Transportation Master Plan, Active Transportation Master Plan). As part of *Task 4: Develop a Citywide Parking Policy Framework*, this parking study will examine residential land use parking requirements in detail with the objective of developing requirements appropriate for the planned T.H.s.

Private developers should also be encouraged to manage parking demand by adopting T.D.M. strategies, such as carshare, expanded bicycle parking, shared parking, and/or unbundled parking. Best practice T.D.M. strategies and their impacts on parking demand will be reviewed in detail as part of *Task 4: Develop a Citywide Parking Policy Framework*.

5. Curbside Decision Making Framework

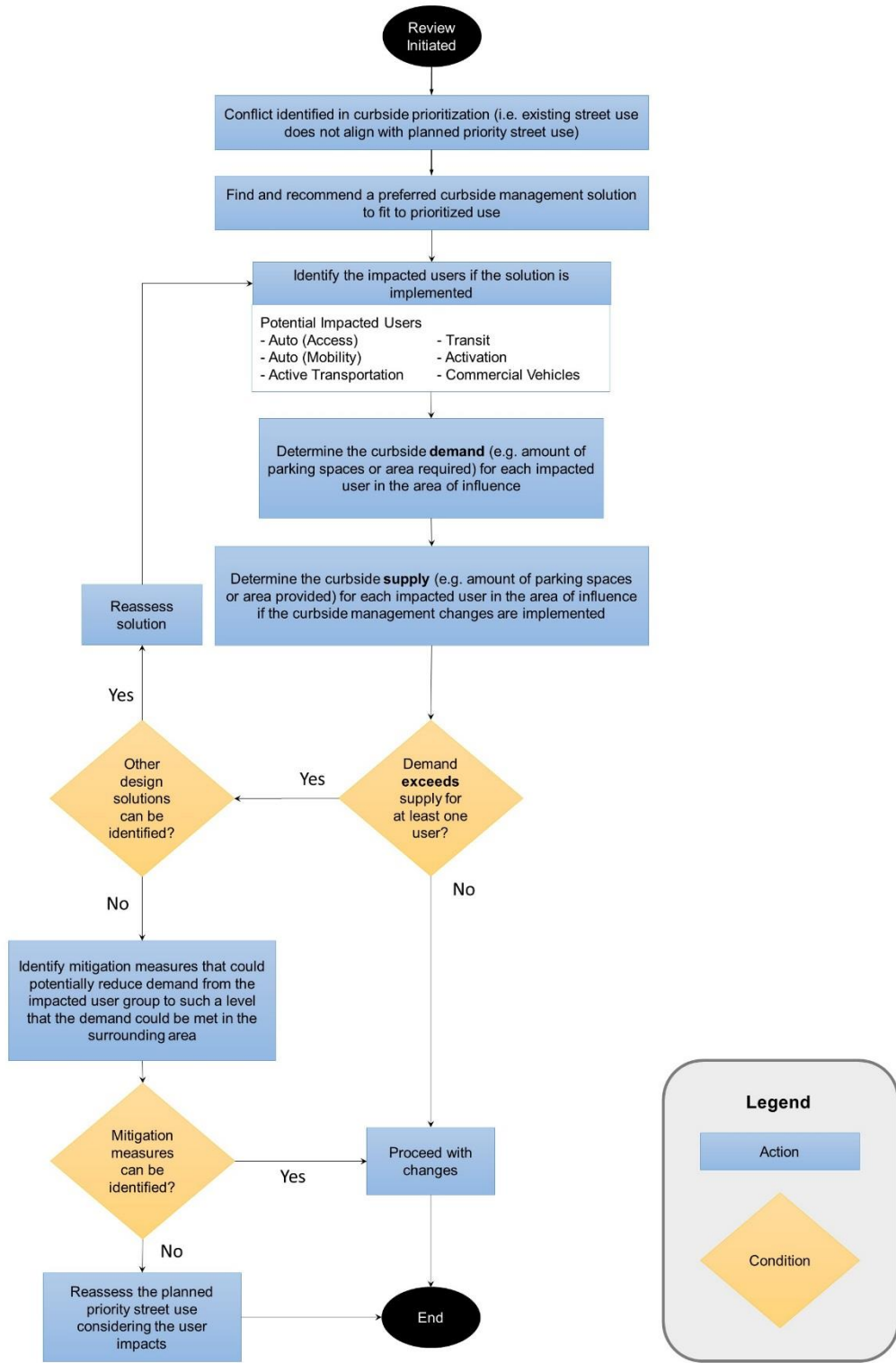
In order to address competing uses at the curbside and ensure efficient use of public space, a decision making tool is recommended to assist Oshawa staff in prioritizing curb space by user.

The proposed curbside decision making framework achieves this by identifying locations where the existing priority curb use and the planned priority curb use are not aligned. By identifying exactly where these misalignments occur, changes to existing curb use can be recommended to better serve the stated priority use in a given location.

In the proposed Framework, existing priority use is determined by assessing the current design and use of the street, while future priority use is assigned based on recommendations from applicable Transportation Master Plans (TMPs), Active Transportation Master Plans (ATMPs), or other strategic planning documents.

Once a conflict between an existing and a future use has been identified the framework describes the process by which the impacts on users could be assessed and the proposed project modified to suit user needs. This framework is shown as a flowchart in **Exhibit 5-1**.

Exhibit 5-1: Decision Making Framework Flowchart



In the proposed framework, a curb space prioritization review is initiated by any event that includes the assessment of road or curb use (i.e. adjustment to on-street parking facilities, resident complaint, TMP, etc.). This initiates the application of a structured, transparent decision making process which is designed to be defensible and achieve municipally or provincially approved planning goals.

The first step in the framework is to identify which use is currently being prioritized and which use is planned to be prioritized in a given location. The existing prioritized use is identified based on the current infrastructure in place and the utilization of that infrastructure, whereas the future prioritized use is identified based on planned projects, corridor improvements, or other changes recommended in TMPs, ATMPs, or other strategic planning documents.

For both existing and future prioritized uses there are six user groups that can be impacted:

- **Auto (Mobility):** Drivers and passengers who may be impacted by the effective removal of travel lanes should the curb lane be dedicated for another use, especially during peak periods. Impacts on this user group can be quantified in terms of road capacity.
- **Auto (Access):** Drivers and passengers looking to stop, stand, or park a vehicle in order to access who may be impacted by the removal of curbside access facilities. Impacts on this user group can be quantified in terms of parking, stopping, and standing space supply.
- **Transit:** Transit users, specifically those travelling on planned transit priority corridors. Impacts on this user group can be quantified in terms of passenger-minutes of delay.
- **Activation:** Pedestrians and others who enjoy the use of curbside patios, parkettes, and other curbside activation amenities. Impacts on this user group can be quantified in terms of total amenity area.
- **Active Transportation:** Cyclists and pedestrians who travel on sidewalks or dedicated cycling facilities such as painted or protected cycling lanes. Impacts on these users can be quantified in terms of sidewalk widths (pedestrians) and kilometres of dedicated cycling facilities.
- **Commercial Vehicles:** Drivers of dedicated commercial vehicles looking to pick-up or drop-off goods which facilitate the commercial activity in urban areas. Impacts on this user group can be quantified in terms of accessible loading space supply.

Once a conflict between existing and future prioritized uses is identified, the impacts of the recommended modification are then quantified (i.e. km of new protected cycling facilities, number of on-street parking spaces removed, etc.) in

order to provide full context to key decision makers. If the future demand for any impacted user group is greater than remaining supply, the project is recommended for modification to attempt to minimize this impact. If the project can be modified no further without voiding the original intention, mitigation measures are then to be identified which help reduce the severity of the change on the impacted users. In the case that no additional mitigation measures can be identified and the impact to users is deemed to be unacceptable based on supply and demand estimates, the planned re-prioritization of that segment may be revisited.

This proposed framework has been applied to the Oshawa U.G.C. to demonstrate its use and output in Section 6.4.2. If adopted, this framework can be used not only as a part of this study but also by future studies which deal with designating space for curb uses.

To help Oshawa decision makers determine whether the parking system can accommodate the loss of on-street parking supply for these future changes, Oshawa is recommended to:

- **Collect parking utilization data within a 400 metre walking radius of the targeted on-street parking supply loss:** Hourly parking demand counts are recommended to be collected between 8:00 a.m. and 6:00 p.m. over multiple weekdays and 8:00 a.m. and 8:00 p.m. over multiple weekend days to ensure daily parking demand fluctuations are captured.
- **Assess existing conditions:** identify the period of peak parking demand and identify locations operating above the 85-90% effective capacity threshold.
- **Project future parking operations:** Forecast future parking demand using the latest population and employment growth projections. Additionally, remove the on-street parking supply Oshawa is considering removing and attempt to reallocate the vehicles parking in these spaces to transient parking facilities within acceptable walking distance (300 – 400 metres). The reallocation exercise is envisioned to result in one of the following outcomes:
 - The displaced vehicles can be accommodated in nearby parking facilities without creating any new parking issues.
 - Recommendation: proceed with the parking supply loss.
 - The displaced vehicles can be accommodated in nearby parking facilities. However, one or more additional facilities are projected to operate above the effective capacity threshold.
 - Recommendation: Oshawa staff need to decide whether the projected operations are acceptable or not. In the event the operational issues are not desired and Oshawa still

wishes to proceed with the on-street parking supply loss, strategies aimed at better distributing parking demand are recommended.

- The displaced vehicles cannot be accommodated in nearby parking facilities without over capacity operations.
 - Recommendation: If Oshawa staff desire to proceed with project in question, the lost on-street parking spaces are recommended to be replaced nearby.

6. Parking Management Plan

This section proposes a parking management plan for Oshawa's U.G.C. and T.H.s intended to optimize parking operations. The plan is composed of the findings of *Task 2: Background and Existing Conditions Review* and *Task 3: Parking Supply Review for the U.G.C. and T.H.s*.

The recommended parking management plan is divided into four components:

- Parking Supply Needs;
- Parking Supply Triggers;
- Special Event Parking Strategy; and
- Parking Policies and Regulations.

6.1 Parking Supply Needs

Based on the findings of Section 3, the recommended future parking supply for the U.G.C. and the T.H.s are discussed.

6.1.1 Urban Growth Centre

Based on the anticipated parking demand in 2031, no parking supply expansions are warranted. While there are some on-street segments that are anticipated to operate above effective capacity (mainly due to the Athol Street Cycle Track and the King Streetscape Pilot), the excess demand on those segments are able to be accommodated within off-street lots within walking distance of the areas approaching capacity.

Close attention should be paid to on-street parking operations, as a majority of segments are projected to approach effective capacity.

6.1.2 Transportation Hubs

The future parking demand needs in the two future T.H.s are envisioned to be met through private parking supply as part of development applications. As part of *Task 4: Develop a Citywide Parking Policy Framework*, this study will examine residential land use parking requirements in detail with the objective of developing requirements appropriate for Oshawa's intensification areas.

6.2 Parking Supply Triggers

To remain ahead of a developing city, the parking system in the City of Oshawa needs to evolve. Triggers for parking management strategies, including a parking supply expansion, are discussed in this section. The RFP suggested a possible trigger: *target levels of development measured by units or floor area*. While development levels are a contributor to parking demand, other factors such as personal vehicle mode split and development occupancy rate, are large factors as well. Therefore, tying parking management strategy triggers directly to parking demand is recommended.

Oshawa is recommended to collect comprehensive parking supply and demand surveys every 2-3 years to monitor growth and make educated parking management decisions. Parking operations and the recommended courses of action are grouped into three possible situations:

- System wide parking utilization is below the 85-90% effective capacity threshold. Individual on-street segments and/or off-street facilities may experience parking operations above effective capacity, but there are available parking opportunities within the 300-400m acceptable walking distance of each over effective capacity segment and facility.
 - Recommendation: no action needed.
- System wide parking utilization is below the 85-90% effective capacity threshold. Groups of on-street segments and/or off-street facilities are observed to operate above effective capacity and parking opportunities within acceptable walking distance are limited.
 - Recommendation: a parking supply expansion is not considered necessary. However, strategies to better distribute parking demand are recommended. Potential strategies include:
 - Parking wayfinding technologies: technologies intended to guide users to under-utilized parking facilities, which will help better distribute the overall parking demand.
 - Pay parking strategies: increasing parking prices strategically at higher utilized parking facilities, or providing

- discounted parking prices at underutilized periphery parking lot(s).
- Parking user restrictions: Strategically restricting the user groups that are granted access to highly utilized parking facilities. For example: if Lot 50 or 52 is determined to be operating near capacity, restricting users to City Hall, the Robert McLaughlin Gallery, and the Public Library (McLaughlin Branch) would prevent users travelling to other destinations from using these lots. These users would then park in other nearby facilities with available parking capacity. Note, users of the three parkades are not recommended to be restricted.
 - Parking time restrictions: Strategically restricting the maximum time limit users are permitted to park in select off-street facilities. For example: if Lot 4, a parking lot near the commercial core, is determined to be operating near capacity, restricting the time limit to a maximum of 2-3 hours would shift U.G.C. employees to other nearby lots with available capacity, such as the three parkades. This restriction would increase turn over and free up capacity for short term visitors typically expected of commercial core visitors. Note, time limit restrictions are not recommended for the three parkades.
 - Redistributing permit sales: While releasing the same number of parking permits overall, Oshawa could limit the number of permits sold for the lots operating over effective capacity and increase the number of permits available in the underutilized lots.
- System wide parking utilization is above the 85-90% effective capacity threshold. Many on-street segments and off-street facilities are experiencing parking operations above effective capacity without available parking opportunities within acceptable walking distance.
 - Recommendation: construct a centrally located parking facility. Based on the Official Plan policies, surface parking is not recommended within the U.G.C and structured parking is recommended to be well integrated into the urban fabric. The parking facility size is recommended to be dictated by the observed parking demand and the foreseeable parking demand growth.

6.3 Special Event Parking Strategy

The City of Oshawa regularly hosts special events in the Tribute Communities Centre located within the U.G.C. including concerts, Oshawa Generals hockey games, and performances such as the W.W.E Smackdown. These special events are expected to generate a localized peak in parking demand. This section examines the existing parking operations during a special event, and recommends a special event parking strategy considered appropriate for Oshawa.

6.3.1 Existing Special Event Operations

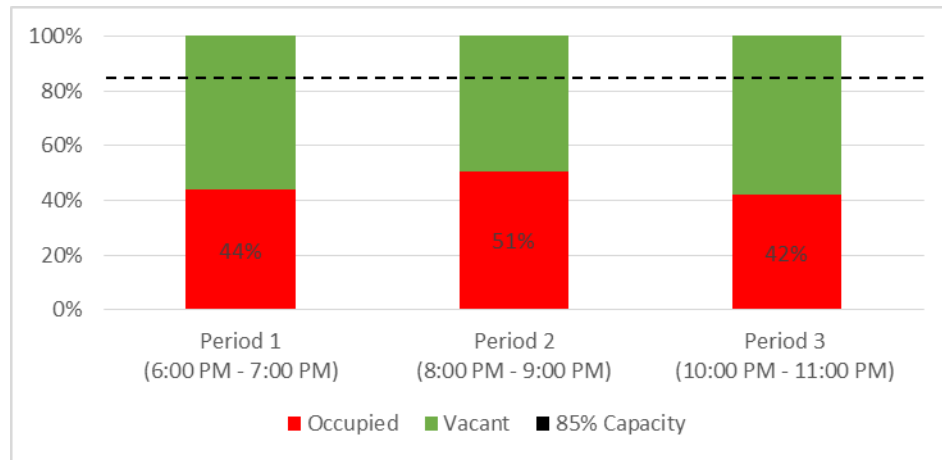
During special events, Oshawa charges a \$5 flat parking fee in Parkade 3 and in Municipal Lot 16, the closest municipally owned lots to the Tribute Communities Centre. For weekday events, the fee is collected after regular pay parking operations end at 6:00 p.m., while for weekend events, the fee is in effect starting 2 hours before the event. On-street parking surround the Tribute Communities Centre is free after 6:00 p.m. on weekdays and all day on weekends, with a maximum permitted parking duration of 3 hours.

To capture parking operations during a special event, a parking demand survey was conducted during the February 9, 2019 W.W.E Smackdown event. The event started at 7:30 p.m. and survey periods were as follows:

- 6:00 p.m. to 7:00 p.m.;
- 8:00 p.m. to 9:00 p.m.; and
- 10:00 p.m. to 11:00 p.m.

The system wide parking utilization observed during the three survey times are summarized in **Exhibit 6-1**. It should be noted that the surveyed area for special events was smaller than the typical weekday and weekend surveys, as the focus was on the area surrounding the Tribute Communities Centre.

Exhibit 6-1: System Wide Oshawa Special Events Parking Utilization

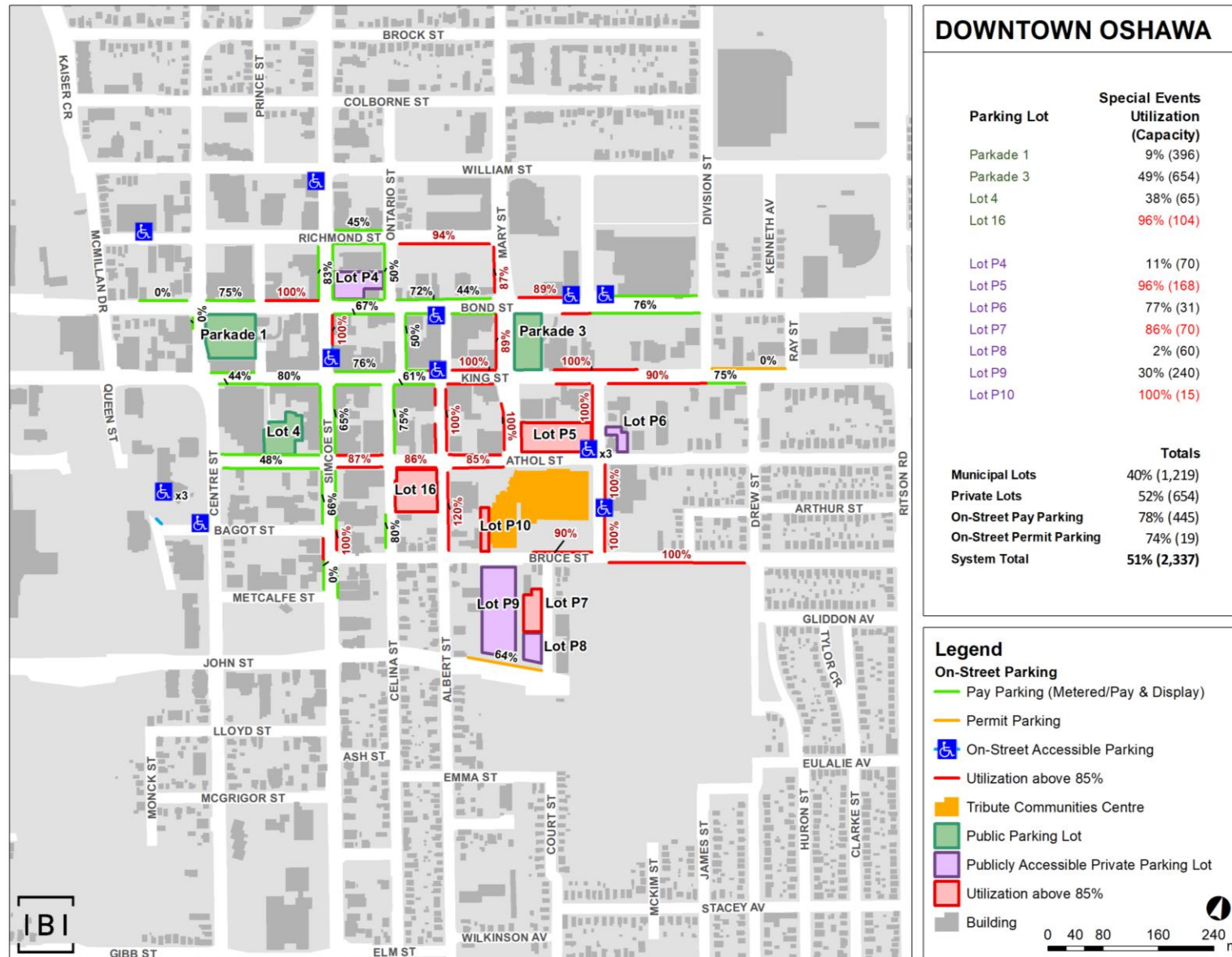


The surveyed event (W.W.E. Smackdown) was selected by the City of Oshawa, noting that it was representative of a typical event. IBI Group contacted Tribute Communities Centre to inquire about the attendance of the event, and found that 3,798 people were in attendance. The average attendance for an Oshawa Generals game is 5,043 people, so the parking demand associated with the W.W.E. Smackdown event is likely lower than other events.

During the surveyed special event, the parking system experienced a maximum parking utilization of 51%, which occurred between 8:00 p.m. and 9:00 p.m. This was closely tied to the special event that started at 7:30 p.m.

While the system wide parking supply is sufficient, the on- and off-street parking facilities in close proximity to the Tribute Communities Centre were generally observed to operate near or at capacity. The parking operations observed on a lot-by-lot and street-by-street basis is displayed geographically in **Exhibit 6-2**.

Exhibit 6-2: Special Event Parking Utilization Map (8:00 p.m. – 9:00 p.m.)



Based on **Exhibit 6-2**, the following conclusions are drawn:

- During the system wide peak, the parking system was 51% utilized. On-street parking approached effective capacity with 78% utilization while off-street parking facilities were 44% utilized;
- Several off-street facilities surrounding the Tribute Communities Centre operated at or above effective (85%) capacity;
- A majority of parking on-street segments operated above effective capacity are contained within walking distance (300 metres) of the Tribute Communities Centre; and
- There are some on-street segments near the intersection of Simcoe Street and Bond Street that are operating above effective capacity. This parking demand is presumed to be related to the restaurants and commercial uses in the area as opposed to the special event.

Currently, there is a disparity in cost between on- and off-street parking during special events. As a result, many special event attendees are believed to park on-street, which occupies the high turnover premium parking spaces intended to be used by patrons of the local establishments. As observed during the weekday parking survey, some on-street parking segments in close proximity of the Tribute Communities Centre are operating at 50-70% utilization, which indicates parking demand is generated by local establishments.

6.3.2 Recommended Special Event Strategy

Oshawa is recommended to adopt the following special event parking strategy.

Special events during pay parking operations: maintain existing pay parking practices

Special events during periods of free parking (after 6:00 p.m. on weekdays or on weekends):

- Off-Street Parking: Maintain existing practices (\$5.00 flat rate at Parkade 3 and Lot 16).
- On-Street Parking: Maintain free parking and adopt a 2 hour maximum parking time limit at all parking spaces controlled by a pay parking device (currently 3 hours during periods of free parking). This will be applied at all periods of free parking, even when special events are not occurring.

The recommended parking strategy maintains consistency with existing off-street practices. The intent of reducing the maximum parking time limit from 3 hours to 2 hours during periods of free parking is to direct special event attendees into the off-street parking facilities. A typical special event is longer than 2 hours, therefore attendees would not be able to park on-street without risking a violation. This should keep on-street parking available for local

establishment patrons and free of charge, which maintains consistency with regular free parking operations. Note that Parkade 3, a 200 metre walk away, is anticipated to have sufficient capacity to accommodate the special event parking demand currently parking on-street.

Proactive special event enforcement is recommended to ensure compliance.

6.4 Parking Policies and Regulations

6.4.1 Parking Policies

Oshawa's Official Plan provides a set of policies to help guide development within the City. Specific to parking, the Official Plan states:

- The amount of surface parking provided on-site for new developments should generally not exceed minimum requirements. Parking within structures, including underground parking, is preferred;
- Parking provided for all developments should ensure accessibility and provide safe and convenient linkages for pedestrians and cyclists;
- Promote and facilitate the provision of sheltered bicycle parking as part of new developments; and
- Support transit-oriented design and T.D.M. measures to reduce the number of vehicle trips. This will in turn reduce parking demand.

While the Plan does provide some policies to help guide parking decision making, the Official Plan review conducted in *Task 2: Background and Existing Conditions Review* determined that Oshawa's Official Plan does not contain a dedicated section outlining general parking policies. Following the best practices established by the comparator municipalities, Oshawa is recommended to amend the Official Plan and a designated parking section as a sub-section of *Section 3: Transportation*. This new section is intended to consist of general parking policies. Specific best practices Oshawa is recommended to consider is outlined in Technical Memorandum 1.

6.4.2 Parking Regulations

This section provides parking regulation recommendations aimed at improving the operations of Oshawa's U.G.C. parking system. Various parking related regulations are discussed.

On-street Parking Regulations

By comparing existing curbside uses with upcoming active transportation and transit improvement projects, Oshawa's curbside regulations are evaluated to identify existing regulations targeted for change. **Exhibit 6-3** and **Exhibit 6-4** show the existing and future prioritized uses within the U.G.C., respectively.

Exhibit 6-3: Existing On-street Prioritized Uses

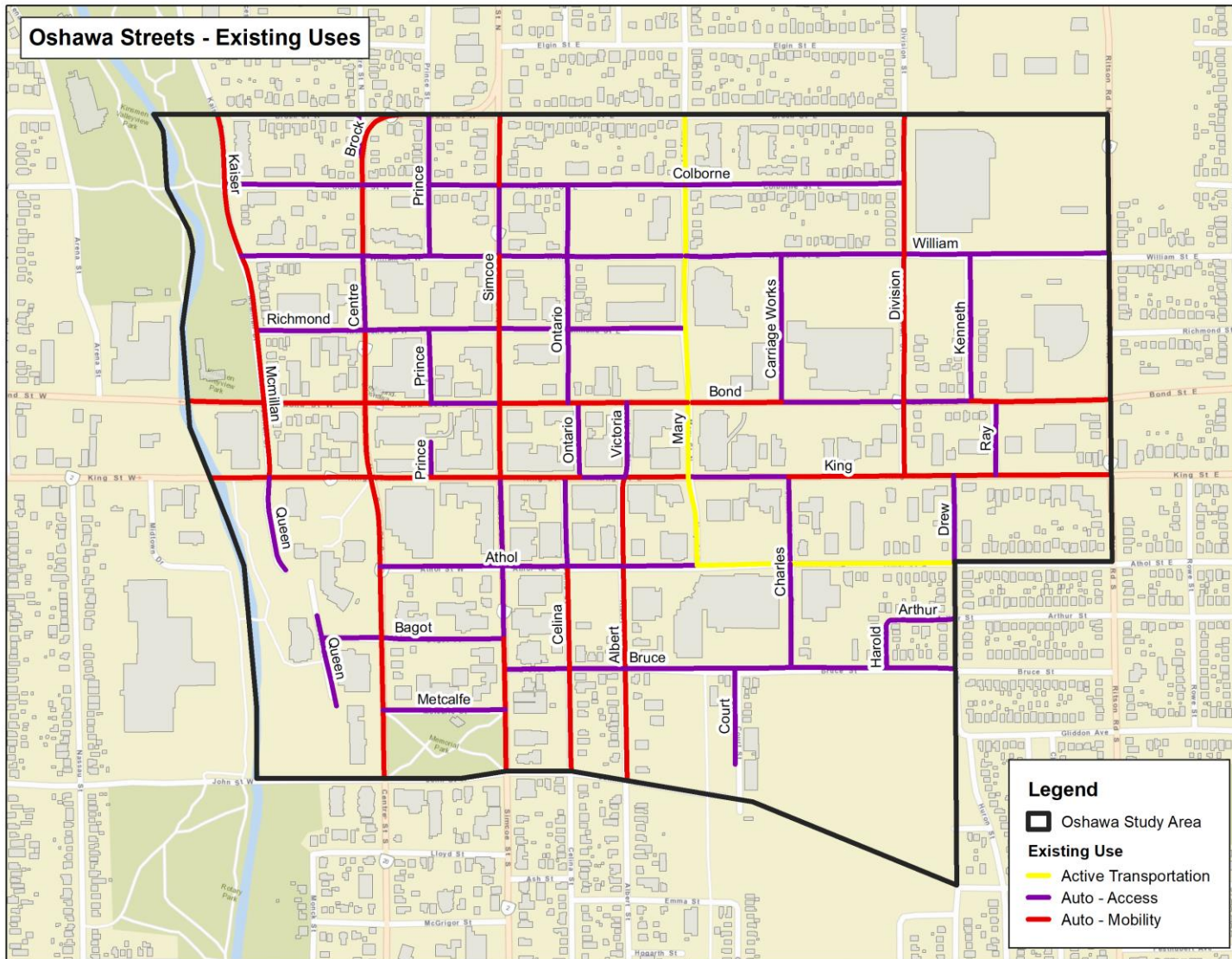
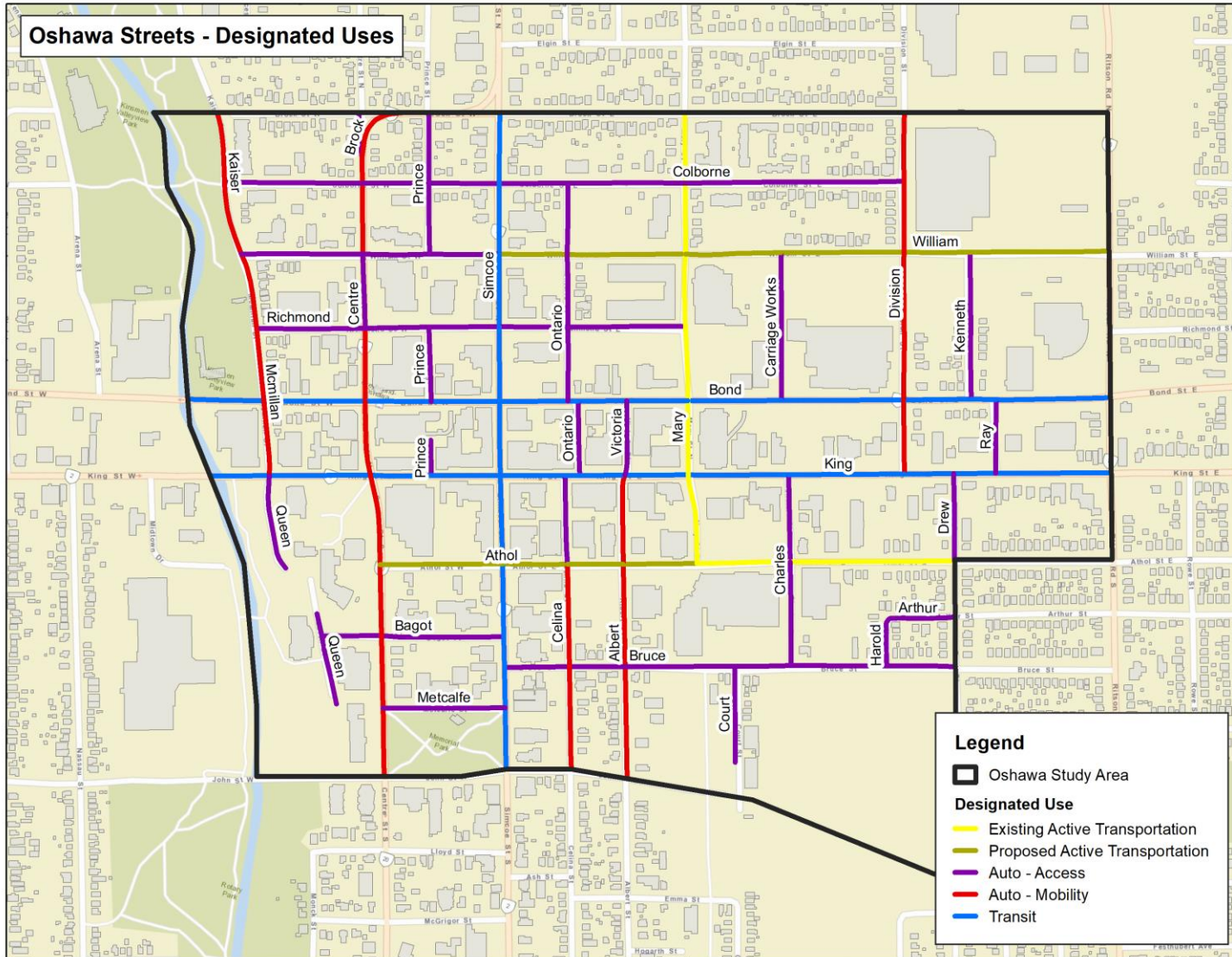


Exhibit 6-4: Future On-street Prioritized Uses



Through a review of Oshawa’s planning documents (i.e., T.M.P., A.T.M.P., and I.T.M.P.), five changes to the designated uses of street segments within the U.G.C were identified. The projects/improvements, context, and source document are presented in **Exhibit 6-5**.

Exhibit 6-5: Potential Projects Impacting On-Street Designations

Street	Projects / Improvements	Original Text	Source
King Street	To be served by Light Rail Transit (L.R.T)	The 2010 Durham Region Long Term Transit Strategy establishes a long term vision for transit that proposes three major transit corridors in Oshawa — Simcoe Street, Taunton Road and King Street — to eventually be served by L.R.T.	Oshawa I.T.M.P.
	To be converted from one-way to two-way streets	Converting King Street and Bond Street from one-way to two-way streets would help facilitate the Region’s Long Term Transit Strategy Option 5 for Oshawa, which, if selected for implementation, would include buses or L.R.T. on King Street.	Oshawa I.T.M.P.
Bond Street	To be converted from one-way to two-way streets	Converting King Street and Bond Street from one-way to two-way streets would help facilitate the Region’s Long Term Transit Strategy Option 5 for Oshawa, which, if selected for implementation, would include buses or L.R.T. on King Street.	Oshawa I.T.M.P.
Simcoe Street	To be served by L.R.T.	The 2010 Durham Region Long Term Transit Strategy establishes a long term vision for transit that proposes three major transit corridors in Oshawa — Simcoe Street, Taunton Road and King Street — to eventually be served by L.R.T.	Oshawa I.T.M.P.

Street	Projects / Improvements	Original Text	Source
Athol Street from Centre Street to Mary Street	Durham Region to construct the new Athol Street cycle track, which will be protected rather than painted	Durham Region will be replacing water mains and sanitary sewers on Athol Street, between Centre Street South and Albert Street. As part of this work, the City of Oshawa will construct the new Athol Street cycle track. The cycle track, which will run between Centre and Mary streets, will be separate from the road and sidewalk. The track combines the user experience of a dedicated path with the on-street infrastructure of a conventional bike lane.	City of Oshawa website
William Street from Simcoe Street to Ritson Road	Proposed active transportation facility	This road segment was identified as a location for a potential active transportation facility	Oshawa A.T.M.P.

Exhibit 6-5 identifies potential changes to the transportation network within the U.G.C. Depending on which alternatives presented in the 2010 Durham Long Term Transit Strategy are selected, there may be changes to the cross section and operations of King Street, Bond Street, and Simcoe Street. Due to uncertainties of the transit planning process, these improvements and their changes to on-street regulations are not considered as part of this study. Once more detailed designs are known, the curbside decision making framework presented in Section 5 can be applied to determine changes to the on-street parking regulations.

The planned Athol Street cycle track between Centre Street and Mary Street should be constructed by August 2019 will result in the removal of all on-street parking on the south side of Athol Street. A total of 34 parking spaces will be lost. These lost spaces will be accounted in the future conditions assessment. The City of Oshawa should increase parking enforcement in the area to educate drivers of the changes to the parking system, and prevent drivers from parking and stopping in the cycle tracks.

The William Street active transportation facility was designated for a proposed signed only bicycle route with sharrows (shared vehicle and bicycle lane). This was only identified in a map contained in the ATMP, and as such more details of the proposed improvements are not known. If the proposed recommendation is carried forward, existing parking alongside sharrows can be maintained, but

safety implications with conflicts between parked vehicles and cyclists should be considered when determining changes to on-street parking regulations.

Free Overnight Parking

Currently, on-street parking in Oshawa's U.G.C. is free on weekends and weekdays between 6:00 p.m. and 8:00 a.m. of the following morning, and is limited to a maximum of 3 hours unless signed otherwise. Free parking is also provided in the designated permit lots during the aforementioned times. The existing 3 hour maximum time limit prevents users from parking overnight on City streets. However, overnight parking is free in the off-street parking facilities.

Municipality views towards overnight parking is known to be mixed. St. Catharines is an example where free overnight parking in both on- and off-street parking facilities has successfully been implemented. Within the U.G.C., overnight parking is free in all off-street facilities but is prohibited between 3:00 a.m. and 6:00 a.m. on-street. Prohibiting overnight on-street parking is intended to prevent overnight parkers from occupying the spaces immediately adjacent to commercial establishments, as this could potentially prevent patrons from using these premium spaces during the morning peak period (when businesses first open).

Given that no issues with free overnight parking were raised through consultation with Oshawa staff or through phase 1 of the public and stakeholder consultation process, no changes are recommended.

Short term On-street Paid Parking

On-street parking is considered premium parking given its relatively small supply and its proximity to trip destinations. In general, global best practices have established that the limited on-street parking opportunities be used to serve short term visitors of the Downtown core (less than two to three hours). Parking users who wish to park for periods in excess of two to three hours are recommended to be directed to the off-street parking facilities.

In Oshawa's U.G.C., the majority of on-street parking opportunities are limited to a maximum of 2 hours. Of the 919 on-street parking spaces, approximately 200 on-street parking opportunities for periods exceeding 2 hours (4, 5, or 10 hours). These longer duration on-street parking opportunities are located near the U.G.C.s northeastern corner.

While the best practice is to limit on-street parking to short term users, the optimal solution for any individual municipality may differ due to local context. In other words, Oshawa providing on-street parking opportunities to longer term users is not necessarily a problem.

A review of existing parking utilization along the streets with maximum parking durations greater than 2 hours revealed mixed parking utilization. The streets closer to the U.G.C. were operating near capacity while the streets slightly closer to the periphery had available capacity. Given that no operational issues

were identified, and that no issues were raised by either City staff, members of the public, or stakeholders, providing long term parking opportunities near the U.G.C. northeastern corner is considered appropriate for Oshawa.

For the periods of free parking, Oshawa is recommended to reduce the maximum parking time limit of 2 hours (currently 3 hours). This change will facilitate the recommended special event plan since special event attendees will be unable to park on-street.

Accessible Parking

Municipalities are generally moving towards adopting accessible parking requirements that are consistent with the requirements outlined by the A.O.D.A. Ontario's Accessibility Action Plan outlines a timeline to fully mandate A.O.D.A. guidelines by 2025, which includes the provision of accessible parking spaces.

Oshawa's existing accessible parking requirements are in line with the A.O.D.A.'s. No further changes are recommended.

Accessibility Report

Filename: Technical Memorandum #2 - 2019-07-05_v3.0.pdf

Report created by: [Enter personal and organization information through the Preferences > Identity dialog.]

Organization:

Summary

The checker found no problems in this document.

- Needs manual check: 0
- Passed manually: 2
- Failed manually: 0
- Skipped: 0
- Passed: 30
- Failed: 0

Detailed Report

Document

Rule Name	Status	Description
Accessibility permission flag	Passed	Accessibility permission flag must be set
Image-only PDF	Passed	Document is not image-only PDF
Tagged PDF	Passed	Document is tagged PDF
Logical Reading Order	Passed manually	Document structure provides a logical reading order
Primary language	Passed	Text language is specified
Title	Passed	Document title is showing in title bar
Bookmarks	Passed	Bookmarks are present in large documents
Color contrast	Passed manually	Document has appropriate color contrast

Page Content

Rule Name	Status	Description	
Tagged	Passed	All page content is tagged	content
Tagged	Passed	All annotations are tagged	annotations
Tab order	Passed	Tab order is consistent with structure order	
Character encoding	Passed	Reliable character encoding is provided	
Tagged	Passed	All multimedia objects are tagged	multimedia
Screen flicker	Passed	Page will not cause screen flicker	
Scripts	Passed	No inaccessible scripts	
Timed responses	Passed	Page does not require timed responses	
Navigation links	Passed	Navigation links are not repetitive	

Forms

Rule Name	Status	Description	
Tagged	Passed	All form fields are tagged	form fields
Field description	Passed	All form fields have description	s

Alternate Text

Rule Name	Status	Description
Figures alternate text	Passed	Figures require alternate text
Nested alternate text	Passed	Alternate text that will never be read
Associated with content	Passed	Alternate text must be associated with some content
Hides annotation	Passed	Alternate text should not hide annotation
Other elements alternate text	Passed	Other elements that require alternate text

Tables

Rule Name	Status	Description
Rows	Passed	TR must be a child of Table, THead, TBody, or TFoot
TH and TD	Passed	TH and TD must be children of TR
Headers	Passed	Tables should have headers
Regularity	Passed	Tables must contain the same number of columns in each row and rows in each column
Summary	Passed	Tables must have a summary

Lists

Rule Name	Status	Description
List items	Passed	LI must be a child of L
Lbl and LBody	Passed	Lbl and LBody must be children of LI

Headings

Rule Name	Status	Description
Appropriate nesting	Passed	Appropriate nesting

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Appendix C – Technical Memorandum 3

Memorandum

To/Attention	City of Oshawa	Date	September 6, 2019
From	Peter Richards - IBI Group Attila Hertel - IBI Group	Project	119276 No
cc	Morgan Jones - City of Oshawa		
Subject	Oshawa Parking Study - Technical Memorandum 3		

1. Introduction

With the objective of developing a parking strategy that meets the long term parking needs of a growing city, the City of Oshawa initiated the Parking Study. Specifically, the study examines existing and future parking operations in the Urban Growth Centre (U.G.C.), addresses public and stakeholder concerns, develops a citywide parking policy framework, reviews the City's residential parking requirements, and assesses the financial sustainability of municipal parking operations.

Technical memorandum 3 summarizes the findings of *Task 4: Develop a Citywide Parking Policy Framework*. Task 4 is intended to develop a parking policy framework, update the Oshawa's citywide residential parking standards and regulations, and define the relationship between parking and various transportation demand management strategies.

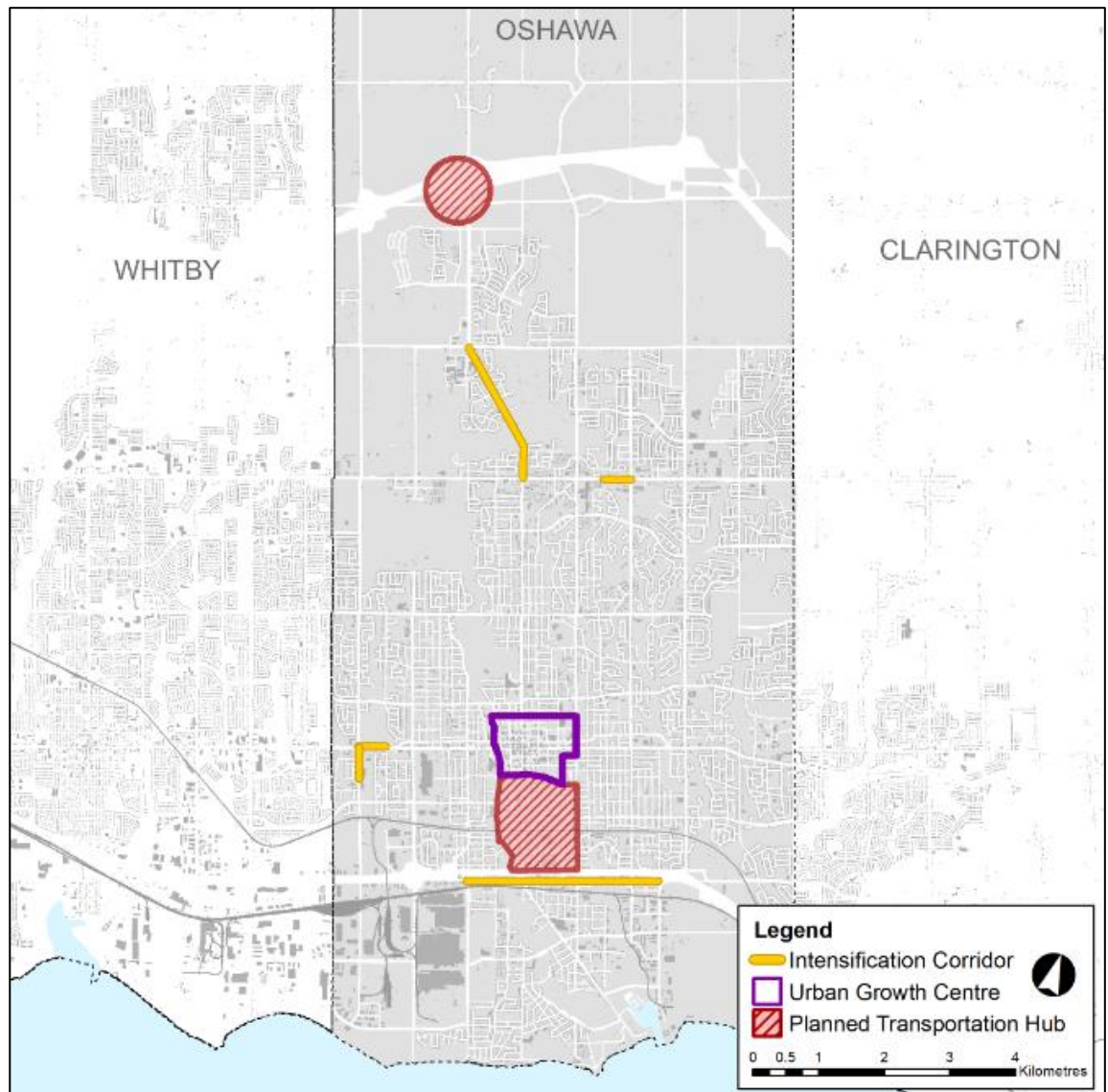
The following topics are discussed in Technical Memorandum 3:

- **Vision Statement and Guiding Principles:** Develops a vision statement and guiding principles that are intended to help Oshawa staff make parking related decisions;
- **Parking Policy Framework Development:** Creates a parking policy framework that will aid Oshawa staff when updating parking policies, strategies, and standards;
- **Standards and Regulations Review:** Examines Oshawa's existing residential parking standard and regulations and recommends new requirements based on current parking trends; and
- **Transportation Demand Management (T.D.M.):** Identifies T.D.M. strategies private developers can adopt to manage the parking demand generated by their proposed development. Guidelines

defining the relationship between parking and the TDM strategies are provided.

The City of Oshawa U.G.C., Transportation Hubs (T.H.s), and Intensification Corridors (I.C.s) are illustrated geographically in **Exhibit 1-1**. For the purposes of this study, the three are grouped and referred to as Intensification Areas.

Exhibit 1-1: Oshawa Intensification Areas



2. Vision Statement and Guiding Principles

The parking vision statement and guiding principles are important pieces of policy that help Oshawa staff in making parking related planning decisions.

Through a review of Oshawa's planning documents and discussions with Oshawa staff, a vision statement and guiding principles tailored to Oshawa's unique parking goals and objectives was developed.

2.1 Vision Statement

Self-sufficient, sustainable, and user-friendly municipal parking operations are envisioned for the U.G.C. that meets the parking needs of a rapidly growing City, while promoting alternative modes of transportation. Parking needs should be met through structured parking that are integrated with the urban fabric in a discreet manner that compliments the surrounding area's character. To achieve long-term economic sustainability, engaging forward-looking fiscal parking strategies are required that are centered on operational efficiency, positive financial performance, and supporting growth.

Parking needs in the T.H.s and I.C.s are envisioned to be met through on-site private parking supply. Private parking demand shall be managed through transit oriented development that is supported by parking requirements tailored to the local environment. Developers should be encouraged to adopt T.D.M strategies such as carshare, shared parking, bicycle parking, and unbundled parking.

2.2 Intended Parking Operations

2.2.1 Urban Growth Centre

The U.G.C. municipal parking system is intended to serve as a shared parking resource for all U.G.C. destinations by providing employers, employees, and visitors with sufficient and user-friendly parking opportunities. Parking utilization is intended to be monitored periodically through the collection of parking utilization data and management strategies adopted as necessary.

Given that no parking supply issues are projected in the foreseeable future, the non-residential parking exemption zone can be maintained. With respect to residential developments, parking requirements tailored to a Downtown core environment should be developed. Parking requirement reductions are recommended to be granted to developers adopting T.D.M. strategies if supported by a practical parking justification study.

Oshawa's parking operations are intended to be economically sustainable. In other words, revenue neutral operations are targeted where parking revenues are sufficient to fund all parking related expenses.

2.2.2 Transportation Hubs and Intensification Corridors

There are two planned T.H.s and four I.C.s in the City of Oshawa as illustrated in **Exhibit 1-1**.

Future parking needs in the T.H.s and I.C.s are envisioned to be met through private parking supply as part of development applications. Oshawa's primary strategy for managing private parking supply is through the Zoning By-law parking requirements. Given the high density, mixed use, and transit oriented developed planned for the T.H.s, the parking demand generated by developments within the T.H.s are expected to be lower than they would be in the rest of the city. To ensure that sufficient on-site parking is provided without an oversupply, Zoning By-law parking requirements tailored to the unique context of the T.H.s needs to be developed. Section 4 examines residential parking requirements in detail with the objective of developing requirements appropriate for the T.H.s and I.C.s.

2.3 Guiding Principles

The following guiding principles are recommended for the City of Oshawa to help staff make parking related decisions:

1. Align parking improvements with the guiding principles, and support the policies and strategies outlined by Oshawa's planning documents (Official Plan, Integrated Transportation Master Plan, Active Transportation Master Plan, etc.).
2. Meet future parking needs while promoting and facilitating alternative modes of transportation such as walking, carpooling, vanpooling, cycling, and transit.
3. Cater on-street parking towards short term parking users, while directing long term parking users to off-street facilities.
4. Implement financial practices and strategies aimed at financially stable and self-sufficient parking operations.
5. Minimize surface parking in the Intensification Areas. Where required, locate surface parking in the rear of the development and implement tree canopies and vegetation to manage the urban heat island effect and protect against climate change.
6. Promote above grade and underground parking structures that are integrated with the urban fabric in a discreet manner that compliments the surrounding area's character. Above grade structures should aim to have alternative uses on the ground floor. Green roofs should be encouraged.

7. Progress towards municipal parking operations that contribute to an active and attractive U.G.C., and are user-friendly and easy to navigate.
8. Encourage innovative parking strategies such as shared parking, unbundled parking, off-site parking, area specific parking requirements, and parking maximums in the Intensification Areas.
9. Consider parking by-law requirement reductions where it is demonstrated that the reduced parking supply will be sufficient to meet the development's parking needs. Strategies proven to reduce a development's parking demand include increased bicycle parking, located adjacent to rapid transit, provision of on-site carshare services, and shared parking for mixed use developments.
10. Adopt a policy framework which will support a growing city and can adapt to changing parking preferences.

3. Parking Policy Framework Development

While future parking operations are projected based on current best estimates, a City's exact growth cannot always be accurately predicted. Additionally, best practice parking policies and standards are constantly evolving. To maintain up-to-date and modern parking practices, existing policies and standards must be periodically revisited and updated. For Oshawa's context, given the 2031 horizon year of this study (as specified in the Request for Proposal) a fulsome update at that time is recommended, if not earlier. Note that Zoning By-law standards are recommended to be updated on an as needed basis, which is further discussed in **Section 3.2**.

A framework that City staff can follow to update parking policies and standards is developed in this section based on a review of best practices, parking demand data collection, and evolving macro-level trends. Depending on City planning, area specific parking strategies can be adopted where needed.

The parking policy framework is based on the following items:

- **Best Practices Review:** Review the parking policies and strategies adopted by municipalities similar to Oshawa. For reference, a list of 10 comparator municipalities considered similar to Oshawa was established in *Task 2: Background and Existing Conditions*. The review can also include published articles from credible sources, such as the Canadian Parking Association (C.P.A.), as many parking policy and strategy best practices originate from industry research.

- **Zoning By-law Parking Standards Review:** Update the Zoning By-law parking standards based on typical parking requirements that are then tailored to Oshawa's unique context.
- **Develop Area Specific Parking Strategies:** Parking operations are not anticipated to be uniform throughout the entire City. For example: parking demand generated by a development located in an I.A is anticipated to be lower than a similar development located elsewhere in the City. Therefore, area-specific parking policies and standards should be adopted that cater to the unique parking operations of the given area.
- **Macro-level Trends Consideration:** Single occupancy vehicle mode share, and therefore parking demand, is anticipated to be impacted by emerging macro-level trends. While the exact magnitude is uncertain, the shared economy and autonomous vehicles are anticipated to reduce parking demand. Latest industry research recommends that new parking facilities be designed and constructed in a manner that allows for an easy conversion to an alternative land use should future parking demand be significantly lower than today.

This framework is intended to provide the City with a recommended methodology that can be used for future parking policy, strategy, and standard updates. Section 4 applies the recommended parking standards methodology to develop recommended residential parking standards.

3.1 Parking Policy Best Practices Review

The parking policy best practices review is intended to identify parking policies that have successfully been implemented in other municipalities, and to consider these policies for adoption in Oshawa. To complete the best practices review, the following steps are recommended:

- Develop a list of 8-10 comparator municipalities. The majority of municipalities should be Southern Ontario municipalities similar to Oshawa in terms of population and geographic location. Oshawa is also recommended to review some municipalities across Canada and the North America to gain an understanding of parking policies that were successfully adopted elsewhere.
- Once the comparator municipalities have been established, Oshawa staff should review the parking related policies in each municipality's Official Plan and the Parking Master Plan to identify parking policy best practices.
- In addition to the planning documents of comparator municipalities, Oshawa staff are recommended to review new and emerging best

practices. There are many credible parking associations and bodies in North America that Oshawa staff can review. For example, the C.P.A. publishes Parker magazine on a quarterly basis, which contains the latest technical, political, and economic information on Canada's parking industry. Oshawa can also send a representative to the annual C.P.A. conference to collect insights into the latest parking best practices.

- With a consolidated list of parking policy best practices developed, City staff can evaluate each policy for adoption in Oshawa. Given the desired direction of parking operations, City staff can select which parking policies are considered appropriate.

The best practices review is intended to capture policies related to all aspects of parking, including but not limited to enforcement, regulations, and on-street permits.

3.2 Zoning By-law Parking Standards Review

Zoning By-law Parking Standards define the parking requirements that developers must adhere to when constructing new developments. The standards outline requirements for items such as parking supply, parking space dimensions, aisle widths, and accessible parking supply.

With respect to parking supply, the best practice is to set requirements at a point where sufficient supply is provided on-site to prevent parking demand spilling into the surrounding neighbourhood, without providing an oversupply. Setting appropriate parking requirements requires an understanding of typical parking patterns of the various land uses and parking patterns local to Oshawa.

Oshawa is recommended to update the Zoning By-law requirements on an as needed basis. For example:

- If the City approves more than 4 minor variance applications for a specific land use within a calendar year, an investigation into the parking requirement for that specific land use may be appropriate. Note that while the minor variance approvals would trigger a review of the associated parking requirement, the review may determine that the existing requirement is appropriate and no update is required.
- Oshawa could consider updating the non-residential Zoning By-law requirements for Intensification Areas once the planned major transit and active transportation projects are complete. The overall parking demand in the U.G.C. is anticipated to decrease as visitors and commuters switch from personal vehicles to alternative transportation modes of travel.

- Macro-level trends, such as the shared economy and autonomous vehicles, are anticipated to have an impact on parking demand. While the impact's magnitude is unknown, the latest industry research suggests that parking demand is anticipated to decrease¹. Once autonomous vehicles have been widely adopted, Oshawa could consider a fulsome Zoning By-law parking requirement update.

When updating zoning by-law parking requirements, Oshawa staff is recommended to consider the following factors:

- **Oshawa's existing parking requirements:** Oshawa's existing parking rates are recommended to be adopted as the base. In the event the other considered factors support an alternative rate, the existing rate can be modified. Otherwise, the existing rate should be maintained.
- **Parking requirements of the comparator municipalities:** The parking requirements adopted by municipalities similar to Oshawa can be reviewed to provide an indication towards the appropriateness of Oshawa's existing rate. Note that while a rate is appropriate for the comparator municipality, the same rate may not be appropriate for Oshawa. The review is simply meant to provide an indication whether Oshawa's existing rates may be appropriate, and if not, provide a high level estimate of what the appropriate rate may be.
- **Parking requirements established by the Institute of Transportation Engineers (I.T.E.) *Parking Generation Manual 5th Edition* and those established by the Urban Land Institute (U.L.I.) *Dimensions of Parking 5th Edition*:** Similar to the requirements established by the comparator municipalities, the rates published by the I.T.E. and U.L.I. provide a high level estimate of what an appropriate rate is for each land use.
- **Parking demand spot surveys:** Oshawa is recommended to collect extensive parking demand data for the land uses targeted for a

¹ Henaghan, J. (2018). *American Planning Association*. Retrieved from Preparing Communities for Autonomous Vehicles: <https://planning-org-uploaded-media.s3.amazonaws.com/document/Autonomous-Vehicles-Symposium-Report.pdf>

Cutean, A. (2017). *Information and Communications Technology Council*. Retrieved from Autonomous Vehicles and the Future of Work in Canada: https://www.ictc-ctic.ca/wp-content/uploads/2018/01/ICTC_-_Autonomous-Vehicles-and-The-Future-of-Work-in-Canada-1-1.pdf

Nourinejad, M. Bahrami, S. Roorda, M. (2018). *Transportation Research Part B Methodological*. Retrieved from Designing Parking Facilities for Autonomous Vehicles: https://www.researchgate.net/publication/318350739_Designing_Parking_Facilities_for_Autonomous_Vehicles

parking requirement update. This data provides the best indication of the parking demand generated by specific land uses in Oshawa. Note that different parking requirement rates may be appropriate for the same land use in different areas of the City. The parking requirements in the Intensification Areas may be lower than parking requirements for the Rest of City.

For example: when updating the parking requirements for an office, Oshawa should survey the parking demand generated by several offices. The peak demand observed during the parking survey would then be divided by each office's gross floor area to establish a parking demand rate. The survey results will provide Oshawa decision makers with an understanding of how much parking demand is generated by office buildings in Oshawa. The observed rate is recommended to be the prime factor in establishing new parking requirements.

- **Parking demand surveys completed as part of parking justification studies submitted to Oshawa:** Similar to the parking demand spot surveys collected by Oshawa staff, the parking surveys completed by private developers as part of minor variance applications can also be considered.

3.3 Area Specific Strategies

Parking operations are not anticipated to be uniform throughout the entire City. Given a focus on transit oriented and high density development, the parking demand generated by a development in an I.A is anticipated to be lower than a similar development located elsewhere in the City. Therefore, area specific parking policies and standards should be developed that cater to the unique parking operations of the given area.

By reviewing the parking policies and standards of Southern Ontario municipalities similar to Oshawa, many municipalities were determined to have a different parking policies and a second set of parking requirements for Intensification Areas. In general, alternative modes of transportation are desired to be promoted in Intensification Areas which results in lower parking demand and therefore lower parking requirements when compared to elsewhere in the city.

Section 4 develops parking requirements for residential developments for both Intensification Areas and the Rest of City. Oshawa is recommended to develop Intensification Area parking requirements for non-residential developments as well based on the methodology outlined in Section 3.2.

3.4 Macro-Level Trends

Many municipalities' main parking related objective is to provide sufficient parking opportunities to meet the existing and future demand, while promoting alternative modes of transportation (transit, cycling, and pedestrian). It is likely that as Oshawa works towards improving alternative transportation options and citizens become more multi-modal, the demand for shared economy services such as carshare and bikeshare will emerge. Considering these trends, the future personal vehicle mode share is anticipated to be slightly lower than today, resulting in reduced parking demand. This reduction in parking demand is anticipated to be most prevalent in Oshawa's Intensification Areas. Further information regarding the personal vehicle mode split reduction magnitude and the data sources are provided in Technical Memorandum 2.

In addition to alternative modes of transportation improvements and emerging macro-level trends, the widespread adoption of autonomous vehicles can potentially have a significant impact on parking demand. While the exact magnitude is uncertain, the latest industry research suggests that parking demand will likely be reduced.

Given the reduced parking demand projections, parking facilities should be designed and constructed in a manner that allows for an easy conversion to an alternative land use should future parking demand be significantly lower than today. For example, the ceiling height in traditional parking structures are lower than the ceilings in some offices and shopping malls. Other design considerations that would need to be accounted include increased loading capacity (parking loads are generally the lowest when compared to other land uses), more windows, different column spacing, grading and slope, and pedestrian access.

The amount of parking supply that is repurposed to an alternative land use would depend on the resulting future parking demand. Oshawa is recommended to collect parking supply and demand data every 2-3 years to monitor parking operations. The decision to construct new parking or repurpose existing parking facilities should be based on the latest parking demand data. Technical Memorandum 2 provides further details regarding the recommended parking supply and demand data collection.

4. Standards and Regulations Review

Oshawa's primary strategy for managing private parking supply is through the parking requirements specified in Zoning By-law # 60-94 (Z.B.L.). Parking requirements are optimally set at a point that provides sufficient on-site parking to meet the generated parking demand, but without providing an oversupply of parking. Setting parking requirements too high may also result in a large quantity

of private developers requesting parking requirement reductions through minor variance applications. Setting parking requirements too low may result in parking demand spilling into the surrounding area, sometimes in areas where on-street parking may not be permitted.

This section reviews the following parking standards and proposes recommendations aimed at optimizing private parking operations:

- **Existing residential parking requirements.** Proposes residential parking requirements tailored to Oshawa's unique context. The methodology recommended as part of the Parking Policy Framework in Section 3.2 is applied when establishing the recommended requirements.
- **Non-residential parking exemption zone.** Determines whether the exemption zone should be maintained, and if so, whether the current boundaries are appropriate.
- **Existing parking space dimensions.** Examines the commonly identified issue where residential driveways are too small to accommodate the vehicles owned by multigenerational families.

4.1 Residential Parking Rates

Oshawa currently has one set of parking requirements for the entire City. However, parking requirements for the U.G.C. are tailored through the non-residential parking exemption zone (illustrated in **Exhibit 4-23**) and the reduced parking requirements for the following residential land uses:

- Residential developments with more than 3 units require 1 parking space per unit;
- Senior citizen apartments with more than 3 units require 0.5 parking spaces per unit; and
- Buildings with 10 or more flats require 1 parking space per flat for each flat in excess of 10.

By reviewing the parking requirements of the comparator municipalities, many municipalities were determined to have a second set of parking requirements for Intensification Areas. Given the higher population and employment density targets, as well as the transit oriented development in these areas, a development located in an Intensification Area is anticipated to generate lower parking demand than a similar development located elsewhere in the city.

The existing modal shift numbers for Oshawa's U.G.C. were examined using data from the Transportation Tomorrow Survey (T.T.S.). The T.T.S. is a comprehensive travel survey and is among the largest travel surveys ever undertaken anywhere. Funded by The Ministry of Transportation, Metrolinx, the

Toronto Transit Commission, and 19 municipal governments, the 2016 survey presents travel patterns and travel behaviour information obtained from 162,708 validated surveys. In Oshawa, when comparing the 2011 and 2016 T.T.S. data, personal vehicle trips destined for the U.G.C. were observed to decrease by 2%, or 0.4% per year. Since a reduction was achieved with minimal improvements to alternative modes of transportation, the planned active transportation and transit network improvements are anticipated to result in a larger decrease in the personal vehicle mode share. Based on the Durham Transportation Master Plan (2017), the Region is targeting a personal vehicle mode share reduction of 15% over a 20 period (0.8% per year).

Given the active transportation and transit network improvement plans, Oshawa's parking standards are envisioned to be arranged in the following manner:

- **Rest of City:** general Citywide parking requirements similar to the current ZBL # 60-94 requirements; and,
- **Intensification Areas:** reduced parking requirements tailored to areas targeted for high employment and population density. In Oshawa, these Intensification Areas include the U.G.C. the future T.H.s, and the I.C.s.

Oshawa's residential parking requirements are reviewed in the following subsections, and residential parking requirements appropriate for Oshawa are recommended.

4.1.1 Single Detached Dwelling

Definition: A dwelling which is freestanding, separate and detached from other main buildings or main structures and which contains only a dwelling unit, but does not include a mobile home.

Parking Characteristics: Parking is provided off-street, in a private driveway, a private garage, or both. Due to the nature of the parking supply locations (private driveway or garage), it would be logical that any parking requirements be a whole number.

Existing Requirements: 2 parking spaces per dwelling unit.

Peer Review: the parking requirements for single detached dwelling units as specified by Oshawa's zoning by-laws, the comparator municipality zoning by-laws, I.T.E., and U.L.I. are presented in **Exhibit 4-1**.

Exhibit 4-1: Single Detached Dwelling Peer Review Results (per dwelling unit)

Municipality / Zone	Oshawa	Clarington	Whitby	Ajax	Pickering	Barrie	Burlington	Guelph	St. Catharines	Peterborough	Kingston	I.T.E.	U.L.I.
Rest of City	2.0	2.0	2.0	2.0	-	1.0*	2.0	1.0	1.0	2.0	1.0	1.83	1.0**
Downtown	-	-	-	-	2.0	1.0	1.0	1.0	-	1.0	1.0	-	-

*Note: Barrie requires 1 space per dwelling unit plus 1 additional space for every 2 tenants for residential buildings containing less than 3 dwelling units.

**Note: The ULI parking requirement increases to 2 spaces per dwelling for units between 2,000 and 3,000 ft² and to 3 spaces per dwelling for units greater than 3,000 ft².

Minor Variances: A minor variance was approved for the residential development located at 179 Prince Street, where the parking requirement was reduced from 2 parking spaces to 0 spaces. The 179 Prince Street development is located in the Rest of City zone.

Recommendation: Oshawa is recommended to adopt the following requirements for single detached dwelling units:

- Rest of City: maintain 2.0 parking spaces per dwelling unit (2.0 spaces per unit for residents and 0.0 spaces per unit for visitors); and
- Intensification Area: Single detached dwelling units are not permitted in the Intensification Areas.

Justification: Many of the reviewed municipalities require 2.0 parking spaces per dwelling unit outside of the Intensification Areas. Additionally, a common issue identified during the consultation process was that residential driveways are often not sufficient in size to accommodate the vehicles owned in multigenerational families. Therefore, reducing the rate is not considered appropriate.

Requirement Range: A parking requirement range is not provided since the requirement is recommended to be a whole number and neither 1 nor 3 parking spaces per dwelling unit are considered appropriate.

4.1.2 Semi-Detached Dwelling

Definition: A semi-detached dwelling is a building divided vertically into two dwelling units.

Parking Characteristics: Parking is provided off-street, in a private driveway, a private garage, or both. Due to the nature of the parking supply locations (private driveway or garage), it would be logical that any parking requirements be a whole number.

Existing Requirements: 2 parking spaces per dwelling unit.

Peer Review: the parking requirements for semi-detached dwelling units as specified by Oshawa’s zoning by-laws, the comparator municipality zoning by-laws, I.T.E., and U.L.I. are presented in **Exhibit 4-2**.

Exhibit 4-2: Semi-Detached Dwelling Peer Review Results (per dwelling unit)

Municipality / Zone	Oshawa	Clarington	Whitby	Ajax	Pickering	Barrie	Burlington	Guelph	St. Catharines	Peterborough	Kingston	I.T.E.	U.L.I.
Rest of City	2.0	2.0	2.0	2.0	-	1.0*	2.0	1.0	1.0	2.0	1.0	-	1.85
Downtown	-	-	-	-	2.0	1.0	1.0	1.0	-	1.0	1.0	-	-

*Note: Barrie requires 1 space per dwelling unit plus 1 additional space for every 2 tenants for residential buildings containing less than 3 dwelling units.

Recommendation: Oshawa is recommended to adopt the following requirements for semi-detached dwelling units:

- Rest of City: maintain 2.0 parking spaces per dwelling unit (2.0 spaces per unit for residents and 0.0 spaces per unit for visitors); and
- Intensification Area: Semi-detached dwelling units are not permitted in the Intensification Areas.

Justification: Many of the reviewed municipalities require 2.0 parking spaces per dwelling unit outside of the Intensification Areas. Additionally, a common issue identified during the consultation process was that residential driveways are often not sufficient in size to accommodate the vehicles owned in multigenerational families. Therefore, reducing the rate is not considered appropriate.

Requirement Range: A parking requirement range is not provided since the requirement is recommended to be a whole number and neither 1 nor 3 parking spaces per dwelling unit are considered appropriate.

4.1.3 Semi-Detached Building

Definition: A semi-detached building is composed of two semi-detached dwellings.

Parking Characteristics: Parking is provided off-street, in a private driveway, a private garage, or both. Due to the nature of the parking supply locations (private driveway or garage), it would be logical that any parking requirements be a whole number.

Existing Requirements: 4 parking spaces per building.

Peer Review: None of the comparator municipalities, I.T.E., or U.L.I. identified a distinction between semi-detached buildings and semi-detached dwellings.

Recommendation: Following the best practices established by the comparator municipalities, I.T.E., and U.L.I., Oshawa is recommended to combine semi-detached building land use with the semi-detached dwelling land use. The semi-detached dwelling parking requirement is per dwelling unit, which is considered appropriate for semi-detached buildings containing more than 1 dwelling unit. Section 4.1.2 presents the recommended parking requirements.

4.1.4 Duplex

Definition: A building, which was not originally constructed as a single detached dwelling, which consists of two dwelling units, one of which has at least fifty percent (50%) of its gross floor area located wholly or partially above the other and each of which has an independent entrance either directly from the outside or through a common vestibule or hallway.

Parking Characteristics: Parking is provided off-street, in a private driveway, a private garage, or both. Due to the nature of the parking supply locations (private driveway or garage), it would be logical that any parking requirements be a whole number.

Existing Requirements: 1 parking spaces per dwelling unit.

Peer Review: the parking requirements for duplex units as specified by Oshawa's zoning by-laws, the comparator municipality zoning by-laws, I.T.E., and U.L.I. are presented in **Exhibit 4-3**.

Exhibit 4-3: Duplex Peer Review Results (per dwelling unit)

Municipality / Zone	Oshawa	Clarington	Whitby	Ajax	Pickering	Barrie	Burlington	Guelph	St. Catharines	Peterborough	Kingston	I.T.E.	U.L.I.
Rest of City	1.0	2.0	2.0	2.0	-	1.0*	2.0	1.0	1.0	-	1.0	-	1.85
Downtown	-	-	-	-	-	1.0	1.0	1.0	-	-	1.0	-	-

*Note: Barrie requires 1 space per dwelling unit plus 1 additional space for every 2 tenants for residential buildings containing less than 3 dwelling units.

Recommendation: Oshawa is recommended to adopt the following requirements for duplex dwelling units:

- Rest of City: maintain 1.0 parking spaces per dwelling unit (1.0 spaces per unit for residents and 0.0 spaces per unit for visitors); and
- Intensification Area: Duplex dwelling units are not permitted in the Intensification Areas.

Justification: The existing parking requirement is considered appropriate as a reduction to 0 parking spaces per dwelling unit is not feasible. Additionally, increasing the parking requirement to 2.0 spaces per dwelling unit does not support the Official Plan policy of promoting alternative modes of transportation.

Requirement Range: A parking requirement range is not provided since neither 0 nor 2 parking spaces per unit is considered appropriate.

4.1.5 Street Townhouse Dwelling

Definition: A townhouse with each dwelling unit having lot frontage and direct vehicular access to an improved street that is maintained by a municipality.

Parking Characteristics: Parking is provided off-street, in a private driveway, a private garage, or both. Due to the nature of the parking supply locations (private driveway or garage), it would be logical that any parking requirements be a whole number.

Existing Requirements: 2 parking spaces per dwelling unit.

Peer Review: the parking requirements for street townhouse dwelling units as specified by Oshawa’s zoning by-laws, the comparator municipality zoning by-laws, I.T.E., and U.L.I. are presented in **Exhibit 4-4**.

Exhibit 4-4: Street Townhouse Dwelling Peer Review Results (per dwelling unit)

Municipality / Zone	Oshawa	Clarington	Whitby	Ajax	Pickering	Barrie	Burlington	Guelph	St. Catharines	Peterborough	Kingston	I.T.E.	U.L.I.
Rest of City	2.0	-	2.0	2.0	-	1.0*	2.0	1.0	1.0	2.0	1.0	1.21	1.85
Downtown	-	-	-	-	2.0	1.0	1.0	1.0	-	1.0	1.0	0.76	-

*Note: Barrie requires 1 space per dwelling unit plus 1 additional space for every 2 tenants for residential buildings containing less than 3 dwelling units.

Recommendation: Oshawa is recommended to adopt the following requirements for street townhouse dwelling units:

- Rest of City: maintain 2.0 parking spaces per dwelling unit (2.0 spaces per unit for residents and 0.0 spaces per unit for visitors); and
- Intensification Area: Street townhouse dwelling units are not permitted in the Intensification Areas.

Additionally, Oshawa is recommended to add the *back-to-back townhouse* land use to the street townhouse requirements. Back-to-back townhouses are defined in Oshawa’s Zoning By-laws as a townhouse that shares a common rear wall with another townhouse for at least fifty percent (50%) of its width with each dwelling unit having lot frontage.

Justification: Many of the reviewed municipalities require 2.0 parking spaces per dwelling unit outside of the Intensification Areas. Additionally, a common issue identified during the consultation process was that residential driveways are often not sufficient in size to accommodate the vehicles owned in multigenerational families. Therefore, reducing the rate is not considered appropriate.

Requirement Range: A parking requirement range is not provided since the requirement is recommended to be a whole number and neither 1 nor 3 parking spaces per dwelling unit are considered appropriate.

4.1.6 Block Townhouse

Definition: A townhouse served by a private driveway or aisle, but does not include a street townhouse building.

Parking Characteristics: Parking is provided off-street, in a driveway, a garage (above or below ground), or both, as well as centrally located (surface) parking spaces between dwelling units.

Existing Requirements: 2 parking spaces per dwelling unit (1.65 spaces per unit for residents and 0.35 spaces per unit for visitors).

Peer Review: the parking requirements for block townhouse dwelling units as specified by Oshawa’s zoning by-laws, the comparator municipality zoning by-laws, I.T.E., and U.L.I. are presented in **Exhibit 4-5**.

Exhibit 4-5: Block Townhouse Peer Review Results (per dwelling unit)

Municipality / Zone	Oshawa	Clarington	Whitby	Ajax	Pickering	Barrie	Burlington	Guelph	St. Catharines	Peterborough	Kingston	I.T.E.	U.L.I.
Rest of City	2.0	2.25	2.25	2.0	-	1.0*	-	-	1.25	-	1.0	1.21	1.85
Downtown	-	-	-	1.5	1.9	1.0	-	1.0	-	-	1.0	0.76	-

*Note: Barrie requires 1 space per dwelling unit plus 1 additional space for every 2 tenants for residential buildings containing less than 3 dwelling units.

Recommendation: Oshawa is recommended to adopt the following requirements for block townhouse dwelling units:

- Rest of City: maintain 2.0 parking spaces per dwelling unit (1.65 spaces per unit for residents and 0.35 spaces per unit for visitors); and
- Intensification Area: adopt 1.0 parking space per dwelling unit while maintaining a similar breakdown between residential / visitor spaces to the Rest of City requirements (0.8 spaces per unit for residents and 0.2 spaces per unit for visitors).

Oshawa is the only municipality reviewed that provides a distinction between rental (1.6 spaces per unit) and non-rental block townhouses (2.0 spaces per unit). While stated with respect to high density residential developments, I.T.E. research concluded that rental apartments and condominiums do not have a noticeable difference in parking generation. The observed trend is assumed to be applicable to rental and non-rental block townhouses. Therefore, Oshawa is recommended to combine the block townhouse and block townhouse (rental) land uses under the parking requirements of block townhouses.

Note that the parking requirement for rental block townhouses would increase. Oshawa can consider collecting parking demand surveys at non-rental and

rental block townhouses to evaluate whether the 1.6 spaces per unit requirement is more appropriate. If the 2.0 spaces per unit rate is validated, Oshawa should notify stakeholder and the public well in advance of the rate increase to minimize negative responses from developers.

Justification: With respect to the Block Townhouse parking requirement outside of Intensification Areas, consideration was given to adopting the 1.6 spaces per unit currently required by the rental block townhouses. However, the municipalities closest to Oshawa in terms of distance all require 2.0 parking spaces per unit outside of Intensification Areas. Additionally, the U.L.I. suggests a requirements of 1.85 spaces per unit.

With respect to the Intensification Areas, the majority of comparator municipalities and the I.T.E. suggest a rate of 1.0 spaces per unit or less. The 1.0 rate was adopted as a lower rate is not considered appropriate without parking survey justification, and this reduced parking requirement (when compared with the Rest of City requirement) supports the Official Plan policy of promoting alternative modes of transportation.

Requirement Range: Oshawa could consider parking requirements ranging between 1.6 – 2.0 spaces per unit for the Rest of City for further investigation.

4.1.7 Accessory Apartment

Definition: A self-contained dwelling unit, within a single detached dwelling or semi-detached dwelling.

Parking Characteristics: Parking is provided off-street, in a private driveway, a private garage, or both. Due to the nature of the parking supply locations (private driveway or garage), it would be logical that any parking requirements be a whole number. The off-street parking is typically shared between the dwelling unit and the accessory apartment.

Existing Requirements: 1 parking spaces per dwelling unit in addition to the residential parking requirement.

Peer Review: the parking requirements for accessory apartments as specified by Oshawa's zoning by-laws, the comparator municipality zoning by-laws, I.T.E., and U.L.I. are presented in **Exhibit 4-6**.

Exhibit 4-6: Accessory Apartment Peer Review Results (per unit)

Municipality / Zone	Oshawa	Clarington	Whitby	Ajax	Pickering	Barrie	Burlington	Guelph	St. Catharines	Peterborough	Kingston	I.T.E.	U.L.I.
Rest of City	1.0	1.0	1.0	1.0	-	1.0*	1.0	2.0	1.0	-	-	-	1.0
Downtown	-	-	-	-	1.0	1.0	0.0	2.0	-	-	-	-	-

*Note: Barrie requires 1 space per dwelling unit plus 1 additional space for every 2 tenants for residential buildings containing less than 3 dwelling units.

Minor Variances: A minor variance was approved for the residential development with an accessory apartment located at 36 Richmond Street East, where the parking requirement was reduced from 1 parking spaces to 0 spaces. The 36 Richmond Street East development is located in the Urban Growth Centre.

Recommendation: Oshawa is recommended to adopt the following requirements for accessory apartment dwelling units:

- Rest of City: maintain 1.0 parking space per dwelling unit (1.0 spaces per unit for residents and 0.0 spaces per unit for visitors); and
- Intensification Area: adopt 1.0 parking space per dwelling unit (1.0 spaces per unit for residents and 0.0 spaces per unit for visitors).

Justification: Since the majority of reviewed municipalities require 1.0 parking spaces per unit (in addition to the residential parking requirement) outside of the Intensification Areas, the existing rate is considered appropriate.

Considering the Intensification Areas, 1.0 space per accessory apartment unit was considered appropriate since 0 parking spaces per unit is not considered feasible. Note that due to the nature of the parking supply locations (private driveway or garage), it would be logical that any parking requirements be a whole number.

Requirement Range: A parking requirement range is not provided since the requirement is recommended to be a whole number and neither 0 nor 2 parking spaces per dwelling unit are considered appropriate.

4.1.8 Condominium Apartment

Definition: A residential building administered and maintained, or proposed to be administered and maintained, by a corporation created pursuant to the provisions of the Condominium Act.

Parking Characteristics: Parking is provided off-street, in a surface, structure, or underground parking facility.

Existing Requirements: 1.75 parking spaces per dwelling unit (1.45 spaces per unit for residents and 0.30 spaces per unit for visitors).

Peer Review: the parking requirements for condominiums specified by as Oshawa’s zoning by-laws, the comparator municipality zoning by-laws, I.T.E., and U.L.I. are presented in **Exhibit 4-7**.

Exhibit 4-7: Condominium Peer Review Results (per dwelling unit)

Municipality / Zone	Oshawa	Clarington	Whitby	Ajax	Pickering	Barrie	Burlington	Guelph	St. Catharines	Peterborough	Kingston	I.T.E.	U.L.I.
1 bedroom	1.75	1.25	1.5	1.75	-	1.5	1.2	1.25 / 1.5*	1.25	1.75	1.4	0.98	1.85
2 bedroom		1.5					1.45						
3 bedroom		1.75					1.7						
Downtown	-	-	-	1.5	0.95	1.0	1.25	1.05	-	1.0	1.0	0.55	-

*Note: Guelph requires 1.5 spaces per unit for the first 20 dwelling units. Each unit in excess of 20 only requires 1.25 spaces per unit.

Observed Parking Demand: IBI completed parking surveys at three condominium / rental apartment buildings in the Oshawa U.G.C. The survey results are presented in **Exhibit 4-8**. Note that the 100 Bond Street East parking rate may not present an accurate estimate of the development’s parking demand since Oshawa staff have confirmed that the development is leasing parking spaces in Parkade 3.

Exhibit 4-8: Observed Condominium / Rental Apartment Parking Demand (resident + visitor)

Address	# of Units	Weekday Demand (spaces)			Weekend Demand (spaces)			Peak Parking Rate (spaces /unit)
		Morning	Midday	Afternoon	Morning	Midday	Afternoon	
100 Bond Street East	239	68	59	56	89	85	77	0.37
45 Colborne Street West	24	13	14	15	18	15	18	0.75
30 Colborne Street East	21	2	2	2	3	2	4	0.19

Minor Variances: Five minor variances were approved for the condominium / rental apartment land use which are summarized in **Exhibit 4-9**.

Exhibit 4-9: Condominium / Rental Apartment Minor Variance Summary

Address	Land Use	Number of Units	Parking Required	Parking Supplied	Difference (%)
Urban Growth Centre					
68-72 King St E	Apartment	66	76 spaces (1.15 spaces/unit)	0 spaces (0 spaces/unit)	100.0%
Rest of City					
Block 17, RP 2548	Apartments	unknown	180 spaces	161 spaces	10.6%
1720-1800 Simcoe St N	Apartments	112	196 spaces (1.75 spaces/unit)	77 spaces (0.66 spaces/unit)	60.7%
1658 Ritson Road N	Apartments	75	60 spaces (0.8 spaces/unit)	56 spaces (0.75 spaces/unit)	6.7%
287 Arthur St	Apartments	unknown	4	3	25.0%

Recommendation: Oshawa is recommended to adopt the following requirements for condominiums:

- Rest of City:
 - 1 bedroom: 1.00 per dwelling unit;
 - 2 bedroom: 1.25 per dwelling unit;
 - 3 bedroom: 1.50 per dwelling unit;
 - Visitors: 0.25 per dwelling unit.

- Intensification Area:
 - 1 bedroom: 0.50 per dwelling unit;
 - 2 bedroom: 0.75 per dwelling unit;
 - 3 bedroom: 1.00 per dwelling unit;
 - Visitors: 0.25 per dwelling unit.

Justification: Best practices suggest that the parking demand generated per unit is dependent on the number of bedrooms within the unit. The recommended Rest of City parking requirements represents a balance between the existing Oshawa requirement, which was recommended as the 3 bedroom requirement, and the lower apartment parking requirements of the similar municipalities.

Considering Intensification Areas, the Downtown parking requirements range between 0.95 and 1.5 for the comparator municipalities. Given that the peak parking demand observed at the three developments IBI Group surveyed was 0.75 parking spaces per unit, the 0.75 parking requirement was adopted for 1 bedroom units with increasing requirements for units with 2 and 3 bedrooms.

Requirement Range: Based on the collected parking demand data, an argument could be made to further reduce the condominium apartment parking requirements by 0.25 parking spaces per unit (for all bedrooms). Due to the abundance of condominium apartments, an extensive data collection exercise is recommended prior to adopting the reduced requirements. Hourly parking demand data at numerous condominium apartments should be collected.

4.1.9 Rental Apartment

Definition: A residential building or part of a building containing three or more dwelling units, including stacked townhouses, but does not include flats, block townhouses or street townhouse buildings.

Parking Characteristics: Parking is provided off-street, in a surface, structure, or underground parking lot.

Existing Requirements: 1.33 parking spaces per dwelling unit (1.00 spaces per unit for residents and 0.33 spaces per unit for visitors).

Peer Review: Of the comparator municipalities and institutions, only U.L.I. identified a distinction between condominiums and rental apartments. Additionally, the I.T.E. manual used to provide a distinction in the 4th edition which was removed in the 5th edition. The I.T.E. manual stated that, after research, rental apartments and condominiums were concluded to not have a noticeable difference in parking generation.

Recommendation: Following the best practices established by the comparator municipalities and I.T.E., Oshawa is recommended to combine the rental

apartment and condominium land uses. Section 4.1.8 presents the recommended parking requirements.

4.1.10 Bed and Breakfast

Definition: A single detached or farm dwelling in which not more than three bedrooms are made available for the temporary accommodation of travellers, to whom meals may be furnished, but does not include a hotel or lodging house.

Parking Characteristics: Parking is provided off-street, in a private driveway, a private garage, or both. Due to the nature of the parking supply locations (private driveway or garage), it would be logical that any parking requirements be a whole number. The off-street parking is typically shared between the dwelling unit and the travellers.

Existing Requirements: 2 parking spaces plus 1 space for each bedroom available to travellers.

Peer Review: the parking requirements for bed and breakfast developments as specified by Oshawa’s zoning by-laws, the comparator municipality zoning by-laws, I.T.E., and U.L.I. are presented in **Exhibit 4-10**.

Exhibit 4-10: Bed and Breakfast Peer Review Results (per guestroom)

Municipality / Zone	Oshawa	Clarington	Whitby	Ajax	Pickering	Barrie	Burlington	Guelph	St. Catharines	Peterborough	Kingston	I.T.E.	U.L.I.
Rest of City	1.0	1.0	1.0	1.0	-	1.0	1.0	1.0	1.0	-	-	-	-
Downtown	-	-	-	-	-	1.0	-	-	-	-	1.0	-	-

*Note: the displayed requirements are generally in addition to the spaces required for the dwelling. For example: Oshawa requires 1 parking space per guestroom, plus 2 parking spaces for the dwelling itself.

Recommendation: Oshawa is recommended to adopt the following requirements for bed and breakfast dwellings:

- Rest of City: maintain 1.0 parking space per guestroom (in addition to the spaces required for the dwelling); and
- Intensification Area: adopt 1.0 parking space per guestroom (in addition to the spaces required for the dwelling).

A visitor parking requirement is not isolated since the lodging unit users are expected to be the guests/visitors.

Justification: Given that all of the requirements of comparator municipalities match Oshawa’s 1.0 parking space per guestroom (in addition to the spaces required for the dwelling), Oshawa’s existing rate is considered appropriate. A reduction for Intensification Areas is not considered appropriate since bed and breakfast guests typically travel from out of town and therefore usually require a parking space.

Requirement Range: A parking requirement range is not provided since the requirement is recommended to be a whole number and neither 0 nor 2 parking spaces per dwelling unit are considered appropriate.

4.1.11 Group Home

Definition: A dwelling unit housing three to ten persons, exclusive of staff, who by reason of their emotional, mental, social, or physical condition or legal status require a group living arrangement for their wellbeing, and who live under responsible supervision, with the group home licensed or approved for funding under Provincial Statutes.

Parking Characteristics: Parking is provided off-street, in a surface, or underground parking facility.

Existing Requirements: 1 parking space per 3 residents.

Peer Review: the parking requirements for group homes as specified by Oshawa’s zoning by-laws, the comparator municipality zoning by-laws, I.T.E., and U.L.I. are presented in **Exhibit 4-11**.

Exhibit 4-11: Group Home Peer Review Results

Municipality	Rest of City	Downtown
Oshawa	1 space per 3 residents	-
Clarington	-	-
Whitby	1 space per 3 residents	-
Ajax	2 spaces + requirements for the dwelling unit	-
Pickering	-	-
Barrie	1 space per dwelling unit	-
Burlington	2 parking spaces	-
Guelph	1 space per building + 1 for staff	-

Municipality	Rest of City	Downtown
St. Catharines	-	-
Peterborough	6 or fewer residents - 2 spaces 7 or more residents - greater of 2 or 0.5/staff	-
Kingston	-	-
I.T.E.	0.4 spaces per dwelling unit	0.24 spaces per dwelling unit (only 2 studies)
U.L.I.	0.5 spaces per dwelling unit	-

Recommendation: Oshawa is recommended to adopt the following requirements for group home dwellings:

- Rest of City: maintain 1.0 parking space per 3 residents (the parking supply is shared between residents, staff, and visitors); and
- Intensification Area: adopt 1.0 parking space per 3 residents (the parking supply is shared between residents, staff, and visitors).

Justification: Oshawa staff have identified that insufficient parking supply complaints have been received from group homes. Given that the locations of group homes is confidential, parking demand surveys were unable to be completed as part of this study. Oshawa is therefore recommended to survey the parking demand generated by group homes and increase the parking requirement, if justified. Given that a group home dwelling unit typically houses a varying number of residents, the parking requirement based on residents is considered appropriate.

Requirement Range: Oshawa could consider requiring 1 parking space per 2 to 3 residents for further investigation.

4.1.12 Lodging House

Definition: A building or a part of a building, containing three to ten lodging units, which does not appear to function as a dwelling unit, although one may be included with the lodging units.

Parking Characteristics Parking is provided off-street, in a surface or underground parking lot.

Existing Requirements: 0.5 parking spaces per lodging unit plus 1 space if the lodging house also contains a separate dwelling unit.

Peer Review: the parking requirements for lodging houses as specified by Oshawa’s zoning by-laws, the comparator municipality zoning by-laws, I.T.E., and U.L.I. are presented in **Exhibit 4-12**.

Exhibit 4-12: Lodging House Peer Review Results

Municipality	Rest of City	Downtown
Oshawa	0.5 spaces per lodging unit + 1 parking space if it also contains a separate unit	-
Clarington	1 space for each dwelling unit + 1 space per room provided for separate living accommodation.	-
Whitby	1 space per dwelling + 0.5 spaces per lodging unit.	-
Ajax	2 spaces per building	-
Pickering	-	-
Barrie	-	-
Burlington	1 space per 4 persons	-
Guelph	1 space per building plus 1 per 3 lodging units	-
St. Catharines	-	-
Peterborough	Greater of 1 space or 1 per 2 bedrooms	Greater of 1 space or 1 per 3 bedrooms
Kingston	-	1 space per building + 1 per 3 persons
I.T.E.	-	-
U.L.I.	1 space per room, plus 2 for owners/managers	-

Recommendation: Oshawa is recommended to adopt the following requirements for lodging houses:

- Rest of City: maintain 1.0 parking space plus 1.0 space for every 2 lodging units; and
- Intensification Area: adopt 1.0 parking space plus 1.0 space for every 2 lodging units.

A visitor parking requirement is not isolated since the lodging unit users are expected to be the guests/visitors.

Justification: Oshawa’s existing rate for lodging houses is considered appropriate based on the limited data available and that no issues have been identified for group homes during the consultation process.

Requirement Range: Oshawa could consider requiring 1 parking space per 2 to 3 lodging units for further investigation.

4.1.13 Senior Citizen Apartment

Definition: An apartment building designed and intended for the accommodation of persons 65 years of age or over, which is owned and managed by a public housing authority or an incorporated non-profit organization or a charitable institution.

Parking Characteristics: Parking is provided off-street, in a surface, or underground parking facility.

Existing Requirements: 0.5 parking spaces per dwelling unit.

Peer Review: the parking requirements for senior citizen apartments as specified by Oshawa’s zoning by-laws, the comparator municipality zoning by-laws, I.T.E., and U.L.I. are presented in **Exhibit 4-13**.

Exhibit 4-13: Senior Citizen Apartment Peer Review Results (per dwelling unit)

Municipality / Zone	Oshawa	Clarington	Whitby	Ajax	Pickering	Barrie	Burlington	Guelph	St. Catharines	Peterborough	Kingston	I.T.E.	U.L.I.
Rest of City	0.5	-	0.5	1.0*	-	-	-	-	1.0	-	-	0.61	0.5
Downtown	-	-	-	-	-	1.0	-	-	-	-	-	-	-

*Note: Ajax requires the greater or 1 space per dwelling unit or 1 space per 38 m²

Observed Parking Demand: IBI completed parking surveys at one senior citizen apartment building in the Oshawa U.G.C. The survey results are presented in **Exhibit 4-14**.

Exhibit 4-14: Observed Senior Citizen Apartment Parking Demand

Address	# of Units	Weekday Demand (spaces)			Weekend Demand (spaces)			Peak Parking Rate (spaces /unit)
		Morning	Midday	Afternoon	Morning	Midday	Afternoon	
155 King Street East	165	38	39	39	35	26	35	0.24

Parking Studies: Parking surveys results were gathered from parking justification studies submitted to Oshawa for three senior citizen apartment buildings. The results of these surveys are presented in **Exhibit 4-15**.

Exhibit 4-15: Senior Citizen Apartment Parking Demand

Address	Zone	# of Units	Peak Parking Demand Observed (spaces)	Peak Parking Rate (spaces /unit)
155 King Street East	U.G.C.	165	41	0.25
27 John Street West	Rest of City	115	29	0.25
75 John Street West	Rest of City	61	40	0.66

Recommendation: Oshawa is recommended to adopt the following requirements for senior citizen apartment dwellings:

- Rest of City: maintain 0.5 parking spaces per dwelling unit (0.45 residential parking spaces per bed and 0.05 visitor parking spaces per bed); and
- Intensification Area: adopt 0.3 parking spaces per dwelling unit (0.27 residential parking spaces per bed and 0.03 visitor parking spaces per bed).

Justification: Based on the review of comparator municipality parking requirements and the parking demand data collected as part of parking studies submitted to Oshawa, the existing 0.5 parking spaces per dwelling unit rate is not recommended to be reduced for the Rest of City.

Based on the parking demand survey collected by IBI Group, and the parking demand survey submitted to Oshawa as part of a parking study, a reduced rate of 0.3 parking spaces per dwelling unit is considered appropriate in the Intensification Areas.

Based on the parking demand survey collected by IBI Group, a peak visitor parking demand of 5 vehicles was observed at the 155 King Street East development, which occurred between 11:30 a.m. and 1:30 p.m. during the weekend. Given the 165 dwelling units, a peak visitor parking rate of 0.03 spaces per dwelling unit was observed which is recommended for the Intensification Area requirement. Maintaining the same residential and visitor proportion as the Intensification Area requirement (0.03 visitor and 0.27 residential spaces per bed), a visitor parking requirement of 0.05 spaces per dwelling unit is considered appropriate for the Rest of City.

Requirement Range: Oshawa could consider the following parking requirement ranges for further investigation:

- Rest of City: 0.5 - 0.6 parking spaces per dwelling unit; and
- Intensification Area: 0.25 - 0.3 parking spaces per dwelling unit.

4.1.14 Nursing Home

Definition: A building or part of a building in which rooms or lodging are provided in conjunction with the provision of meals, personal care, nursing services and medical care and treatment, but does not include a hospital.

Parking Characteristics: Parking is provided off-street, in a surface, or underground parking facility.

Existing Requirements: 1 parking space per 4 beds.

Peer Review: the parking requirements for nursing homes as specified by Oshawa's zoning by-laws, the comparator municipality zoning by-laws, I.T.E., and U.L.I. are presented in **Exhibit 4-16**.

Exhibit 4-16: Nursing Home Peer Review Results

Municipality	Rest of City	Downtown
Oshawa	1 space per 4 beds (0.25 spaces per bed)	-
Clarington	1 space per 2 beds (0.5 spaces per bed)	-
Whitby	1 space per 3 beds (0.33 spaces per bed)	-
Ajax	1 space per 38.0 m ² GFA	0.6 spaces per 100.0 m ² GFA
Pickering	-	1 space per 3 beds (0.33 spaces per bed)
Barrie	-	-
Burlington	1 space per 2.86 beds (0.35 spaces per bed)	-
Guelph	1 space per 3 beds (0.33 spaces per bed)	-
St. Catharines	0.4 spaces per dwelling unit and per care bed	-
Peterborough	0.25 spaces per resident + 1 per staff	0.5 spaces per staff
Kingston	-	1 space per 5 beds (0.20 spaces per bed)
I.T.E.	0.48 spaces per dwelling unit	-
U.L.I.	1 space per 2 beds (0.5 spaces per bed)	-

Recommendation: Oshawa is recommended to adopt the following requirements for nursing homes:

- Rest of City: maintain 1.0 parking space per 4 beds (0.25 spaces per bed) with the parking supply is shared between visitors and staff; and
- Intensification Area: adopt 1.0 parking space per 4 beds (0.25 spaces per bed) with the parking supply is shared between visitors and staff.

Justification: Given that Oshawa’s existing Rest of City requirement is lower than all of the comparator municipalities (where the requirement is based on number of beds), the existing requirement is considered appropriate.

Due to limited data available and that no issues have been identified by City staff, stakeholders, or members of the public, the existing requirement is also considered appropriate for Intensification Areas.

Requirement Range: Oshawa could consider the following parking requirement ranges for further investigation:

- Rest of City: 1.0 parking space per 3 - 4 beds (0.25 – 0.33 parking spaces per bed); and
- Intensification Area: 1.0 parking space per 4 - 5 beds (0.2 – 0.25 parking spaces per bed).

4.1.15 Retirement Home

Definition: A residence providing accommodation primarily for persons or couples of 65 years of age or over where each living unit has a private bedroom, a private washroom, and separate entrance from a common hall but where common facilities for the preparation and consumption of food are provided, and where common lounges, recreation rooms, and medical care facilities may also be provided.

Parking Characteristics: Parking is provided off-street, in a surface, or underground parking facility.

Existing Requirements: 0.38 parking spaces per unit.

Peer Review: the parking requirements for retirement homes as specified by Oshawa's zoning by-laws, the comparator municipality zoning by-laws, I.T.E., and U.L.I. are presented in **Exhibit 4-17**.

Exhibit 4-17: Retirement Home Peer Review Results

Municipality	Rest of City	Downtown
Oshawa	0.38 spaces per unit	-
Clarington	0.25 spaces per bed	-
Whitby	0.4 resident spaces per unit + 0.2 visitor spaces per unit	-
Ajax	-	-
Pickering	-	0.25 spaces per unit
Barrie	-	-
Burlington	0.6 resident spaces per unit + 0.25 visitor spaces per unit	0.5 resident spaces per unit + 0.2 visitor spaces per unit
Guelph	-	-
St. Catharines	-	-
Peterborough	-	-
Kingston	-	0.5 spaces per unit
I.T.E.	0.4 spaces per unit	0.24 spaces per unit (only 2 studies)
U.L.I.	0.35 spaces per unit	-

Observed Parking Demand: IBI completed parking surveys at two retirement homes in Oshawa’s Rest of City. The survey results are presented in **Exhibit 4-18**.

Exhibit 4-18: Observed Retirement Home Parking Demand

Address	# of Units	9:00 A.M.	10:00 A.M.	11:00 A.M.	12:00 P.M.	1:00 P.M.	2:00 P.M.	3:00 P.M.	4:00 P.M.	Peak Parking Rate (spaces /unit)
259 Hillcroft Street	74	18	21	20	19	21	24	15	12	0.30
1335 Benson Street	206	79	89	83	82	85	83	83	81	0.43

The visitor parking supply was observed to operate near or at capacity throughout the day at both developments. Therefore, 50% of the vehicles parking along the adjacent street were assumed to be visiting the observed developments. The other 50% were assumed to be visitors of the residential developments across the street.

Recommendation: Oshawa is recommended to adopt the following requirements for retirement homes:

- Rest of City: maintain 0.38 parking spaces per unit (0.25 spaces per unit for residents and 0.13 spaces per unit for visitors); and
- Intensification Area: adopt 0.38 parking spaces per unit (0.25 spaces per unit for residents and 0.13 spaces per unit for visitors).

Justification: While the peak observed parking rate is slightly higher (0.43 spaces per unit) than the existing by-law requirement (0.38 spaces per unit), the by-law is recommended to be maintained. This is due to the presence of 74 independent units in the Benson Street retirement home. As discussed in the Additional Considerations below, independent units with kitchens are recommended to be considered as condominium / apartment units since the kitchens indicate these residents are more independent than typical retirement home residents, and therefore more likely to own vehicles. If the apartment bylaw requirement had been applied to the independent units, the resulting parking supply is anticipated to have been sufficient to meet the generated parking demand. Therefore, the existing 0.38 parking spaces per unit is considered appropriate for typical retirement home units.

The peak parking demand observed at the 259 Hillcroft Street retirement home was 0.30 vehicles per unit which is slightly lower than the parking requirement.

With respect to visitor parking, Whitby and Burlington required approximately 67% of the parking supply to be reserved for residents with the remaining 33% for visitors. This same resident and visitor parking breakdown was observed during the 1335 Benson Street retirement home survey. Therefore, the 0.38 parking spaces per unit requirement is recommended to be consist of 0.25 resident spaces and 0.13 visitor spaces per unit.

With respect to Intensification Areas, retirement home residents are not anticipated to take transit or active modes of transportation in high quantities. Therefore, the Rest of City requirement is considered appropriate for the Intensification Areas as well.

Requirement Range: Oshawa could consider 0.38 to 0.45 spaces per unit for both Rest of City and the Intensification Areas.

Additional Consideration: For retirement home units with full kitchens, Oshawa is recommended to consider requiring parking at the rental apartment rates. Kitchens are considered an indication that these senior citizens residents are fully independent and are more likely to own vehicles than the typical retirement home residents who rely on the common areas and services.

4.1.16 Student Housing (New)

Definition: A building or part of a building that is owned, leased or operated by a private entity, that contains residential accommodation for students, employees or persons in short-term residence at such university or community college, whether or not shared cooking facilities are provided in the building.

Parking Characteristics: Parking is provided off-street, in a surface, or underground parking facility.

Existing Requirements: Oshawa Zoning By-laws currently do not include the student housing land use.

Peer Review: Of the comparator municipalities only Barrie provides parking requirements for dormitories (student housing): 1 space per 2 students accommodated.

Parking Studies: Parking surveys results were gathered from parking justification studies submitted to Oshawa four student housing developments. The results of these surveys are presented in **Exhibit 4-19**.

Exhibit 4-19: Student Housing Parking Demand

Address	Zone	# of beds	Peak Parking Demand Observed (spaces)	Peak Parking Rate (spaces /bed)
2 Taylorwood Road	Rest of City	371	50	0.13
33 Taylorwood Road	Rest of City	60	12	0.20
1700 Simcoe Street North	Rest of City	566	120	0.21
1805 Simcoe Street North	Rest of City	190	27	0.14

Minor Variances: A minor variance was approved for a student housing development located at 157-161 Athol Street East, where the parking requirement was reduced from 246 parking spaces to 43 spaces. The 157-161 Athol Street East development is located in the U.G.C.

Recommendation: Oshawa is recommended to adopt the following requirements for student housing:

- Rest of City: adopt 0.25 parking spaces per bed (0.20 residential parking spaces per bed and 0.05 visitor parking spaces per bed); and
- Intensification Areas: adopt 0.25 parking spaces per bed (0.20 residential parking spaces per bed and 0.05 visitor parking spaces per bed).

The visitor parking portion of the total parking requirement is recommended to be rounded up to the nearest whole number for properties where the total parking requirement is 4 spaces or greater. That is, when the requirement is for 4 parking spaces, 3 would serve residents, while 1 would serve as a visitor space. Where the total parking requirement is less than 4 spaces, all spaces are recommended to serve residents. See Appendix A for a detailed breakdown of the proposed Student Housing parking requirements.

Justification: Based on the parking demand surveys completed as part of parking studies submitted to Oshawa, a 0.25 parking space per bed rate is considered appropriate for Oshawa.

The parking surveys completed at 33 Taylorwood Road identified a peak parking demand of 12 vehicles, including 10 residential vehicles in the off-street lot and 2 visitor vehicles on-street. Based on the observed visitor parking demand, the 0.25 spaces per bed requirement is ideally divided into 0.20 residential spaces and 0.05 visitor parking spaces per bed.

The parking requirement based on beds is considered more appropriate than based on units. The rationale for a requirement based on beds is that beds are a direct measure of occupants while units are an indirect measure. By requiring parking on a per unit basis, the Zoning By-laws are encouraging large dormitory style multiple bedroom units in order to minimize the parking requirement. By considering the requirements on a per bed basis, the City would get a clearer picture of the parking demands generated at a site and how these demands will be accommodated by the development. Additionally, the City has already adopted the use of per bed rates for university residences and seniors homes.

Requirement Range: Oshawa could consider requiring 0.21 – 0.25 parking spaces per bed for further investigation.

Additional Considerations: The reduced student housing requirement is only recommended to be granted to developers that are within a certain distance of a post-secondary school. As discussed with Oshawa staff, a preliminary distance of 800m can be considered. This distance is recommended to be further refined through research to determine a student's maximum acceptable walking distance between a residence and the post-secondary school.

The student housing requirement is not recommended to be considered for further transportation demand management reductions (as outlined in Section 5). The student housing requirement is lower than general housing requirements since students are already known to use alternative modes of transportation at higher rates than the general population.

4.1.17 University Residence

Definition: A building or part of a building that is owned, leased or operated by a university or community college, that contains residential accommodation for students, employees or persons in short-term residence at such university or community college, whether or not shared cooking facilities are provided in the building.

Parking Characteristics Parking is provided off-street, in a surface, or underground parking facility.

Existing Requirements: 0.5 parking spaces per bed.

Peer Review: the parking requirements for university residences as specified by Oshawa’s zoning by-laws, the comparator municipality zoning by-laws, I.T.E., and U.L.I. are presented in **Exhibit 4-20**.

Exhibit 4-20: University Residence Peer Review Results (per bed)

Municipality / Zone	Oshawa	Clarington	Whitby	Ajax	Pickering	Barrie	Burlington	Guelph	St. Catharines	Peterborough	Kingston	I.T.E.	U.L.I.
Rest of City	0.5	-	-	-	-	0.5	-	-	-	-	-	-	-
Downtown	-	-	-	-	-	-	-	-	-	-	-	-	-

Recommendation: Oshawa is recommended to require 0.25 parking spaces per bed (0.20 residential parking spaces per bed and 0.05 visitor parking spaces per bed) for university residences. As discussed with Oshawa staff, the university residence requirement should not differentiate between the Rest of City and Intensification Areas since the post-secondary campus operates as a separate system regardless of its location.

Similar to Student Housing, the visitor parking portion of the total parking requirement is recommended to be rounded up to the nearest whole number for properties where the total parking requirement is 4 spaces or greater. That is, when the requirement is for 4 parking spaces, 3 would serve residents, while 1 would serve as a visitor space. Where the total parking requirement is less than 4 spaces, all spaces are recommended to serve residents. See Appendix A for a detailed breakdown of the proposed Student Housing parking requirements.

Oshawa is also recommended to expand the university residence land use to include college residences as well.

Justification: Since the parking demand generated by university residences is anticipated to be comparable to, if not lower than, student housing, requirements that match the student housing land use are considered appropriate.

Requirement Range: Oshawa could consider requiring 0.21 – 0.25 parking spaces per bed for further investigation.

4.1.18 Other Residential (1 or 2 Dwellings)

Definition: Other residential buildings not included under the previous definitions that contain 1 or 2 dwelling units.

Parking Characteristics: Parking is provided off-street, in a private driveway, or private garage. Due to the nature of the parking supply locations (private driveway or garage), it would be logical that any parking requirements be a whole number.

Existing Requirements: 1 parking space per dwelling unit.

Peer Review: the parking requirements for other residential developments (1 or 2 dwellings) as specified by Oshawa’s zoning by-laws, the comparator municipality zoning by-laws I.T.E., and U.L.I. are presented in **Exhibit 4-21**.

Exhibit 4-21: Other Residential (1 or 2 Dwellings) Peer Review Results (per dwelling unit)

Municipality / Zone	Oshawa	Clarington	Whitby	Ajax	Pickering	Barrie	Burlington	Guelph	St. Catharines	Peterborough	Kingston	I.T.E.	U.L.I.
Rest of City	1.0	--	-	-	-	1.0	-	-	-	-	-	-	-
Downtown	-	-	-	-	-	1.0	-	-	-	-	-	-	-

*Note: Barrie requires 1 space per dwelling unit plus 1 additional space for every 2 tenants.

Recommendation: Oshawa is recommended to adopt the following requirements for university residences:

- Rest of City: maintain 1.0 parking space per dwelling unit (1.0 spaces per unit for residents and 0.0 spaces per unit for visitors); and
- Intensification Area: adopt 1.0 parking space dwelling unit (1.0 spaces per unit for residents and 0.0 spaces per unit for visitors).

Justification: The existing requirement is considered appropriate for both Intensification Areas and the rest of the city since the parking requirement

should be a whole number and a reduction to 0 spaces per unit is not considered feasible.

Requirement Range: A parking requirement range is not provided since neither 0 nor 2 parking spaces per unit is considered appropriate.

4.1.19 Other Residential (3 or more Dwellings)

Definition: Other residential buildings not included under the previous definitions that contain 3 or more dwelling units.

Parking Characteristics: Parking is provided off-street, in a surface, or underground parking facility.

Existing Requirements: 1.33 parking spaces per dwelling unit (1.00 spaces per unit for residents and 0.33 spaces per unit for visitors).

Peer Review: the parking requirements for other residential developments (3 or more dwellings) as specified by Oshawa’s zoning by-laws, the comparator municipality zoning by-laws, I.T.E., and U.L.I. are presented in **Exhibit 4-22**.

Exhibit 4-22: Other Residential (3 or more Dwellings) Peer Review Results (per dwelling unit)

Municipality / Zone	Oshawa	Clarington	Whitby	Ajax	Pickering	Barrie	Burlington	Guelph	St. Catharines	Peterborough	Kingston	I.T.E.	U.L.I.
Rest of City	1.33	-	-	-	-	1.5	-	-	-	-	-	1.31	1.85
Downtown	-	-	-	-	-	1.0	-	-	-	-	-	0.9	-

Recommendation: Oshawa is recommended to adopt the following requirements for university residences:

- Rest of City:
 - 1 bedroom: 1.00 per dwelling unit;
 - 2 bedroom: 1.25 per dwelling unit;
 - 3 bedroom: 1.50 per dwelling unit;
 - Visitors: 0.25 per dwelling unit.
- Intensification Area:
 - 1 bedroom: 0.50 per dwelling unit;
 - 2 bedroom: 0.75 per dwelling unit;

- 3 bedroom: 1.00 per dwelling unit;
- Visitors: 0.25 per dwelling unit.

Justification: To match the per bedroom best practice established for other multiunit residential land uses, the requirements for other residential (3 or more units) is recommended to be based on bedrooms. A per bedroom basis provides a more accurate reflection of parking demand since it is based on the number of residents living in the development versus the number of dwelling units.

Given that Oshawa's existing parking requirement is in line with the reviewed municipalities and the I.T.E. and that no issues were identified by Oshawa staff or stakeholders, the existing requirement is considered appropriate. Therefore, the per bedroom parking requirements are set at points that are similar to the existing requirement. Note that the recommended requirements also match the proposed condominium / apartment requirements.

To support the Official Plan policy of promoting alternative modes of transportation, and based on Barrie's and the I.T.E. Downtown requirements, a reduced rate consider appropriate for Intensification Areas. The Intensification Area condominium / apartment requirements are considered appropriate for other residential (3 or more units) as well. These requirements are also similar Barrie's and the I.T.E. Downtown requirements.

Requirement Range: To remain consistent with the condominium apartment parking requirements, Oshawa could consider reducing the parking requirements by 0.25 parking spaces per unit (for all bedrooms) for further investigation.

4.2 Exemption Zone

Parking exemption zones are intended to promote new developments within the targeted area. However, care must be taken to ensure that the municipal parking system is sufficient in capacity to accommodate the growth in parking demand with minimal private parking supply increases. Some municipalities, including Burlington and St. Catharines, were determined to have parking exemption zones similar to Oshawa.

Given that no parking supply issues are projected within the 2031 horizon, the exemption zone can be supported by the existing municipal parking system. Oshawa is recommended to collect parking supply and demand every 2-3 years to monitor parking utilization. When the system wide parking utilization is observed to approach effective capacity (85-90% utilization), Oshawa should reconsider lifting the exemption zone.

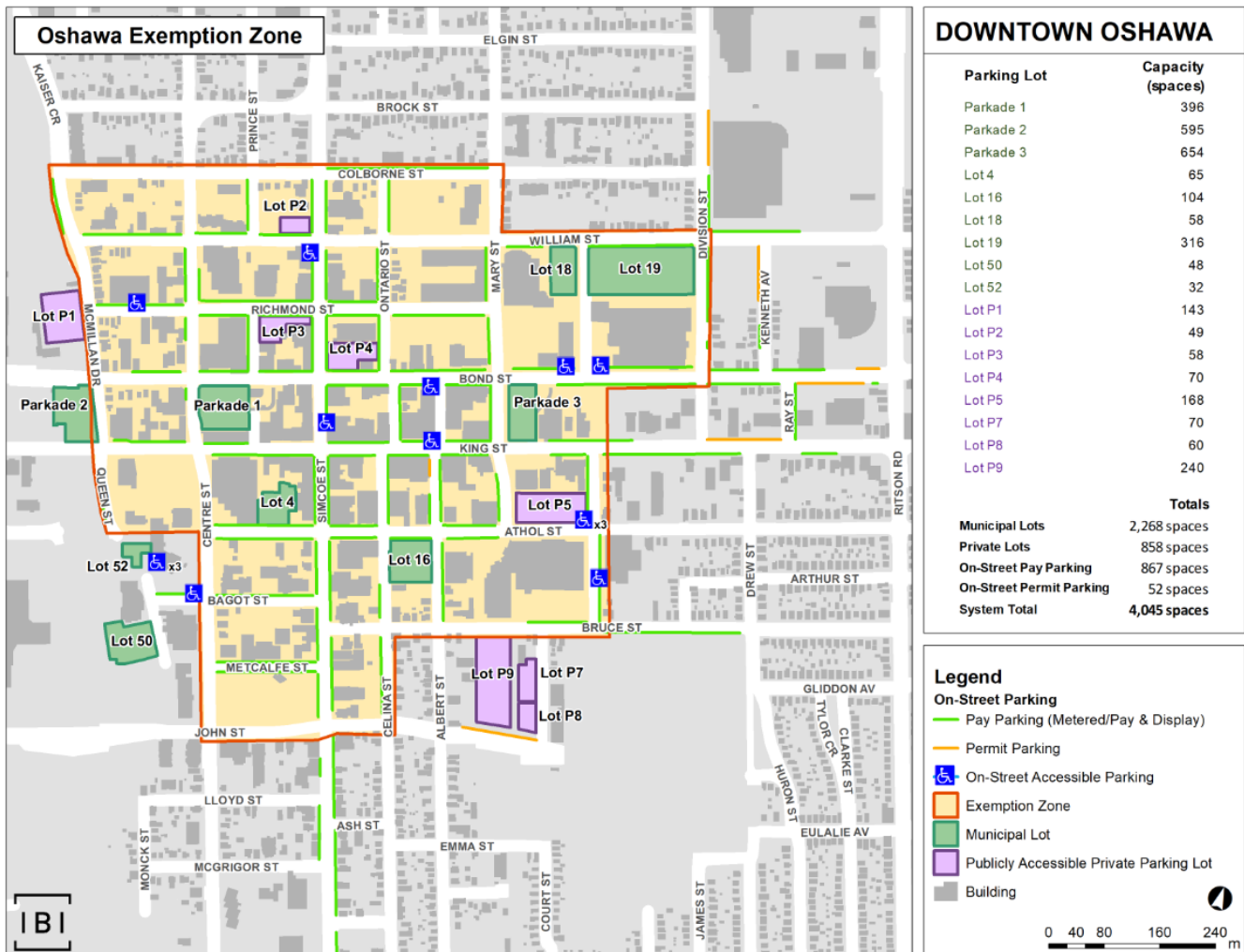
With the exemption zone recommended to be maintained in the foreseeable future, the current boundaries are evaluated and adjustments are recommended, if necessary.

When rationalizing the limits of Oshawa’s exemption zone, the following guiding principles are adopted:

- The land uses contained by the exemption zone be high density, typically commercial with high density residential developments.
- The exemption zone should be supported by the municipal parking system. In other words, the limits should be set in a manner that an off-street municipal parking facility is within acceptable walking distance of all areas contained in the exemption zone.

The U.G.C. exemption zone is illustrated in **Exhibit 4-23**.

Exhibit 4-23: U.G.C. Exemption Zone



The exemption zone boundary assessment revealed the following:

- The northern limit is considered appropriate since it borders low density residential land uses
- The southern limit is considered appropriate since it borders low density residential land uses.
- While existing land uses between King Street and Bond Street support extending the exemption zone's eastern limit to Ritson Street, there is no off-street municipal parking facility in this area. Therefore, the existing limit is considered appropriate.
- The western limit is considered appropriate since it matches the U.G.C. boundary.

Based on these findings, Oshawa is not recommended to adjust the exemption zone boundaries.

The exemption zone expansion can be rationalized in the event the areas surrounding the current exemption zone are redeveloped. If the exemption zone is expanded, Oshawa is recommended to construct a municipal parking facility within the expanded area to support new developments with little to none on-site parking.

4.3 Additional Residential Parking Considerations

As determined through Phase 1 of the public and stakeholder consultation, many Oshawa families are living in multi-generational households due to the rising cost of land. The residents of these households typically own multiple vehicles and in some cases experience difficulty in fitting all vehicles on the existing driveways.

Many Southern Ontario municipalities have successfully adopted on-street permit parking systems including Toronto, St. Catharines, and Clarington, which is intended to provide additional parking opportunities to these types of households.

Based on the background document review, Oshawa has already considered an on-street residential parking permit system and decided against its implementation. Reasons cited include difficulties with on-street parking bans to facilitate snow clearing activities and mixed feedback received from residents.

Given the continued feedback received regarding insufficient parking opportunities at residential developments, Oshawa could reconsider the permit system. Should Oshawa reconsider the residential parking permit system, further investigation outside the scope of this study would be required to finalize the program details.

Note that residents of new developments would not be permitted to purchase on-street residential parking permits. The program is intended to relieve the parking supply issues of existing developments where the parking supply is not sufficient to meet the growing parking demand.

5. Transportation Demand Management

Transportation demand management (T.D.M.) initiatives are used by municipalities to influence travel behaviour by improving and promoting modes of transportation alternative to single occupancy vehicles. This improves transportation system efficiency and helps manage parking demand by decreasing the volume of single occupancy vehicles on roads and in parking lots. These initiatives take many forms, including policies, programs, services, and products to influence why, when, where, and how people travel.

The T.D.M. review's objective is to identify strategies private developers can adopt to manage the parking demand generated by a proposed development. Guidelines defining the relationship between parking and the T.D.M. strategies are provided.

The way in which the City of Oshawa grows will have a profound impact on how residents, workers, and visitors will travel in the future, including to and from the U.G.C. Many municipalities are beginning to require large developments to demonstrate how they will help minimize vehicle travel and parking demand, particularly in Intensification Areas. This can include hard infrastructure (e.g. secure bike parking, cyclist facilities, and carpool parking spaces) and soft infrastructure and services (e.g. carshare vehicle site, discounted transit passes, and membership in a transportation management association like Smart Commute). Municipalities that now have these types of requirements include Kitchener, Hamilton, Burlington, Markham, and the Regions of Halton, Peel, and Waterloo.

Requirements for these plans are typically integrated into the development approval process for a municipality and their implementation is a condition of site approval. For example, in Kitchener and Waterloo, the requirement forms as part of the transportation impact assessment, while Hamilton requires a standalone memo. Hard infrastructure requirements are typically required to be shown on site plan, allowing the municipality to ensure they are included in the final development prior to the issuing Certificate of Occupancy. Any soft infrastructure and services typically require the proponent to submit signed contracts or agreements indicating that they will be provided by a third party (e.g. carshare vehicle on-site and bulk purchase of transit passes agreement from local agency).

Typically, monitoring of the long-term effectiveness of T.D.M. in new development requirements is based on sampling sites where this was done and

comparable control sites. No significant large scale studies are known to have been done by an Ontario municipality to date as most municipalities have only begun requiring this within the past 3 to 5 years.

The City of Oshawa is recommended to provide developers the option of reducing the zoning by-law parking requirements based on the T.D.M. strategies they choose to include. Using the guidelines presented in this Section, Oshawa is recommended to develop a T.D.M. checklist that summarizes the accepted strategies and their predefined parking requirement reduction. The City of Kitchener provides a T.D.M checklist as part of the Planning Around Rapid Transit Station (P.A.R.T.S.) initiative, which Oshawa can reference when developing their own checklist.

The following section identifies various strategies available to developers and provides guidelines related to their impacts on parking demand.

5.1 Bicycle Parking

The provision of adequate bicycle parking, and associated shower and change facilities is an important element in the promotion of bicycle use. The absence of these supportive facilities is a deterrent to more widespread bicycle travel across Oshawa. More bicycle trips will typically reduce the number or growth of vehicle trips, and tends to lead to a more sustainable pattern of urban travel. As a method of promoting cycling, a number of municipalities have begun to institute minimum requirement for bicycle facilities.

A review of best practices revealed the following:

- A comprehensive bicycle parking program provides both short-term parking to accommodate customers, visitors, couriers, etc. and long-term parking for employees, students, residents, etc. who will be parking for more than two hours.
- The appropriate proportion of long-term versus short-term spaces is not uniform across uses. For example, office uses will be more heavily weighted towards long-term bike parking, while retail uses will require more short-term parking.
- Bicycle-supportive guidelines can also specify requirements for lockers, wash basins, and showers to ensure cyclists have adequate facilities to shower and change upon arriving at their place of work.
- Experience has shown that there should be no upper limits on bike parking supply.
- Bike parking should not be specified as a percentage of vehicle spaces since cycling is intended to be promoted while personal vehicles are intended to be minimized.

Currently, there are no bicycle parking requirements in Oshawa's Zoning By-Laws. This study develops bicycle parking guidelines that provide developers with a benchmark to target.

5.1.1 Peer Review

As previously discussed, it is a best practice for municipalities to require both short-term and long-term bike parking in varying quantities depending on the land use. The provision of end-of-trip facilities, such as showers, change rooms, and lockers is also an important element of encouraging cycling to a destination. Vaughan and Toronto are known to require both long-term and short-term bicycle parking for certain land uses. **Exhibit 5-1** presents the amount of bicycle parking required for various land uses in Vaughan and Toronto.

Exhibit 5-1: Peer Reviewed Bicycle Parking Requirements

Land Use	Vaughan Metropolitan Centre		Toronto (Rest of City)		Toronto (Downtown)	
	Short –Term	Long-Term	Short-Term	Long-Term	Short-Term	Long-Term
Commercial uses including restaurants	Greater of 0.15 spaces/100 m ² GFA or 6 spaces	0.10 spaces/100 m ² GFA	3 spaces + 0.25 spaces/100 m ² GFA	0.13 spaces/100 m ² GFA	3 spaces + 0.30 spaces/100 m ² GFA	0.20 spaces/100 m ² GFA
General Office	Greater of 0.10 spaces/100 m ² GFA or 6 spaces	0.13 spaces/100 m ² GFA	3 spaces + 0.15 spaces/100 m ² GFA	0.13 spaces/100 m ² GFA	3 spaces + 0.20 spaces/100 m ² GFA	0.20 spaces/100 m ² GFA
Medical Office	Greater of 0.10 spaces/100 m ² GFA or 6 spaces	0.10 spaces/100 m ² GFA	3 spaces + 0.10 spaces/100 m ² GFA	0.10 spaces/100 m ² GFA	3 spaces + 0.15 spaces/100 m ² GFA	0.15 spaces/100 m ² GFA
Multi-unit Residential	Greater of 0.10 spaces/unit or 6 spaces	0.50 spaces/unit for buildings with more than 10 units	0.07 spaces/dwelling unit	0.68 spaces/unit	0.10 spaces/unit	0.90 spaces/unit
Post-Secondary School	0.40 spaces/100 m ² GFA	0.05 spaces/100 m ² GFA	3 spaces + 2.00 spaces/100 m ² GFA	0.60 spaces/100 m ² GFA	3 spaces + 2.00 spaces/100 m ² GFA	2.00 spaces/100 m ² GFA
Shower and Change Facilities	1 male and 1 female shower and change facility shall be provided for every 30 long term bicycle parking spaces.		For non-residential developments requiring long term bicycle parking spaces, shower and change facilities must be provided for each gender at the following rates: <ul style="list-style-type: none"> • 0 if less than 5 long term bicycle parking spaces are required; • 1 if 5 to 60 long term bicycle parking spaces are required; • 2 if 61 to 120 long term bicycle parking spaces are required; • 3 if 121 to 180 long term bicycle parking spaces are required; and • 4 if more than 180 long term bicycle parking spaces are required. 			

The zoning by-laws also provide requirements for the bicycle parking space dimensions:

- Vaughan Metropolitan Centre: Long term spaces shall be designed for the storage of bicycles either horizontally or vertically:
 - Horizontally: 0.6m wide, 2.0m long, and 1.2m high; and
 - Vertically: 0.6m wide, 1.2m long, and 2m high.
- City of Toronto: bicycle parking spaces shall be designed for the storage of bicycles either horizontally or vertically:
 - Horizontally: 0.6m wide, 1.8m long, and 1.9m high; and
 - Vertically: 0.6m wide, 1.9m long (vertical clearance), and 1.2m horizontal clearance from the wall.

The following comparator municipalities were also determined to have bicycle parking requirements as part of their Zoning By-laws

Ajax

- Residential: 0.6 long term and 0.07 short term spaces per 100 m² gross floor area (G.F.A.);
- Office: 0.10 long term and 0.10 short term spaces per 100 m² G.F.A.;
- Commercial: 0.05 long term and 0.20 short term spaces per 100 m² G.F.A.; and,
- School: 0.06 long term and 0.06 short term spaces per 100 m² G.F.A.

Pickering

- Apartment: 0.5 spaces per dwelling unit;
- Stacked dwelling: 1.0 spaces per dwelling unit;
- Long Term Care Facility / Retirement Home: 5 spaces; and,
- Non-residential: greater of 2 or 1.0 spaces per 100 m² of Gross Leasable Floor Area (G.L.F.A.).

Burlington

- Retail, retail centre, service, commercial, office, institutional: 2 spaces plus 1 space per 1,000 m² G.F.A.;
- Industrial: 1 space plus 0.25 spaces per 1,000 m² G.F.A.;
- Elementary and Secondary School: 1 space per 10 students plus 1 space per 35 employees; and,
- Post-secondary school: 1 space per 20 students.

Guelph (Downtown only)

- Apartment, Multiple Attached, and Stacked Townhouse: 0.68 long term and 0.07 short term spaces per dwelling;
- Retail: 0.085 long term and 0.25 short term spaces per 100 m² G.F.A.;
- Office: 0.17 long term and 0.03 short term spaces per 100 m² G.F.A.;
- All other non-residential uses: 4% of vehicle parking spaces for both long term and short term spaces; and,
- Live-work and Mixed Use Building: In addition to the non-residential parking requirement, 0.68 long term and 0.07 short term spaces per dwelling.

St. Catharines

- Apartment: 6 spaces plus 1 per 10 units exceeding 20 units;
- Place of Assemble, Banquet Hall, Recreation Facility, Place of Workshop, Retail, Service Commercial, Office, Shopping Centre, and Industrial: 1 space per 1,000 m² G.F.L.A.;
- School (elementary / secondary): 1 space per classroom;
- Major Transit Station: 20 spaces;
- Hospital: 6 spaces plus 1 space per 4,000 m² G.F.L.A.;
- Hotel and Motel: 6 spaces plus 1 space per 10 guest rooms; and,
- Restaurant: 1 space per 170 m² G.F.L.A.

Kingston (Downtown only)

- Office: 1 space per 250 m² G.F.A.;
- Restaurant and Commercial: 1 space per 100 m² G.F.A.;
- Convenience Store: 1 space per 200 m² G.F.A.; and,
- Multiple Dwelling or Converted Dwelling: minimum of 5 spaces or 1 space per unit.

5.1.2 Recommended Standards

Parking standards that require both long and short term bicycle parking are considered best practice. Of the review municipalities, Toronto, Vaughan, Ajax and Guelph (Downtown) were determined to follow this best practice. Note that Guelph's *All Other Non-residential Uses* requirement is not considered a best practice since the bicycle parking requirement is based on the vehicle parking requirement.

To determine appropriate bicycle parking requirements for Oshawa, current cycling mode share data in Toronto, Vaughan, Ajax, Guelph and Oshawa was examined. **Exhibit 5-2** illustrates the cycling/walking mode share of trips made by residents as per the 2016 T.T.S.

Exhibit 5-2 Cycling/Walking Mode Share Data

Municipality	Cycling Mode Share	
	A.M. Peak Period	24 Hours
City of Toronto	14%	13%
City of Vaughan	6%	5%
Town of Ajax (ward dependent)	6-10%	5-7%
City of Guelph (Downtown)	12%	9%
City of Oshawa	10%	6%

Based on these results, the following guiding principles were adopted when developed Oshawa’s proposed rates:

- Intensification Areas: Oshawa’s cycling operations are most similar to Guelph (Downtown) and the City of Toronto (Rest of City); and
- Rest of City: Oshawa’s Rest of City cycling operations are most similar to citywide operations in Vaughan and Ajax.

As a starting point, the City of Oshawa could consider adopting the bicycle parking requirements outlined in **Exhibit 5-3** as guidelines developers could follow.

Exhibit 5-3: Recommended Bicycle Parking Standards

Land Use	Parking Type	Intensification Area	Rest of City
Commercial including restaurants	Short-term	0.25 spaces/100 m ² GFA	0.20 spaces/100 m ² GFA
	Long-term	0.10 spaces/100 m ² GFA	0.08 spaces/100 m ² GFA
General Office	Short-term	0.15 spaces/100 m ² GFA	0.10 spaces/100 m ² GFA
	Long-term	0.13 spaces/100 m ² GFA	0.10 spaces/100 m ² GFA
Medical Office	Short-term	0.12 spaces/100 m ² GFA	0.10 spaces/100 m ² GFA
	Long-term	0.10 spaces/100 m ² GFA	0.08 spaces/100 m ² GFA
Multi-unit Residential	Short-term	0.10 spaces/unit	0.07 spaces/unit
	Long-term	0.68 spaces/unit	0.55 spaces/unit
Post-Secondary School	Short-term	0.60 spaces/100 m ² GFA	0.40 spaces/100 m ² GFA
	Long-term	0.10 spaces/100 m ² GFA	0.05 spaces/100 m ² GFA

Following the best practices established by the City of Toronto, shower and change facilities must be provided for each gender at the following rates for non-residential developments requiring long-term bicycle parking spaces:

- 1 if 5 to 60 long-term bicycle parking spaces are required;
- 2 if 61 to 120 long-term bicycle parking spaces are required;
- 3 if 121 to 180 long-term bicycle parking spaces are required; and
- 4 if more than 180 long-term bicycle parking spaces are required.

The City of Toronto bicycle parking, and shower and change facility requirements were initially developed through a separate study completed by consultants. Note that the initial requirements have since been updated as part of the new City-wide Zoning By-law 569-2013. The City of Toronto *Guidelines for the Design and Management of Bicycle Parking Facilities*², and the Transport Canada *Bicycle End-of-Trip Facilities*³ documents provide insights into shower and change facility benefits and designs.

² City of Toronto (2010). Retrieved from Guidelines for the Design and Management of Bicycle Parking Facilities: <https://www.toronto.ca/legdocs/mmis/2008/pg/bgrd/backgroundfile-13268.pdf>

³ Gris Orange Consultant (2010). *Transport Canada*. Retrieved from Bicycle End-of-Trip Facilities: http://publications.gc.ca/collections/collection_2011/tc/T22-194-2010-eng.pdf

5.1.3 Additional Bicycle Parking in Excess of Requirements

To support cycling as a mode of transportation, some municipalities allow developers to reduce the vehicle parking requirement in exchange for the provision of bicycle parking spaces in excess of those specified by the zoning by-laws. Typically, 1-5 bicycle parking spaces can be substituted for a parking space, up to a maximum of 10-25% of total required parking spaces. For example:

- The City of Kitchener allows a 1 vehicle parking space reduction for every 5 bicycle parking spaces beyond the required minimum, up to a maximum vehicle parking space reduction of 10%.
- The City of Portland, Oregon allows a 1 vehicle parking space reduction for every 5 bicycle parking spaces beyond the required minimum, up to a maximum vehicle parking space reduction of 25%. Existing parking may be converted to take advantage of this provision.

Note that the vehicle parking requirement reductions are based on bicycle parking spaces provided in excess of the minimum requirements outlined in Section 5.1.2.

None of the comparator municipalities were determined to offer parking requirement reductions through the provision of bicycle parking supply that exceeds the requirements.

Oshawa is recommended to adopt bicycle parking reductions similar to Kitchener to promote cycling as a mode of transportation. This reduction is outlined in the Kitchener P.A.R.T.S. checklist⁴. Note that Kitchener's reductions do not state whether the excess bicycle parking supply should be long term, short term, or a combination of both. In lieu of a precedence, Oshawa is recommended to consider requiring the excess bicycle spaces to be split by proportioning the short and long term bicycle spaces requirements outlined in **Exhibit 5-3**.

The promotion and development of associated cycling facilities will help achieve the intent of this T.D.M. measure to its full potential.

⁴ City of Kitchener (2014). Retrieved from Planning Around Rapid Transit Stations (PARTS): Transportation Demand Management Strategy:
https://www.kitchener.ca/en/resourcesGeneral/Documents/DSD_PLAN_PARTS_Phase2_TDM_Strategy.pdf

5.2 Carshare

The rise in popularity of carsharing has been important in the emergence of multi-modality and the transportation-as-a-service concept. There has been a trend in the increased use of carsharing as the number of carshare vehicles has steadily increased in Canada over the past decade.

In combination with the emergence of several other mode options, carsharing has been effective in reducing car ownership, especially in areas where other multi-modal transportation options are available. In recognizing the limited availability of carshare services in Oshawa today, it is likely that as Oshawa works towards improving alternative transportation options and citizens become more multi-modal, the demand for carshare services will emerge. It is recognized that parking standards can play an important role in attracting carshare suppliers to an area by allowing parking reductions to developers.

As part of the Parking Standards Review⁵ for the City of Toronto, IBI Group completed a comprehensive examination of the potential options and impacts of carshare programs on parking standards. The study's findings are summarized in **Exhibit 5-4**.

Exhibit 5-4 Carshare Parking Reduction Recommendations

Car Share Parking Reduction Recommendation		
Number of Residential Units	Maximum Allowable Reduction	Car Share Spaces required to achieve Reduction
Less than 30	1	1
30-44	2	1
45-59	3	1
60-74	4	1
75-89	5	2
90-104	6	2
105-119	7	2
120-134	8	2
135	9	3

⁵ IBI Group (2009). *City of Toronto*. Retrieved from Parking Standards Review: Examination of Potential Options and Impacts of Car Share Programs on Parking Standards: <http://www.urbandb.com/document/ibi-group-parking-standards-review-examination-of-potential-options-and-impacts-of-car-share-programs-on-par...-2009-03-01.pdf>

Car Share Parking Reduction Recommendation		
Number of Residential Units	Maximum Allowable Reduction	Car Share Spaces required to achieve Reduction
195	13	4
255	17	5
315	21	6
375	25	7

Similar to Toronto, Kitchener allows a 4 vehicle space reduction for every carshare space provided up to a maximum reduction of 16 spaces.

The City of Austin, Texas recently amended its zoning by-laws to allow a 20 parking space reduction for high density residential developments up to a maximum reduction of 40%⁶. Given that carsharing is not very prevalent in Oshawa, a reduction similar to Austin's is considered too ambitious for Oshawa.

Oshawa is recommended to adopt carshare parking reductions similar to Toronto and Kitchener to promote carshare services in private residential developments. Given that carsharing services are not widespread in Oshawa (only exists at Durham College and University of Ontario Institute of Technology), a rate slightly lower than Kitchener is considered appropriate.

A 4 vehicle parking space reduction for every car share vehicle and space provided up to a maximum reduction of 12 spaces is recommended for consideration. Additionally, the maximum number of carshare spaces permitted is recommended to be capped based on the following formula:

$$4 \times \left(\frac{\text{Total number of units}}{60} \right) - \text{rounded down to the nearest whole number}$$

None of the comparator municipalities were determined to offer parking requirement reductions based on the provision of on-site carshare vehicles. However, the City of Burlington is currently in the process of updating their parking standards, and the Citywide Parking Standards Review recommended that Burlington adopt carshare parking requirement reductions similar to the City of Toronto.

⁶ Macht W. (2019). *Urban Land*. Retrieved from Developers Reduce Parking via Car Sharing: <https://urbanland.uli.org/development-business/developers-reduce-parking-via-car-sharing/>

5.3 Shared Parking

Shared parking involves the use of one parking facility by more than one land use, taking advantage of different parking demand patterns by time of day to reduce the total parking that would be required if facilities were not shared.

Shared parking ensures that parking spaces are not designated for any particular user, but operate as a pooled parking resource. This strategy can be considered on a “micro” scale within a single development, or on a “macro” scale between several developments. The Downtown Oshawa parking system can be considered a macro scale shared parking resource for the entire U.G.C.

The biggest benefits are realized with mixed-use developments, where uses have different peak demand times. For example, a restaurant and an office can share a parking facility with fewer total parking spaces than would otherwise be required for two separate parking facilities. As a result, shared parking encourages more efficient use of the parking supply.

The consideration of shared parking requires an assessment of typical occupancy rates during different times of the day for each of the land uses included in a shared parking scheme. **Exhibit 5-5** compares the typical occupancy rates for the residential, office, retail, and restaurant land uses used for several municipalities. These land uses are selected as they are anticipated to comprise the majority of Downtown land uses. The occupancy rates for each municipality were obtained from their respective Zoning By-laws.

Exhibit 5-5: Typical Parking Occupancy Rates

Municipality	Residential (non-visitor)				Office				Retail				Restaurant			
	AM	Noon	PM	Eve	AM	Noon	PM	Eve	AM	Noon	PM	Eve	AM	Noon	PM	Eve
Weekday																
Toronto	100%	-	100%	100%	100%	-	60%	0%	20%	-	100%	100%	100%	-	100%	100%
Pickering	-	-	-	-	100%	90%	95%	10%	65%	90%	90%	90%	20%	100%	30%	100%
Markham	-	-	-	-	100%	-	95%	10%	50%	-	100%	100%	-	-	-	-
Newmarket	90%	65%	90%	100%	100%	90%	95%	10%	80%	90%	90%	90%	20%	100%	30%	100%
Ottawa	-	-	-	-	100%	90%	100%	15%	75%	80%	85%	75%	30%	90%	60%	100%
Vaughn	-	-	-	-	100%	90%	95%	10%	65%	90%	80%	100%	20%	100%	30%	100%
Burlington	-	-	-	-	100%	90%	95%	10%	80%	90%	90%	90%	20%	100%	30%	100%
Average	95%	65%	95%	100%	100%	90%	91%	9%	62%	88%	91%	92%	35%	98%	47%	100%
Saturday																
Pickering	-	-	-	-	10%	10%	10%	0%	80%	100%	100%	70%	20%	100%	50%	100%
Newmarket	90%	65%	90%	100%	10%	10%	10%	10%	80%	100%	100%	70%	20%	100%	50%	100%
Ottawa	-	-	-	-	20%	20%	10%	5%	60%	90%	100%	50%	30%	80%	50%	100%
Vaughn	-	-	-	-	10%	10%	10%	10%	80%	85%	100%	40%	20%	100%	50%	100%
Burlington	-	-	-	-	10%	10%	10%	10%	80%	100%	100%	70%	20%	100%	50%	100%
Average	90%	65%	90%	100%	12%	12%	10%	7%	76%	95%	100%	60%	22%	96%	50%	100%

As shown in **Exhibit 5-5**, the reviewed land uses generally have similar occupancies across the reviewed municipalities with only small variations (10-20%).

There are a number of factors that need to be considered in implementing shared parking effectively:

- A mixed use development must be planned with land use types and gross floor area known in advance (e.g., retail, office, restaurant), so that a shared parking calculation can be conducted;
- Parking must be unreserved and designed to serve all uses;
- When a new business moves in to an existing development, its parking demand profile may be different from the original use, which may reduce the potential for shared parking and lead to parking undersupply; and
- The submission of a shared parking agreement between the proposed users of a shared parking facility can be required to ensure that it can be reviewed and enforcement undertaken if necessary.

Of the comparator municipalities, Burlington and Pickering were determined to offer shared parking reductions similar to the established best practices, which are included in **Exhibit 5-5**. Barrie was determined to offer a blended parking requirement for developments with multiple industrial and commercial land uses. These blended rates are only available in in their respective zones. The other comparator municipalities do not offer shared parking requirement reductions for multiuse developments.

Oshawa is recommended to adopt shared parking guidelines similar to the reviewed municipalities, where parking occupancy rates are provided for the A.M. peak, Midday peak, P.M. peak, and the evening. Additionally, different occupancy rates should be provided for weekdays and weekends.

5.4 Unbundled Parking

In North America, it is common practice for a parking space (or two) to come standard with the rental or purchase of an apartment or condominium unit. This can lead to an oversupply of residential parking supply in a given building since some tenants do not own vehicles.

Giving condominium owners and tenants the option to purchase or rent a parking space is one way of maximizing the utility of residential parking supply.

There are several ways that unbundled parking can be facilitated. They include:

- Creating a market place where tenants/owners can list the availability of their unused parking spaces for rent by other tenants;
- Offer discounts to renters who choose not to take on a parking space; and

- In condominiums, the condominium association can take on ownership of the building’s parking supply, which is then leased out to occupants, separate from the deed.

None of the comparator municipalities currently offer parking requirement reductions for unbundled parking. However, the City of Burlington Citywide Parking Standards Review recommended that Burlington adopt a 5% parking requirement reduction for developers unbundling parking from residential units.

Oshawa could consider adopted a similar parking requirement reduction to Burlington. Note that unbundled parking is a strategy that is only applicable to high density residential developments. In our experience, the use of unbundled parking is not generally contemplated or regulated through Zoning By-laws.

5.5 Off-site Parking

While the provision of parking off-site is not a traditional TDM strategy, where parking demand is managed, off-site parking increases a parking system’s efficiency by facilitating other strategies such as shared parking and carshare services.

An off-site parking facility can serve the parking needs of multiple nearby developments, resulting in a lower overall parking supply than if all developments provided dedicated on-site parking. Additionally, installing a carshare service in an off-site parking facility that serves multiple developments is anticipated to result in a higher utilization of that carshare vehicle.

The main consideration when evaluating off-site parking for a development is whether the parking facility is within acceptable walking distance. Research indicates that the distance travellers are willing to park from their destination varies depending on factors such as type of establishment and type of parking facility. Research by Mary S. Smith, Thomas A. Butcher, and the Victoria Transport Policy Institute, suggest the maximum walking distances presented in **Exhibit 5-6** for the corresponding land uses presented in **Exhibit 5-7**.

Exhibit 5-6: Maximum Walking Distance

Walking Environment	LOS A	LOS B	LOS C	LOS D
Climate Controlled	300 m	730 m	1,150 m	1,580 m
Outdoor / Covered	150 m	300 m	450 m	600 m
Outdoor / Uncovered	120 m	240 m	360 m	480 m
Through Surface Lot	100 m	210 m	320 m	420 m
Inside Parking Facility	90 m	180 m	270 m	360 m

Exhibit 5-7: Walking Distance Targets

Adjacent	Minimal (LOS A or B)	Median (LOS B or C)	Long (LOS C or D)
People with disabilities	Grocery stores	General retail	Airport parking
Deliveries and loading	Residents	Restaurant	Major sport / cultural event
Emergency services	Medical clinics	Employees	Overflow parking
Convenience store	Professional services	Entertainment center	
		Religious institution	

Land uses within an U.G.C. primarily consist of general retail, restaurant, employees, and entertainment centres. Considering **Exhibit 5-6** and **Exhibit 5-7**, outdoor / uncovered parking opportunities within 240 – 360 metres are considered acceptable in terms of walking distance for most UGC land uses.

Clarington, Whitby, Ajax, Pickering, St. Catharines, and Kingston were determined to allow off-site parking as part of the Zoning By-laws. The following types of restrictions were observed:

- The lot must be within 60 – 150 meters of the development in question depending on the municipality and the zone in question;
- The strategy is only available in certain zones;
- The off-site lot must be within the same zone as the development in question; and,
- An agreement is reached between the two parties and registered with the municipality.

While on-site parking is preferred, Oshawa is recommended to consider allowing developers to meet a small portion of the zoning by-law parking requirements through the provision of off-site parking, as long as sufficient parking capacity is determined to be available at the facility and it is within an acceptable walking distance. Parking surveys should be collected to verify whether the off-site parking lot can accommodate the additional parking demand generated by the off-site parking agreement.

Off-site parking agreements are predominantly envisioned to be between private developments. Residential developers in the U.G.C. could potentially enter into an off-site agreement with the City of Oshawa. However, as stated in Technical Memorandum 2, the City is recommended to critically evaluate whether new residential developments are provided with leases.

6. Technical Memorandum 3 Summary

Technical memorandum 3 summarizes the findings *Task 4: Develop a Citywide Parking Policy Framework*.

Vision Statement and Guiding Principles

Self-sufficient, sustainable, and user-friendly municipal parking operations are envisioned for the U.G.C. that meets the parking needs of a rapidly growing City, while promoting alternative modes of transportation. Parking needs should be met through structured parking that are integrated with the urban fabric in a discreet manner that compliments the surrounding area's character. To achieve long-term economic sustainability, engaging forward-looking fiscal parking strategies are required that are centered on operational efficiency, positive financial performance, and supporting growth.

Parking needs in the T.H.s and I.C.s are envisioned to be met through on-site private parking supply. Private parking demand shall be managed through transit oriented development that is supported by parking requirements tailored to the local environment. Developers should be encouraged to adopt T.D.M strategies such as carshare, shared parking, bicycle parking, and unbundled parking.

A list of 10 guiding principles were developed that are intended to help Oshawa staff make parking related decisions. The guiding principles are centered on meeting future parking needs while promoting alternative modes of transportation, promoting sustainable, environmentally friendly and aesthetic design, and achieving financial operations that are stable and self-sufficient.

Parking Policy Framework Development

While future parking operations are projected based on current best estimates, Oshawa's exact growth cannot be accurately predicted. Additionally, best practice parking policies and standards are constantly evolving. To maintain up-to-date and modern parking practices, existing policies and standards must be periodically revisited and updated.

A framework City staff can follow to update parking policies and standards based on a review of best practices, parking demand data collection, and evolving macro-level trends was developed. Depending on City planning, area specific parking strategies can be adopted where needed.

Standards and Regulations Review

An in-depth review of Oshawa's existing residential parking requirements was completed with the intent of recommending updated requirements where considered appropriate. The review considered:

- Oshawa's existing requirements,
- Parking requirements of the comparator municipalities,
- Parking requirements established by the I.T.E. and U.L.I.,
- Parking demand data collected by IBI Group;
- Parking demand data submitted to Oshawa as part of parking studies; and
- Trends identified from the approved minor variance applications.

Transportation Demand Management

The T.D.M. review's objective was to identify strategies private developers can adopt to manage the parking demand generated by a proposed development. Guidelines defining the relationship between parking and the T.D.M. strategies were also provided.

This study reviewed the following T.D.M. strategies and provided guidelines outlining each strategy's impact on vehicle parking demand:

- Bicycle parking;
- Carshare;
- Shared parking;
- Unbundled parking; and
- Off-site parking.

Accessibility Report

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Organization:

Summary

The checker found no problems in this document.

- Needs manual check: 0
- Passed manually: 2
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- Passed: 30
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Detailed Report

Document

Rule Name	Status	Description
Accessibility permission flag	Passed	Accessibility permission flag must be set
Image-only PDF	Passed	Document is not image-only PDF
Tagged	Passed	Document is tagged PDF PDF
Logical Reading Order	Passed manually	Document structure provides a logical reading order
Primary language	Passed	Text language is specified
Title	Passed	Document title is showing in title bar
Bookmarks	Passed	Bookmarks are present in large documents
Color contrast	Passed manually	Document has appropriate color contrast

Page Content

Rule Name	Status	Description
Tagged	Passed	All page content is tagged
Tagged	Passed	All annotations are tagged
Tab order	Passed	Tab order is consistent with structure order
Character encoding	Passed	Reliable character encoding is provided
Tagged	Passed	All multimedia objects are tagged multimedia
Screen flicker	Passed	Page will not cause screen flicker
Scripts	Passed	No inaccessible scripts
Timed responses	Passed	Page does not require timed responses
Navigation links	Passed	Navigation links are not repetitive

Forms

Rule Name	Status	Description
Tagged	Passed	All form fields are tagged
Field description	Passed	All form fields have description s

Alternate Text

Rule Name	Status	Description
Figures alternate text	Passed	Figures require alternate text
Nested alternate text	Passed	Alternate text that will never be read
Associated with content	Passed	Alternate text must be associated with some content
Hides annotation	Passed	Alternate text should not hide annotation
Other elements alternate text	Passed	Other elements that require alternate text

Tables

Rule Name	Status	Description
Rows	Passed	TR must be a child of Table, THead, TBody, or TFoot
TH and TD	Passed	TH and TD must be children of TR
Headers	Passed	Tables should have headers
Regularity	Passed	Tables must contain the same number of columns in each row and rows in each column
Summary	Passed	Tables must have a summary

Lists

Rule Name	Status	Description
List items	Passed	LI must be a child of L
Lbl and LBody	Passed	Lbl and LBody must be children of LI

Headings

Rule Name	Status	Description
Appropriate nesting	Passed	Appropriate nesting

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Appendix D – Technical Memorandum 4

Memorandum

To/Attention	City of Oshawa	Date	November 15, 2019
From	Robyn Brown - IBI Group John Federici - IBI Group Peter Richards - IBI Group Attila Hertel - IBI Group	Project	119276 No
cc	Morgan Jones - City of Oshawa		
Subject	Oshawa Parking Study - Technical Memorandum 4 - Final		

1. Introduction

The City of Oshawa initiated a Parking Study to create a strategy that is aimed at proactively planning for and accommodating the long term parking needs of the city as it grows. The primary objectives of the study are to:

- Analyze existing and future parking operations in the Urban Growth Centre (U.G.C.);
- Develop a citywide parking policy framework;
- Review residential parking requirements;
- Address concerns raised by stakeholders and the public; and,
- Assess the financial health of municipal parking operations to support long term financial sustainability.

Technical Memorandum 4 summarizes the findings of *Task 5: Financial Review* and *Task 6: Cash in Lieu of Parking Program Review*. The intent of these tasks is to understand the current financial health of municipal parking operations, support an optimal parking price strategy that aims to achieve long-term financial sustainability, and to determine whether a Cash in Lieu of Parking Program is feasible.

The following topics are discussed in Technical Memorandum 4:

- **Historical Financial Performance:** Examines and compares parking revenues and expenditures between 2014 and 2018 to evaluate the parking system's financial health;

- **Parking Price, Free Parking, and Fines Comparison:** Compares Oshawa's parking prices, free parking periods, and parking fines to the comparator municipalities to provide an indicator towards the appropriateness of Oshawa's practices;
- **Parking Price Optimization:** Projects the 2031 financial performance of 5 parking price scenarios to arrive at a preferred parking price plan; and,
- **Cash in Lieu of Parking Program Feasibility:** Examines the feasibility of implementing a Cash in Lieu of Parking Program in the City of Oshawa to help fund the construction of future parking infrastructure.

2. Financial Assessment

This section examines the historical financial performance of Oshawa's parking system and develops a preferred parking price Scenario aimed at achieving long term financial sustainability.

2.1 Summary of Historical Financial Performance

Oshawa's historical parking revenues and expenditures between 2014 and 2018 are illustrated in **Exhibit 2-1**.

Exhibit 2-1: Historical Revenues and Expenditures

2014-2018 Financial Summary (Inclusive of Fines)				
	Total Revenue	Total Expenditures	Surplus/ (Deficit)	Revenue/ Expense Ratio
2014	\$3,610,405	\$2,159,536	\$1,450,869	1.67
2015	\$3,774,767	\$3,945,837	\$(171,070)	0.96
2016	\$3,775,803	\$3,890,886	\$(115,083)	0.97
2017	\$3,805,342	\$4,756,518	\$(951,176)	0.80
2018	\$3,702,337	\$3,599,691	\$102,646	1.03
Total	\$18,668,654	\$18,352,467	\$316,187	1.02

Based on **Exhibit 2-1**, the following is observed:

- Over the 5 year review period, the parking system generated \$18.66 million in revenue, with \$18.35 million in expenditures, resulting in an overall net surplus of \$316,000 and a revenue/expense ratio of 1.02. In other words, parking operations are considered financially healthy.
- However, while overall healthy, expenditures surpassed revenues for 3 out of 5 years resulting in annual deficits between \$171,000 and

\$958,000. In 2014 and 2018, the parking system experienced a surplus of \$1.45 million and \$102,000, respectively; and,

- Annual revenues were observed to fluctuate by \$194,000, while expenditures fluctuated more significantly (by \$2.59 million).

The historical revenues and expenditures were divided into categories to examine how the individual streams contribute to the overall revenues and expenses, and to identify any streams that were observed to fluctuate substantially. The historical revenues by stream and expenditures by type are illustrated in **Exhibit 2-2** and **Exhibit 2-3**, respectively.

Exhibit 2-2: Summary of Revenue Generation by Revenue Stream

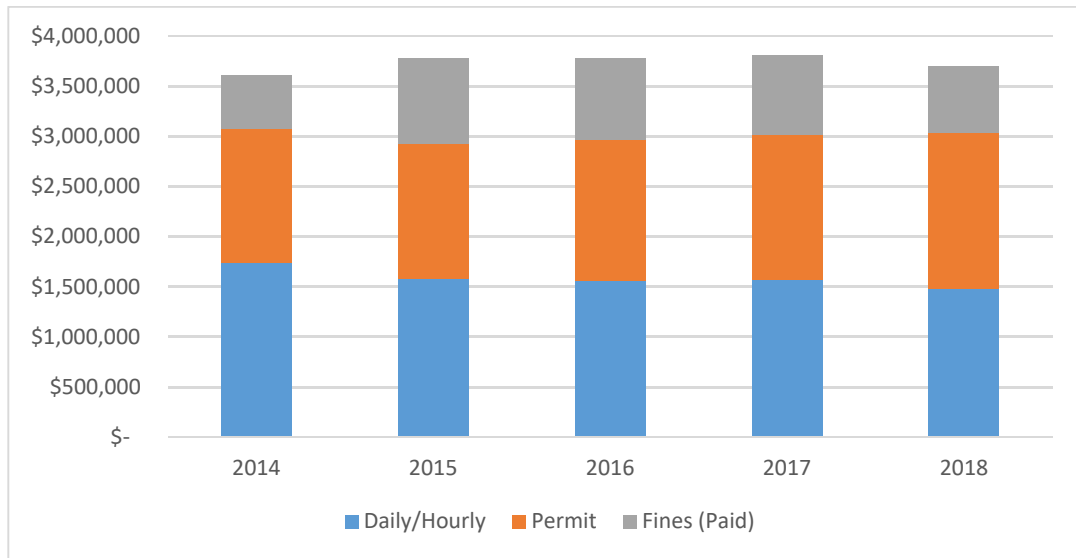
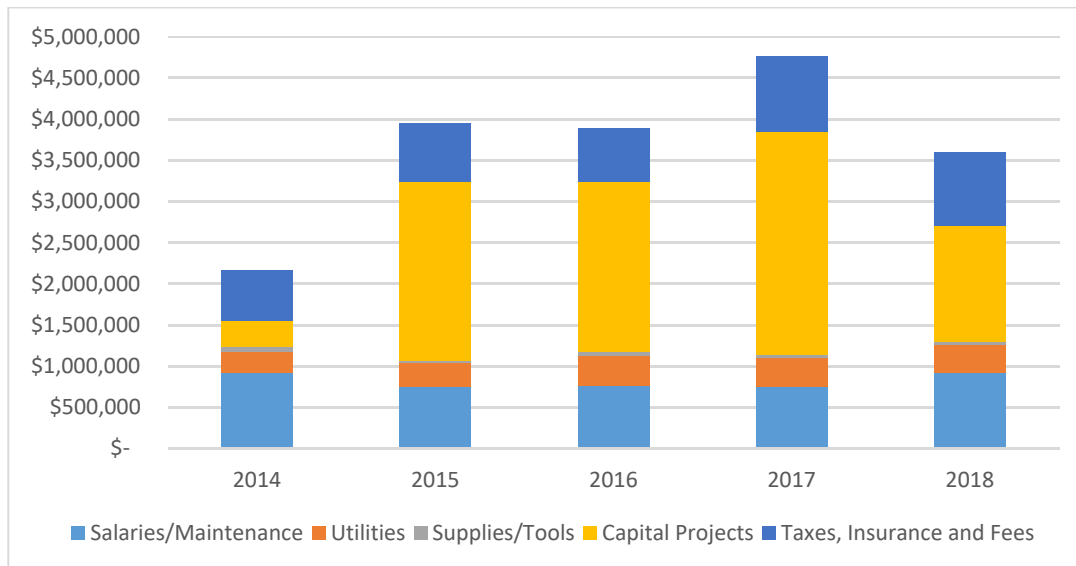


Exhibit 2-3: Summary of Expenses by Type



Based on **Exhibit 2-2** and **Exhibit 2-3**, the following is observed:

- Over the 5 year review period, 80% of the total revenue generated was attributed to metered and permit parking, representing \$7.92 million and \$7.07 million respectively. Fines accounted for \$3.66 million in revenue;
- Revenue from metered and permit parking generally remained consistent over the review period, while fines fluctuated substantially, between \$535,000 and \$853,000 annually;
- Capital projects accounted for 47% of total expenditures, with salaries and maintenance costs, taxes, insurance and fees making up 43% of overall expenditures. The remaining expenditures were attributed to the utilities and supplies/tools category, representing a modest share;
- The supplies/tools expenditures declined by 45% between 2014 and 2018, while utility expenditures fluctuated by \$95,000 over the period; and,
- Capital expenditures fluctuated substantially year to year, while operating expenses generally remained constant over the review period. The significant annual variance in overall expenditures is primarily attributed to capital expenditures. Years with high capital expenditures generally resulted in an annual deficit.

An examination of the historical financial performance of Oshawa's parking operations indicates that financial sustainability was achieved over the 5 year review period, largely due to the substantial surplus in 2014. However, if it were not for the surplus in 2014, it is expected that the parking system would have operated at a loss due to large investments in capital projects.

Future capital projects such as targeted structural repairs, life cycle safety upgrades, parking lot reconstruction are included in the parking price optimization assessment in **Section 2.5**.

2.2 Parking Price Comparison

2.2.1 Hourly, Daily, and Permit Parking

Currently, hourly parking in Oshawa costs \$1.25 per hour, with daily maximums ranging from \$8.00 to \$12.50 depending on the facility. The three Parkades, along with Lot 16 and Lot 19 provide permit parking opportunities with costs ranging from \$73.00 to \$87.00 per month, with Parkade permits being more expensive. These rates are displayed in **Exhibit 2-4**.

Exhibit 2-4: 2019 Parking Rates

Item	2019 Parking Rate
Hourly	\$1.25
Daily (Max)	\$12.50
Monthly (Min)	\$73.00
Monthly (Max)	\$87.00
Special Event	\$ 5.00

To evaluate the appropriateness of Oshawa's parking prices, and to inform the parking price optimization Scenarios, the comparator municipality parking prices were examined. The comparator municipalities outlined in Technical Memorandum #1 were adopted for the financial assessment. The parking price comparison results are outlined in **Exhibit 2-5**. The prices listed exclude H.S.T.

Exhibit 2-5: Parking Price Comparison (Excluding H.S.T.)

Municipality	Permits (Monthly)		Hourly		Daily Limit
	Minimum	Maximum	Minimum	Maximum	
Whitby	\$80.00	\$100.00	\$1.00	\$1.50	\$7.00
Pickering	-	-	-	-	-
Ajax	-	-	-	-	-
St. Catharines	\$65.00	\$100.00	\$1.50	\$1.50	\$12.00
Clarington	\$39.55	\$39.55	-	-	-
Peterborough	\$42.00	\$90.00	\$1.25	\$1.50	\$10.50
Kingston	\$88.50	\$132.75	\$1.50	\$2.00	\$3.00
Guelph	\$67.80	\$158.20	\$2.00	\$2.00	-
Barrie	\$60.00	\$85.00	\$1.00	\$1.25	\$5.50
Burlington	\$83.00	\$132.00	\$1.75	\$1.75	\$5.25
Oshawa	\$73.00	\$87.00	\$1.25	\$1.25	\$12.50
Average	\$66.54	\$102.72	\$1.41	\$1.59	\$7.96

As illustrated in **Exhibit 2-5**, Oshawa's permit parking prices are within the average of the comparator municipality prices. Additionally, the hourly parking rates are slightly lower than the average of comparator municipalities while the daily maximum rate is higher. These results indicate that Oshawa's hourly parking rate could be considered below market rate and an increase could be appropriate.

While the parking price assessment in this section provides an overview of how the parking prices in Oshawa compare to similar municipalities, a more detailed assessment of Oshawa’s parking finances is provided in **Section 2.5**.

2.2.2 Free Parking Operations Comparison

Currently, parking is free in Oshawa after 6 p.m. on weekdays and during weekends. Note that parking in Parkade 3 is only free after 9 p.m. on weekdays. **Exhibit 2-6** compares Oshawa’s free parking prices to the comparator municipality practices.

Exhibit 2-6: Free Parking Operations Comparison

Municipality	Comments
Whitby	Free parking on weekdays after 6 p.m., weekends, and holidays.
Pickering	Free parking throughout the city seven days per week, with a limit of 3 hours on all city streets.
Ajax	Free parking throughout the city seven days per week, with occasional on street parking permits available for residential.
St. Catharines	Free parking after 6 p.m. weekdays and weekends.
Clarington	On street parking free weekdays for 3 hour time limit, free parking in evenings after 6 p.m. and on weekends.
Peterborough	Free parking weekday evenings after 6 p.m., weekends, and statutory holidays.
Burlington	Free parking after 6 p.m. on weekdays, and on weekends except for waterfront park.
Kingston	Free parking after 6 p.m. Monday through Saturday for most locations, and Sundays.
Barrie	Free parking in most areas on weekday evenings after 5 p.m., weekends, and statutory holidays.
Guelph	Free parking after 6 p.m. weekdays and Saturdays, and on Sundays.
Oshawa	Free parking after 6 p.m., except Parkade 3 which has free parking after 9 p.m. Free parking on weekends.

As illustrated by **Exhibit 2-6**, Oshawa's free parking practices are generally in line with the comparator municipalities, which are mostly in effect weekday evenings and weekends.

It is important to note that Pickering and Ajax, which are also located in Durham Region, provide free parking throughout the city seven days per week, while Whitby generally offers free parking at the same times as Oshawa.

2.2.3 Parking Fines Comparison

Parking regulations and restrictions in Oshawa are governed by Parking By-Law 24-2011. Parking fines range from \$30 for an *expired parking meter* violation to \$300 for an *accessible parking* violation. **Exhibit 2-7** compares Oshawa's fines with those of the comparator municipalities for 5 common parking violations.

Exhibit 2-7: Parking Fine Comparison to Comparator Municipalities

Municipality	No Parking	No Stopping	Expired Meter	Accessible Parking	Overnight Parking
Whitby	\$40	\$60	\$15	\$300	\$40
Pickering	\$25	\$25	N/A	\$300	\$25
Ajax	\$38	\$45	\$38	\$300	\$38
St. Catharines	\$30	\$48	\$20	\$300	\$30
Peterborough	\$25	\$30	\$25	\$300	\$25
Burlington	\$46	\$62	\$23	\$400	\$46
Kingston	\$25	\$30	\$25	\$300	\$30
Barrie	\$30	\$30	\$30	\$300	\$30
Guelph	\$40	\$60	\$30	\$350	\$35
Oshawa	\$30	\$45	\$30	\$300	\$30
Average	\$33	\$44	\$26.22	\$315	\$33

In general, Oshawa's parking fines are observed to be in line with the average of the comparator municipality fines. Some fines are slightly higher in Oshawa, while other fines are slightly lower. Based on this high level review, Oshawa's parking fines are considered appropriate and recommended to be maintained for the near future.

2.3 Best Financial Practices Review

This section provides an overview of potential financial strategies that can be implemented to promote various parking operations. These strategies are aimed at creating a more efficient parking system by promoting underutilized lots, alternative modes of transportation, and parking at times outside of the peak period.

Variable Parking Rates (Location Based Pricing)

Variable parking prices is a strategy that allows municipalities to promote increased parking utilization in traditionally underutilized locations while managing the demand in the more popular locations. In other words, variable parking prices helps better distribute parking demand throughout the municipal parking system.

The strategy involves setting higher parking prices in locations known to experience high parking demand while providing lower prices at less popular locations. With variable parking prices, parking users are provided with a financial incentive to park in the less popular locations. Note that parking prices are set in advance considering historical parking patterns, rather than adjusted in real time based on observed demand.

Oshawa currently uses the variable parking rate strategy for the permit parking system by setting Parkade prices higher than the surface lots. Variable permit prices are considered appropriate since the Parkades provide benefits such as protection from the elements.

Dynamic Parking Rates (Time and Location based Pricing)

Parking demand is known to vary by time of day and day of week. Traditionally, peak parking demand occurs during weekday business hours and the weekend daytime period. Through the dynamic pricing strategy, higher parking prices are adopted during the periods of peak parking demand than the other periods. This strategy is intended to serve as a transportation demand management measure to control parking demand during peak periods. A higher price of parking increases the appeal of alternative forms of transportation including transit, cycling, and walking. The time of day pricing strategy can also be combined with location based pricing to promote an improved distribution of parking demand.

Oshawa currently employs the dynamic parking price strategy with pay parking operations in effect during weekday business hours and free parking during all other periods. Additionally, during pay parking operations, Parkade permit prices are set higher than the surface lots. Given that existing parking demand is observed to peak during weekday business hours, and decline into the evening, Oshawa is recommended to maintain free parking operations during weekday evenings. Additionally, weekend parking demand was observed to operate with available capacity. Therefore, free weekend parking operations are recommended to be maintained.

Pay Parking Limits

As discussed above, parking demand levels are known to vary by time of day and day of week. Many municipalities, including Oshawa, only charge for parking during weekday business hours when parking demand is known to peak. Free parking is provided during weekday evenings and weekends when parking demand is lower.

Currently, pay parking operations are generally in effect between 8:00 a.m. and 6:00 p.m. Monday to Friday. Through the collection of hourly parking utilization survey, the period of peak parking demand can be identified and Oshawa's existing pay parking time limits can be rationalized.

This study collected parking demand data during three periods, the morning, midday, and afternoon. The collected data is not considered fine enough to precisely identify the exact period the parking system remains well utilized. However, given IBI's past experience, and considered that weekday business hours generally range between 9 a.m. and 5 p.m., Oshawa's existing pay parking period is considered appropriate. Oshawa could consider collecting hourly parking demand data should the City desire to fine tune the pay parking period.

Performance Based Pricing (Demand, Time, and Location Based Pricing)

Under performance based pricing, the price of parking is automatically adjusted based on observed parking demand to maintain a desired utilization. The parking system automatically increases the price of parking if utilization is determined to approach or exceed the desired limit. When demand decreases the price of parking is automatically reduced to promote use.

Performance based pricing requires parking technology capable of automatically tracking occupancy in real time. Considering that this strategy would require expensive parking technology upgrades; it's not considered feasible for Oshawa.

Linking Parking Permit Prices to Transit Passes

A strategy used to encourage transit as a mode of transportation is to set monthly parking permit prices higher than monthly transit passes. Currently, Durham Region Transit offers a monthly Presto pass at a rate of \$117 while parking permits cost between \$73 and \$87. In other words, driving and parking in Oshawa could be considered more affordable than transit.

Given that permit parking prices are lower than transit passes, Oshawa could consider increasing the parking prices. While an immediate parking price increase to meet transit pass prices is considered too ambitious, **Section 2.5** investigates various parking price plans Oshawa could adopt to increase parking prices gradually over the horizon period.

2.4 Opportunities for Public Private Partnerships

Oshawa could consider a partnership with a private sector client to help support the construction and operation of future parking facilities. This section assesses the benefits and drawbacks associated with the public-private partnership (P3) model for the City of Oshawa.

Defining Public-Private Partnerships

P3s form an agreement between government agencies and private-sector entities that are used to finance, build, operate, or maintain a project, such as a highway (Highway 407 ETR), or in the City of Oshawa's case a parking facility. Depending on how the partnership is structured, the private entity typically completes construction and owns, operates, and maintains the development for a predefined period with the intent of recovering the costs and generating a profit through user fees. Once the pre-agreed period has passed, the private entity transfers the parking facility's ownership to the City. Contracts are normally long-term, lasting up to 40 years or longer.

Benefits of Public-Private Partnerships

The potential benefits of partnering with a private entity are evident during every stage of a project. Overall, if everything goes as planned and the agreement is structured correctly, these benefits translate into the public sector taking on a reduced amount of risk for a high-quality product that is delivered on time and within budget. The following explains how each benefit impacts project feasibility:

1. **Access to Funding:** Securing a loan to fund construction is often difficult. Especially from a public sector point of view, given the large amount of equity required to satisfy a lenders loan to equity ratio. Partnering with a private entity provides the public sector a benefit in that private entities are more likely to hold the required equity to secure a construction loan, and often have access to forms of funding that the public sector does not.
2. **Construction Expertise:** Delivering a project on time and within budget is difficult to achieve if the construction phase is not managed properly and monitored closely. The construction loan agreement contains a rigid disbursement schedule that has costly repercussions should a project take longer than anticipated. The private entity has resources to hire experienced management that have developed expertise from working on similar projects previously. This helps deliver a product on time and within budget.
3. **Industry Networks:** If partnering with an experienced enterprise, the private entity has likely worked in the industry long enough to form relationships that can be relied on for future projects. These

relationships help mitigate risk and cut costs during the construction process for optimal efficiency.

4. **Timely Construction Completion:** The combination of construction expertise and an established network positions the project to adhere to the construction costing schedule and stay within scope. These factors ensure that the required due diligence and upfront planning work is done at the outset of a project to mitigate and manage risks to the greatest extent possible.
5. **Higher Quality Facilities:** Construction expertise and mature industry networks create efficiencies that can be harnessed to deliver higher quality facilities than the public entity could construct alone on the same budget. However, this would likely only be the case if the private entity is responsible for the ongoing operation and maintenance of the facility as this would cut down on lifecycle and operating costs.
6. **Management Expertise and Operational Efficiencies:** The motive of the private sector is to turn a profit while meeting public sector specifications and goals. The management expertise that a private entity brings allows for operational efficiencies that in turn would allow parking operations to be profitable while delivering a reliable and quality service.
7. **Risk Management:** There are a number of risks associated with the design, build, finance, operation, and maintenance phases of a project that can partially be transferred to the private sector during the process to provide more public stability overall. From having completed similar projects in the past, transferring these risks to the private sector ensures that the public sector is less liable for errors made.

Drawbacks of Public-Private Partnerships

Although public-private partnerships present a number of benefits, there are also a number of potential drawbacks that must be considered carefully. Passing off risks to the private sector typically comes at a price premium, impacting the overall cost of the project and reducing the decision making power of the municipality. The following provides an insight into potential partnership drawbacks:

1. **Return on Investment Might be Insufficient for Private Entity:** The private entity will complete a cash flow analysis over the lifecycle of the project to determine whether the projected return on investment is sufficient to justify the risks associated with taking on a P3 project. If the return is not adequate, it may be difficult to secure a private partner.

2. **Risk Mitigation Comes at a Cost:** Although passing a number of risks on to the private sector is advantageous, it comes at a cost. Depending on the partnership structure, the public sector forgoes an amount of decision making control, the agreement is typically inflexible, proprietary information cannot be released to the public, there are higher borrowing costs associated with securing private funding as opposed to conventional public sector funding, and there is an overall risk premium being paid.
3. **Public Entity Relinquishes Control:** As the public sector passes on risks to the private entity, responsibility is put in the hands of the private entity along with decision-making power. This makes it difficult for the public sector to have control over decisions being made throughout the lifecycle of the project.
4. **Parking Rate Structure Yields an Insufficient Return:** It is likely that the City of Oshawa will impose a rate structure that is similar to the one used for current parking operations. This may make it difficult for the municipality to find a private entity to partner with, given the cost recovered from parking operations may not be sufficient.
5. **Costly Legal Fees:** At the outset of the project, the public entity must complete the necessary due diligence and upfront planning to safeguard that bid documents are complete, that agreements do not present unforeseen liabilities, and that the public entity is satisfied with the legally binding terms and conditions over the period of the project. In addition to legal fees to establish the agreement, if a major dispute arises between both parties, it is likely that the associated legal fees to resolve the dispute will be significant.
6. **Higher Borrowing Costs:** Given financing is generally a private sector responsibility, the lending institution typically charges a higher interest rate when compared to conventional public sector financing options. This could add substantial costs to the public sector if the operation and maintenance components of the project are the responsibility of the public entity, given that the project is paid in full following construction completion.
7. **Agreement is Long-term and Inflexible:** As noted above, a public-private partnership agreement can potentially last up to 40 years or longer, which can present some potential issues as the contract is typically inflexible. As new leadership enters the public sector, they are subject to abide by the terms and conditions decided upon in the original agreement, which may not align with the agenda, goals, or policy framework of the organization looking forward.

2.5 Parking Price Optimization

A parking price optimization model that projects parking price increases to the year 2031 was completed in order to test the financial sustainability of existing prices, and to explore other possible pricing plans. The goal of this exercise is to arrive at a parking price plan that achieves financial sustainability and is affordable for users.

Five parking price scenarios were developed and evaluated, which are summarized in **Exhibit 2-8**.

Exhibit 2-8: Evaluated Parking Price Plans

Scenario	Permits	Transient
1	No change from current	No change from current
2	10% increase every 5 years	\$0.25 increase every five years
3	15% increase every 5 years	\$0.50 increase every 5 years
4	20% increase every 5 years	\$0.75 every 5 years
5	25% increase every 5 years	\$1.00 increase every 5 years

All parking rate increases are presented in present day dollars.

The following revenue and expense assumptions were adopted to project future financial operations with 2018 representing the base year. These assumptions have been confirmed by City of Oshawa staff:

- Annual Population Growth Rate: 1.7% annual population growth;
- Personal Vehicle Mode Split: 0.6% annual personal vehicle mode share reduction;
- Salaries and Maintenance: Annual increase of 2.0%;
- Utilities: Annual increase of 1.2% based on historical growth;
- Taxes, Insurance and Fees: Annual increase of 2.8% based on historical growth, with debt charges being removed in the year 2022, and interfund loans being removed in 2029;
- Supplies and Tools: Annual increase of 1.5%;
- Fine/Violations Revenue Rate: Revenue from fines and violations were removed as directed by City of Oshawa staff;
- Capital Expenditures: A ten year average from the budget was provided to IBI Group from the City of Oshawa staff. This average was extrapolated to the year 2031 for this exercise, which includes \$350,000 annually for Parking Garage Capital Expenditures (2019-

2031), and \$1,000,000 annually for the Reconstruction Program for Surface Paid Parking Lots (2023-2031);

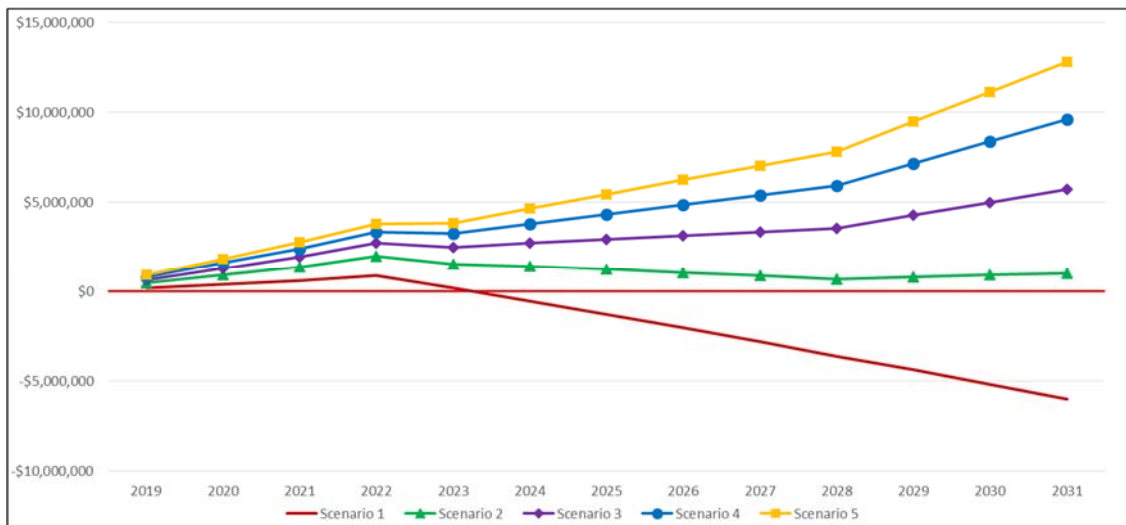
- Permit Revenue: Calculated based on parking demand projections and permit price increases; and
- Transient Revenue: Calculated based on parking demand projections and transient price increases.

An increase in the price of parking will result in a decrease in the demand for parking. According to Canadian Parking Association, the price elasticity of parking demand generally ranges between -0.10 to -0.60, with an average value of -0.37. In other words, a 1% increase in the price of parking would result in a 0.37% decrease in the demand for parking. As discussed with Oshawa staff, Oshawa commuters are known to be more resistant to changing modes of transportation from personal vehicles. Therefore, a value of -0.30 was adopted for this analysis, which was confirmed by Oshawa staff.

2.5.1 Parking Operation Projections

The financial performance of each scenario was projected to the 2031 horizon year using the discussed assumptions and inputs. The annual cumulative net position is displayed in **Exhibit 2-9** for all price scenarios.

Exhibit 2-9: Reserve Fund Projections (Scenario 1-5)



Over the 2019 to 2031 period, after projecting the parking revenues and expenses, the 2031 net position for the 5 Scenarios is projected to be:

- Scenario 1 (Do Nothing): \$-5,966,468;
- Scenario 2: \$1,039,255;
- Scenario 3: \$5,722,210;
- Scenario 4: \$9,633,508; and,
- Scenario 5: \$12,829,905

Based on these results, Oshawa's parking operations are not anticipated to be financially sustainable if parking prices are not increased, as indicated by the deficit under Scenario 1 (Do Nothing). Adopting Scenarios 2, 3, 4, or 5 is projected to achieve financial sustainability.

2.5.2 Recommended Parking Price Plan

The operational goal is not to maximize revenue, but rather to set parking prices at a point that manages parking demand while meeting Oshawa's parking needs. Based on this objective, Oshawa is recommended to consider adopting the Scenario 2 parking price plan. Under Scenario 2, the net position at the end of the projection period (2031) is anticipated to be approximately \$1,039,255, which provides funding for unexpected parking related expenses. By the year 2031, permit pricing will have increased by 33% and transient prices by \$0.75.

Exhibit 2-10 provides an overview of permit and transient parking prices by time period.

Exhibit 2-10: Scenario 2 Parking Prices by Time Period

Parking Type	Current Cost	2019	2024	2029-2031
Monthly Permit (Lot 16 & 19)	\$73.00	\$80.30	\$88.33	\$97.16
Monthly Permit (Parkades)	\$87.00	\$95.70	\$105.27	\$115.80
Transient (Hourly and Daily)	\$1.25	\$1.50	\$1.75	\$2.00
Transient Daily Maximum	\$12.50	\$15.00	\$17.50	\$20.00

Note that if significant parking expenses arise that are not included in this analysis, Oshawa is recommended to update the financial assessment. The Scenario resulting with the lowest cumulative surplus is recommended to be adopted.

In addition to permit and transient revenues, Oshawa introduced parking as a new service eligible for development charges through the 2019 Development Charges Background Study. Based on the study findings, Oshawa is expected to collect \$22 million over a 10 year forecast period in development charges.

This charge is collected throughout the city and will likely be used to fund additional parking infrastructure to support U.G.C. growth.

Therefore, Oshawa is projected to have access to \$22 million in development charges plus \$1.03 million from the Scenario 2 surplus to fund future parking infrastructure costs beyond what was included in the projection.

3. Cash in Lieu of Parking Program Feasibility

This section examines the feasibility of a Cash in Lieu of Parking Program (C.I.L.) in Oshawa's U.G.C. The analysis uses current parking requirements and development forecasts to estimate program uptake, which is then combined with the proposed CIL rate to understand the potential revenue that the program could generate. The program's potential revenue is then compared with the construction and land costs for parking facilities to evaluate the program's feasibility.

3.1 Purpose and Legal Framework

The purpose of C.I.L. is to grant developers with an exemption from meeting the Zoning By-law parking requirements in exchange for a payment. The payment collected is then used by the municipality to construct a strategically located parking facility intended to supplement the exempt spaces. Section 40 of the Ontario Planning Act authorizes municipalities to enter into this kind of agreement.

The C.I. L agreement articulates the basis from which the payment is calculated. The funds collected through the agreement must be deposited into a special account, known as a reserve fund, which can only be invested in particular securities governed by provisions in the Planning Act. An audit of the funds is completed to confirm funds are spent as agreed. The industry best practice is to set the C.I.L. rate lower than the cost of construction (usually 50% or lower) as a development incentive and because the parking space would ultimately be shared between multiple developments.

Funds raised from parking exemptions should not exceed to cost of providing sufficient municipal parking supply to supplement the exempt parking spaces.

3.2 Benefits and Drawbacks of Cash in Lieu Programs

The following provides an overview of the benefits and drawbacks of offering CIL:

Benefits

1. **Flexibility:** Developers of constrained sites where meeting the parking requirements is either physically or financially difficult can opt to pay the C.I.L. fee for a flexible and affordable alternative.
2. **Shared Parking:** The municipal parking system acts as a shared parking resource for all nearby developments, which reduces the total parking spaces in the area, had parking been provided on-site at each development. Technical memorandum 3 provides further details about shared parking.
3. **Consolidation:** Parking spaces that would otherwise be scattered can be consolidated into one lot, optimizing land usage.
4. **Fewer Variances:** Cash collected through the C.I.L. program reduces the need to apply for variances, creating efficiencies in the planning and development process.

Drawbacks

1. **Lack of On-site Parking:** The ability to market residential units and non-residential space may be reduced if sufficient parking is not provided on-site, resulting in a decline in demand for the product being built.
2. **High Fees:** Given that the C.I.L. fee is usually set at a lower price than it costs to construct the parking, it may take the municipality more capital to build and operating parking facilities that are required to satisfy demand.
3. **Parking will not be Built Immediately:** The municipality must collect adequate funds through C.I.L. to build parking, which will not happen in the near-term.
4. **No Guarantee of Parking Being Built:** There is no guarantee when or where the municipal parking facility will be built, since an adequate amount of capital must be collected before a parking facility can be constructed. This can result in sites not having access to parking if adequate funds to construct a structure are not collected. Some cities refund the C.I.L. funds collected if a parking structure is not constructed by a specified date. Some cities front end finance and construct the parking garage, and only collect enough C.I.L. fees to pay for that structure.

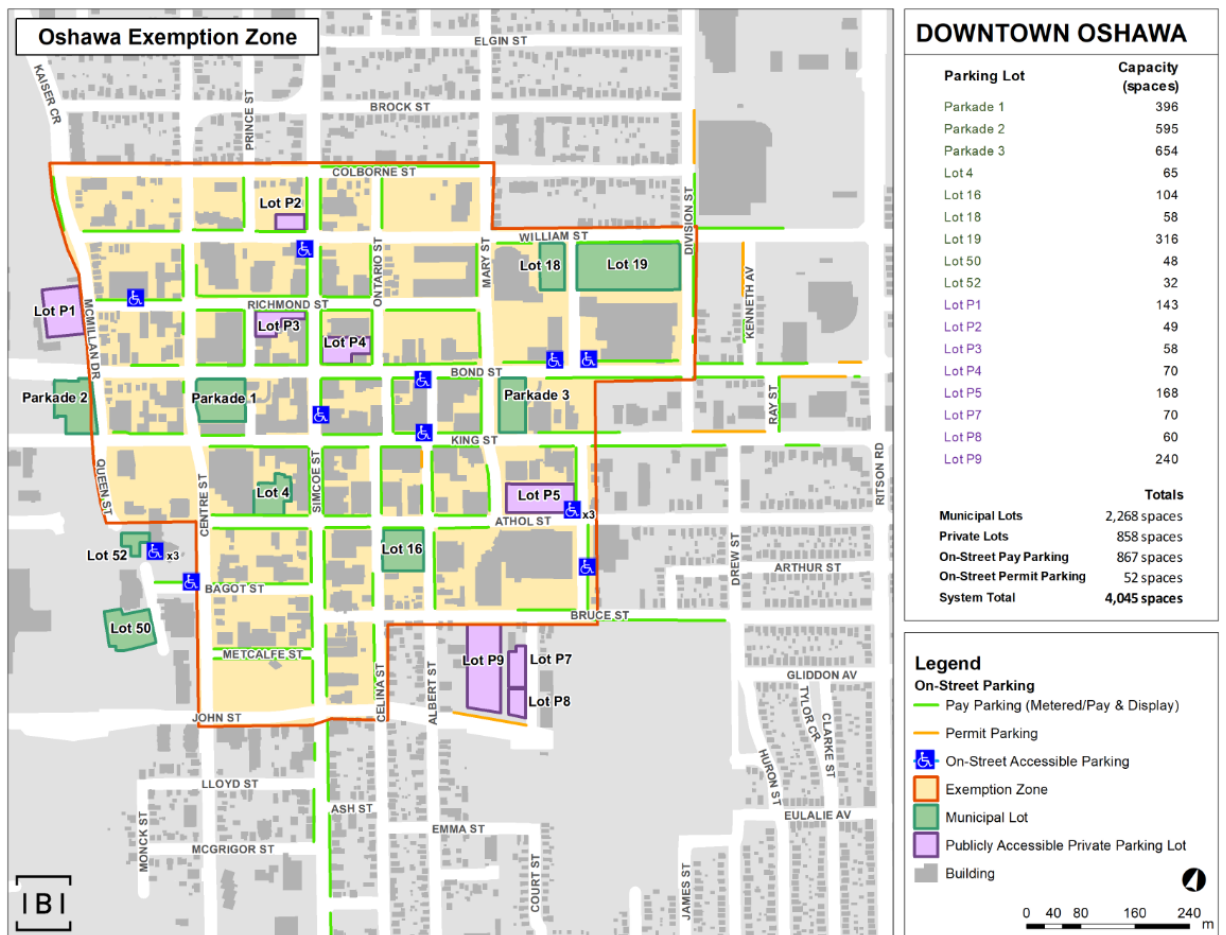
- Parking is an Asset:** Businesses add value to the development through providing and owning parking since the spaces can be rented out in an office development and provide a place for retail customers to park while shopping.

3.3 Zoning By-law Analysis

Technical Memorandum 1 included a review of Oshawa’s Zoning By-law 60-94. The Zoning By-law outlines the U.G.C.s parking requirements, which is the most appropriate area to allow the C.I.L. program since the area is supported by the municipal parking system.

The review also identified the U.G.C. parking exemption zone which is displayed in **Exhibit 3-1**.

Exhibit 3-1: Urban Growth Centre Boundary



The following provides an overview of the parking exemption zone:

- Non-residential developments are exempt from providing parking;
- Residential developments with more than 3 units require 1 parking space per unit;
- Senior citizen apartments with more than 3 units require 0.5 parking spaces per unit; and,
- Buildings with 10 or more flats require 1 parking space per flat for each flat in excess of 10.

These parking rates were used to determine the number of parking spots resulting from forecasted U.G.C. development, and the potential uptake of the C.I.L. program.

3.4 Development Forecast Review

In order to understand the amount of anticipated development in Oshawa, the 2018 Durham Region Development Charges Background Study (D.C.B.S.) population and employment forecasts were reviewed. **Exhibit 3-2** illustrates these forecasts broken down by the Durham Transportation Zones that compose the U.G.C.

Exhibit 3-2: Population and Employment Forecasts in the U.G.C. by DTZ

Durham Transportation Zone	2016 Population	2018 Population	2031 Population	2018 -2031 Population Growth	2018 Jobs	2031 Jobs	2018 - 2031 Job Growth
7950	762	793	810	17	110	140	30
7960	1,661	1,744	1,840	96	1,294	1,598	304
7981	469	489	473	-16	110	145	35
7982	1,139	1,189	1,240	51	70	89	19
7990	1,101	1,205	1,493	288	1,295	1,650	355
8081	94	100	120	20	2,288	2,691	403
8082	1,174	1,305	1,618	313	1,409	1,742	333
8083	148	209	709	500	31	132	101
Total	6,548	7,034	8,303	1,269	6,607	8,187	1,580

Source: Durham Region Development Charges Background Study (2018)

Notes: Population allocation by DTZ excludes institutional residents (forecasted at 1,875 for Oshawa in 2031)

The development forecast review revealed that population will grow by 1,269 people and employment will grow by 1,580 jobs between 2018 and 2031. These growth forecasts were then translated into an estimated number of total residential units and non-residential Ground Floor Area (G.F.A.).

It is anticipated that the development pattern in the Central Planning Area will be medium- to high-density, comprised primarily of apartments, as specified by Schedule 6c of the D.C.B.S. To reflect this, the residential population growth in the U.G.C. was divided by the assumed Persons Per Unit (P.P.U.) ratio 1.705 per apartment unit to arrive at an estimated total number of units forecasted in the U.G.C. This results in a growth of 744 units by 2031.

The total forecasted jobs for the non-residential component in the U.G.C. were multiplied by a Square Foot Per Employee (S.F.E) assumption of 400, which is the assumption used for commercial/population related employment in the D.C.B.S. This results in a growth of 632,000 ft² of non-residential ground floor area by 2031.

Exhibit 3-3 summarizes the U.G.C.s projected residential and non-residential growth by 2031.

Exhibit 3-3: Housing Unit and Non-residential GFA Forecast

Type	2018 - 2031 Growth	P.P.U./S.F.E	Total Units/G.F.A. (ft ²)
Population	1,269	1.705	744
Employment	1,580	400	632,000

Source: IBI Group based on 2019 Oshawa D.C.B.S. and 2018 Durham Region D.C.B.S.

3.5 Forecast Number of Parking Spaces and Potential Uptake of Cash in Lieu Program

Given the parking exemption for non-residential units in the U.G.C., this exercise was carried out exclusively for residential development using a parking ratio of 1 parking space per unit. An additional 744 residential parking spaces are projected by the 2031 planning horizon.

Given that the uptake of the potential C.I.L. program is unknown, an estimated uptake rate of 15% was used. The 15% uptake rate for the C.I.L. program is at the upper range of expected potential program uptake, and is the rate that has been confirmed with the City of Oshawa staff. Based on the 15% update rate and the projected 744 residential parking spaces, approximately 110 parking spaces are anticipated to be applied for C.I.L of parking.

3.6 Establishing a Cash in Lieu Rate

Municipalities generally set the C.I.L. of parking rate based on the cost of construction a parking space, or based on the cost of construction plus the cost to acquire land. A best practices review of comparator municipalities was completed to determine whether a C.I.L. is available, the C.I.L. rate, the basis of the charge, where the charge is enforced, and the successfulness of the program where information was available. To complement this review, an analysis of construction and land costs in Oshawa was also completed.

3.6.1 Best Practices Review

Out of the ten comparator municipalities examined, Whitby, Peterborough, Kingston, and Barrie currently offer C.I.L. as an option. The C.I.L. rates imposed as part of the program range from \$3,000 to \$15,000 per parking space, and are available only in the Downtown and in targeted areas.

The City of Kingston currently has a C.I.L. rate of \$3,000 per space that only applies to the renovation of existing structures within the Downtown and harbour area. The charge is not applicable to new developments. MMM Group completed a review the C.I.L. program and recommended that the charge should be increased to \$20,000 for above grade parking and \$25,000 for below grade parking to reflect construction and land costs. The review noted that the C.I.L. by-law has not been well utilized, with only eight cash in lieu of parking applications since 1998, resulting in \$24,000 being contributed to the Parking Reserve Fund.

The Town of Whitby currently offers a C.I.L. with rates set at \$3,750 per space, available in Downtown Whitby and Downtown Brooklin. This rate is anticipated to increase to \$10,000 in January 2020 to better represent the construction costs associated with building surface and structured parking. The staff report to support the increase indicates that C.I.L. incentives are usually only considered for non-residential uses, primarily commercial developments in the Downtown.

The City of Barrie recently increased the C.I.L. rate from \$2,500 to \$15,000 per space. The rate covers 50% of the true construction cost to build a parking structure space, but does not include land cost. C.I.L. is available throughout the city.

The City of Peterborough currently offers a C.I.L. rate of \$6,000 per space and is only available in the Downtown. The rate was recommended to be increased to be between \$8,000 and \$10,000 per space to account for the true costs of constructing parking while keeping the rate low enough to align with intensification and growth management objectives of the city.

3.6.2 Method for Parking Space Valuation

A review of both parking construction and land costs in the Greater Toronto Area (G.T.A.) was completed to inform an appropriate C.I.L. rate. Parking construction costs in the G.T.A. ranged from \$75 to \$110 per square foot for freestanding parking garages, and from \$115 to \$160 per square foot for underground parking garages. These values were used to estimate the construction cost of a 400 ft² parking space. The cost of construction for a parking space within a freestanding parking garage ranges from \$30,000 to \$44,000, and from \$46,000 to \$64,000 for underground parking garages, as outlined in **Exhibit 3-4**.

Exhibit 3-4: Parking Construction Cost Ranges in the G.T.A.

Type	Price Per ft ²		Cost of Parking Space (400 ft ²)	
	Low	High	Low	High
Surface Parking	\$ 8	\$ 20	\$ 3,200	\$ 8,000
Freestanding Parking Garages (above grade)	\$ 75	\$ 110	\$ 30,000	\$ 44,000
Underground Parking Garages	\$ 115	\$ 160	\$ 46,000	\$ 64,000

Source: Altus Group Construction Cost Guide, 2019

Future municipal parking facilities are anticipated to be either above or below grade structures, given that surface parking lots are not in line with intensification policies.

To determine the average price per acre for Apartment Sites, Commercial Land, Residential Land, and Retail Land, land sales in Oshawa were examined between 2014 and 2019 using the Marsh Reports. **Exhibit 3-5** provides a summary of the results of the exercise.

Exhibit 3-5: 2014-2019 Land Sales by Type

Land Use Type	Number of Transactions	Price/Acre
Apartment Site	8	\$1,000,721
Commercial Land	6	\$1,275,621
Residential Land	20	\$492,966
Retail Land	1	\$768,049

Source: Marsh Reports, 2014-2019 Land Sales in City of Oshawa

The average price of land per acre was determined to be approximately \$850,000. A range of \$850,000 to \$1,150,000 was used to determine the required C.I.L. rate to cover the cost of a three storey parking structure, and a three storey underground parking garage in **Section 3.8**. A share factor of 40% is recommended to be applied to the total construction cost and land value per space in order to provide an incentive for developers to participate in the program. This share factor is based on the comparator municipalities and is at the higher end of the range.

The C.I.L. assumptions discussed in the previous sections are consolidated and summarized in **Exhibit 3-6**.

Exhibit 3-6: Consolidated Assumptions for C.I.L. Charge

Item Description	Amount (\$)
Construction Costs – Hard + Soft Costs Per Space	
Freestanding Parking Garage Per Space (Above Grade)	\$30,000
Underground Parking Garage Per Space	\$46,000
Land Value	
Blended Land Price (per ft ²)	\$20
Area	
Square Feet Per Parking Space	400
Number of Parking Spots	
Number of Parking Spaces	110
Share Factor	
Percentage of Total Costs to be Paid for by CIL Charge	40%

3.6.3 Cash in Lieu of Parking Formula & Potential Funding Collection Assessment

The recommended C.I.L. rate can be calculated based on the following formula.

$$C.I.L. Rate = ((Construction Cost + (Land Value \times Area)) \times Share Factor$$

Using the C.I.L. formula, the potential revenue that could be generated by 2031 was calculated, and is illustrated in **Exhibit 3-7**. Note that the P.I.L. rate was multiplied by 110 spaces (previously estimated program uptake).

Exhibit 3-7: C.I.L. Charge and Overall Revenue Generation

Type	Formula	C.I.L. Per Space (Rounded)	Potential Revenue
Above Grade Parking Structure	$CIL = ((\$30,000 + (\$20*400)) * 0.4$	\$15,000	\$1,650,000
Underground Parking Garages	$CIL = ((\$46,000 + (\$20*400)) * 0.4$	\$21,500	\$2,365,500

3.7 Revenue Generation Compared to Parking Facility Costs

Using the inputs and assumptions outlined in **Section 3.6.2**, the high level cost of an aboveground and underground parking facility was estimated. Facility costs are compared with the potential maximum revenue that the C.I.L. could generate in order to determine program feasibility. A sensitivity analysis was also completed to demonstrate the required program uptake necessary to fund a parking facility. Note that this estimate does not include facility operating and maintenance expenses.

The scenarios are based on a site size of 0.7 acres and a facility that includes 100 parking spaces, in the form of a three storey parking structure. It is important to note that the smallest Parkade in Oshawa has 396 spaces, and 100 space parking garage is small in comparison. **Exhibit 3-8** illustrates the findings of the required rates to support the construction of these facilities.

Exhibit 3-8: Parking Facility Costs and Required C.I.L. Rates

Three-Storey Structured Parking Garage Costs			Three-Storey Underground Parking Garage Costs		
	Low	High		Low	High
Land Cost*	\$600,000	800,000	Land Cost*	\$600,000	800,000
Number of Spots	100		Number of Spots	100	
Cost per spot	\$ 30,000	\$ 44,000	Cost per spot	\$ 46,000	\$ 64,000
Cost of Development	\$ 3,600,000	\$ 5,200,000	Cost of Development	\$ 5,200,000	\$ 7,200,000
<i>*Based on a .70 acre site</i>			<i>*Based on a .70 acre site</i>		
Potential Charge Based on Different Participaton			Potential Charge Based on Different Participaton		
2018 - 2031 Unit Growth	744		2018 - 2031 Unit Growth	744	
PIL Contributing Units (15%)	112		PIL Contributing Units (15%)	112	
Required Charge/Unit	\$ 32,246	\$ 46,577	Required Charge/Unit	\$ 46,577	\$ 64,492
2018 - 2031 Unit Growth	744		2018 - 2031 Unit Growth	744	
PIL Contributing Units (20%)	149		PIL Contributing Units (20%)	149	
Required Charge/Unit	\$ 24,184	\$ 34,933	Required Charge/Unit	\$ 34,933	\$ 48,369
2018 - 2031 Unit Growth	744		2018 - 2031 Unit Growth	744	
PIL Contributing Units (25%)	186		PIL Contributing Units (25%)	186	
Required Charge/Unit	\$ 19,348	\$ 27,946	Required Charge/Unit	\$ 27,946	\$ 38,695

For a three storey above grade parking structure, the combined construction and land costs range between \$3.6 million and \$5.2 million. At the low end, this exercise demonstrates that in order to fully fund the parking structure using a program uptake factor of 15%, the C.I.L. rate would have to be approximately \$32,000. At the high end of the construction cost range, the C.I.L. rate would have to be approximately \$46,000 to fully cover the 100 space parking structure.

For a three storey underground parking garage, the combined construction and land costs range between \$5.2 million and \$7.2 million. At the low end, using the 15% uptake ratio, the C.I.L. rate would have to be set at approximately \$46,000 to fully fund the parking facility. At the high end, the C.I.L. rate would have to be set at \$64,000.

3.8 Cash in Lieu of Parking Program Feasibility

Through the best practices review and by comparing potential program revenue to facility construction and land costs, a C.I.L. program in Oshawa is not considered feasible under the current policy framework. To generate sufficient revenue to fund a structured parking facility, the C.I.L. rate would be significantly larger than the rates offered by comparator municipalities, and would likely be large enough to discourage program participation.

Setting the C.I.L. rate too high will discourage developers from participating in the program and further reduce the potential program uptake. The C.I.L. charge required to have an adequate return exceeds the 50% share factor of total parking facility costs that is the industry standard maximum. In addition, it is unlikely that the program would achieve a 15% uptake rate of total parking spots forecasted in the U.G.C.

On average, the price to construct residential and non-residential buildings in Ontario increases between 2%-5% annually. Building construction price indexing over the 2019-2031 period will increase the costs associated with building a parking facility, which would further contribute to the C.I.L. program not being feasible, given the funds would have to be collected before construction can commence.

3.9 Sensitivity Analysis: Program Feasibility with Urban Growth Centre Parking Exemption Removed

A sensitivity analysis was completed to determine whether the C.I.L. program would be feasible in the U.G.C. if the parking exemption for non-residential development was removed.

As outlined in **Section 3.3**, non-residential space in the U.G.C. is estimated to grow by 632,000 ft² by 2031. The minimum parking rate for office space is 1.45 parking spaces per 100 m² of GFA, and 1.20 parking spaces per 100 m² for retail space. A blended rate of 1.30 parking spaces per 100 m² was adopted to determine the number of potential parking spaces that could be generated by the anticipated growth.

Exhibit 3-9 illustrates the resulting number of parking spots that could be generated from anticipated development, and the potential candidates for C.I.L. using an uptake rate of 15%.

Exhibit 3-9: Non-residential Parking Space Forecast

Building Space Rounded (m ²)	Parking Spaces Per 100 m ²	Total Spaces	Potential Uptake (15%)
58,700	1.30	763	114

When combined with the potential residential program uptake, this results in a total of 224 parking spaces that could contribute to the C.I.L by 2031. **Exhibit 3-10** illustrates the potential revenue that could be generated from the 224 parking spaces:

Exhibit 3-10: Potential Program Revenue Generation Including Non-Residential

Type	Charge Per Space Rounded	Potential Uptake (15%)	Potential Revenue
Above Grade Parking Structure	\$15,000	224	\$3,360,000
Underground Parking Garages	\$21,500	224	\$4,816,000

This analysis demonstrates that the C.I.L program revenue is still not anticipated to be sufficient to cover the construction cost of a hypothetical 100 space parking structure even if the exemption zone were lifted. As outlined in Exhibit 3-8, a 100 space above grade parking structure is projected to cost between \$3.6 and \$5.2 million, while a 100 space underground parking garage would cost between \$5.2 and \$7.2 million.

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Detailed Report

Document

Rule Name	Status	Description
Accessibility permission flag	Passed	Accessibility permission flag must be set
Image-only PDF	Passed	Document is not image-only PDF
Tagged PDF	Passed	Document is tagged PDF
Logical Reading Order	Passed manually	Document structure provides a logical reading order
Primary language	Passed	Text language is specified
Title	Passed	Document title is showing in title bar
Bookmarks	Passed	Bookmarks are present in large documents
Color contrast	Passed manually	Document has appropriate color contrast

Page Content

Rule Name	Status	Description
Tagged content	Passed	All page content is tagged
Tagged annotations	Passed	All annotations are tagged
Tab order	Passed	Tab order is consistent with structure order
Character encoding	Passed	Reliable character encoding is provided
Tagged multimedia	Passed	All multimedia objects are tagged
Screen flicker	Passed	Page will not cause screen flicker
Scripts	Passed	No inaccessible scripts
Timed responses	Passed	Page does not require timed responses
Navigation links	Passed	Navigation links are not repetitive

Forms

Rule Name	Status	Description
Tagged form fields	Passed	All form fields are tagged
Field descriptions	Passed	All form fields have description

Alternate Text

Rule Name	Status	Description
Figures alternate text	Passed	Figures require alternate text
Nested alternate text	Passed	Alternate text that will never be read
Associated with content	Passed	Alternate text must be associated with some content
Hides annotation	Passed	Alternate text should not hide annotation
Other elements alternate text	Passed	Other elements that require alternate text

Tables

Rule Name	Status	Description
Rows	Passed	TR must be a child of Table, THead, TBody, or TFoot
TH and TD	Passed	TH and TD must be children of TR
Headers	Passed	Tables should have headers
Regularity	Passed	Tables must contain the same number of columns in each row and rows in each column
Summary	Passed	Tables must have a summary

Lists

Rule Name	Status	Description
List items	Passed	LI must be a child of L
Lbl and LBody	Passed	Lbl and LBody must be children of LI

Headings

Rule Name	Status	Description
Appropriate nesting	Passed	Appropriate nesting

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Appendix E – Phase 2 Stakeholder and Public Consultation Log



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Memorandum

To/Attention City of Oshawa **Date** October 21, 2020
From IBI Group **Project No** 119276
cc
Subject **Virtual Public Information Centre 2 Transcript**

Introduction

This memorandum includes the virtual Public Information Centre 2 transcript and a record of all questions asked along with the corresponding answers.

Presentation Transcript

Board 1: Welcome to the Virtual Public Information Centre 2

Good evening all and welcome to the Oshawa Parking Study virtual Public Information Centre. My name is Peter Richards, I'm a Director at IBI Group and the Project Manager for this study. With me is Attila Hertel the deputy Project Manager, and Patrick Garel the consultation lead.

This event is intended to present the Parking Study's preliminary conclusions and recommendations and obtain feedback from the public which will be used to refine the preliminary findings.

Board 2: Study Scope and Objectives

This parking study is intended to analyze Oshawa's city-wide parking opportunities and needs with a focus on the Urban Growth Centre while:

- Assessing existing and future Downtown parking operations;
- Hearing from and addressing stakeholder and public concerns;
- Creating a city-wide parking policy framework;
- Reviewing the City's residential parking requirements; and
- Reviewing financial operations and investigating the potential for a cash-in-lieu of parking program.

Board 3: Key Parking Study Topics

The Oshawa Parking study examined several key topics including public and stakeholder consultation, residential parking requirements, Downtown Oshawa parking operations, and parking financial operations.

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Public and stakeholder consultation was completed in two phases. The first phase was completed in spring 2019 with the intent of introducing the study and to collect feedback on existing parking operations, known issues, and desired study outcomings. Phase 2, including this virtual public information centre, is being completed to collect feedback about the study's preliminary findings and recommendations.

Oshawa's city-wide residential parking requirements were reviewed by examining several sources such as parking supply and demand surveys and parking requirement best practices. An updated parking requirement was recommended if considered warranted.

Board 4: Key Parking Study Topics

The health of Oshawa's Downtown parking system was examined by reviewing existing parking supply and demand, projecting future parking supply and demand, assessing special event parking supply and demand, and fairly allocating the limited curbside space.

The study examined the financial sustainability of Oshawa's parking finances by reviewing existing parking revenues and expenses. A cash-in-lieu of parking program was also evaluated as a tool to help fund future parking facilities. A cash-in-lieu of parking program allows developers to pay a predetermined amount in lieu of meeting the zoning by-law parking requirements. With sufficient contributions in a localized area, the City can construct a parking facility intended to support the parking needs to those developments.

Board 5: Oshawa Parking Study Process

The following tasks were completed to develop the preliminary conclusions and recommendations:

- Phase 1 public and stakeholder consultation, which consisted of the public information centre 1, an online survey, an online crowdsourcing parking hotspot map, and three city hosted community outreach sessions;
- Existing and future supply and demand analysis;
- Residential parking standards development;
- Financial assessment and cash-in-lieu of parking review; and
- Technical memorandums outlining the study findings which were reviewed and finalized with Oshawa's Technical advisory committee.

Common Phase 1 consultation themes and issues identified included:

- Overnight on-street parking in residential neighbourhoods is a challenge;
- The existing 2 parking spaces per dwelling unit standard is not enough in some residential areas;
- Downtown on-street parking should offer greater flexibility in duration and payment methods; and
- Finding an available on-street parking space in the Urban Growth Centre and in some residential neighbourhoods can be challenging.

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Board 6: Vision Statement and Guiding Principles

The parking vision statement and guiding principles are important pieces of policy that help Oshawa staff in making parking related planning decisions.

The vision statement is as follows: self-sufficient, sustainable, and accessible parking operations are envisioned in the Urban Growth Centre that meet the parking needs of a rapidly growing city, while promoting alternative modes of transportation. The Transportation Hubs and Intensification Corridors parking needs are envisioned to be managed through transit-oriented developments supported by zoning by-law requirements tailored to urban environments.

Ten guiding principles were developed that focus on meeting future parking needs, promoting alternative modes of transportation, designing environmentally friendly and aesthetically pleasing parking facilities, and achieving financial sustainability.

Board 7: Oshawa Growth and Intensification Areas

City-wide parking operations were considered with a focus on the Oshawa Urban Growth Centre, Transportation Hubs, and Intensification Corridors, as shown on the map on this board.

Board 8: Downtown Oshawa Study Area and Parking Supply

As of February 2019, the Downtown Oshawa parking system provided 4,045 parking spaces consisting of municipally owned on-street and off-street parking, and publicly accessible private off-street parking.

Board 9: Existing Parking Utilization

When it comes to parking operations, industry best practices target a maximum utilization of approximately 85-90%, this is the point where drivers begin to experience difficulty in finding an available parking space. In Downtown Oshawa, systemwide utilization was observed to peak at only 61%. Some individual parking facilities were observed to operate near capacity, but parking opportunities were always available nearby. Based on these findings, Oshawa's existing parking system is considered sufficient to meet existing parking needs.

Board 10: Future Parking System (2031)

Parking utilization in Oshawa is projected to grow to a little over 70% by 2031. Similar to existing conditions, some users may experience difficulty in finding a parking space in the more popular locations, but parking opportunities are anticipated remain available nearby. Therefore, the future parking supply is projected to be sufficient to meet future parking needs. Oshawa is recommended to focus efforts on helping users find an available parking space in a quick and efficient manner, such as developing a parking wayfinding strategy. Note that parking demand forecasts have not been adjusted or reduced to account for any long term impacts due to the COVID-19 pandemic. It is recommended that Oshawa monitor parking demand via updated surveys in 2022.

Board 11: Curbside Decision-Making Framework

Given the limited curbside space and the many competing users such as parking, transit, cycling, pick-up/drop-off, loading, etc.), an efficient and fair method for allocating the limited curbside space is needed. A curbside decision-making framework was developed to assist

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Oshawa staff in prioritizing curbside space by user. The overarching comment is to prioritize curbside usage or designations based on the street or corridor type, while considering the nearby supply of the various curbside users.

Board 12: Parking Management Plan: Parking Supply Triggers

To aid Oshawa staff in timing parking management decision, triggers for action were developed. Parking operations and the recommended actions were grouped into 3 scenarios:

- Scenario 1: System-wide parking utilization is below 85%. While individual parking facilities may operate near capacity, parking opportunities remain available nearby. In this case, no action is needed.
- Scenario 2: System-wide parking utilization is below 85%, but groups of parking facilities operate near capacity without available parking nearby. In this case, a parking supply expansion is not considered necessary, rather strategies aimed at distributing parking demand to underutilized facilities are considered appropriate.
- Scenario 3: System-wide parking utilization is above 85%, with many localized parking supply issues observed. In this case, strategies aimed at managing parking demand are considered appropriate. If all demand management strategies are exhausted, a parking supply expansion can be considered.

Board 13: Parking Management Plan: Special Event Parking Demand

Oshawa regularly hosts special events at the Tribute Community Centre, which creates a localized peak in parking demand. During these special events, on-street parking around the Tribute Community Centre was observed to operate near capacity, while Parkade 3 which is located a short walk north, was observed to operate with available capacity.

Board 14: Parking Management Plan: Special Event Parking Strategy

Ideally event goers would park off-street which would keep on-street parking spaces available for short term users of the nearby establishments. To promote event goers to the off-street facilities, the on-street maximum parking duration is recommended to be reduced from 3 hours to 2 in the Downtown. 2 hours is too short for special event parking needs but is still enough time for most short-term users. This strategy would ideally result in off-street parking for special event goers, and on-street for restaurants and other business users.

Board 15: Parking Management Plan: Parking Policies and Regulations

No major issues were identified when reviewing on-street parking regulations, overnight parking, on-street parking duration, and accessible parking. On-street parking regulations are recommended to be changed as needed to facilitate active transportation, transit, cycling, and streetscape projects. The maximum on-street duration is recommended to be reduced from 3 hours to 2 to facilitate the special event plan. This recommended change to metered on-street parking spaces in the Downtown all the time, not just during special events.

Board 16: Parking Policy Framework Development

A policy framework was developed to help Oshawa staff in updating parking policies and standards. The framework considers the best practices of other municipalities, recommends

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updates Oshawa's zoning by-law parking standards, develops parking strategies that are appropriate for specific locations, and plans for macro level trends such as autonomous vehicles and ride sharing.

Board 17: Standards and Regulations Review

The policy framework was applied to Oshawa's existing residential parking requirements and updates were recommended where appropriate. In general, two categories were developed: Intensification Areas which includes the Urban Growth Centre, Transportation Hubs, and Intensification Corridors, and the Rest of City. Intensification Area parking requirements are generally lower than the Rest of City counterpart. This is because Intensification Areas tend to have higher development densities with a higher use of alternative mode of transportation mode share. These trends result in lower parking demand. This is a parking trend and best practice, to not have a blanket city-wide rate, to reflect the varying demands in certain areas. Other cities with geographic-specific rates are Toronto, Vaughan, and Burlington.

This slide and the next outlines the recommended parking requirements for various residential land uses.

In addition to the number of parking spaces, the garage dimensions of private residences were also examined. Based on the best practices review and the feedback received from the public, Oshawa is recommended to increase private garage dimensions to a length of 6.2m and width of 3m (currently 5.75m in length and 3m in width).

Board 18: Standards and Regulations Review (Continued)

Board 19: Exemption Zone

Parking exemption zones are intended to promote new development in a target area by providing developers an exemption from the parking requirements. This zone currently exists in Oshawa. Given that no parking supply issues are projected within the 2031 horizon, the exemption zone can be supported by the municipal parking system and no changes are recommended.

Board 20: Transportation Demand Management

Transportation demand management strategies aim at influencing travel behaviour by improving and promoting modes of transportation alternative to single occupancy vehicles, such as transit, cycling, and walking. This study identified five strategies developers could adopt to manage the parking demand generated by development including, bicycle parking, carshare, shared parking, unbundled parking, and off-site parking.

Board 21: Transportation Demand Management

To support cycling as a mode of transportation, the Parking Study developed bicycle parking requirements for various types of land uses. Similar to vehicle parking requirements, bicycle parking requirements were grouped into Intensification Areas and the Rest of City. In general, bicycle parking requirements are higher in Intensification Areas where the cycling mode share is expected to be higher than in the more rural areas of the City.

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Board 22: Parking Price, Free Parking, and Parking Fine Comparison

To provide an indication towards the appropriateness of Oshawa's existing practices, Oshawa parking prices, free or unpaid parking hours, and parking fines were compared to the practices of similar municipalities. The review concluded that Oshawa's:

- Hourly parking prices are slightly lower than market rate while the daily maximum is slightly higher. Oshawa parking finances were examined in greater detail and will be discussed in a couple slides.
- Oshawa's free parking hours and parking fines are generally in line with the comparator municipalities. Given that issues were identified by the public or stakeholders, the existing practices are recommended to be maintained.

Board 23: Historical Financial Performance

To evaluate the financial health of Oshawa's parking operations, the parking revenues and expenses between 2014 and 2018 were reviewed. The review determined, that overall, the collected revenues were sufficient to fund parking expenses. However, expenditures surpassed revenues in 2015, 2016, and 2017 due to significant capital parking improvements. If it were not for the surplus in 2014, it is expected that the parking system would have operated at a loss due to large investments in capital projects.

Board 24: Parking Price Optimization

With the objective of achieving an affordable yet financially sustainable parking system, the financial performance of five parking price scenarios were projected to the 2031 horizon year. To achieve financial sustainability, Oshawa is recommended to adopt Scenario 2, which includes a 10% increase in permit prices and a \$0.25 increase in hourly parking prices every five years. Note that these increases are generally in line with inflation.

Board 25: Cash-in-Lieu of Parking Program Feasibility

With the objective of generating additional funding for future parking supply expansions, the feasibility of a cash-in-lieu of parking program was investigated. Cash-in-lieu of parking grants developers an exemption from meeting the parking requirements in exchange for a payment, which is then used to construct municipal parking facilities to supplement the exempt spaces.

The review determined that cash-in-lieu of parking revenues are not anticipated to be sufficient to fund a new structured parking facility, therefore a cash-in-lieu of parking program is not considered feasible.

Board 26: Next Steps

The next step is to complete all of the Phase 2 public and stakeholder consultation activities, including the virtual public information centre, the stakeholder meetings, and the online public survey. Using the feedback received, the study's preliminary conclusions and recommendations will be finalized. A Study Report will then be compiled and submitted to Oshawa and the finalized study conclusions and recommendations will be presented to Oshawa City Council.

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Questions and Answer Transcript

1. **Question:** In the study summary presented, an acceptable distance to park and walk to a business is noted at 300 to 400 meters. How does this distance compare to shopping centers and strip malls or "smart centers" acceptable distance to enter the mall or strip plaza store?

- **Answer:** Acceptable walking distance is a function of land use (ex: emergency services has a shorter acceptable distance than restaurants). In terms of shopping centers compared to Downtown commercial establishments, the acceptable walking distance would be the same since the land uses are similar.

As an additional note, the Victoria Transport Policy Institute research suggests varying levels of service for walking distance. The 300-400m walking distance quoted in this study is based on the suggest level of service (B or C) for typical Downtown land uses (restaurants, employees, general retail), which coincides with shopping centers as well.

2. **Question:** Can you please confirm how many business and property owner stakeholders in downtown Oshawa were consulted during the information gathering stages? As a business and property owner I have canvassed several of my neighbors and other property owners. No one that I am aware of has been contacted or consulted to date.

- **Answer:** Several lines of consultation were available for stakeholders during Phase 1, including an online survey, online crowdsourcing map and a public information centre anyone could attend. We received 150 responses to the online survey for example.

3. **Question:** Have you identified and done any cost analysis to upgrade the City's surface parking lots, that need to be reconditioned? For example, City Lot 4, has a seriously deteriorated surface.

- **Answer:** Yes, maintenance, operation, and capital cost projections were provided by the City of Oshawa. These costs were included in the financial analysis alongside the projected revenues with the objective of reaching a balance where revenues were sufficient to fund all expenses.

4. **Question:** Are you aware the HONK app allows users to continue to extend time and monopolize a metered parking space for well beyond the posted time limit?

- **Answer:** We are aware of the HONK mobile app and believe the municipality can work with the service provider to set maximum time limits and no parking limits that correspond with the municipalities by-laws.

5. **Question:** Has your study addressed the crucial need for by-law enforcement

- **Answer:** Enforcement was not considered as part of the study scope, but your feedback is noted and will be communicated to the Oshawa project team.

6. **Question:** one of the bigger issues in the core is employee parking in the core versus visitor parking. How is this shown up in the study?

- **Answer:** Parking permits are available for long term parking users (ex: employees) while hourly parking opportunities are available for visitors.

City of Oshawa – October 21, 2020

7. **Question:** Do you have data to support the city's monthly parking charges?
 - **Answer:** Yes, a financial assessment was completed with the aim of setting parking prices at rates that achieve financial sustainability. In other words, prices are set with the objective of generating enough revenue to fund all parking related expenses.
8. **Question:** With the tremendous number of single family residences in the City adding secondary units, and the need to have additional parking spaces on the lot, widening the existing driveway so that a large part of the front yards are now driveways, but the city has a 50% limit.
 - **Answer:** Driveway dimensions were not considered as part of the study scope, but your feedback is noted and will be communicated to the Oshawa project team.
9. **Question:** do you believe the 50% landscaped limit should be increased
 - **Answer:** The landscaping limit was not considered as part of the study scope, but your feedback is noted and will be communicated to the Oshawa project team.
10. **Question:** Is it possible to request lands be included in "intensification areas" that are not within the UGC or intensification areas etc.?
 - **Answer:** Parking justification studies can be completed. However, no guarantees can be made regarding the request's approval.
11. **Question:** How many parking spaces will be removed in the downtown when the Rapid Bus transit line is constructed
 - **Answer:** The future Bus Rapid Transit line was included with projecting future parking operations. Approximately 40 spaces can be expected to be lost on Bond Street, while approximately 50 parking spaces can be lost along King Street. Note that these estimates may change as the designs are finalized.
12. **Question:** How much weight to you give to interviews with staff versus the public? Why so little weight on enforcement?
 - **Answer:** The study conclusions and recommendations consider and balance the opinions of both Oshawa staff and the public. Enforcement was not considered as part of the study scope, but your feedback is noted and will be communicated to the Oshawa project team.
13. **Question:** Are you recommending the City construct another parking garage on one of the existing surface lots, or could an existing Parkade have a couple more floors added
 - **Answer:** No a parking supply expansion is not considered necessary based on our future conditions assessment. That being said, Oshawa is recommended to monitor parking demand into the future, and using the recommended parking management triggers, can evaluate whether a parking supply expansion becomes necessary.

City of Oshawa – October 21, 2020

14. **Question:** Does the strategy recommend that the City adopt all five of the TDM measures equally? Or is it recommending the bicycle parking TDM measure above the other four?
 - **Answer:** All five TDM measures are recommended for adoption.
15. **Question:** Is the cash-in-lieu payment being recommended just in the downtown core or everywhere throughout the City?
 - **Answer:** Cash-in-lieu of parking policy was determined to not be feasible (projected revenues are not sufficient to fund a parking supply expansion) in Oshawa and is therefore not recommended for adoption.
16. **Question:** That is a terrible idea to increasing the size of garages. The only thing this will result in is even smaller houses or more committee of adjustment applications.
 - **Answer:** Your feedback is noted and will be considered.
17. **Question:** What is driving changing the garage sizes?
 - **Answer:** Increasing garage sizes is a commonly requested change and was identified during the Development Services / Community Services stakeholder meeting. Many pick-up trucks are too large to fit into garages that meet current standards as the average truck length is essentially the same as a require length. Given this finding, the recommended garage length is 6.2m (compared to the existing 5.75m), which is in line with Ajax's requirements.
18. **Question:** We are infill developers, and this would only cause more hoops to jump through to get anything built in Oshawa. I just stress to be careful with this as it could discourage infill development.
 - **Answer:** Your feedback is noted and will be considered.
19. **Question:** Could you please point out the changes between what the current regulations are and now what is being proposed?
 - **Answer:** Without going through all the recommended residential parking requirements, as there are many of land uses, the proposed regulations divides the City into two categories. Intensification Areas (Urban Growth Centre, Transportation Hubs, and Intensification Corridors) have higher development density and a lower personal vehicle mode share, while the Rest of City requirements would be applied everywhere else. Given these two key difference, the Intensification Area parking requirements are equal to, and in most cases, lower than the Rest of City requirements.
20. **Question:** Cars have been parking in the bike lanes for over an hour, I was wondering if this situation was being assessed in this study.
 - **Answer:** Parking in bicycle lanes was not considered as part of the study scope, but your feedback is noted and will be communicated to the Oshawa project team.



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Minutes

To/Attention Notes to File **Date** September 24, 2020
From Patrick Garel and Attila Hertel **Project No** 119276

Subject Development Services / Community Services Meeting
Online (Webex)
2020-09-22 | 9:30 a.m. to 12:00 p.m.

Present **City of Oshawa**
Rick Kerr | Meeting Chair | Ward 4 Regional & City Councillor
Tito-Dante Marimpietri | Co-Chair of Development Services | Ward 2 Regional & City Councillor
John Gray | Ward 5 City Councillor
Jane Hurst | Ward 2 City Councillor
Rosemary McConkey | Ward 1 City Council
Brian Nicholson | Ward 5 Regional & City Councillor
John Neal | Ward 1 Regional & City Councillor
Derek Giberson | Ward 4 City Councillor
Ron Diskey | Commissioner of Community Services
Dan Carter | City of Oshawa Mayor

IBI Group
Peter Richards | Director - Sr. Practice Lead, Transportation Engineering
Attila Hertel | Transportation Engineer
Patrick Garel | Public Consultation Lead

Distribution **City of Oshawa**
Morgan Jones | Senior Planner
Susan Ashton | Development and Urban Design Manager

Item Discussed

Action By

1. John Gray | Ward 5 City Councillor

- Consider accounting for major development announcement for Downtown – Old Fitting Site/Medallion site (2,200 new units on the south side of Broom Street near parking lots 7 and 8).
 - IBI Response: The future conditions analysis was completed using the most recent data available at the time (summer 2019). While new developments are anticipated to continuously arise, IBI has recommended parking operation triggers that Oshawa staff can use to appropriately select when to implement parking strategies.
- Chair Note: Metrolinx expansion also announced, which will lead to significant growth Downtown. Can this be responded to in the future parking projections?
 - IBI Response: See response above.

2. Jane Hurst | Ward 2 City Councillor

- Old Fitting Site/Medallion site development was announced a while ago – confirm if accounted for in the study.
 - IBI Response: See response above.
- Not enough parking outside of downtown at high-density developments (freehold townhouses). Mode shift towards AT has not been what was hoped for by the City – not typical of Oshawa.

3. Rosemary McConkey | Ward 1 City Councillor

- Clarify that parking permit holders at Tribute Centre do not use daily parking, and this was accounted for in our analysis (664 total spaces available and currently 580 permit holders).
 - IBI Response: Parking permits are typically oversold since not all holders are expected to park at the same time. The permit holders were captured in the completed parking surveys and available capacity was observed in the parking structure.
- GO Station Parking downtown not within scope of Study.
- Parking at Ontario Tech University not within the scope of Study.
- Make Study/report easily found on City's website/Connect Oshawa.

Item Discussed

Action By

4. Tito-Dante Marimpietri | Ward 2 Regional & City Councillor

- Can on-street parking permits be considered for residents? These programs are done elsewhere, and they benefit residents and create tax revenue.
 - IBI Response: We recommended an on-street residential parking permit program. However, the program was previously considered and not approved by Oshawa, so the recommendation was excluded.

5. Brian Nicholson | Ward 5 Regional & City Councillor

- Does not believe that recommended increase in parking space rate of 0.38 (residents and visitors combined) to 0.45 (based on LPAT study information) will be sufficient for *Retirement Homes*. Would like to see 0.45 for residents + 0.15 for visitors to account for more drivers among senior citizens.
 - IBI Response: We are confident that the recommended *Retirement Home* rate (0.45 spaces per unit) is sufficient to accommodate the needs of residents and visitors. The recommendation was based on parking surveys completed at retirements homes in Oshawa and based on the LPAT case study review.
- Why are visitors parking being reduced in residential areas? Currently a high number of infractions by visitors, which is a concern of residents.
 - IBI Response: We will review the parking surveys as well as comparator municipality best practices and provide a response.
- Is the 0.25 parking space per unit enough for the *Other Residential* land use?
 - IBI Response: We will double check our recommendation and increase as needed.

IBI

IBI

6. John Neal | Ward 1 Regional & City Councillor

- Concerned about size of townhouse garages. Too small for typical sized vehicles in Oshawa (pick-up trucks, SUVs). Not enough space in garage for accessibility, particularly with other items in garage (vacuums, tires, etc.).
 - IBI Response: The parking garage dimension review is currently on-going, and the findings will be included in the final report.

IBI

Item Discussed

Action By

7. Derek Giberson | Ward 4 City Councillor

- Concerned about loading zones in Downtown. Understands this Study considers loading zones at a macro level. Interested in further study at micro level – mapping of zones available to public.
 - IBI Response: The curbside decisions making framework developed as part of this study will assist Oshawa staff in fairly allocating the curbside space between the many users. However, many cities are attempting to digitize their curbside and provide that information, be it for internal staff, or sharing to the general public. This would enable drivers who need loading zones, for example, to know where they are and plan their journey accordingly.
- Is there a learning curve when switching to dynamic parking regulations?
 - IBI Response: Yes, we suggest a warning/grace period to ease the transition. The use of technology (dynamic signage, parking meter adjustments) can help too. This is where the digital mapping of the curbside could also come in handy.
 - IBI Response: Currently, the maximum on-street parking duration in Downtown Oshawa ranges between 2 and 10 hours during pay parking operations (typically 8:00 a.m. to 6:00 p.m. on weekdays) with the majority being 2 hours. Outside of the pay parking period, on-street maximum duration is currently 3 hours. We are recommending the maximum parking duration during free parking operations be reduced from 3 hours to 2 hours to facilitate the special event program.
- Interested in how carshare programs can be supported/promoted.
 - IBI Response: Agreements by City with developers to include spaces/station in new developments.
- Future questions/comments from councillors to be directed to Commissioner of Community Services, Ron Diskey.

Item Discussed

Action By

8. Rick Kerr | Meeting Chair | Ward 4 Regional & City Councillor

- Honk mobile app follows bylaws, so what would happen for the Special Event 2-hour limit?
 - IBI Response: City will need to work with Honk to update the app to account for 2-hour parking limit, with no reloads.
- Visibility of available parking spaces. There is an ability to see available parking spaces near Oshawa Centre. Downtown there is a reduction in spaces, and lack of ability to know where else to park (not visible) – frustrating for drivers. This should be accounted for.
 - IBI Response: Driver frustration in finding available parking in a Downtown environment can be alleviated through parking wayfinding technology. This was touched on before in relation to the digitizing of the City's curbside regulations and presenting that information to the public (via a public website, for example).

Project Report

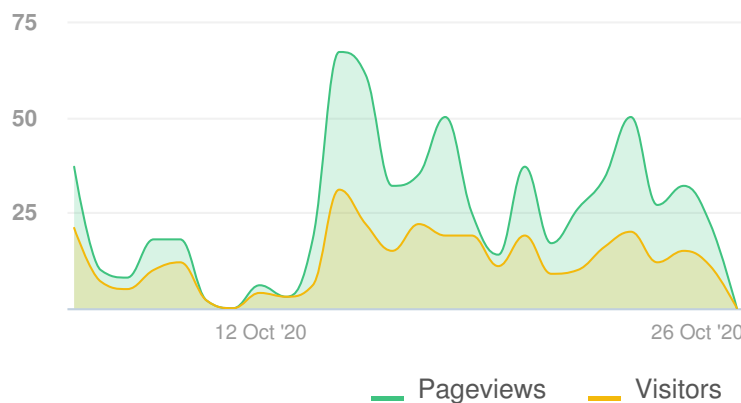
05 October 2020 - 29 October 2020

Connect Oshawa

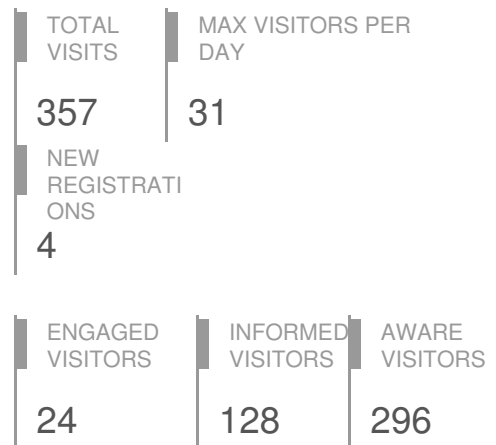
Citywide Parking Study



Visitors Summary

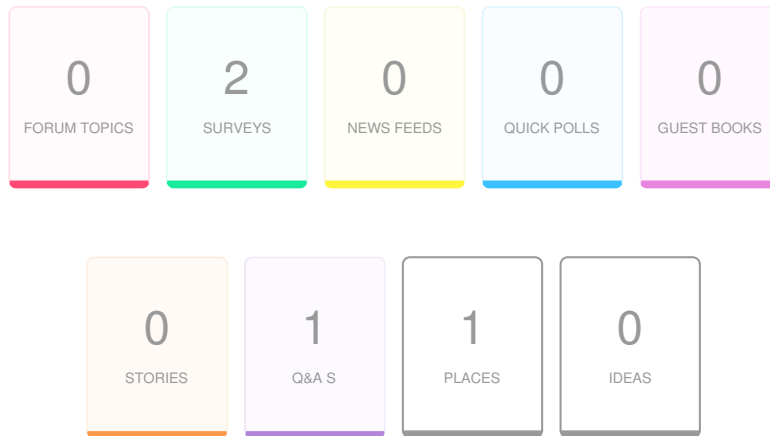


Highlights



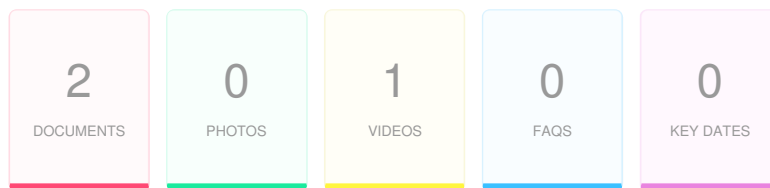
Aware Participants		Engaged Participants	
	296		24
Aware Actions Performed	Participants	Engaged Actions Performed	Registered Unverified Anonymous
Visited a Project or Tool Page	296		
Informed Participants	128	Contributed on Forums	0 0 0
Informed Actions Performed	Participants	Participated in Surveys	9 14 0
Viewed a video	0	Contributed to Newsfeeds	0 0 0
Viewed a photo	0	Participated in Quick Polls	0 0 0
Downloaded a document	40	Posted on Guestbooks	0 0 0
Visited the Key Dates page	7	Contributed to Stories	0 0 0
Visited an FAQ list Page	1	Asked Questions	1 0 0
Visited Instagram Page	0	Placed Pins on Places	0 0 0
Visited Multiple Project Pages	72	Contributed to Ideas	0 0 0
Contributed to a tool (engaged)	24		

ENGAGEMENT TOOLS SUMMARY



Tool Type	Engagement Tool Name	Tool Status	Visitors	Contributors		
				Registered	Unverified	Anonymous
Qanda	Question & Answer	Archived	23	1	0	0
Place	Parking Feedback Map	Archived	4	0	0	0
Survey Tool	Phase 2: Parking Study Feedback Form	Archived	69	9	14	0
Survey Tool	Phase 1 Parking Survey	Archived	18	0	0	0

INFORMATION WIDGET SUMMARY



Widget Type	Engagement Tool Name	Visitors	Views/Downloads
Document	Phase 2 Citywide Parking Study, Development Services & Community Se...	39	69
Document	Phase 1 Citywide Parking Study Information Boards	1	2
Key Dates	Key Date	7	7
Faqs	deleted faqs from	1	1
Video	Oshawa Parking Study Phase 2 virtual Public Information Centre (P.I...	0	0

QANDA

Question & Answer

Visitors 23	Contributors 1	CONTRIBUTIONS 13
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Q

City of Oshawa

27 October 20

In the study summary presented, an acceptable distance to park and walk to a business is noted at 300 to 400 meters. How does this distance compare to shopping centers and strip malls or "smart centers" acceptable distance to enter the mall or strip plaza store?

A

Publicly Answered

Acceptable walking distance is a function of land use (ex: emergency services has a shorter acceptable distance than restaurants). In terms of shopping centers compared to Downtown commercial establishments, the acceptable walking distance would be the same since the land uses are similar. As an additional note, the Victoria Transport Policy Institute research suggests varying levels of service for walking distance. The 300-400m walking distance quoted in this study is based on the suggest level of service (B or C) for typical Downtown land uses (restaurants, employees, general retail), which coincides with shopping centers as well.

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QANDA

Question & Answer

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QANDA

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City of Oshawa

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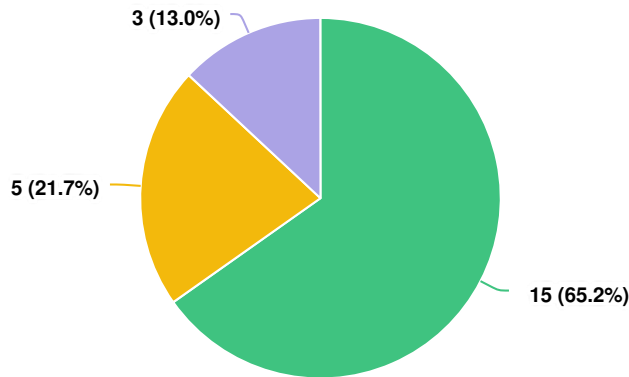
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ENGAGEMENT TOOL: SURVEY TOOL

Phase 2: Parking Study Feedback Form

Visitors 69	Contributors 23	CONTRIBUTIONS 23
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Do you agree with the preliminary recommendation to better distribute parking demand throughout the Downtown parking system...



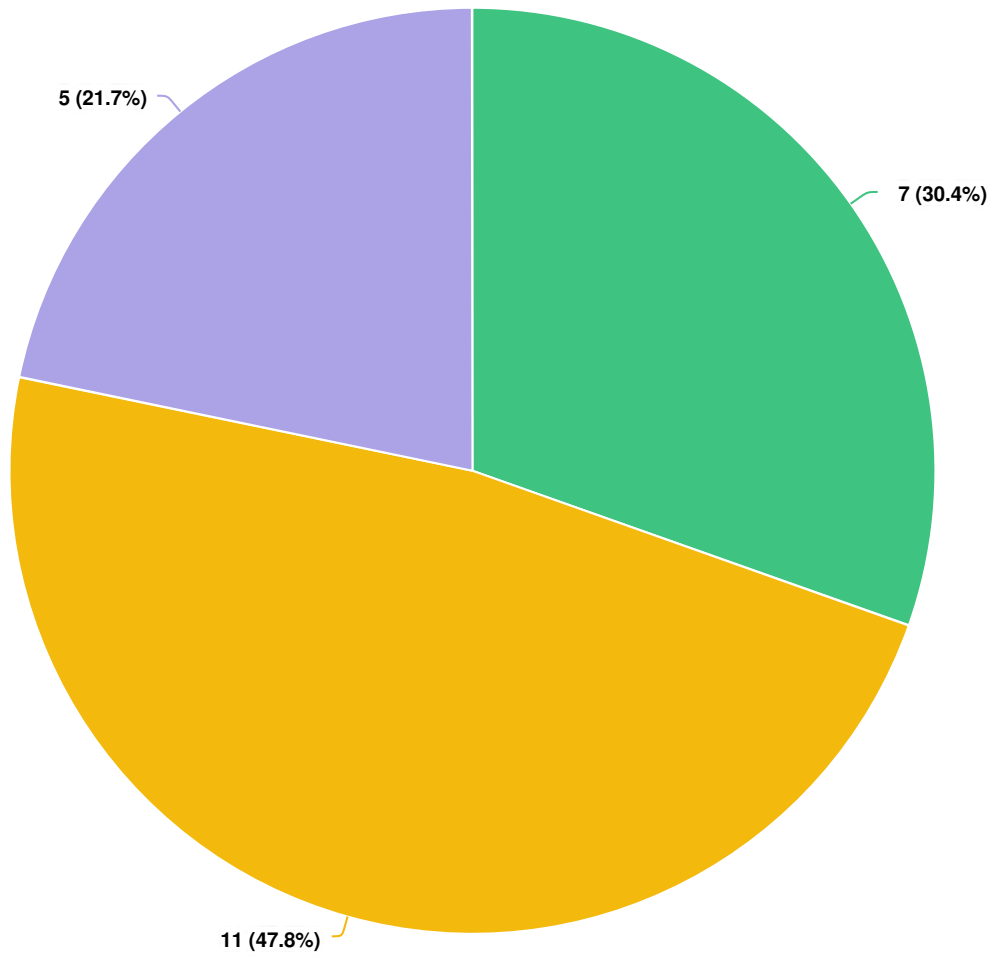
Question options

- I agree with the recommendation to better distribute parking demand throughout the Downtown parking system
- I prefer a parking supply expansion
- Unsure

Optional question (23 response(s), 0 skipped)

Question type: Radio Button Question

Do you agree with the preliminary recommendation to reduce the maximum on-street parking duration in Downtown Oshawa from 3 hours to 2 hours during weekday evenings and weekends?



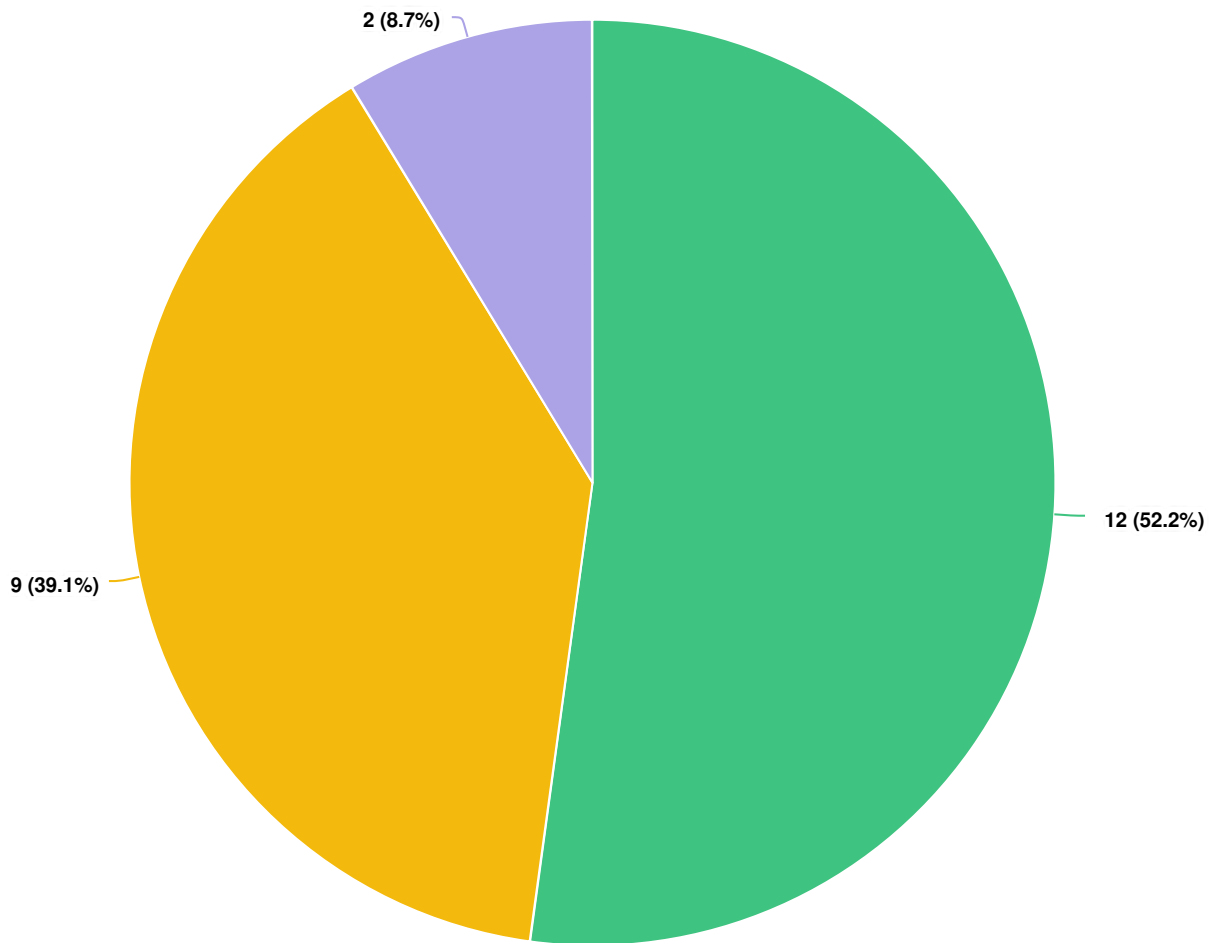
Question options

- Yes, I agree
- No, I do not agree
- Unsure

Optional question (23 response(s), 0 skipped)

Question type: Radio Button Question

Do you agree with the Study's overarching objective of meeting future parking needs while promoting the use of modes of transportation other than personal vehicles (e.g., walking, cycling and public transit)? Note: potential strategies could include man...



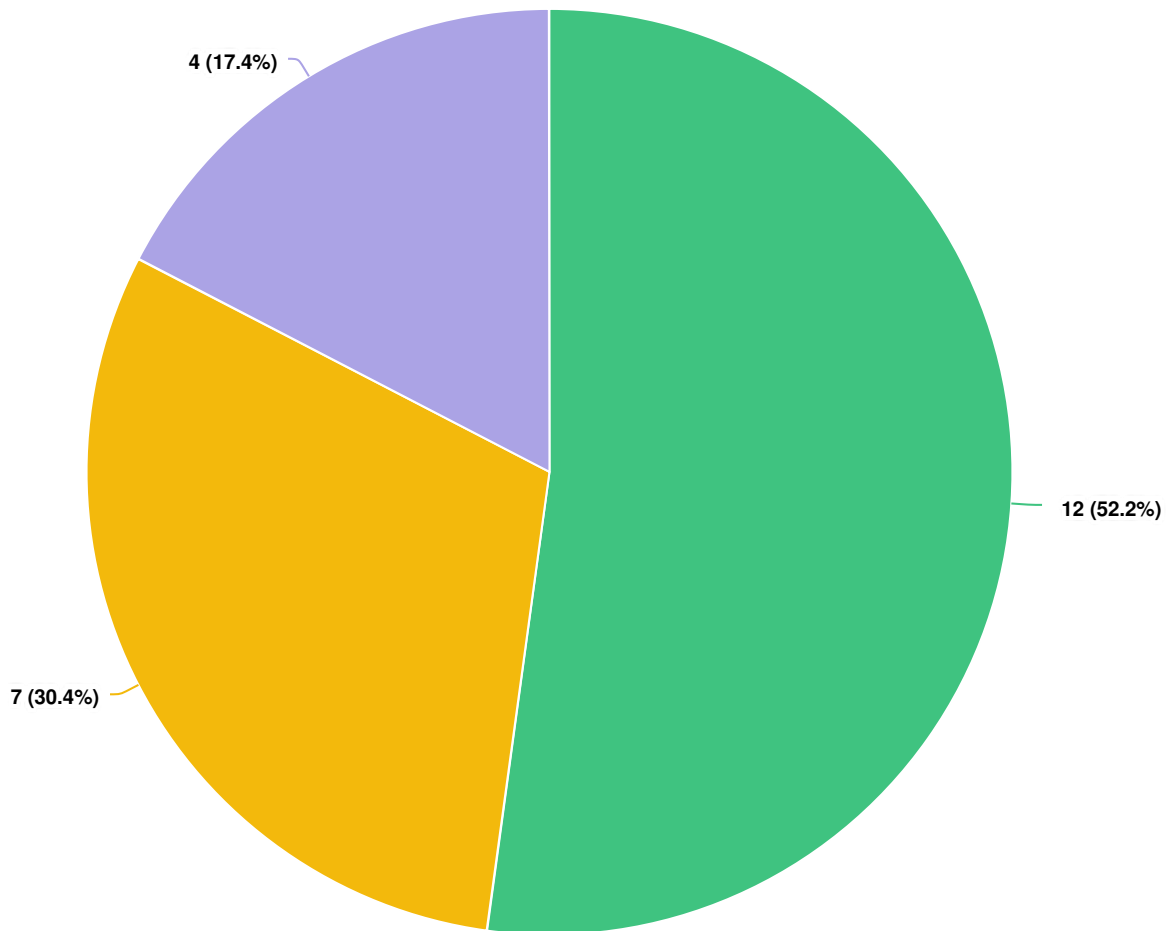
Question options

- Yes, I agree
- No, I do not agree
- Unsure

Optional question (23 response(s), 0 skipped)

Question type: Radio Button Question

Do you agree with the conclusion that the existing minimum dimensions required for parking spaces (length and width) in Oshawa are appropriate?



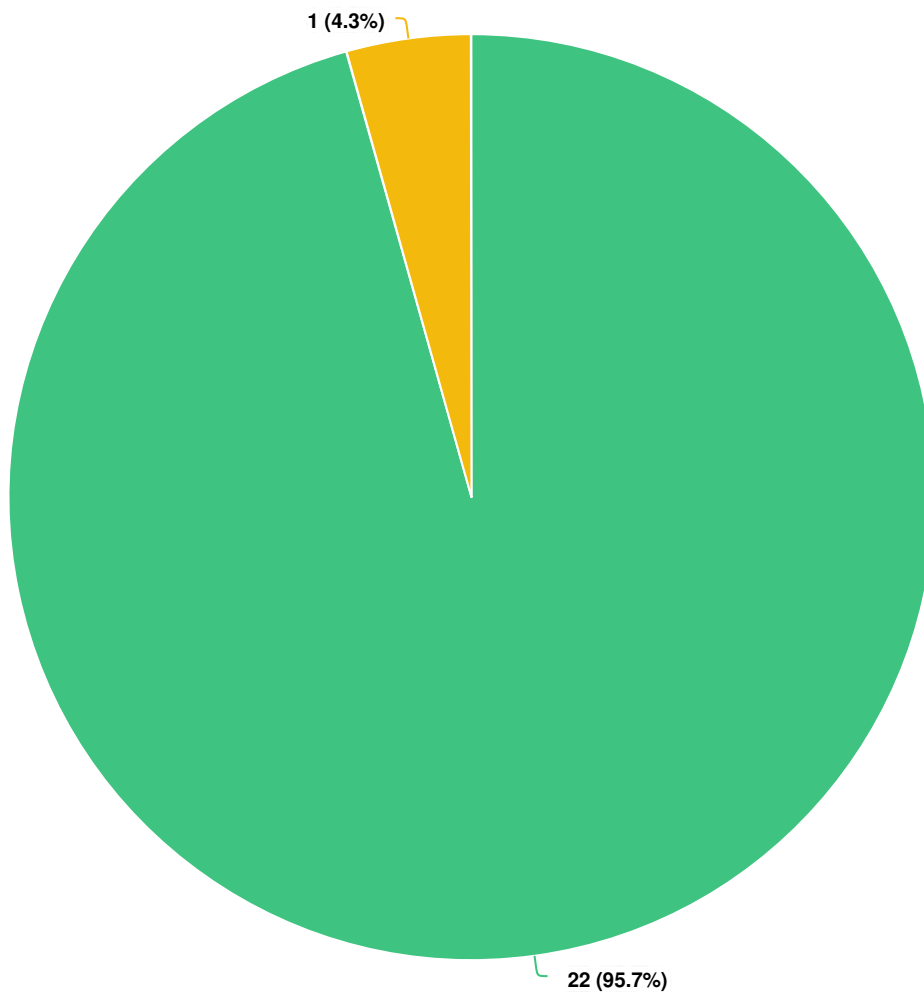
Question options

- Yes, I agree
- No, I do not agree
- Unsure

Optional question (23 response(s), 0 skipped)

Question type: Radio Button Question

Do you believe that Oshawa's parking operations should be financially sustainable (revenues are sufficient to fund expenses), or should parking operations be tax-subsidized?



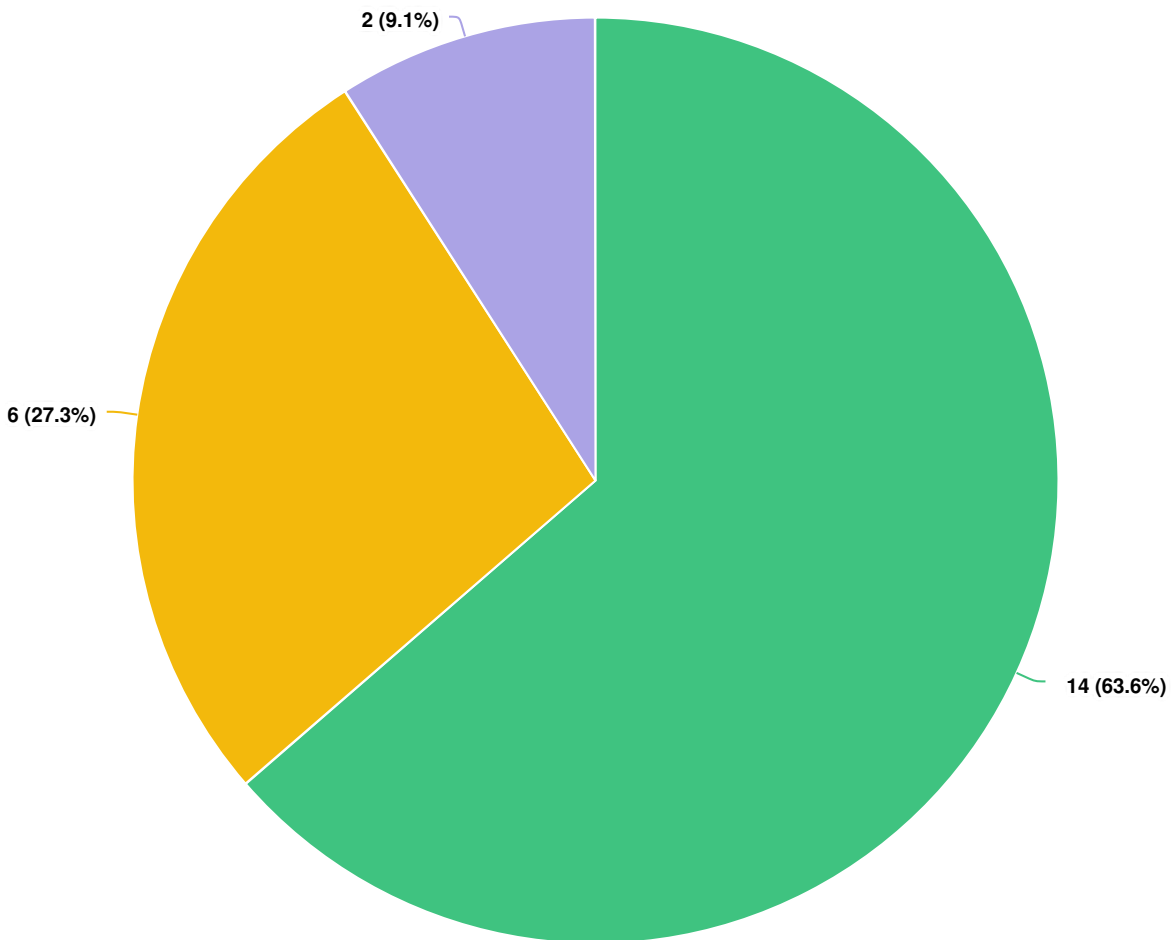
Question options

- I believe Oshawa's parking operations should be financially sustainable
- I believe Oshawa's parking operations should be tax-subsidized

Optional question (23 response(s), 0 skipped)

Question type: Radio Button Question

Do you support a variable parking price structure, where the price of parking in a “busy” parking facility costs more than “less busy” facilities? Note: this strategy is intended to better distribute parking demand by providing a financial incentive...



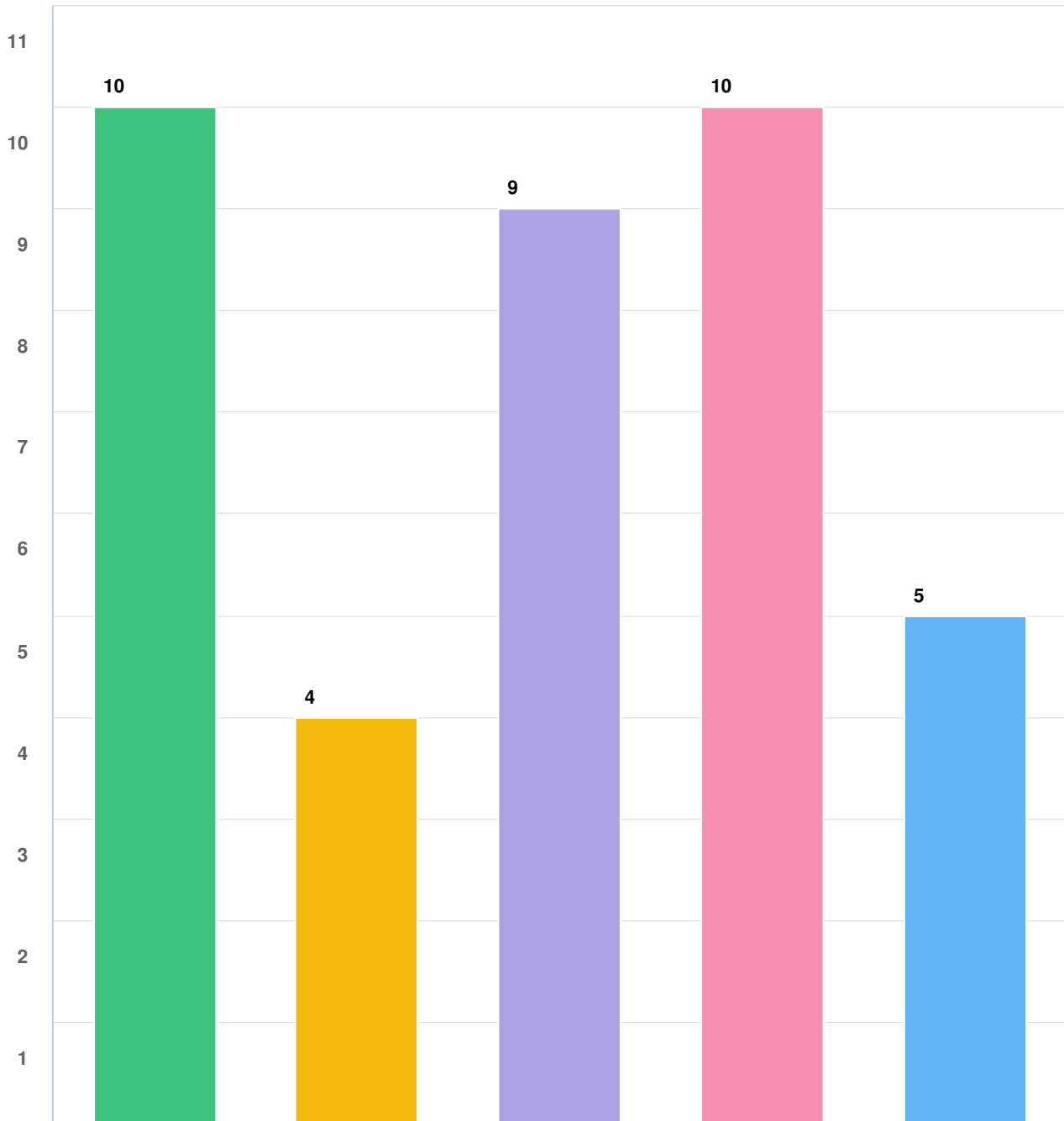
Question options

- Yes, I support a variable parking price structure
- No, I do not support a variable parking price structure
- Unsure

Optional question (22 response(s), 1 skipped)

Question type: Radio Button Question

In the event that the City needs to increase parking revenues to fund operational or capital expenditures, what strategies do you support?



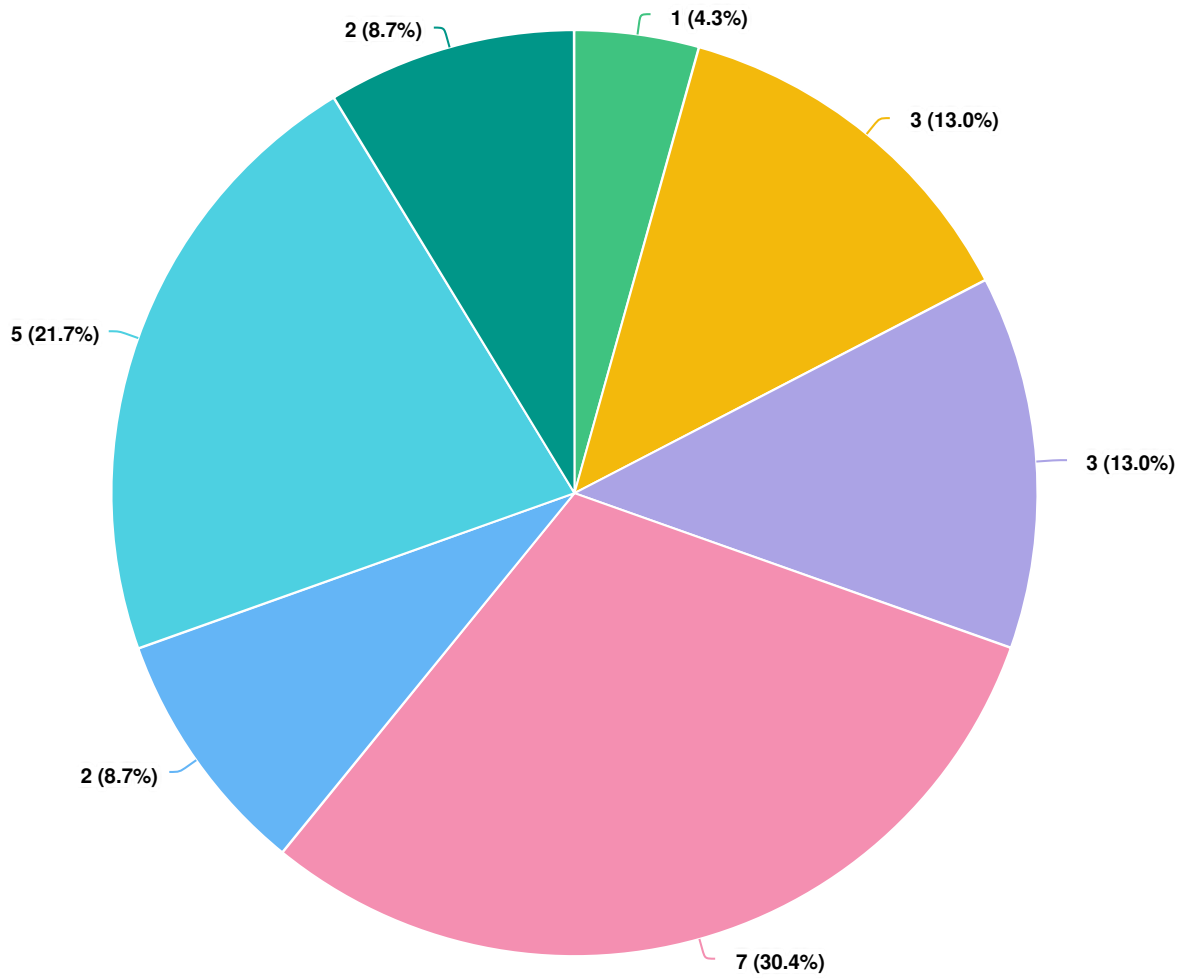
Question options

- Charge for parking on Saturdays as well as on weekdays
- Charge for parking on Sundays as well as on weekdays
- Increase parking prices (permits and hourly)
- Extend weekday paid parking periods into the evening (currently pay parking operations extend from 8:00 a.m. to 6:00 p.m.)
- Other (please specify):

Optional question (23 response(s), 0 skipped)

Question type: Checkbox Question

How old are you?



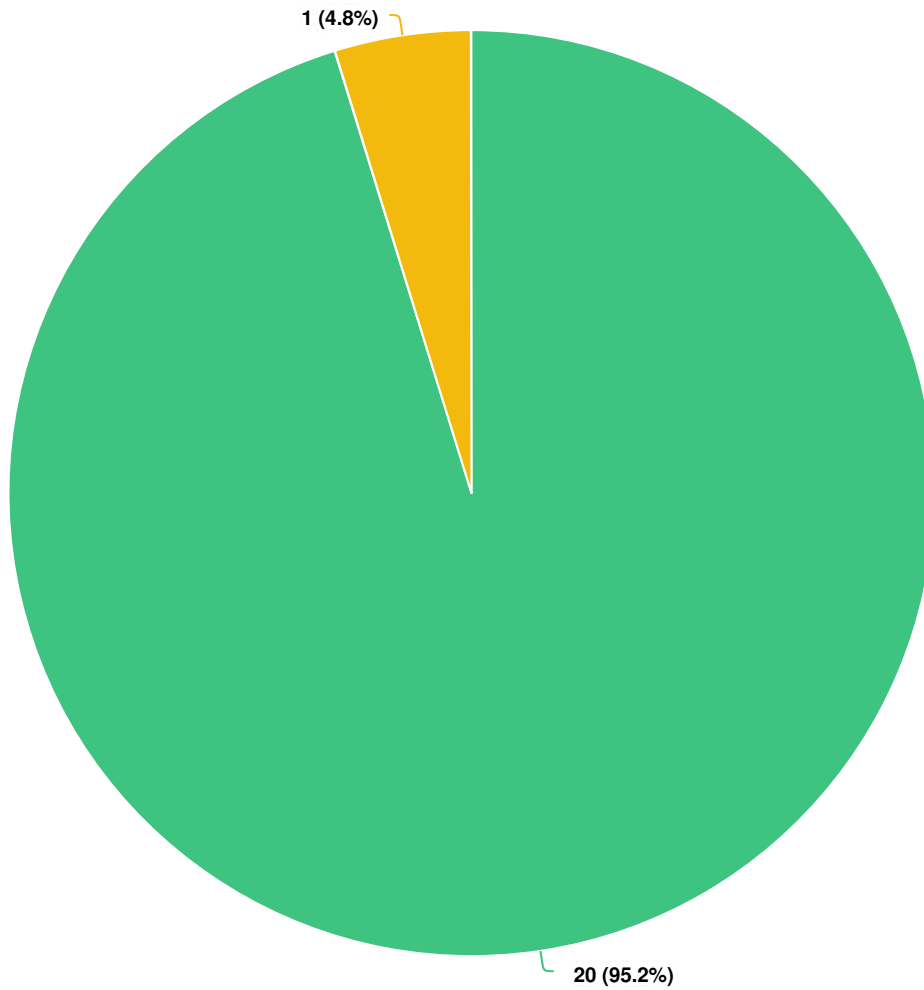
Question options

- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65 - 74
- 75+

Optional question (23 response(s), 0 skipped)

Question type: Radio Button Question

Are you an Oshawa resident, and/or Oshawa business/property owner?



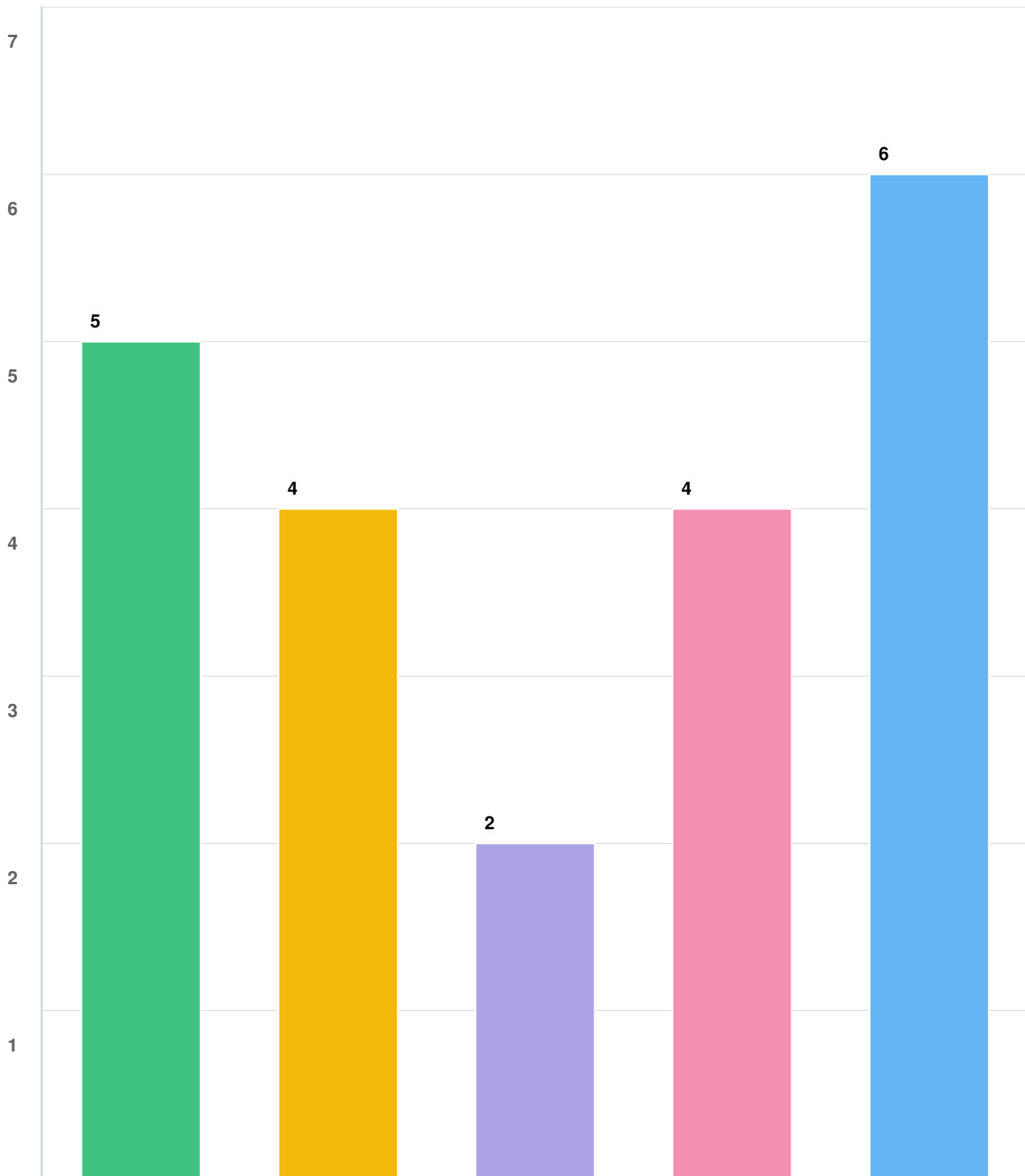
Question options

- Yes
- No

Optional question (21 response(s), 2 skipped)

Question type: Radio Button Question

What ward do you live in / is your business/property located in?



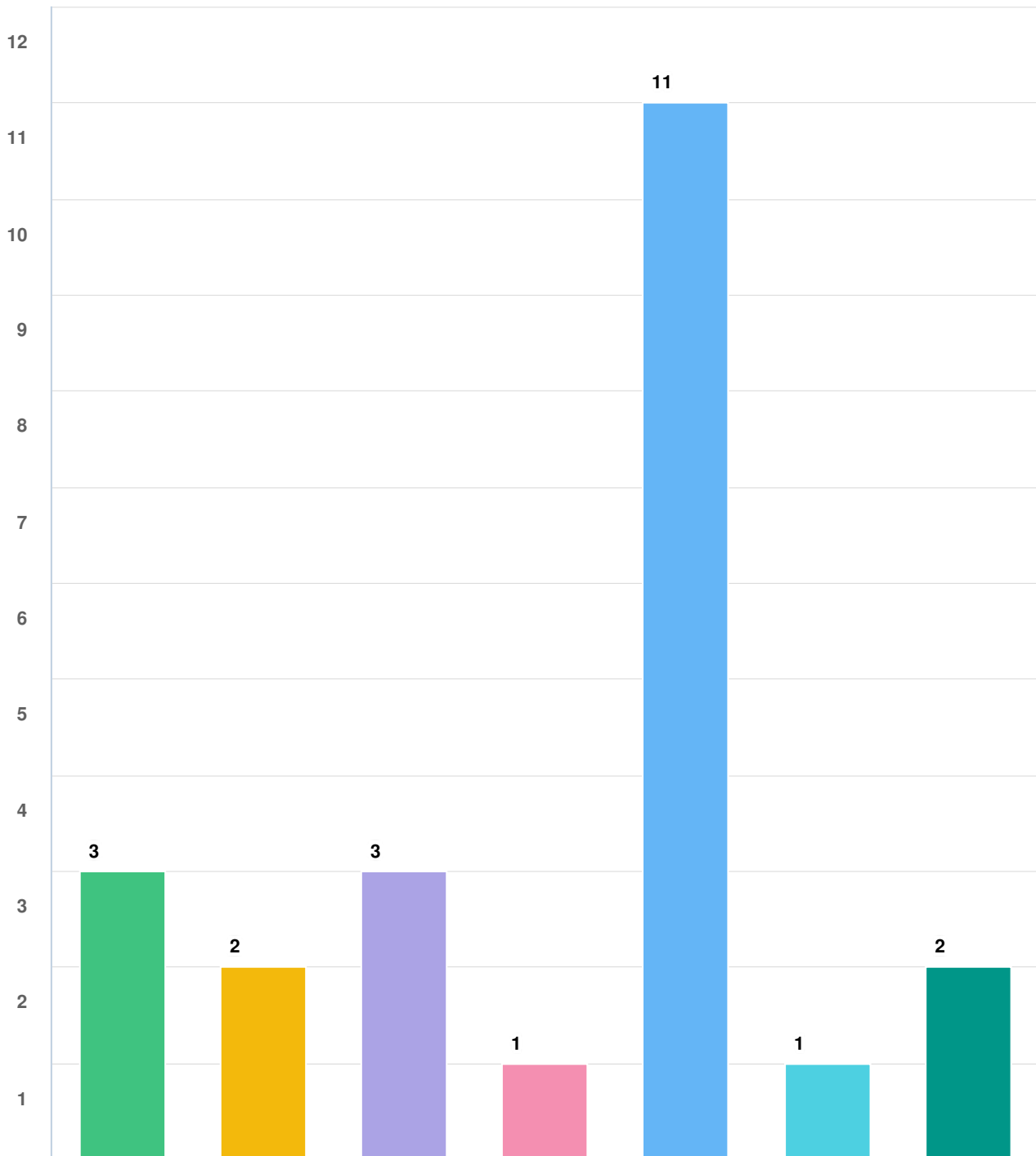
Question options

- Ward 1
- Ward 2
- Ward 3
- Ward 4
- Ward 5

Optional question (20 response(s), 3 skipped)

Question type: Checkbox Question

How did you learn about this community engagement opportunity?



Question options

- City of Oshawa website
- Connect Oshawa website
- Email
- Oshawa This Week
- Social media
- Word of mouth
- Other (please specify):

Optional question (23 response(s), 0 skipped)

Question type: Checkbox Question