

# Onsite Parking Requirements Update for the City of Kingston

SURP 826 Project Course  
Queen's University

December 2020



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# ONSITE PARKING REQUIREMENTS UPDATE FOR THE CITY OF KINGSTON

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## **SURP 826 Project Course**

December 2020

School of Urban and Regional Planning  
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Finally, we would like to thank our friends and families for their continued support of our educational and professional journeys.

Thank you,  
SURP 826 Project Team



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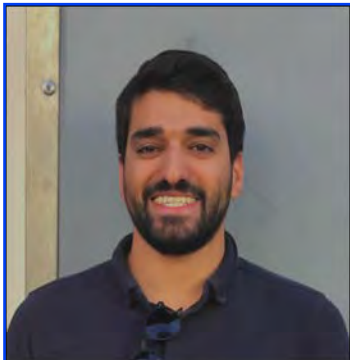
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# EXECUTIVE SUMMARY

## PROJECT CONTEXT

Parking is the link between land use and transportation planning. It influences how we use land and move around in cities. However, parking's impacts on environmental, economic, and social issues are far-reaching and often overlooked. Specifically, mandatory parking requirements in the form of parking minimums result in costly parking facilities that require substantial amounts of land, prevent other valuable uses from being established, and reduce housing affordability. Cities around the world are recognizing the underlying influences of parking on other urban issues. This has prompted cities to reform their minimum parking requirements to reduce auto dependency, encourage sustainable mobility, and promote smart growth development.

Kingston is one example of such a city. They are in the process of updating the parking standards component of their new comprehensive, city-wide Zoning Bylaw and their Density by Design project. The new Zoning Bylaw will replace the existing set of outdated zoning bylaws to create a single vision consistent with the City's current planning and development goals. As part of the new Zoning Bylaw, the City is proposing five distinct parking management areas, each of which will have different location-based parking ratios.

The five parking areas are as follows:

**Parking Area 1:** Downtown

**Parking Area 2:** Williamsville Main Street Corridor

**Parking Area 3:** "Inner Transit" lands within 400 metres of a Kingston Transit Express Route

**Parking Area 4:** "Outer Transit" lands within 400 metres of a Kingston Transit Express Route

**Parking Area 5:** Remainder of the City

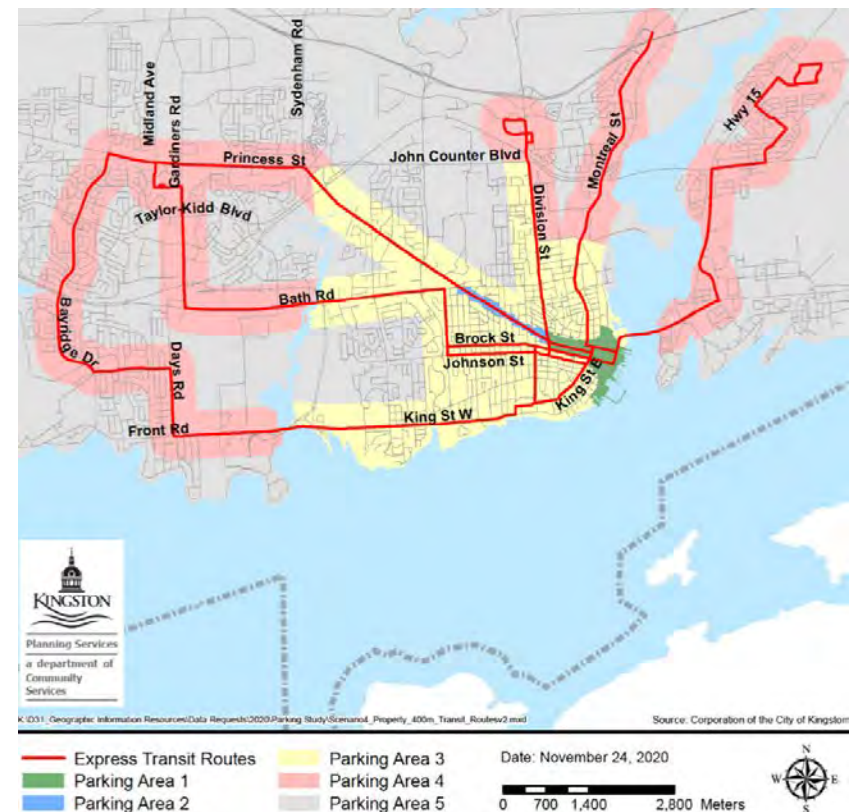


Figure E-1: Map of the five parking areas

## PROJECT OBJECTIVES

The SURP 826 project course team was directed to undertake research on planning strategies and policy tools that will lay the groundwork for the City of Kingston's new onsite parking requirements.

The goals of this report are as follows:

**1)** To develop appropriate on-site parking ratios for Kingston that:

1. Contribute towards Kingston's sustainability goals.
2. Do not negatively impact Kingston's economic competitiveness.
3. Do not shift the parking burden (particularly personal automobiles) into the public realm at the expense of other needs.

**2)** To determine ways that Kingston can successfully shift towards a practice of parking maximums instead of minimum parking requirements.

Considering the short time frame of the project course, the team limited their recommendations to Parking Area 1.

## RESEARCH APPROACH

The approach to this report was qualitative in nature, and consisted of a policy review, a literature review, case study analyses, and site studies for developing policy recommendations.



Figure E-2: View of Parking Area 1 (Shown in green)



## POLICY REVIEW

Kingston aims to be Canada's most sustainable city, and they've developed a high-level planning policy framework for supporting this goal. Among the relevant policies reviewed for this project include:

- Ontario's Provincial Policy Statement (2020)
- Kingston's Official Plan (2019)
- Kingston's Zoning Bylaws
- Kingston's Transportation Master Plan (2015)
- Kingston Transit's 5-Year Business Plan (2017-2021)
- Kingston's Active Transportation Master Plan (2018)
- Kingston's Active Transportation 5-Year Implementation Plan (2019-2023)
- Kingston's Strategic Plan (2019-2022)

Reviewing Kingston's transportation and parking policies reveals that the City has a strong foundation in parking management. Many of the City's existing strategies align with best practices from other cities. This implies that implementing parking maximums and other supporting strategies will be a smoother process than if these strategies were not already in place.

## PARKING MANAGEMENT BEST PRACTICES

The team explored recent trends in progressive parking policies through a literature review of parking management best practices from both academic and non-academic sources. Best practices were organized according to transportation researcher Todd Litman's categorization of parking management strategies, which are as follows:

### 1) Increasing Parking Efficiency

- Shared Parking
- Parking Maximums
- Parking Benefit Districts

### 2) Reducing Parking Demand

- Transportation Demand Management (TDM)
- Parking Pricing
- Car-Share Parking

### 3) Supporting Strategies

- User Information
- Overflow Parking
- Parking Enforcement

### 4) Miscellaneous Strategies

- Location-Based Parking Ratios
- Smart Growth and Compact Development

## CASE STUDIES

Case study analyses were conducted on four North American cities that have implemented maximum parking requirements. These cities include:

1. Pasadena, California, USA
2. Hartford, Connecticut, USA
3. Edmonton, Alberta, Canada
4. Ottawa, Ontario, Canada

Case studies were selected not only for their progressive parking policies but also for possessing characteristics similar to Kingston such as population size, concerns for downtown parking, Canadian policy contexts, and historical downtown's. Specific lessons were learned from each case study, which included the following key takeaways:

- A range of parking management strategies create a more balanced transportation system
- Alignment, phasing, and comprehensive re-zoning eases the implementation process of parking maximums
- Parking ratios should be location-based
- Promoting the positive outcomes of a more compact built form can help alleviate the controversial nature of parking changes

## SITES SELECTED FROM AREA 1

The maximum parking requirements from each city, as well as parking generation data from the Institute of Transportation Engineers (ITE), were applied to four sites in Parking Area 1 representing different land uses including a supermarket (i.e. commercial), a high-rise multi-unit apartment building, a mid-rise multi unit apartment building, and general office. The specific sites were as follows:

1. Metro Supermarket (310 Barrie Street)
2. Carruthers Wharf (135 Ontario Street)
3. Anna Lane Condominium(121 Queen Street)
4. Smith Robinson (S&R) Building (27 Princess Street)

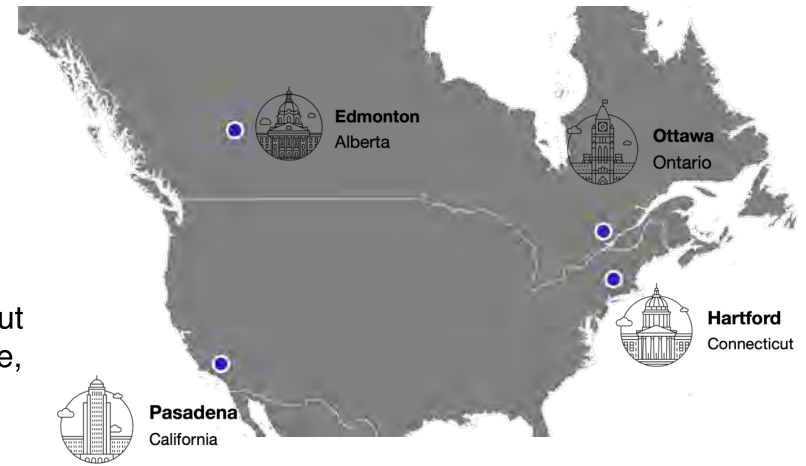


Figure E-3: Map of our four case study cities. (Gosal, 2020)

Icons: Bepfoolish (n.d.)

Map: Vemaps (2020)



Figure E-4: Map of the four study sites in Parking Area 1

## POLICY RECOMMENDATIONS

A series of policy recommendations were developed by the team, which include proposed maximum parking ratios for selected sites in Parking Area 1 as well as other parking management strategies to support the implementation of these ratios. The recommendations are as follows:

### Recommendation #1: Phased Implementation of Parking Maximums

The City should undertake a phased approach when shifting from minimum to maximum parking requirements, starting with Parking Area 1 where there is existing infrastructure to support alternative transportation modes.

Considering the parking requirements from each case study, assessed demand from previous consultant reports and ITE data, as well as each site's existing conditions, maximum parking ratios are recommended and justified for each site. These ratios illustrate how onsite parking supplies would retroactively impact each site.

Metro Supermarket: Recommended Maximum
<b>Option A</b> 3/1000ft <sup>2</sup> (~3.23/100m <sup>2</sup> ) GFA = 77 spaces
<b>Option B</b> Less than 77 spaces

Anna Lane Condominium: Recommended Maximum
<b>Option A</b> 0.85/unit = 98 spaces
<b>Option B</b> 0.5 spaces per bachelor/1-bedroom unit (27 spaces) 1 space per 2+ bedroom units (62 spaces) =89 spaces

Carruthers Wharf: Recommended Maximum
<b>Option A</b> 0.85/unit = 111 spaces
<b>Option B</b> 0.5 spaces per bachelor/1-bedroom unit (22 spaces) 1 space per 2+ bedroom units (86 spaces) =108 spaces

Smith Robinson Building: Recommended Maximum
1/200m <sup>2</sup> = 40 spaces



### **Recommendation #2: Adopt Performance-Based Pricing in Area 1 and Regularly Review**

Prices for parking should be performance-based and set to achieve an occupancy rate where one or two spaces per block remain available during a 1-hour time period. This can be accomplished by setting prices for mornings, afternoons and evenings to capture differences in demand. Areas with the highest demand should be priced higher than locations that are less convenient.

### **Recommendation #3: Establish Parking Benefit Districts in Central Neighbourhoods**

Residential permit areas near downtown should be converted into parking benefit districts as a pilot project. All generated revenue should be reinvested into the neighbourhood through sidewalk repairs, street trees, or cycling infrastructure. This aligns with Kingston's strategic objectives of prioritizing active transportation and building quality streets.

### **Recommendation #4: Integrate TDM Measures within City Policies and Processes**

Developers should prepare TDM reports as part of the development application process. The City should also aim to implement new legislative and zoning requirements that require new developments to implement building-based TDM plans. This aligns with Council's priorities of demonstrating leadership on climate action and improving walkability, roads, and transportation.

### **Recommendation #5: Develop a Parking Enforcement Plan**

Kingston should determine an attainable "capture" rate within Parking Area 1 that is based upon current parking enforcement policies and practices. Capture rates can vary based upon the size of the enforcement area, the method of patrol, and number of enforcement officers.

### **Recommendation #6: Prepare a Comprehensive Citywide Parking Management Strategy**

This document will contain all relevant information pertaining to parking within Kingston. The preparation of a Parking Management Strategy is an efficient way for the City to combine all current and future parking-related documents into one report.

## **Conclusion**

Maximum ratios and a combination of parking management strategies are recommended to help address different components of Kingston's parking system to increase efficiency, reduce demand, and provide support. This approach allows the City to improve the management of its existing parking supply while also reducing automobile dependency and promoting sustainable transportation. Alignment with Kingston's other goals helps set a clear vision, which can make regulations more easily understood by the public and more acceptable to City Council. It is believed that the recommendations outlined in this report align with the City's strategic objectives and will contribute to Kingston's goal of becoming Canada's most sustainable city.

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# CHAPTER 1: INTRODUCTION

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1.1 Project Overview

1.2 Context

1.3 Review of Previous Reports

1.4 Parking and COVID-19







## 1.1 PROJECT OVERVIEW

Parking policy is a critical component of land use and transportation planning, yet its impacts on economic, environmental, and social issues are often overlooked. Minimum parking requirements enforced by cities result in costly parking facilities that require substantial amounts of land and prevent other valuable uses from being established (Shoup, 2016; Marsden, 2014). This leads to a loss of ecosystem services from sprawling parking lots and inflated housing costs that reduce affordability (Davis et al, 2010; Litman, 2020b). However, more cities around the world are transitioning towards sustainable planning practices that promote smart growth development and alternative modes of transportation such as walking, cycling, and public transit. This shift has prompted many cities to reform their minimum parking requirements to reduce auto dependency and encourage sustainable mobility.

### 1.1.1 PROJECT OBJECTIVES

The objective of this report is to lay the groundwork for the City of Kingston as it proceeds with updating the parking standards component of the new city-wide Zoning Bylaw. Kingston is among one of the most progressive cities in Ontario and aims to be Canada's most sustainable city. The City has developed a high-level planning framework for achieving this goal consisting of a Transportation Master Plan, Active Transportation Plan, and Mid-Rise and Tall Building Policies among others. Moreover, Kingston's Strategic Plan sets priorities for City Council that shape policy development over the next few years with the focus on Kingston becoming a "smart, livable, leading city". Council's strategic priorities include demonstrating leadership on climate action and increasing housing affordability (City of Kingston, 2019g). Both priorities align with the recommended parking standards outlined in this report.

The goals of this report are as follows:

01

To develop appropriate on-site parking ratios for Kingston that:

1. Contribute towards Kingston's sustainability goals.
2. Do not negatively impact Kingston's economic competitiveness.
3. Do not shift the parking burden (particularly personal automobiles) into the public realm at the expense of other needs.

02

To determine ways that Kingston can successfully shift towards a practice of parking maximums instead of minimum parking requirements.



### 1.1.2 RESEARCH APPROACH

The project team first reviewed Kingston's transportation and parking policy context. Relevant studies from both the City of Kingston and private consultants were reviewed so that the team was familiar with current practices and the City's policy direction. These included reports by the MMM Group and BA Group as well as Kingston's 2019 Household Travel Survey among others. Various planning and zoning documents were also reviewed including the Official Plan (2019), the Transportation Master Plan (2015), and the Active Transportation Master Plan or Walk 'n' Roll (2018). Group members specifically focused on how these documents link with parking, land use, and transportation in the City. General analysis of Kingston's population and employment trends was also undertaken to better understand other contextual factors that might influence transportation and parking policy. The impacts of COVID-19 on the City of Kingston and parking generally were also examined.

Next, the team conducted a literature review of parking management best practices and strategies. *Parking Management Best Practices* by Todd Litman (2006) of the Victoria Transport Policy Institute, *The High Cost of Free Parking* by Donald Shoup of the University of California, Los Angeles (2011), and *Parking and the City* by Shoup and various contributing authors (2018) are among the most comprehensive pieces of parking literature available. These books as well as other journal articles, organizational documents, and city reports were investigated to examine specific parking management strategies used by cities around the world. This literature review greatly informed the team's understanding of parking management best practices and how they can be applied in the Kingston context.

Then, the team explored progressive parking strategies and policies from different North American municipalities. In-depth case studies were conducted on four cities: Pasadena, California; Hartford, Connecticut; Edmonton, Alberta; and, Ottawa, Ontario. Pasadena has a decades-long history of progressive parking policies, while also maintaining economic vitality and promoting sustainability. Hartford and Kingston share similarly sized populations, have notable post-secondary institutions present, and have a high ratio of historic buildings downtown. Both Edmonton and Ottawa serve as examples of Canadian cities with progressive parking policies. For instance, as of 2020, Edmonton is the first major Canadian city to eliminate parking minimums, while Ottawa has developed location-based parking ratios with parking maximums in key transit areas. All selected cities have goals and policies linked to environmental sustainability and housing affordability. Project team members consulted relevant legislation and research from these respective cities. Planning representatives from each city were also contacted to further understand their respective methodologies for implementing parking maximums and other parking management strategies.

Finally, the team developed parking maximum ratios for four sites in Kingston representing different land uses. These sites were individually selected by the team in consultation with the project coordinator. The parking recommendations in this report are informed by the above background research and case studies, as well as parking demand rates from the Institute of Transportation Engineers (ITE) Parking Generation Manual 5th Edition (2019). The additional recommendations provided explain how the City can employ different best practices and parking management strategies to ease the implementation of parking maximums. Although this project aims to identify ways in which the City can facilitate a shift from minimum to maximum parking requirements, it does not claim to be a definitive assessment. The City should conduct further parking studies and research prior to implementing the maximum ratios recommended in this report.

### 1.1.3 REPORT OVERVIEW

This report is divided into five main chapters. Following the introduction, Chapter Two examines the existing parking policy context in Kingston. Current travel patterns such as trip distribution, modal split, and key trip generators from Kingston's 2019 Household Travel Survey are explored followed by an examination of legislation and policies that guide parking decisions in the City.

Chapter Three provides an overview of the negative impacts of minimum parking requirements followed by a literature review of parking management best practices from journal articles, books, and other documents. These best practices are organized according to three categories described by Todd Litman in *Parking Management: Strategies, Evaluation and Planning*, which are increasing efficiency, reducing parking demand, and support

strategies (Litman, 2006). Two other strategies that do not fall into these three categories are also examined.

Chapter Four delves into the four cities that were selected as case studies for this report. A rationale is provided for each case study as well as key parking changes that provide a better understanding of best practices. The process each city used to enact its respective parking changes are described as well as lessons learned.

Chapter Five describes the team's recommendations for both parking maximums and supporting management strategies. In addition, descriptions of the four selected Kingston sites and the current zoning requirements are provided for context. Assessed parking demand from previous reports and ITE Parking Generation data are provided for each site as well as existing roadway conditions and adjacent parking supplies to further justify the recommended maximum parking requirements.



Figure 1: View of Downtown Kingston  
Source: Martin (2019)

### 1.1.4 RESEARCH LIMITATIONS

As a result of the COVID-19 pandemic, all research for this report was conducted remotely. Given the restrictions, in-person research on the City of Kingston's parking supply and demand could not be completed. Therefore, all recommendations outlined within this report were derived from the parking requirements and standards from case study cities, academic literature, and best practices. Information from both the BA Group's Multi-Unit Residential Parking Supply Requirement Review completed in 2020 and the MMM Group's Parking Standard Report from 2014 were used to inform the recommendations in this report.

Had in-person research on the City of Kingston's parking supply and demand been completed the results may not have been accurate given the nature of this pandemic. There have been changes in people's day-to-day activities that impact travel decisions and parking demand. Fewer people are leaving their homes and if they do less are using public transit, affecting parking usage throughout the city. Lastly, given the constraints and the scope of this report, all five parking areas located across Kingston could not be studied and recommendations are only given for the City's proposed Parking Area 1, which aligns with the downtown.

## 1.2 CONTEXT

### 1.2.1 POPULATION AND DWELLING TRENDS

The City of Kingston is a mid-sized Canadian city with a 2016 population of 123,798 people (Statistics Canada, 2016). The city is expected to grow by 18,600 people between 2016 and 2046, representing an annual growth rate of 0.5 percent or 620 people per year, compared to the provincial growth rate of 1 percent per year (City of Kingston, 2019k, p.iv). The slower growth rate is reflective of net migration levels and an aging population base among the permanent population. The median age in Kingston is 41.9 years, and the population breakdown is seen in Figure 2.

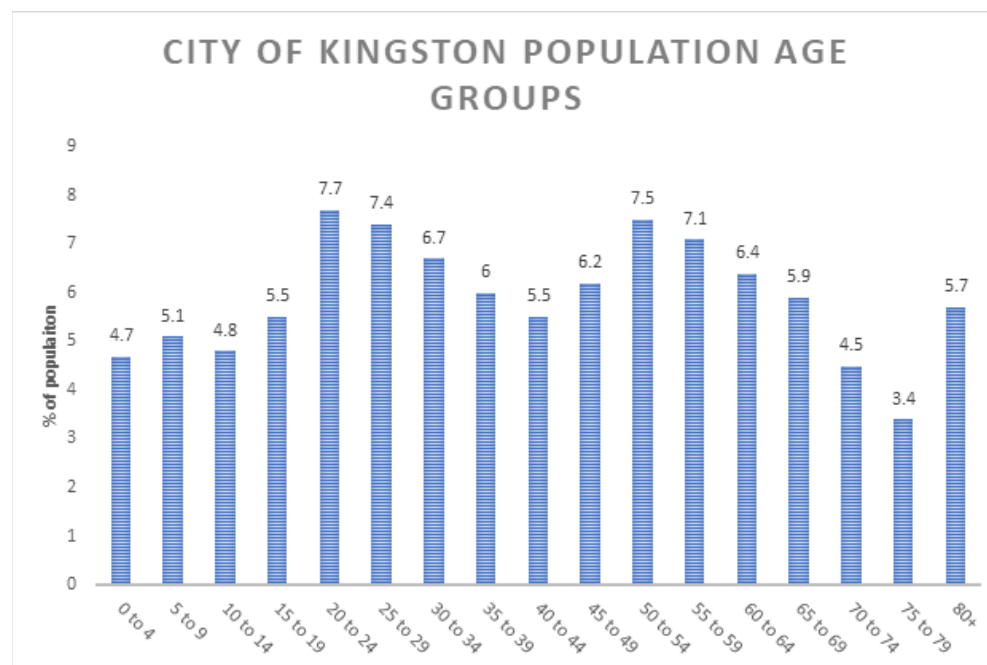


Figure 2: City of Kingston's population age groups based on 5-year increments  
Source: Statistics Canada (2016)

Of Kingston's total population, 66 percent are between the ages of 15 to 64, indicating a significant portion of the population requiring mobility for school and work (Statistics Canada, 2016). When including Kingston's student population not captured in the census, the forecasted population is expected to reach 180,300 people in 2046, with an annual growth rate of 0.6 percent or 967 people per year. Although population growth rates are below provincial levels, Kingston's rental market had a vacancy rate of 0.6 percent in 2018, which is well below the 3 percent vacancy rate expected from a healthy, robust rental market.

Kingston's permanent housing base is expected to reach 70,400 units by 2046 or an increase of 427 units per year. While 54 percent of new residential development is concentrated in ground-oriented housing forms (single detached, semi-detached, or townhouses) due to demand from new families, the overall share of higher-density housing forms is anticipated to rise (City of Kingston, 2019k, p.iv).

## 1.2.2 EMPLOYMENT TRENDS

Kingston's existing employment base is concentrated in healthcare and social assistance, educational services, public administration, retail trade, manufacturing, tourism, accommodation, construction, and wholesale trade (City of Kingston, 2019k, p.ii). Like national and provincial trends Kingston's economy is transitioning from manufacturing of goods to services production with an emerging presence of knowledge-based sectors. However, the manufacturing industry is forecasted to remain steady as it transitions to technology intensive production (City of Kingston, 2019k, p.ii). Overall, city employment is expected to increase at 0.5 percent annually or 363 jobs per year, for a forecasted total of 85,700 jobs in 2046, compared to 74,800 jobs in 2016 (City of Kingston, 2019k, p.iv). Further information on population, housing, and employment trends in Kingston can be found in Table 1 below.

Table 1: Kingston population, labour, employment, and housing statistics

Population <sup>1</sup>				
City (2016) 123,798		CMA (2016) 161,175		
Employment by Sector				
Industrial 18%	Commercial 39%	Institutional 40%	Other 2%	Agriculture 1%
Labour Force Trends				
Employed 77,300	Unemployed 6,100	Total 83,400	U.E. Rate 7.3%	Participation Rate 59%
Housing Tenure				
Owner Occupied dwelling unit 40,890 (60%)		Rental dwellings units 27,260 (40%)		
Vacancy Rates				
2016		2018		
Kingston 2.7%	Ontario 2.2%	Kingston 0.6%	Ontario 1.8%	

Source: Statistics Canada (2016); City of Kingston (2020j).



### 1.2.3 CITY OF KINGSTON GOALS

The City of Kingston's 2019 Annual Report identified the following five strategic priorities to ensure Kingston is a "smart, livable and leading city" (p. 3). The first three priorities are relevant for parking policies in the city:

1. Demonstrate leadership on climate action: specifically related to reducing greenhouse gases, such as the "Density by Design" land use study that advocates for compact land usages
2. Increasing housing affordability: pursuing intensification within the downtown core and increasing affordable housing options
3. Improve walkability, roads, and transportation: road rehabilitation projects and extensive active transportation improvements by implementing the "Active Transportation Master Plan"
4. Strengthen economic development opportunities
5. Foster healthy citizens and vibrant spaces



Figure 3: Kingston's City Council strategic priorities (2019-2022) *Source: City of Kingston (2019e)*

## 1.2.4 KINGSTON'S NEW ZONING BYLAW AND PARKING STANDARDS STUDY

Kingston is in the process of developing a new comprehensive city-wide Zoning Bylaw. This new Zoning Bylaw will replace the existing set of zoning bylaws to create a single vision consistent with Kingston's current planning and development goals (City of Kingston, 2020e). The current outdated zoning bylaws are a legacy of Kingston's 1998 amalgamation and impede the city's progress towards its key strategic objectives including environmental sustainability and housing affordability. Kingston's five main zoning bylaws are as follows:

As part of the new Zoning Bylaw project, the City is reassessing off-street parking standards for both vehicles and bicycles in its Parking Standards Study. The City anticipates releasing its Parking Standards Study to the public in the first half of 2021, which will be presented at Planning Committee with questions and feedback from both the public and Council (City of Kingston, 2020p). Feedback will inform City staff's approach to updating the parking standards for the new Zoning Bylaw's second draft. This update represents an opportunity for the City to implement parking management strategies and policies that align with its strategic goals, such as reduced parking requirements, bicycle parking ratios, and parking maximums.

1. Restricted Area Zoning Bylaw–8499
2. Downtown and Harbour Zoning Bylaw – 96-259
3. Cataraqui North Zoning Bylaw – 97-102
4. Kingston Township Zoning Bylaw – 76-26
5. Pittsburgh Township Zoning Bylaw – 32-74

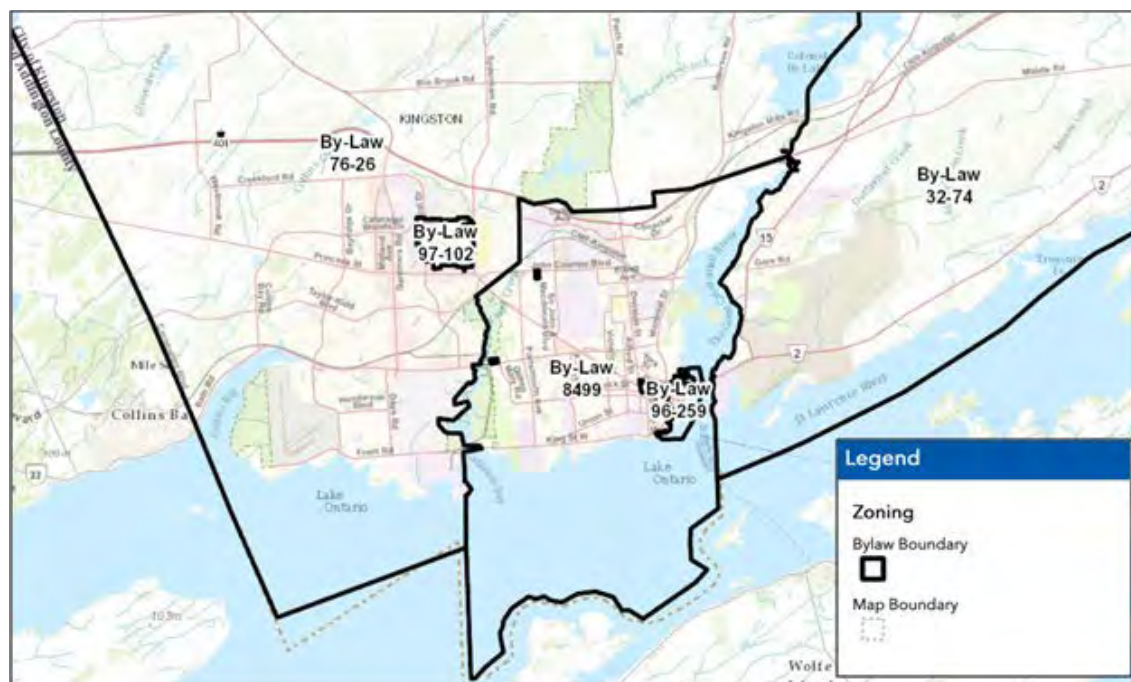


Figure 4: City of Kingston's existing Zoning Bylaw schedule  
Source: City of Kingston (2020m)

### 1.2.5 PROPOSED PARKING MANAGEMENT AREAS

The City of Kingston plans to establish five distinct parking management “areas” in the new Zoning Bylaw. Each of the five parking areas will have different location-based parking ratios. Establishing parking areas with the appropriate requirements ensures the new Zoning Bylaw’s parking standards align with transportation demand management objectives within the Official Plan, which encourages the use of active transportation and transit (City of Kingston, 2019b). Additionally, the Official Plan allows for “differentiated parking policies and regulations based on land use characteristics and user requirements” (City of Kingston, p. 295, 2019b). The five parking areas are as follows (see Figure 5):

**Parking Area 1:** Downtown

**Parking Area 2:** Williamsville Main Street Corridor

**Parking Area 3:** “Inner Transit” lands within 400 metres of a Kingston Transit Express Route

**Parking Area 4:** “Outer Transit” lands within 400 metres of a Kingston Transit Express Route

**Parking Area 5:** Remainder of the City

The scope of this report is restricted to Parking Area 1 (see Figure 6). This is to account for the project duration, which was 12 weeks in length, and for the fact that the small student team of seven members was working on this project for approximately half the time because of other course requirements.

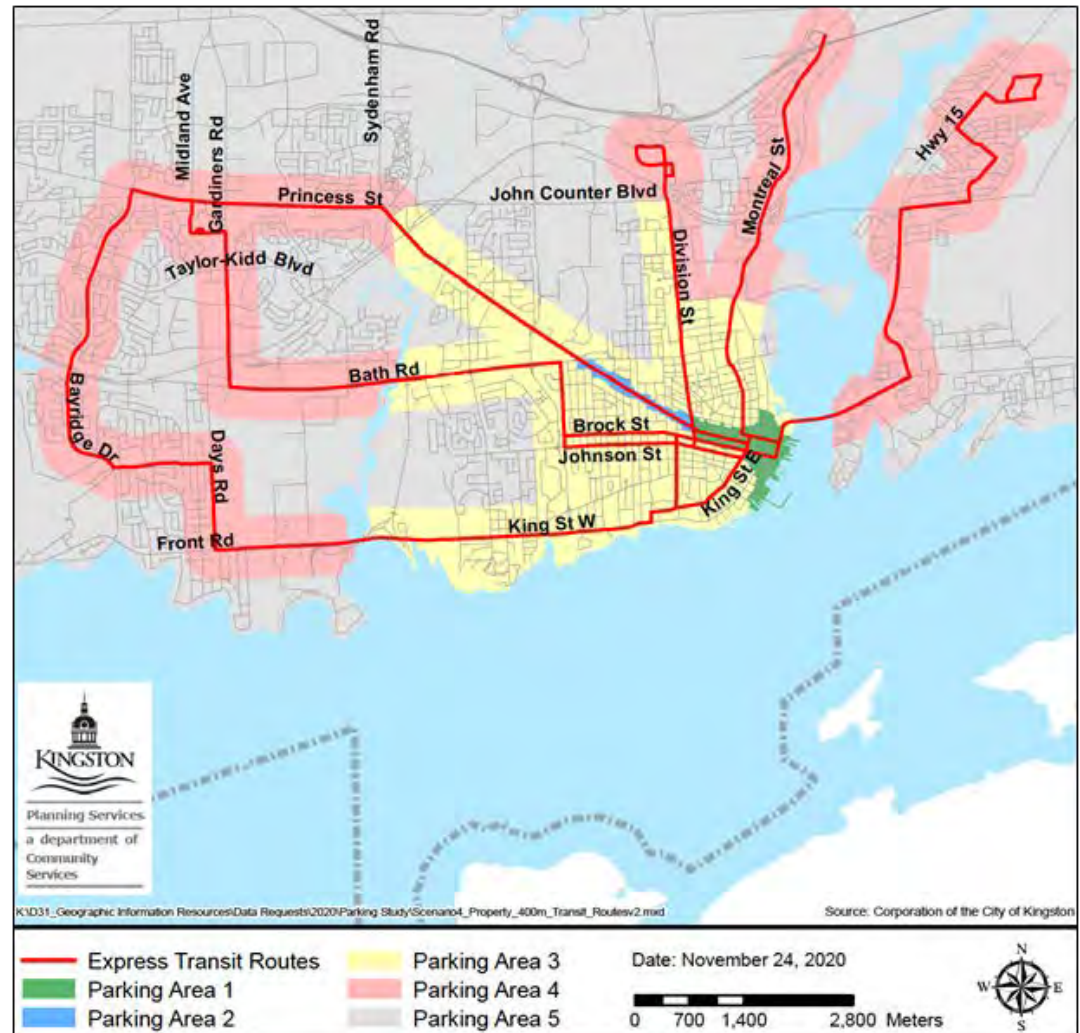


Figure 5: City of Kingston proposed parking areas. *Source: City of Kingston (2020n)*





Figure 6: Map of Parking Area 1  
Source: City of Kingston (2020o)

## 1.3 REVIEW OF PREVIOUS REPORTS

### 1.3.1 PARKING STANDARD REPORT (2014)

This report reviewed parking ratios and policies in the Central Business District and Princess Street Corridor. Onsite parking demand studies were undertaken at various multi-unit residential, office, and retail sites within the study area, and a new set of minimum and maximum ratios were recommended. For example, a minimum of 0.65 spaces per unit and a maximum of 1.25 spaces per unit for multi-unit residential buildings (MMM Group Limited, 2014). See Table 2 for other recommended minimum and maximum requirements for residential visitors and general offices. This report also recommended adopting shared parking provisions that would allow parking space reductions by a certain ratio for every car share space provided. The shared

parking provisions were derived from Ottawa, Toronto, and Grimsby zoning bylaws (MMM Group Limited, 2014).

Although our report builds off the results from the MMM Group, there are two major differences that separate our recommended maximum parking ratios. Firstly, our recommendations consider Kingston's latest updates to its parking management areas, including the separation of the Downtown and the Williamsville Main Street Corridor as Parking Areas 1 and 2. Secondly, the recommended ratios for our selected multi-unit residential sites (see Sections 5.1.2.4 and 5.1.3.4) provide options per dwelling unit and per unit size (i.e. number of bedrooms). The MMM Group report did not review parking ratios on a per bedroom basis (BA Group, 2020).

Table 2: MMM Group 2014 Report: Recommended parking ratios for Central Business District and Princess Street Corridor

Type of Use		Recommended Parking Ratio	
		Minimum	Maximum
Multi-Unit Residential	Resident	0.65 spaces / unit	1.25 spaces / unit
	Visitor	0.10 spaces / unit	0.10 spaces / unit
General Office	C1 and CMS Zones	--	3 spaces / 100 m <sup>2</sup> GFA
	Rest of Study Area	2.5 spaces / 100 m <sup>2</sup> GFA	3 spaces / 100 m <sup>2</sup> GFA
Medical Office	C1 and CMS Zones	--	3.3 spaces / 100 m <sup>2</sup> GFA
	Rest of Study Area	2.7 spaces / 100 m <sup>2</sup> GFA	3.3 spaces / 100 m <sup>2</sup> GFA
Retail	C1 and CMS Zones	--	--
	Rest of Study Area	2.5 spaces / 100 m <sup>2</sup> GFA	--
Restaurant	C1 and CMS Zones	--	--
	Rest of Study Area	10 spaces / 100 m <sup>2</sup> GFA	--
Take-out Restaurant	C1 and CMS Zones	--	--
	Rest of Study Area	6 spaces / 100 m <sup>2</sup> GFA	--

### **1.3.2 MAYOR'S TASK FORCE ON HOUSING REPORT (2019)**

The Mayor's Task Force on Housing provided policy recommendations for increasing the supply of affordable housing options in Kingston to City Council. The report's recommended highest priority task for the council was to "update and harmonize the City's zoning bylaws" as the outdated bylaws present a major barrier to new housing development and maintaining affordability (Mayor's Task Force on Housing, p.6, 2019). Economic viability was identified as another major barrier, as "...the proforma is very sensitive to minor changes to any of the revenue and cost inputs..." (Mayor's Task Force on Housing, p. 47, 2019). Thus, one of the key recommendations to make rental housing development more viable was reducing parking requirements, especially in strategic areas such as the downtown and Queen's University (Mayor's Task Force on Housing, 2019). Promoting public transit ridership, active transportation, and car-sharing were identified as additional policies that can benefit housing in Kingston (Mayor's Task Force on Housing, 2019).

### **1.3.3 DENSITY BY DESIGN ISSUES AND OPTIONS REPORT (2019)**

The Density by Design Issues and Options Report represents Kingston's first phase of developing new mid-rise and tall building design policies. The goal of the report was to address the "how" and the "where" of future high-density residential development in Kingston. As identified in the report, future development should support Kingston's goals of more affordable housing and environmental sustainability. In terms of parking, the connection between land use, transportation,

and environmental sustainability is identified as well as a need for development to support housing affordability goals through designs that "reduce car-orientated cost-of-living" (City of Kingston, 2019g, p. 9). However, parking is also identified as "one of the biggest challenges with high-density building design" (City of Kingston, 2019g, p. 40). Given the geological characteristics of Kingston, underground parking is difficult to build and costly. Building less parking is offered as a solution, yet it is noted that doing so will require a review of the City's parking standards with consideration for minimum and maximum requirements (City of Kingston, 2019g).

### **1.3.4 MULTI-UNIT RESIDENTIAL PARKING SUPPLY REQUIREMENT REVIEW (2020)**

This report recommended new minimum residential and visitor parking standards for multi-unit apartment buildings as part of Kingston's update to its new Zoning Bylaw. The report used parking utilization surveys, and analysis of residential sales and leasing data to determine parking demand at various occupied apartment buildings across the city including Carruthers Wharf (see Section 5.1.2) and Anna Lane Condominium (see Section 5.1.3). It should be noted that this report was developed when Kingston had established four parking areas instead of five. Parking Area 1 was comprised of both the Downtown and the Williamsville Main Street Corridor. Thus, the report's recommendations reflect this condition.



The report authored by the BA Group provided several key recommendations. First, different minimum parking ratios in each of the four parking areas of the City, see Table 3. Second, 0.25 parking spaces for each additional bedroom in units with more than three bedrooms. Third, the following minimum residential visitor parking rates for multi-unit apartment buildings:

- Parking Area 1: 0.06 spaces per unit
- Parking Area 2: 0.10 spaces per unit
- Parking Area 3: 0.10 spaces per unit
- Parking Area 4: 0.10 spaces per unit

Fourth, repealing the “cash-in-lieu” component of Kingston’s Zoning Bylaw 88-270 and instead implementing a minimum parking supply exemption exclusively for small-scale residential conversion redevelopment projects with 13 units or less. The report notes that the in-lieu program has been irregularly utilized and thus, not generated sufficient funding for potential public parking facilities (BA Group, 2020).

Table 3: Minimum resident parking rates for Kingston's original parking areas recommended by BA Group (2020)

<b>Parking Area 1</b> <ul style="list-style-type: none"> <li>• Bachelor Units: 0.30 spaces per unit</li> <li>• One-Bedroom Units: 0.55 spaces per unit</li> <li>• Two-Bedroom Units: 0.70 spaces per unit</li> <li>• Three-Bedroom Units: 0.95 spaces per unit</li> </ul>	<b>Parking Area 3</b> <ul style="list-style-type: none"> <li>• Bachelor Units: 0.70 spaces per unit</li> <li>• One-Bedroom Units: 0.95 spaces per unit</li> <li>• Two-Bedroom Units: 1.15 spaces per unit</li> <li>• Three-Bedroom Units: 1.45 spaces per unit</li> </ul>
<b>Parking Area 2</b> <ul style="list-style-type: none"> <li>• Bachelor Units: 0.45 spaces per unit</li> <li>• One-Bedroom Units: 0.60 spaces per unit</li> <li>• Two-Bedroom Units: 0.75 spaces per unit</li> <li>• Three-Bedroom Units: 0.95 spaces per unit</li> </ul>	<b>Parking Area 4</b> <ul style="list-style-type: none"> <li>• Bachelor Units: 0.80 spaces per unit</li> <li>• One-Bedroom Units: 1.10 spaces per unit</li> <li>• Two-Bedroom Units: 1.40 spaces per unit</li> <li>• Three-Bedroom Units: 1.70 spaces per unit</li> </ul>

### 1.3.5 COMPREHENSIVE REPORT FOR THE UPDATE TO THE WILLIAMSVILLE MAIN STREET STUDY (2020)

Kingston’s Williamsville Main Street Study began in 2012 to develop a new vision for the Williamsville community that supported opportunities for intensification and mixed-use redevelopment along the Princess Street Corridor (City of Kingston, 2012a). Williamsville has since become integral to the City’s discussions surrounding new mid-rise and tall buildings policies. An increase in development activity with proposed building densities higher than initially anticipated led to the passing of an Interim Control Bylaw (ICBL) in 2019 in order to give the City time to study the impacts of recent developments (City of Kingston, 2020q). Over a year later in November 2020, the City released an addendum to the Study, which addressed items from the ICBL and provided a set of recommendations regarding future growth in the community. In relation to parking, the addendum recognizes Williamsville as a strategic location to implement new parking minimums and maximums in support of Council’s Climate Emergency objectives (City of Kingston, 2020q). Specifically, City staff recommended a reduced minimum of 0.4 spaces per residential unit and a new maximum of 1 space per residential unit (City of Kingston, 2020q). Future parking space in Williamsville will be designed and built in a flexible manner that allows for adaptation to other uses should minimum requirements be removed altogether (City of Kingston, 2020q).

## 1.4 PARKING AND COVID-19

The COVID-19 pandemic has resulted in heavy restrictions placed on cities. To slow the community spread of coronavirus infection, businesses have been ordered to temporarily close or reduce hours and modes of operation. Specifically, the enforced restrictions have had an impact on current and prospective parking scenarios in Kingston.

The City of Kingston, in collaboration with Downtown Kingston! and Tourism Kingston, have worked to re-imagine parts of the downtown to create more public space for pedestrians and businesses (City of Kingston, 2020i). The *Love Kingston Marketplace* initiative was designed to help the City rejuvenate the downtown over the summer and fall months. This initiative was also created to help businesses operate with more room for physical distancing and help create a safer shopping experience. Love Kingston Marketplace has also had impacts on roadways within the downtown core. Many businesses are using sections of on-street parking as space for outdoor patios. These parking spaces are also being re-purposed to allow for additional space for pedestrians. In addition, some streets within the downtown, such as Market Street, have been entirely closed to vehicles to create pedestrian-only spaces. Due to the removal of many on-street parking spots, Kingston has created free short-term parking spaces designated as 10-minute parking for pickup and delivery within the downtown (City of Kingston, 2020i).

COVID-19 has shifted how people live their everyday lives. People are being advised to stay home and work remotely whenever they can; therefore, a potential decline in parking is expected. Parking lots typically cover a large area of space within cities, but the question remains: how can parking lots be re-purposed if they are not being used by cars? There are numerous ways that parking lots have been adapted for other uses during the pandemic. Examples of such ideas are providing open space or green space, pop-up gyms, distancing meetups, expansion of restaurant patios, testing sites for the virus, among others (Surico, 2020). In addition, parking lots across the world have been used to host various drive-in events such as concerts, church services and movies as seen in Figure 8.



Figure 7: Short-term parking space sign  
Source: Martin (2020)



Figure 8: Mall parking lot converted into drive-in movie theatre  
Source: Cadillac Fairview (2020)

# CHAPTER CONCLUSION

This chapter provided necessary background information and context to understand the basis for the project. This included project objectives as well as a high-level overview of Kingston's population and employment trends. In addition, summaries of previous parking studies by private consultants and other relevant work by the City of Kingston were provided to show the direction that the City is heading in relation to parking. This work reveals that Kingston aims to reduce its minimum parking requirements and eventually implement parking maximums. The establishment of five parking management areas through the City's new city-wide Zoning Bylaw will help ensure that the updated parking standards align with Council's priorities, Official Plan objectives, and other policies. The COVID-19 pandemic has further highlighted how parking space must be designed in a flexible manner that allows for adaptation to other uses.

# CHAPTER 2: KINGSTON PARKING CONTEXT

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2.1 The Transportation System and Parking Supply Today

2.2 Policy Context







# CHAPTER SUMMARY

This chapter summarizes Kingston's existing transportation infrastructure as well as the legislation and policies that guide parking across the City. A description of the key findings from Kingston's 2019 Household Travel Survey is provided, including trips per day, travel mode split, and trip generators, followed by an outline of the current parking policy context. Kingston's transportation and parking policies show that the City has a strong foundation in parking management, but there is still room for improvement. Many of the City's existing strategies align with best practices from other cities, therefore implying that implementing parking maximums and other supporting strategies will be a smoother process than if these strategies were not already in place. Additionally, understanding local context before implementing any policy changes is of great importance in order to inform decision-making processes.

As such, when updating parking policy, it is essential for a local authority to understand its land use, transportation, and parking systems as well as translate this information to the public.

## 2.1 THE TRANSPORTATION SYSTEM AND PARKING SUPPLY TODAY

The City of Kingston's transportation system includes infrastructure for pedestrians, cyclists, transit, and automobiles (City of Kingston, 2015a). Roads make up a significant portion of the transportation system's infrastructure and are necessary for transit and automobiles, along with active transportation in the form of bicycle lanes and sidewalks (City of Kingston, 2015a). As highlighted in the City of Kingston Transportation Master Plan, roadways are the most flexible type of infrastructure as all modes of travel can use it (City of Kingston, 2015a).

In the fall of 2019, the City of Kingston conducted a comprehensive household travel survey to gain updated insights on how Kingstonians utilize the transportation system. As opposed to previous studies done in 2002 and 2008, the 2019 edition was more intensive and sets the baseline for future surveys (City of Kingston, 2020j). The sample size in 2019 was 5.1 percent, versus 4.4 percent in 2002, and 2.3 percent in 2008 (City of Kingston, 2020j). Notably, the 2019 survey included and specifically targeted the almost 20,000 seasonal post-secondary students. The survey revealed that 82 percent of households have at least one vehicle and the average household has 1.35 vehicles (R.A Malatest & Associates Ltd., 2020). In comparison, the survey illustrates that there are 1.34 bicycles per Kingston household but only 52 percent of households have one or more adult bicycles (R.A Malatest & Associates Ltd., 2020). In terms of transit, 33 percent of the population reported having a transit pass although it is inferred that Queen's University and St. Lawrence College student populations are largely responsible as they account for approximately 18 percent of that population (R.A Malatest & Associates Ltd., 2020). The 2019 household survey also revealed

information such as the number of trips per day, modal split, and special trip generators. The following sections will explore this information in greater detail.

### ***Person Trips Per Day***

Kingston residents take nearly 400,000 trips each weekday with the average person over the age of 5 taking 2.98 trips per day (R.A. Malatest & Associates Ltd., 2020). Trip volumes are the highest during the morning and afternoon commute hours (R.A. Malatest & Associates Ltd., 2020). Figure 9 displays a distribution of trip volume by time of day. The data is split by trip type including, home-based work (HBW), home-based school (HBS), and home-based other (HBO) (R.A. Malatest & Associates Ltd., 2020).

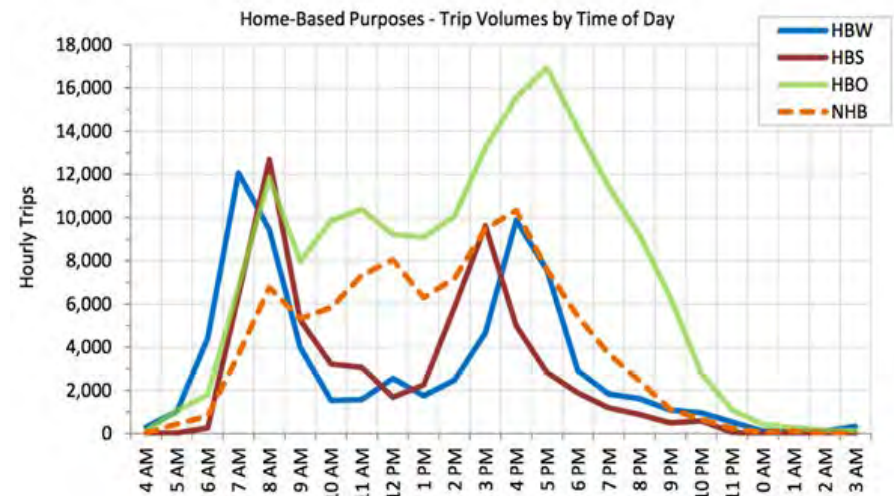


Figure 9: Kingston household survey trip volumes by time of day  
Source: R.A. Malatest & Associates Ltd. (2020)

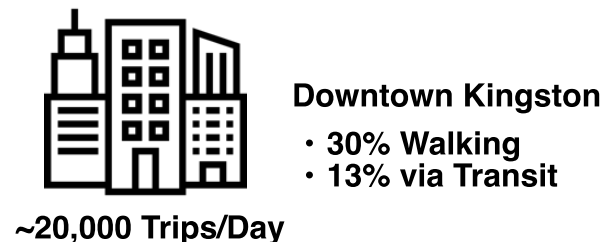
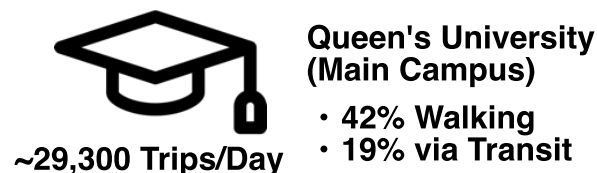


## Travel Mode Split

The mode share splits for these trips include 66 percent by private automobile, 18 percent by walking, 8 percent by transit, 4 percent by cycling, and 4 percent by other modes of travel (R.A.Malatest & Associates Ltd., 2020). Trips made by sustainable modes (including transit, school bus, walking, cycling) equaled 32.9 percent or about one-third of all daily trips (R.A.Malatest & Associates Ltd., 2020). Furthermore, almost half of the trips made by residents in the central subarea of Kingston were made by sustainable modes of transportation (R.A.Malatest & Associates Ltd., 2020). Figure 10 provides a summary of the number of daily trips by mode type.

Mode	Expanded Trips	Mode Share (%)
<b>Total Daily Trips</b>	<b>398,600</b>	<b>100%</b>
Auto driver	204,950	51.4%
Auto passenger	58,300	14.6%
Kingston Transit	31,950	8.0%
School Bus (e.g., yellow bus)	12,320	3.1%
Bicycle (incl. pedal-assist e-bikes)	14,940	3.7%
Walk (and roll)	71,740	18.0%
Walked (incl. jogging )	70,320	17.6%
Rolled (incl. skateboard, roller-blades, scooter, mobility device, longboard)	1,270	0.3%
Other	4,400	1.1%
Kingston Access Bus (KAB)	780	0.2%
Taxi	2,000	0.5%
Low speed motor vehicle (incl. moped, limited-speed motorcycle, scooter-style e-bike)	70	0.0%
Intercity coach bus (e.g., Greyhound, Megabus)	20	0.0%
Motorcycle	660	0.2%
VIA Rail	440	0.1%
Airplane	210	0.1%
Other	220	0.1%

Figure 10: Detailed daily trip estimates by mode of travel  
Source: R.A. Malatest & Associates Ltd. (2020)



## Special Trip Generators

In the household travel survey, locations that experienced a high volume of trips were identified as special trip generators. The special trip generators identified included Queen's University, St. Lawrence College, Canadian Forces Base Kingston, Cataraqui Centre, King's Crossing, Kingston Centre, Riocan Centre, and Kingston's downtown (R.A.Malatest & Associates Ltd., 2020). Figure 11 displays the number of trips made by all modes to and from special generators by the time of day. This figure shows that Queen's University is the greatest trip generator and generated approximately 29,300 trips per day (R.A.Malatest & Associates Ltd., 2020). Trips to Queen's university were highest during the morning commute period and the inter-peak period (between 9 AM and 2:59 PM). Figure 12 shows the mode share for trips destined to each special generator. Assuming that the number of vehicle trips to Queen's University was also highest during these two time periods it can be assumed that there would be the greatest demand for parking during these times.

Downtown Kingston was the second greatest trip generator, generating approximately 20,000 trips per day (R.A.Malatest & Associates Ltd., 2020). As seen in Figure 11, nearly half of the trips made to the downtown were during the inter-peak period. Also, 45 percent of the morning commute trips to the downtown were made by vehicle (As seen in Figure 12). As a result, it can be assumed that the parking supply downtown is under the greatest stress during the morning commute hours and the inter-peak period.

	24-Hour Total		AM Peak 7:30-8:59 AM (1.5 hrs)		Inter-Peak 9:00 AM-14:59 PM (6 hrs)		PM Peak 3:00 PM-5:29 PM (2.5 hrs)		Evening/ Overnight 5:30 PM-6:59 AM (13.5 hrs)	
	To	From	To	From	To	From	To	From	To	From
Queen's University (Main Campus)	29,340	29,350	9,160	880	12,220	7,070	2,880	10,950	5,080	10,440
Queen's University (West Campus)	1,790	1,820	340	80	620	850	380	430	460	460
St. Lawrence College	5,220	5,220	1,780	40	2,050	1,540	530	1,790	870	1,860
CFB Kingston	5,400	5,410	1,440	330	1,250	1,460	460	2,410	2,250	1,210
Cataraqui Centre	4,290	4,280	130	120	2,090	1,420	960	1,090	1,110	1,650
King's Crossing	2,800	2,800	140	80	1,280	1,010	750	780	630	930
Kingston Centre	5,120	5,060	390	120	2,690	2,200	1,170	1,480	880	1,270
RioCan Centre	5,390	5,330	180	60	2,530	1,760	1,210	1,290	1,470	2,230
Area M (Downtown)	19,970	19,880	3,050	1,370	8,270	6,980	3,290	5,210	5,360	6,320

Figure 11: Daily trip destined to and leaving from special trip generators by time of day  
Source: R.A. Malatest & Associates Ltd. (2020)

	Queen's (Main Campus)	Queen's (West Campus)*	St. Lawrence College	CFB Kingston **	Cataraqui Centre	King's Crossing	Kingston Centre	RioCan Centre	Area M
<b>Daily Trips</b>									
Total Trips	29,340	1,790	5,220	5,400	4,290	2,800	5,120	5,390	19,970
Driver	23%	17%	37%	71%	56%	66%	62%	70%	36%
Passenger	7%	7%	8%	13%	18%	21%	10%	23%	13%
Transit	19%	49%	36%	6%	19%	6%	12%	5%	13%
School bus	0%	0%	0%	2%	0%	0%	0%	0%	2%
Walk	42%	18%	11%	3%	5%	4%	9%	2%	30%
Bicycle	9%	10%	5%	4%	1%	1%	5%	0%	5%
Other	0%	0%	1%	1%	1%	3%	2%	1%	1%
<b>AM Peak</b>									
Total Trips	9,160	340	1,780	1,440	130	140	380	180	3,050
Driver	22%	n/a	40%	70%	n/a	n/a	n/a	n/a	45%
Passenger	8%	n/a	12%	14%	n/a	n/a	n/a	n/a	18%
Transit	19%	n/a	30%	3%	n/a	n/a	n/a	n/a	17%
School bus	0%	n/a	0%	0%	n/a	n/a	n/a	n/a	8%
Walk	41%	n/a	11%	5%	n/a	n/a	n/a	n/a	9%
Bicycle	10%	n/a	6%	8%	n/a	n/a	n/a	n/a	3%

Figure 12: Mode share for trips destined to each special generator, daily trips and AM peak  
Source: R.A. Malatest & Associates Ltd. (2020)



## 2.1.1 PARKING

### ***Overview***

In relation to the previous section, it is important to note that a vehicle trip also necessitates parking space use. Other modes do not import the same environmental (e.g. air quality & fossil fuels), land use (e.g. more space taken up), or transportation (e.g. congestion) effects as a vehicle trip. Thus, understanding transport context requires one to also understand parking context. The City of Kingston has clear modal splits and traffic flows in its entirety as well as for different areas. The central city is more compact, and less vehicle oriented than outer areas and as such, it should be treated differently when policy change is enacted.

The City of Kingston's (2019b) By-Law to Regulate Parking 2010-128 outlines the authority and governance of parking regulations in the City. The bylaw does not apply to the private parking supply, which is indirectly regulated by higher order policy including Kingston's Official Plan and Zoning By-Laws. The City of Kingston owns and operates 4,000 off-street parking spaces in more than 20 lots and structures (City of Kingston, 2015a, p. 56; City of Kingston, 2020u). Parking duration limits for lots and garages are three, four, and 24 hours. The city also maintains and operates approximately 1,400 on-street metered parking spaces with parking duration limits between two and three hours (City of Kingston, 2015a, p. 56). In addition, Kingston Transit maintains six Park & Ride facilities that have at least 330 spaces total (City of Kingston, 2017, p. 58). These parking spaces are not included in the above counts as the Park & Ride lots have a specific use: to connect rural and suburban drivers to transit. Finally, it is unclear how many un-metered on-street public parking spaces are present in Kingston.

### ***Supply and Demand***

As it currently stands, there is no comprehensive parking space count in the City. A suggested step is to undertake a citywide parking study as part of developing a parking management framework. It is recommended that Kingston collect an exact inventory of its parking supply via aerial photos, mapping, and physical counts so a clear picture of the current situation is presented before major changes are made.

It is also unclear whether there is parking congestion, aside from the Centre 70 Park & Ride lot (Basa, 2020). Determining where parking congestion occurs and is at its worst is another step that Kingston should take. A comprehensive circulation survey as well as parking demand studies and technology such as HONK Mobile should be used by Kingston to its advantage. This data can better inform the City as to what the actual parking demand and congestion situations are. While the public perception often concludes that there is limited parking available citywide, it is important to undertake research and satisfy different concerns. As such, it is also undetermined if there is room to scale down the parking supply as there have been no comprehensive parking demand or inventory studies. An array of area specific studies as well as a parking rate and fine review (City of Kingston, 2016) have been completed. However, Citywide demand and supply studies should be completed.

## Parking Permits

On-street parking permits are also provided by the City for multiple areas downtown. Event, short, and long-term parking permits are available. Monthly commuter parking passes allow individuals who work downtown to park in a permit zone or municipal lot during time-of-day restrictions with a 12-hour maximum duration. Costs range from \$79.59 to \$136.75 per month (City of Kingston, 2020m). Residential parking permits cost \$12 or \$25 and allow residents who live in the central area of the City permit zone to park on-street during time-of-day restrictions (City of Kingston, 2020m). Temporary permits are also available for contractors and visitors. The number of permits provided is controlled by the City “allow[ing] all-day parking in a controlled manner [that] helps distribute the parking supply and offers area residents predictable parking, while freeing up on-street spots for those in need of short-term parking.” (City of Kingston, 2020m, para 9). As of July 30<sup>th</sup>, 2020 (the most recent update), there were no available monthly parking permits in any of these lots (MyCity: City of Kingston, 2020). Additionally, the wait list for four of the 11 listed lots on the City’s website are full (MyCity: City of Kingston, 2020). This evidence suggests that the demand for monthly parking permits in Kingston outweighs the current available supply.

Figure 13 displays Kingston’s current on-street parking areas which are as follows: Area A (Syndenham District/Hotel Dieu Hospital area; Area B (Queen’s University/KGH/Williamsville area); Napier Street area; Area C (Inner Harbour Neighbourhood); and Area F (Williamsville North Neighbourhood). There are also three potential areas that may be instituted in the future: Potential Area D (Portsmouth Neighbourhood); Potential Area E (St. Mary’s of the Lake); and Potential Area G (Williamsville South Neighbourhood).

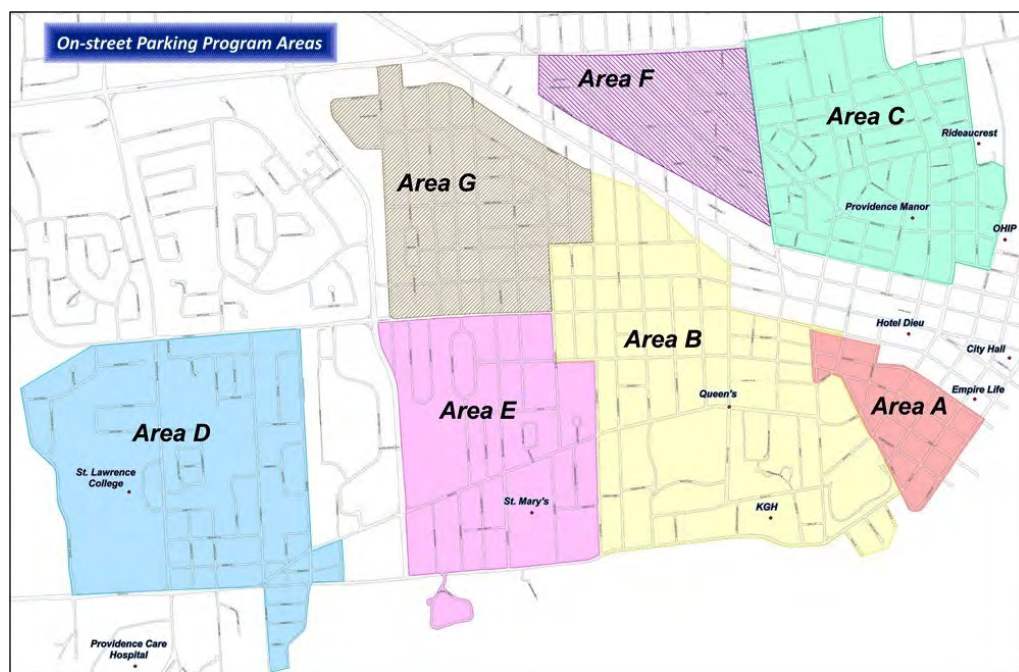


Figure 13: Map of Kingston's current and potential on-street parking permit areas as of Nov 27, 2020  
Source: City of Kingston (2020m)

While the parking areas allow commuters and residents to park on-street during time-of-day restrictions, there is a citywide winter parking ban that prohibits on-street parking between 1 a.m. to 7 a.m. from December 1<sup>st</sup> to March 31<sup>st</sup> (City of Kingston, 2020w). This allows for winter maintenance of streets, namely snow plowing. As such, owners of on-street permits must park in lots or structures or need to find other parking options during overnight periods.

## Parking and Transit

Kingston has an “Employer Transpass” program in place, which offers discounted regular adult transit passes of between \$11.25 and \$24.75 “offered through employers to their staff” (City of Kingston, 2020d, para 1). The transit pass is automatically renewed through a payroll deduction via the employer (City of Kingston, 2020d). The Employer Transpass web-page highlights that Kingston Transit is an environmentally friendly mode and that “the average cost of operating a vehicle in Canada is approximately \$9,712 per year or 68 cents per kilometre whereas it costs \$825 per year (\$68.75 monthly) for Kingston Transit” (City of Kingston, 2020d, para 11). This partnership with employers indirectly helps support sustainable modes of transportation as well as reduce the parking pressure that the City faces by attempting to reduce congestion and vehicle trips.

Kingston Transit’s 5-Year Business Plan recognizes that “free and ubiquitous parking is a challenge to convincing more commuters to use public transit” (City of Kingston, 2017, p. 22). Accordingly, there is free parking available in Park & Ride lots “for customers who wish to park their vehicles and ride the bus the rest of the way to their destination” (City of Kingston, 2020h). These facilities provide free, long-term parking to drivers who access the transit system and are strategically located along express transit routes (Figure 14). The lots’ distance from downtown and the mode shift they help support reaffirms land use, parking, and transportation objectives outlined various City of Kingston documents. They may help relieve both driving and parking pressure on the City’s core and increase transit use in outer areas.

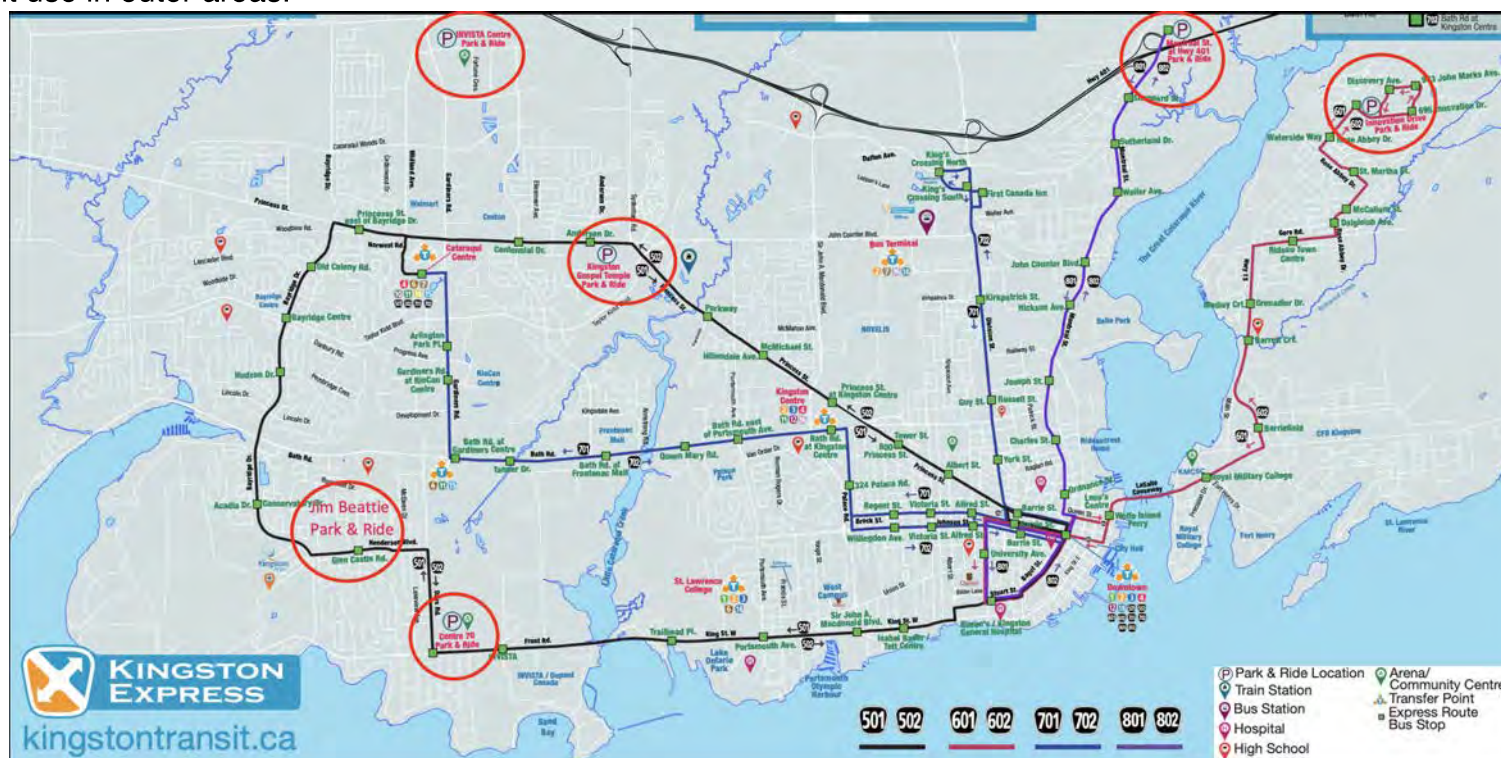


Figure 14: Map of Express Transit routes and Park and Ride locations (Outlined in red) *Source: City of Kingston (2015b)*



As of 2017, Kingston Transit maintained five Park & Ride locations with approximately 290 to 300 parking spaces distributed between them (City of Kingston, 2017, p. 58). It is important to note that these spaces are not included in the total parking count as these are specifically for Park & Ride opportunities. An additional sixth lot (Jim Beattie Park) was added recently, with 40 more spaces bringing the total to 330 to 340 (Basa, 2020; City of Kingston, 2020h). Free bicycle parking is also provided at Park & Ride locations, though there is no clear type of facility provided (i.e. secured in a structure, open rack, etc.). Finally, Kingston recognizes that there are opportunities to provide additional Park & Ride facilities along Express Transit Routes, and that this is needed to help encourage more “suburban and rural commuters to use Kingston Transit” (City of Kingston, 2017, 59). For example, the Centre 70 Park & Ride lot is often overcrowded and contributes to parking spillover in nearby residential areas (Basa, 2020). There is a clear demand for more Park & Ride spaces, which will help alleviate congestion in central areas and the neighbourhoods to which the lots themselves exist in. This also displays that the program has been largely successful and there is appetite for more. It is unclear how Park & Ride facilities exist in relation to the rest of Kingston’s parking facilities. While they have a specific use, it is recommended that a clear delineation of how these lots relate to the larger parking supply be developed.

## **Revenue**

According to the 2016 Parking Rate and Fine Review undertaken by the BA Group in 2016, “the City's parking system is financially self-supporting with revenues generated from user fees and fines covering the costs to deliver the service” (City of Kingston, 2016, para 8). Accordingly, this means that Kingston taxpayers do not subsidize the parking system (City of Kingston, 2016). The review also states that “net operating revenues are contributed to a separate parking reserve fund on an annual basis, which pays for daily operations, facility and equipment maintenance and upgrades, as well as the development of new parking supply” (City of Kingston, 2016, para 9). In order to maintain financial feasibility (particularly for the parking reserve fund), parking rate increases are suggested every 5 years in addition to increasing parking fines (City of Kingston, 2016). According to *Report to Council Number 20-128*, the waiving of parking fees as a result of COVID-19 represented an approximate \$700,000 per month of lost parking meter and permit revenue (City of Kingston, 2020q). In addition, a \$150,000 loss was predicted to be incurred from lost parking fine revenue per month (City of Kingston, 2020q). This \$850,000 per month (10.2 million per year) in lost revenue represents the revenue the current parking system brings in. Finally, as of December 31st, 2019, the parking reserve fund had a \$15.9 million balance which can be used to recover losses (City of Kingston, 2020q). A clear financial picture will be released along with Kingston’s yearly budget review.

## 2.2 POLICY CONTEXT

### 2.2.1 PROVINCIAL POLICY STATEMENT

The Provincial Policy Statement (PPS) provides the policy direction for land use planning and development across Ontario. The most relevant policies for this report fall under the overarching *Building Strong Healthy Communities* section of the PPS which promotes efficient development and land use patterns and the effective use of infrastructure and public facilities. Specifically, planning authorities shall promote transit-supportive development and accommodate a range of housing options through intensification and redevelopment efforts. With regards to transportation systems, planning authorities should use transportation-demand management strategies when feasible, support active transportation, and facilitate connectivity among different transportation modes. Parking facilities fall under the PPS's definition of "transportation systems" (Government of Ontario, 2020).

### 2.2.2 OFFICIAL PLAN

Kingston's Official Plan (OP) identifies transportation as an important part of the future vision for Kingston. Section 4.6 *Transportation* includes the goal of creating an integrated transportation system. This system will support active modes of transportation, transit, commercial traffic, and the private automobile. However, under policy 4.6.1 *Strategic Direction*, Kingston aims to create a sustainable transportation network, and "reduce reliance on the automobile by satisfying travel demand through the efficient use of the existing infrastructure" (City of Kingston, 2019d, p. 279).

Regarding parking requirements, sections of the OP allow businesses to be given relief from parking requirements by instead providing a payment to Kingston as permitted under the Cash-in-Lieu Bylaw. Parking requirements can also be reduced by being shared between two lots, given specific requirements are

met in the OP. Lastly, the OP encourages bicycle parking and the allocation of parking spaces for car-sharing. Overall, Kingston's objective, as included in section 4.6 Transportation of the OP, is "to encourage a balance between providing sufficient parking to address existing or future requirements, and not oversupplying parking to the detriment of public transit usage or active transportation" (City of Kingston, 2019d, p. 294).

### 2.2.3 ZONING BYLAWS

Each of Kingston's five zoning bylaws provide parking standards for different land uses, such as single and multi-residential buildings, offices, and commercial uses. The zoning bylaws provide minimum parking requirements, however, parking maximums are not used. Several zoning bylaws contain regulations where no parking is required. For example, Section 5.3 *Off-Street Vehicle Parking Facilities* of Zoning Bylaw No. 8499 states under Non-Residential (b)(i), "[i]n those areas which are within the C zone East of Division Street there shall be no off-street parking requirements for non-residential uses" (City of Kingston, 2020a, p. 138). Similarly, in Zoning Bylaw No. 96-259 section 5.22.5.5 of 5.22 *Off-Street Parking*, "[n]otwithstanding the foregoing, there shall be no parking requirements for an Education Centre or Facility or for commercial uses permitted in the "Central Business System (C1)" Zone or in the "Market Square Commercial (CMS)" Zone" (City of Kingston, 2019h). Kingston's zoning bylaws do not include a consistent set of standards for minimum residential visitor parking. Minimum accessible parking spaces are provided in each of the existing bylaws as is required by the *Accessibility for Ontarians with Disabilities Act, 2005* (Government of Ontario, 2016). Bicycle parking standards are provided in two of five zoning bylaws for multi-unit residential dwellings and in one zoning bylaw for office, restaurant and commercial uses in the downtown (City of Kingston, 2019h; City of Kingston, 2019a; City of Kingston, 2019j; City of Kingston, 2020a; City of Kingston, 2020p).



## 2.2.4 TRANSPORTATION MASTER PLAN

Kingston's Transportation Master Plan sets the long-term direction for transportation networks, policies, programs and services in Kingston over the next 20 years (City of Kingston, 2015a). The plan documents travel trips made by walking, cycling, transit, and automobiles. However, the focus of the Transportation Master Plan is sustainable transportation, being public transit and active transportation.

One section of the Transportation Master Plan focuses on Transportation Demand Management (TDM) (City of Kingston, 2015a, p.56). As stated in the Transportation Master Plan, the main purpose of TDM is "to maximize the effectiveness of a variety of measures in order to defer costly infrastructure problems" (City of Kingston, 2015a, p.56). Controlling for parking within the city not only influences peoples travel behaviour, it works to manage the supply and demand of parking as the city continues to grow (City of Kingston, 2015a).

The TDM parking section of the Transportation Master Plan contains three parts:

1. *Strategic Approach to Parking Management*: Outlines that a sustainable future parking supply will enhance the current parking supply. Recommendations include the need to move from development patterns that encourage single occupant travel to patterns that encourage sustainable and active forms of transportation.
2. *Parking Policy and Development Policy Recommendations*: Discusses the need for updates to the parking policy to manage the growth of Kingston and to ensure that there is adequate not excess parking.
3. *Parking Operation and Supply Management Recommendations*: Provides recommendations for residential intensification along the Princess Street corridor and transit supportive centres (City of Kingston, 2015a).

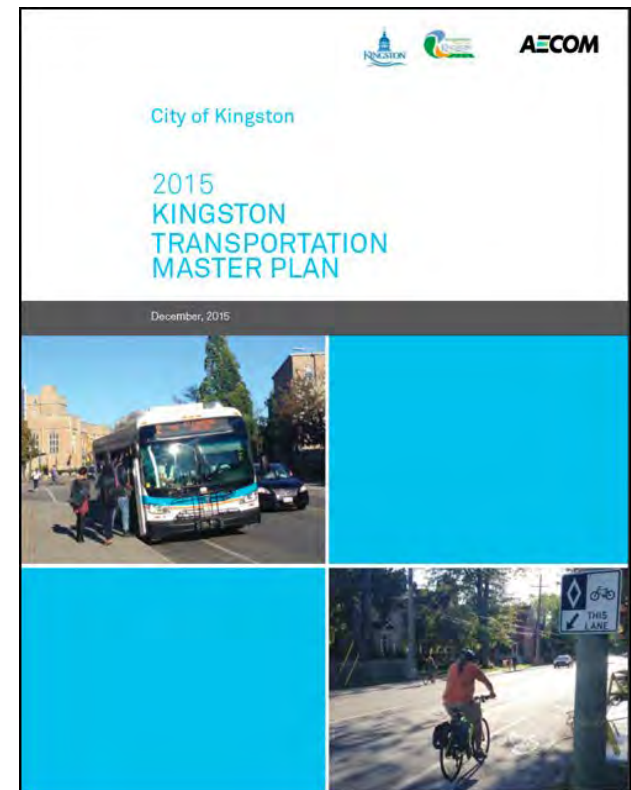


Figure 15: Cover of Kingston Transportation Master Plan  
Source: City of Kingston (2015a)

## 2.2.5 KINGSTON TRANSIT 5-YEAR BUSINESS PLAN

This 5-Year Business Plan (2017-2021) provides recommendations to guide Kingston Transit's service in the short-term to support Kingston's goal of 15 percent of trips by public transit during weekday peak periods by 2034. The three main recommendations are as follows:

1. Five phases of service improvements that include increased frequency and introducing new express routes.
2. Annual ridership targets that must grow to 1.93 million annual passenger trips in the afternoon peak period by 2021.
3. Fare strategies that will attract new riders and keep transit affordable while also ensuring that revenues continue covering operating costs.

The Business Plan identifies other opportunities for improving Kingston Transit's service and expanding ridership such as updates to transit technology, developing new Park and Ride facilities along key routes, and marketing strategies targeting participating and non-participating employers in the Kingston Transit Employer Pass program. The Business Plan aligns with Kingston Transit's vision of providing a faster, more reliable, and more frequent transit experience that all citizens of Kingston choose to use (City of Kingston, 2017). Furthermore, the Business Plan's goals and recommendations align with TDM best practices(see Section 3.1.2.1), which are fundamental for reducing parking demand and limiting automobile trips.



Figure 16: Kingston transit bus parking in front of City Hall  
Source: GHN83613 (2012)

## 2.2.6 ACTIVE TRANSPORTATION MASTER PLAN (WALK 'N' ROLL KINGSTON)

Kingston's first Active Transportation Master Plan, or Walk 'n' Roll Kingston, addresses active transportation methods and infrastructure. The plan was finalized in June of 2018 after extensive public and stakeholder input and aims to make Kingston one of the most desirable places to live and work in Canada (City of Kingston, 2018a). The plan will allow staff and stakeholders to understand better, plan, design and implement active transportation routes and improvements (City of Kingston, 2018a). Kingston's existing active transportation mode share is 11.7 percent, while the target in the Active Transportation Master Plan is 20 percent by 2034 (City of Kingston, 2018a).

The vision for Kingston set out in Walk 'n' Roll Kingston is as follows:

"Kingston will be a City that embraces active modes of transportation where residents and visitors can walk, cycle and wheel using a network of accessible, safe, connected and well-maintained trails, bicycle lanes, sidewalks and pathways which will lead to 20% of all travel occurring via active modes of transportation." (City of Kingston, 2018a, p.17).

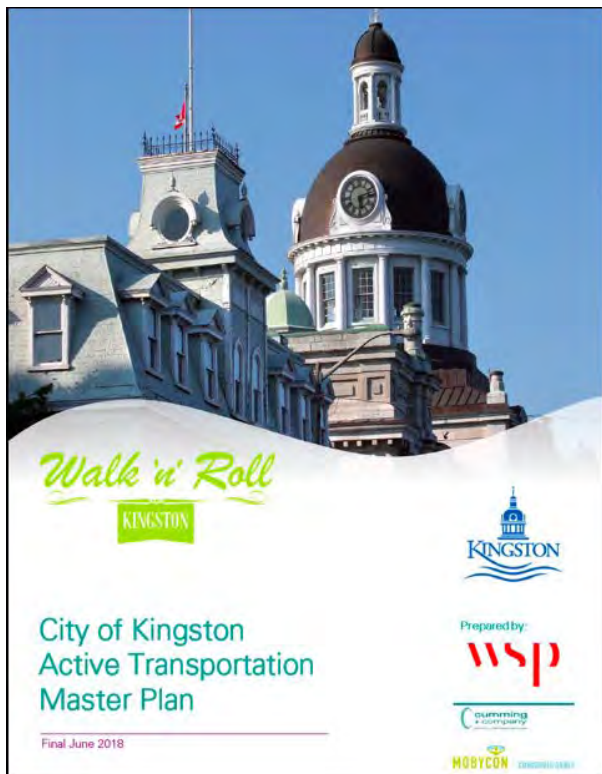


Figure 17: Cover of Kingston Active Transportation Master Plan  
Source: City of Kingston (2018a)

### The vision is supported by six fundamental principles:

1. Safety
2. Connectivity
3. Equity
4. Equality
5. Accessibility
6. Promotion.

Specific to parking, Kingston aims to reduce the number of parking spots available to drivers, specifically within Area 1. It encourages drivers to seek alternative modes of transportation, such as active forms (walking, cycling) or taking public transit. Kingston aims to provide residents access to transit stops and works to increase opportunities for active transportation. Actions include reviewing on-street parking, installing and upgrading bicycle lanes that are a safe distance from cars, and providing adequate and secure bicycle parking.



## Active Transportation 5-Year Implementation Plan

The Active Transportation 5-Year Implementation Plan (ATIP) (2019-2023) provides realistic, short-term actions and strategies to guide the implementation of Kingston's Active Transportation Master Plan. The ATIP addresses Council's priorities to demonstrate leadership on climate action and improve walkability, roads, and transportation across the city.

The ATIP's strategies are centred around four themes: (1) Neighbourhood-level infrastructure, (2) citywide infrastructure (3) existing gaps and barriers, and (4) policies, programs, and operations. At the neighbourhood-level, the ATIP prioritizes three focus areas (Bayridge, Reddendale/Henderson, and North King's Town) for establishing a network of paths and routes that connect to citywide infrastructure and transit networks (see Figure 18). The ATIP further outlines the active transportation routes that provide key north-south and east-west connections throughout the city and identifies short-term improvements to supporting infrastructure that will strengthen route connectivity such as upgrading pedestrian crossings and constructing new intersections. The ATIP proposes several programs to foster a culture of active travel within the city, including active routes to school, an active transportation way finding strategy, and increasing bicycle parking supplies (City of Kingston, 2019l).

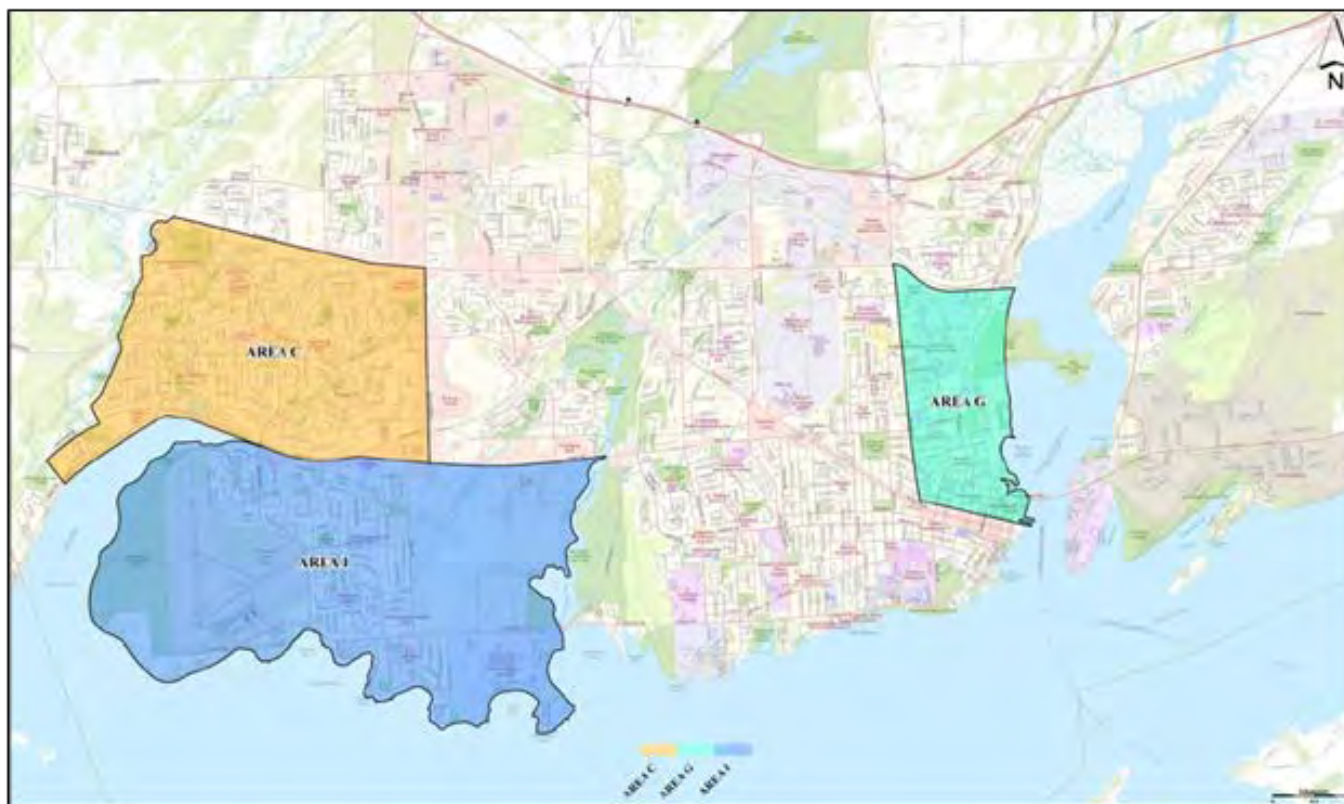


Figure 18: Neighbourhood focus areas for the Active Transportation 5-year Implementation Plan  
Source: City of Kingston (2019j)



## 2.2.7 STRATEGIC PLAN

Kingston's Strategic Plan outlines the current City Council's priorities from 2019 to 2022. As stated in the Strategic Plan, "[c]ouncil has set the vision to make Kingston a smart, livable and leading city" (City of Kingston, 2019e). Correspondingly, staff must work towards achieving this vision by moving forward on Council's initiatives.

The Strategic Plan lays out guiding principles meant to "shape decision making, policy development, and resource allocation" (City of Kingston, 2019e, p. 2). The Council's strategic priorities are laid out in the Plan as follows (City of Kingston, 2019e, 3):

1. Demonstrate leadership on climate action
2. Increase housing affordability
3. Improve walkability, roads, and transportation
4. Strengthen economic development opportunities
5. Foster healthy citizens and vibrant spaces

Under each priority are several goals, which have different measures for Kingston to track progress. For example, goal 1 of priority 1 is to "[r]educe greenhouse gas emissions (GHG) by 15 per cent across the City's operations by 2022" (City of Kingston, 2019e). The measurable for this goal is annual reports on how Kingston is progressing towards a 15 percent reduction, for both corporate services and the community. Other goals include completing various studies already in the pipeline, identifying location-specific initiatives, and identifying the communities and employment fields primed for future investment. The document concludes with a section highlighting projected increased tax rates. It also states that council endorses the "priorities, projects and implementation plan" in addition to increased rates. Climate change, housing affordability, growth, transportation, and parking all are affected by municipal finance. As such, Kingston's "targeted annual growth ... [is] \$2M per year" (City of Kingston, 2019e, 23). An update is provided by Council each year on the progress that Kingston is making on each goal and initiative within the Strategic Plan (City of Kingston, 2020f). There is also an implementation strategy as part of the strategic plan (City of Kingston, 2020f).



Figure 19: Cover of Strategic Plan  
Source: City of Kingston (2020f)

# CHAPTER CONCLUSION

This chapter shows the extensive research and policy work that the City of Kingston has carried out to develop effective infrastructure that supports active transportation and public transit goals. Many of the City's current parking policies and strategies align with the best practices outlined in the following chapter. There are further opportunities to expand upon this groundwork in order to fulfill the City's goal of becoming Canada's most sustainable city.

# CHAPTER 3: LITERATURE REVIEW OF BEST PRACTICES

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## 3.1 Parking Requirement Reforms









# CHAPTER SUMMARY

This chapter summarizes the negative impacts of minimum parking requirements and the need to adopt reforms followed by a review of parking management strategies, or best practices, that can be applied in the Kingston context. The term “parking management”, refers to various policies and programs that result in more efficient use of parking resources (Litman, 2006). These strategies can be divided into three categories described by Todd Litman: increasing efficiency, reducing parking demand, and support strategies. Two other strategies are also outlined that do not necessarily fall into the three categories. These strategies were uncovered from a literature review of scholarly journal articles, books, organizational documents, and city reports. The literature implies that no single strategy alone can fix a city’s parking problems, but rather a combination of strategies that are tailored to the local context must be employed.

## 3.1 PARKING REQUIREMENT REFORMS

Minimum parking requirements result in negative consequences for cities if the requirements are too liberal. These consequences include the prevention of infill development and adaptive reuse, potential tax base losses, higher housing costs, higher pollution emissions, and loss of ecosystem services (Shoup, 2011; McCahill, Garrick, and Atkinson-Palombo, 2018; Chapin, Jia, and Wachs, 2018; Kirkpatrick, Davis, and Pijanowski, 2018). As a result, parking requirement reforms are needed for cities to meet their future land use and transportation goals (Willson, 2000).

The literature describes various ways in which minimum parking requirements can be reformed. For example, in-lieu fees and other forms of parking pricing where demand can more accurately match supply (Shoup, 1995; Shoup, 1999). In-lieu fees allow developers or employers who subsidize parking to pay a fee instead of providing the required parking, which is then used to fund public parking spaces instead of private spaces (Shoup, 1999). However, the time lag between collecting funds and constructing public parking facilities poses a challenge, particularly to smaller cities, where in-lieu programs may not generate sufficient funding (LSC Transportation, 2006). Kingston's own in-lieu program has faced this problem (see Section 1.3.4). Parking availability can also be increased by decreasing demand through car sharing initiatives as well as improvements to transit service, bicycle, and pedestrian infrastructure (Forinash et al, 2003). Furthermore, many cities have eliminated minimum parking requirements in localized areas such as transit-rich neighbourhoods, downtowns, mixed-use districts, and other areas where driving rates are considered lower (Hess and Lombardi, 2004; Hess, 2017). Overall, planners recognize the need to adopt more flexible parking requirements. However, since the success of reforms is context-dependent, local conditions must be well-understood prior to implementing new parking policies.

### 3.1.1 INCREASING EFFICIENCY

#### 3.1.1.1 SHARED PARKING

The benefits of shared parking and its application across land uses have been well-documented in the literature. Smith (2005) defines shared parking as “parking space that can be used to serve two or more individual land uses without conflict or encroachment” (p.1). Litman (2006) states that shared parking is most successful when “destinations have different peak periods” or share patrons (p.12). Smith (2005) highlights how shared parking in mixed-use developments results in higher densities, improved pedestrian connections, and reduced auto-dependency because of the proximity to multiple land uses and increased rotation of parkers throughout the day. Interviews conducted by Stein and Resha (1996) with different stakeholders in the Portland metropolitan area revealed that eight land use types have high shared parking potential within the region including church, office, school, restaurant, and cinema. Using these results, the report developed model ordinance revisions and a shared use agreement, which other municipal governments can use for promoting shared parking as part of their growth management strategy. Similarly, Lalani (1984) indicated the land uses that may be most appropriate for shared parking include theatres, restaurants and hotels. In residential areas, Abbott and Bigazzi (2017) examined how shared parking can address parking supply imbalances in Vancouver's West End neighbourhood. Their results demonstrated how introducing off-street parking stalls to the West End's residential parking permit program could reduce on-street congestion. As such, shared parking is shown to be an efficient use of land and parking resources and can be an effective growth management mechanism.

### 3.1.1.2 PARKING MAXIMUMS

Parking maximums are a limit placed on parking supplies, either at an individual site or an entire area, and can be applied “in addition to or instead of minimum parking requirements” (Litman, p.15, 2006). They allow for more efficient use of space by preventing parking oversupplies and more closely matching actual demand (Engel-Yan et al, 2007; Engel-Yan and Passmore, 2013). Many cities around the world have implemented parking maximums in response to the issues posed by minimum requirements; however, maximums alone represent one component of a larger parking management framework. In the UK, London eliminated its minimum requirements and implemented new maximums, which led to an over 40 percent reduction in parking spaces between 2004 and 2010 compared to the number of spaces that would have been supplied under the previous requirements (Guo, 2018; Li and Guo, 2014). However, Li and Guo (2014) found that eliminating minimum requirements played a greater role in London’s parking reductions than the adoption of parking maximums, in which only 8 percent of developments saw parking caps. A later study by Li and Guo (2018) found that parking maximums were associated with “fewer multi-family housing developments in outer London but more developments in inner London”, particularly ones that were car-free (p.195). Similar conclusions were drawn by Lewyn and Schechtman (2015) who found that both parking maximums and minimum density requirements may lead to developments occurring in less regulated jurisdictions like the suburbs, or ineffectively reduce the parking supply since existing uses are not eliminated. Tumlin and Millard-Ball (2006) state that parking requirements, including maximums, should be tailored to each city to take advantage of transit hubs, which inherently have lower parking demand. Parking maximums alone may be slow to reduce excess parking but can facilitate smart growth in central cities when applied properly.

### 3.1.1.3 PARKING BENEFIT DISTRICTS

Parking Benefit Districts (PBDs) are a tool that cities can use to help properly price curb parking that expands on conventional forms of parking regulation and pricing. PBDs are traditionally located in a city's commercial area. In PBDs parking meter revenue is reinvested for public services in those areas (Shoup, 2018a). Examples of public services include infrastructure maintenance, new landscaped features, more public and pedestrian oriented spaces, graffiti removal, free Wi-Fi, and even free transit passes for workers in the area (Shoup, 2018a). The priced parking can eventually lead to reduced congestion, fuel consumption, and better air quality for residents that live in high traffic areas as well as visitors (Shoup, 2018a). If parking is free, only motorists benefit. By instituting PBDs and proper pricing, motorists may lose their free spot, but they would directly benefit from reduced congestion and more easily find an available parking space. The collective benefits PBDs have on different cities can be seen worldwide from Beijing to Austin, Texas.

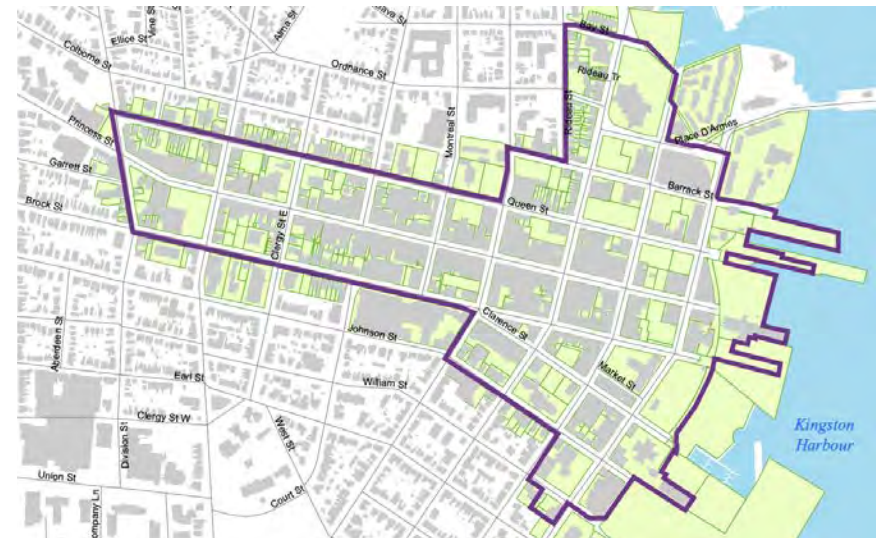


Figure 20: Downtown Kingston Business Improvement Area Boundary.  
Source: Downtown Kingston (2020)

Residential PBDs are an extension of typical residential Parking Permit Districts. There are three main differences between them. In a PBD, the number of permits is limited by the number of actual curb spaces (Shoup, 2018a). Second, drivers pay market price for permits, and thirdly, permit revenue must explicitly be for neighborhood public services (Shoup, 2018a). In areas with relatively lower car ownership and a high off-street parking supply (i.e. downtown Kingston & around Queen's University), a residential PBD can heavily boost public services. In order to ease public concerns, a PBD could be systematically phased in or instituted on one side of a street before expanding the program. Shoup (2018a) also considers the equity concerns that market pricing may invoke. For example, areas with higher incomes and presumably better public services should split PBD revenue between their own neighbourhood and the city. As such, Shoup (2018a) also writes that residential PBD's are "most appropriate in areas where owners have higher incomes and most residents do not own a car, so the lower income, carless majority will receive public benefits at no personal cost (p. 480). Accordingly, resident and stakeholder consultation are of great importance to create open dialogue and better understand neighbourhood context.

Another important aspect of PBDs is that they can also help increase the supply of affordable housing. Cities often require new housing to build off-street parking as the public realm is not equipped to supply incoming residents with parking. As mentioned previously, parking requirements often pass costs to the consumer and non-drivers, also reducing housing affordability and supply (Shoup, 2018a). A permit system can temper demand and allow cities to reduce or even eliminate

parking requirements allowing developers to build less parking and more (cheaper) housing (Shoup, 2018a). Additionally, existing garages could even be renovated into housing as residents would be able to park on their own streets under a residential PBD.

Pilot PBD projects may be an option for cities to explore before committing to a long-term program. By instituting programs on a trial basis, the public is given an opportunity to see policy in action before it becomes a permanent feature. PBD's are inherently community oriented. In Austin, Texas, for example the city explored a PBD pilot in 2006 for an area near The University of Texas at Austin after securing a federal grant (Bojo, 2018). The pilot was well received, and staff consulted heavily with residents and stakeholders through the process. The PBD was converted to a permanent program in 2011 (Bojo, 2018). Following stakeholder consultation and council approval, the program was expanded. There are currently three PBD-like programs in place in Austin. The City of Kingston does not have a formal PBD program in place, though it does have a residential (low cost) and commuter (market rate) permit system for numerous on-street parking areas around the city (City of Kingston, 2020m) (See Appendix A). There is an opportunity to expand this program into a formal PBD pilot or permanent project where revenue from permits is reinvested into specific neighbourhoods.



### 3.1.2 REDUCING DEMAND

#### 3.1.2.1 TRANSPORTATION -DEMAND MANAGEMENT

Transportation-demand management (TDM) is a series of program and policy initiatives that aim to modify travel behavior by reducing single occupancy vehicle use during peak periods and promoting the use of more sustainable modes of transportation. TDM initiatives can be implemented at specific sites, such as through employer-sponsored ride-share programs, or at a citywide or regional scale through park-and-ride facilities, cycling infrastructure and trip-reduction ordinances (Meyer, 1999). Table 4 shows how various TDM initiatives apply at different geographic scales (Meyer et al, 1994). However, effective initiatives require both public and private stakeholders to work together to make TDM an important component of the development process. For instance, planners can enact trip-reduction ordinances, regulations that require either a TDM or transportation management plan at specific sites, which ensures developers are involved in TDM at the outset of new developments (Ferguson, 1990). Furthermore, TDM initiatives require incentives for meaningful behavioural changes that are both publicly acceptable and flexible, such as various parking pricing strategies (see Section 3.2.2) and alternative work hours (Giuliano, 1992). One example of an effective TDM strategy is the Lloyd District Partnership Plan, which was implemented in Portland in 1997. The plan consisted of parking pricing through meters, discounted transit passes, and other TDM actions that reduced the drive-alone mode share by about 56 percent across the whole district (Bianco, 2000). Effective TDM initiatives must consider scope, public and private coordination, meaningful incentives, and other supportive strategies to reduce parking demand and increase other mode shares.

Table 4: Demand management tools as applied to various travel markets\* (\*adopted from Meyer et al., 1994)

<b>Trip Purpose</b>	<b>Site</b>	<b>Subarea/Corridor</b>	<b>Regional</b>
Work	Carpools Vanpools Public/private transit Cycling/walking Alternative work hours Site telecommuting Parking policies	Subarea rideshares Corridor HOV Parking policies Transit subsidies Subarea telecommute	Area-wide rideshare Transit service HOV lanes Area-wide pricing Area-wide telecommute Trip-reduction ordinances Area-wide traveler information system
Shop	Shuttles Transit subsidies Pedestrian access Bicycle access Urban design Tele-shopping	Shuttles Park-and-ride Transit services	Tele-shopping Transit subsidies Area-wide transit services Area-wide traveler information system
Tourist	Shuttles Parking policies Transit services	Park-and-ride lots Parking management Shuttles Transit services Bicycle/pedestrian amenities	Regional transit services Marketing Park-and-ride lots Area-wide traveler information system

Kingston has the appropriate policy context for the early stages of a progressive TDM strategy. The Official Plan highlights the importance of an efficient, affordable transit system that is accessible to all residents. In addition, other supporting actions include the Active Transportation Master Plan, which aims to expand cycling and pedestrian infrastructure, (see Section 2.2.6) and Kingston Transit's 5-Year Business Plan, which provides short-term goals for improving public transit service (see Section 2.2.5). The Transportation Master Plan also specifically mentions TDM as a strategy for Kingston to achieve its transportation-related objectives (see Section 2.2.4). Kingston has an opportunity to expand its TDM initiatives to help reach mode share and transit ridership targets.

### **3.1.2.2 PARKING PRICING**

Parking pricing is a parking management strategy that first emerged in Oklahoma in 1935, with the installation of the world's first parking meters (Pierce & Shoup, 2013). This strategy requires motorists to pay directly for the parking space they are occupying (Shoup, 2011; Litman, 2011, Victoria Transport Policy Institute, n.d.). In general, implementing parking pricing can help with reducing parking and transport problems, recovering parking facility costs, and raising money for streetscape and transportation improvements (Litman, 2006). Parking pricing does this through creating turnover in the most convenient spaces, reducing the number of overall spaces needed to meet demand, reducing vehicle traffic, and ensuring that users of parking pay their share for infrastructure costs (Litman, 20220). Table 5 displays some potential responses to parking pricing and the related impacts on the community. Parking pricing can be applied in various ways, such as to on-street parking, parking lots, and commercial parking (Litman, 2020a). Parking can also be priced directly through unbundling, commuter cash-outs, and residential parking permits. Unbundling parking from housing separates the cost of parking from the cost of the dwelling. This gives buyers or renters the option to purchase or pay for a parking spot which contributes to housing affordability (Litman, 2020a). Commuter cash-outs can be offered to employees who received discounted parking spaces. Instead of taking the parking space employees who commute by other means can choose to "cash-out" and receive money equal to the value of the space (Litman, 2020a). Residential parking permits provide residents the opportunity to purchase passes from the city which allows them to park on residential streets (Litman, 2020a).

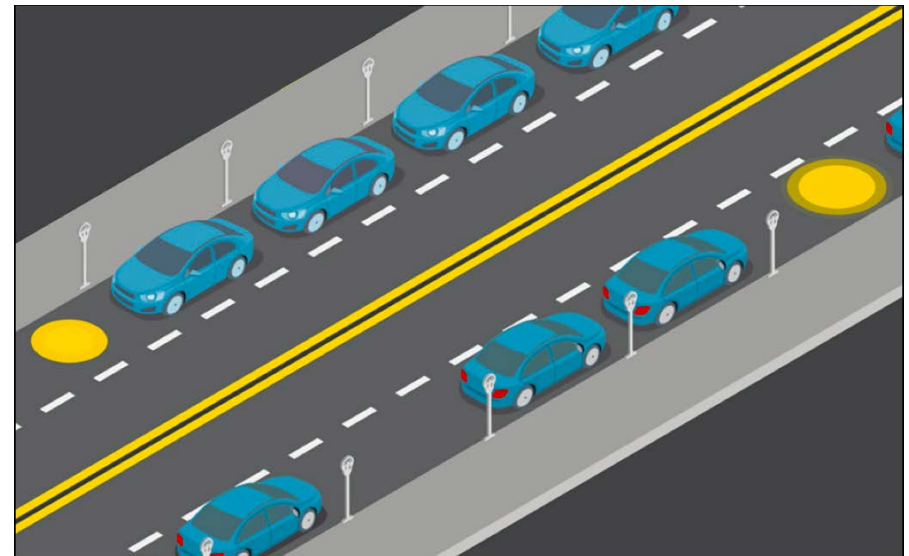


Figure 21: Parking demand, parking pricing, and vehicle turnover  
Source: Tejada (2017)

Table 5: Potential responses to parking pricing and regulation

<b>Consumer Response</b>	<b>Community Impact</b>
No change; pay fee or citation.	Provides revenue.
Reduce vehicle ownership.	Reduces parking demand and supports mobility management objectives.
Shift to an alternative parking location nearby.	Desirable if it makes convenient parking spaces available to priority uses; undesirable if it causes spillover parking problems.
Travel to an alternative destination.	Has mixed impacts; undesirable to businesses that lose customers but beneficial to those that gain.
Shift mode (walking, cycling, or transit).	Reduces parking demand and supports mobility management objectives.
Reduce trips (consolidate errands, telecommute, or forgo trips).	Reduces parking demand and supports mobility management objectives.
Reduce parking duration (length of stay).	Desirable if it reduces peak-period parking congestion; undesirable to businesses that lose customers.
Replace one vehicle trip with two chauffeured vehicle trips.	Generally undesirable since it increases total vehicle traffic.

Litman, T. (2006). Parking Management Best Practices. American Planning Association: Chicago, USA.

Parking pricing can be implemented anywhere where parking is congested, but it is important to get the price right, as over-pricing is also harmful (Litman, 2020a). Overpriced parking will leave spaces empty, which could cause nearby stores and restaurants to lose potential customers, people to lose jobs, and cities to miss out on additional revenues (Pierce & Shoup, 2013). Ideally, parking should be priced by location and time to achieve 85 percent parking occupancy (Shoup, 2011). This will create a scenario where one to two spaces in a block with eight parking spaces should always be available (Shoup, 2011). If many spaces are available, the price is too high, and conversely, if no spaces are available, the price is too low (Shoup, 2011). Performance-based pricing is the policy of setting prices to create one or two spaces of availability (Shoup, 2011).

Determining the right price is not the only obstacle for efficient parking pricing. Parking pricing can be inconvenient, cost-ineffective, inequitable, burdensome to low-income drivers, and cause parking spillover if implemented carelessly (Litman, 2020a). As a result, parking pricing should be administered on a trial basis allowing community members an opportunity to experience it and identify potential issues (Litman, 2020a). This enables planners to find suitable responses for issues identified in the trial period. If implemented effectively and with the proper supports, parking pricing can increase user convenience and reduce circling to find a space, cause turnover in the most valuable spaces, reduce vehicle travel, congestion, and pollution, and generate additional revenues for the city (Litman, 2020a). More broadly, parking pricing can play a role in reducing overall parking requirements and traffic congestion (Litman, 2006).

The City of Kingston uses parking pricing to help manage its on-street and off-street parking supply. For on-street parking, pricing comes in the form of metered spaces and residential parking permits. The City of Kingston provides a supply of more than 1,400 metered on-street parking spaces for motorists (City of Kingston, 2020f). Motorists can occupy these spaces for a duration of up to three hours at a rate of \$1.50 to \$2.00 an hour based on location (City of Kingston, 2020f). The City of Kingston also offers a variety of parking permits for residents, commuters, and visitors to exempt them from the time restrictions found on many residential streets in Kingston's central area (City of Kingston, 2020f). Parking permits are available to residents for a monthly rate of \$25 unless they do not have access to on-site parking. In this case, permits are \$12 a month. Commuter permits are available for select zones for a range between \$79.50 per month and \$136.75 per month based on location (City of Kingston, 2020f). Finally, visitors and contractors can apply

for weekly or daily temporary parking permits. Weekly permits cost \$12 and can be renewed once. Daily permits are free of charge and reviewed on a case-by-case basis. Kingston's off-street parking supply is in several lots and garages. In general, Kingston charges hourly and monthly rates; and offers permits for select parking facilities (City of Kingston, 2020g). Hourly rates are \$1.50 or \$2 per hour, and monthly rates range from \$79.50 to \$136.75 (City of Kingston, 2020g). Parking utilization surveys should be conducted to determine the appropriateness of these rates.

### **3.1.2.3 CAR-SHARE PARKING**

Car sharing and its application across land uses have several benefits. Lempert (2018) defines car sharing as a program operated by private or not-for-profit organizations that provides members with access to a fleet of shared vehicles distributed across a city for one-way or round trips. Studies in New York suggest that car sharing can reduce demand for accessory residential parking, overall vehicle miles traveled, vehicle ownership rates, and household transportation costs (New York City, 2011). Litman (2008), describes how Vancouver's Sustainable Transportation Credit Program can help increase housing affordability in urban redevelopments. Developers receive credits for providing parking spaces for car share vehicles, two car share vehicles, and annual transit passes to occupants, thus avoiding the cost of car ownership for residents (Littman, 2008). City car share policies can ensure equitable access to car share services through parking policies (Lempert, 2018).



To address potential issues with car share parking, Mintea Transportation Institute (2010) developed three car sharing models (see Appendix B). The Institute's study of North American cities includes strategies such as zoning by-laws that require developers to dedicate parking spaces for car share vehicles, designated "option zones" for on-street car share parking, allocated parking spaces to car share as a "vehicle-class", on-street parking at the rate of foregone meter revenue or permit fees, and off-street parking at market rate, discounted, or free parking in city parking lots and garages (Mintea Transportation Institute, 2010). These strategies have been proposed or implemented in Calgary, Seattle, Portland, New York City, Denver, and Washington to achieve equity for car share parking (Lempert, 2018).

### **3.1.3 SUPPORTING STRATEGIES**

#### **3.1.3.1 USER INFORMATION**

Another important aspect of parking management is user information. User information refers to information about parking options provided to drivers (Litman, 2006). This includes information such as parking availability, regulations, price, as well as available transportation alternatives (2006). Some of the most common forms of user information include signage, maps, websites, brochures, and electronic guidance systems (Litman, 2006). Electronic systems are especially useful, as they can provide information such as exact parking spot vacancies in real-time (Litman, 2006).

Improving user information can have a positive effect on the performance of existing parking. Without information users are often unaware of different parking options and may overburden the more obvious parking facilities while leaving others under-utilized. Improved user information can increase motorist convenience, change where people park, make better use of the existing parking supply, and help shift travel mode

choice (Litman, 2006). Furthermore, user information helps with expanding the range of parking facilities that serve a particular destination, reducing vehicle miles travelled, and driving costs resulting from drivers circulating to find a vacant space (Litman, 2006). Improving user information is especially beneficial for facilities that are underused due to being located out of sight. From a consumer perspective, improved user information can help alleviate some of the frustrations associated with not being able to find a parking space and allows people to make more informed parking decisions (Litman, 2006).

The City of Kingston provides much of its parking user information online, through maps and dedicated web pages. On Kingston's website, residents and visitors can find information regarding on-street and off-street parking locations, prices, permits, and regulations. This also includes information about transportation alternatives such as bus routes, schedules, fees, and bicycle paths. The City of Kingston has also partnered with HONK Mobile to help residents and visitors seamlessly search and pay for parking (City of Kingston, 2020e). Through the HONK Mobile app, motorists can browse for parking options in the downtown and conveniently pay for them with their mobile phone (City of Kingston, 2020e).

### **3.1.3.2 OVERFLOW PARKING**

Overflow parking plans are plans designed to manage situations where peak parking demand is greater than the existing supply. Generally, these apply to specific sites for periods that gather large crowds such as special events, or holiday season shopping (Litman, 2006). Overflow parking plans outline the necessary responses to deal with the large influx of motorists requiring additional parking spaces (Litman, 2006). Since parking facilities are generally designed to accommodate infrequent peak parking demands, creating and implementing overflow parking plans allows for parking requirements to be reduced (Litman, 2006) and ultimately maintain a parking supply that is more reflective of usual demands. In addition to reducing parking requirements, overflow parking plans can reduce traffic congestion and improve service quality by limiting confusion and minimizing parking spillover (Litman, 2006).

One example of an overflow parking plan in Kingston is the Leon's Centre. The Leon's Centre utilizes a dispersed parking model to deal with overflow parking. This strategy relies on eleven prioritized public and private parking lots to accommodate the majority of the facility's parking requirements (City of Kingston, 2020). This supply is further supported by the 550 on-street parking spaces that are within 600 metres of the Leon's Centre (Leon's Centre, n.d.). In addition, information regarding parking locations, prices, and transportation alternative is accessible to attendees online on the City of Kingston or the Leon's Centre websites. Utilizing this model has enabled the Leon's Centre to manage extreme parking demands while maintaining a minimal parking supply.

### **3.1.3.3 PARKING ENFORCEMENT**

Effective parking enforcement is crucial for any parking management strategy to be effective (City of Portland, 2018). The primary purpose of parking enforcement is to produce a "culture of compliance", meaning residents and visitors can park legally, while supporting a well-managed parking system (City of Portland, 2018). Improving enforcement and control within cities supports parking management as it increases regulatory and pricing effectiveness (Litman, 2016). As cities expand parking management strategies parking enforcement should also be expanded to ensure these new changes are being appropriately enforced (Litman, 2016). Pay and display, pay-by-space meters, and parking permits have improved enforcement capabilities. These parking enforcement tools allow a faster process for writing tickets and the recording of parking data. Areas with frequent violations can be identified, and enhanced enforcement strategies can be implemented (ITE, 2016).

Kingston currently has a bylaw enforcement team that patrols the City and investigates, enforces and educates citizens on the municipal bylaws, including parking (City of Kingston, 2020n). As stated by the City of Kingston regarding their parking enforcement, "[t]he City works to enforce parking regulations across the city to ensure fair access to parking for all citizens, including those with accessibility needs" (City of Kingston, 2020n). In addition, Kingston highly regulates its accessible parking spaces, with a fine of \$300 when these spaces are used in violation. When parking within Area 1, either a permit, metered parking or pay-and-display payment is required (City of Kingston, 2018w).

### 3.1.4 MISCELLANEOUS STRATEGIES

#### 3.1.4.1 LOCATION-BASED PARKING RATIOS

Location-based parking ratios, also known as area-specific parking requirements, area parking management strategy where parking requirements are delineated by different areas of a city. These areas can be defined by their existing infrastructure, such as transit access, or by Official Plan designations and other policy considerations such as long-term transportation and land-use planning goals (Engel-Yan and Passmore, 2010). These types of ratios are components of Ottawa's and Toronto's zoning bylaws and are currently being adapted for use in Kingston. Both cities have distinct policy areas that correlate with the downtown as well as inner and outer areas. Toronto's policy areas specifically align with the level of transit service available in an area such as subway lines (see Figure 22). For both cities, zoning bylaws assign ratios for each policy area as well as the different land uses within a designated area. Location-based ratios are an example of more accurate and flexible parking standards by tailoring parking requirements to the different conditions of each respective policy area in a city (Litman, 2006). Previous parking studies conducted in Kingston's Central Business District and Princess Street Corridor (i.e. Parking Area 1, excluding Williamsville) cite its proximity to employment, transit, and post-secondary institutions as a factor that lowers anticipated parking demand.



Figure 22: Municipal parking lot in Downtown Kingston

Source: Tinevez (2020)

### 3.1.4.2 SMART GROWTH AND COMPACT DEVELOPMENT

Smart growth policies are policies that strive to inform more efficient transportation and land use patterns (Litman, 2006). Developments stemming from smart growth policies feature dense land uses that are pedestrian friendly and have good access to public transportation (Lee, Rees, & Watten, 2010). Examples are transit-oriented development and new urbanist developments (Litman, 2006). One of the key components to smart growth is parking management, for effective parking management reduces the land demand from parking (Wilson, 2016; Litman, 2006). Lower parking supplies can help lower the total number of trips which is one of the main goals of smart growth (Lee et al., 2010). On the other hand, the land use patterns featured in smart growth can reduce vehicle ownership, use, and miles travelled which should reduce parking requirements (Dunphy, 2004; Arrington & Cervero, 2008; Ewing and Cervero, 2017; Litman, 2006). Furthermore, smart growth can promote the sharing of parking infrastructure, shifts to other modes of transportation, and diverse parking pricing options (Litman, 2006). Utilizing effective parking management alongside smart growth could provide opportunities to further reduce parking requirements and the total amount of space dedicated to parking.

According to Ewing and Cervero (2017), compact development can make people drive less, though reduced driving does not rely on density alone. Compact areas have high levels of “development density, land use diversity, street connectivity, destination accessibility, and distance to transit” (Ewing and Cervero, 2017, p.19). All these variables “have statistically significant effects on VMT” or vehicle miles travelled (Ewing and Cervero, 2017, p.24). Accordingly, compact areas tend to have lower VMT. Daniel Chatman (2013), a UC Berkeley Planning professor, states that “transportation and land use planners should broaden their efforts to develop dense, mixed-use, low parking housing” rather than rely on singular efforts, such as transit

infrastructure (p. 17). There are complex relationships between travel demand, development, and land use that are linked by parking. Additionally, an earlier study by Chatman in 2003 makes two important conclusions: 1) “higher employment density is associated with a lower likelihood that a worker will drive to work”, thereby reducing VMT, and 2) “workplace density is also directly associated with reduced personal commercial VMT, regardless of commute mode choice” (p. 200).



Figure 23: Kingston's compact downtown. *Source: Gosal (2019)*



# CHAPTER CONCLUSION

This chapter provided a high-level overview of parking management best practices based on a literature review of academic and non-academic sources. Practices were divided into three categories from Litman according to their policy intention such as increasing parking efficiency, reducing parking demand, and supporting strategies. Two other practices, location-based parking ratios and smart growth and compact development, were placed into a miscellaneous category since they do not necessarily fall under one of Litman's defined categories. Kingston's initiatives with respect to each practice were also described in order to highlight strengths of the City's parking management as well as highlight opportunities. These opportunities helped inform the team's recommendations in Chapter Five.