



Discussion Paper:
The Power of Parking: A New Parking Paradigm for
Kingston?

City of Kingston
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The Real Parking Problem - Kingston's Call to Action

Preamble by Paige Agnew & Brent Toderian

Whenever almost any aspect of city planning and community-building is discussed, it is often said that the most common issue brought up is parking.

Whenever any building or site is being designed, it is often said that designers feel pressure to start with the parking first, making good design harder for everything else, because of how inflexible the parking requirements and expectations typically are. We've learned in Kingston that the approach to parking can literally make or break a badly needed project.

Almost every good or great place in any city, including in Kingston, is inevitably said to have a "parking problem." Usually what's meant by that is the suggestion that there isn't enough parking.

And yet, increasingly in recent years, successful and responsible cities have come to understand that the constant effort to solve that perceived "not enough parking problem" comes with very big costs and consequences, and often makes those good or great places a lot less successful in the trying. It also makes achieving a city's many stated public goals, from improving affordability, to mitigating climate change, and just making the city more livable, healthy, and enjoyable, a lot harder.

Such cities are now recognizing the **real** parking problem they have: that there's actually probably **too much** parking in the city as a whole, and in many particular places. That all of that parking takes up massive amounts of space, costs significant amounts of money, actually induces more driving and car ownership, makes a city's aspirations around increased walking, biking and public transit much harder, adds significantly to the affordability challenges of a city, results in massive GHG emissions and other forms of pollution, makes the city



Photo of Surface Parking in Williamsville (Source: A. Gummo)



Aerial Image of Northwest Corner Princess St & Gardiners Rd
(Source: Nearmap)

less healthy and equitable, and weakens the quality of the public realm and public life.

But the biggest parking problem in cities might be how much parking dominates the public, professional and political discourse on city-building, at the expense of everything else that's important. How easily and rigidly it stands in the way of real progress on all the other aspirations of ambitious cities who want to make better city-building a reality, but believe they are stuck with the business-as-usual that's embedded in the parking section of their zoning by-law. Kingston, in many ways, continues to demonstrate that it is not a 'business-as-usual' city.

The fundamental parking reconsideration discussed in this document will be the basis of a real parking **solution** for Kingston, supporting for the first time a badly needed public conversation about a better way to do parking in the city – and how to actually achieve a better city as a result.

For Kingston, this 'problem' also represents tremendous opportunity, which can help transform our beloved city into the 21st century, sustainable place we aspire to be, reflecting Council's bold strategic priorities.

Herein lies our new parking 'call to action'.

Chapter 1.

The Power of Parking

Chapter 1. The Power of Parking

1.1 Parking and the Big Picture

Parking is one of the most powerful drivers of the design, form, and function of our cities and our neighbourhoods. While often thought of as a small technical detail connected to a larger development scheme, in reality, parking has a huge effect on the environment, economics, affordability, resiliency, equity, and overall success of how we build our city.

Our current approach to municipal zoning and regulations requires a certain number of parking spaces to be provided for every kind of development – large residential buildings, low density residential houses, commercial plazas and malls, main street commercial store fronts, office buildings, industrial buildings and everything in between. These parking requirements dictate the amount of area that must be dedicated solely to the storage of cars, whether it be in surface parking areas or in a parking structure (below or above grade).

Parking regulations dictate the size of parking spaces, the size of driveways and the size of drive-aisles required to access parking spaces. When designing a development scheme, the location of the driveway, the drive-aisles and the number and size of the parking spaces can easily become the primary dictator of built form and function on a property. Parking is often laid out prior to the



Aerial Image of Downtown Kingston (Source: Nearmap)

design of a building since the form and function of parking spaces is relatively constant and cannot be molded and shaped like the architecture of a building. Experience in Kingston illustrates that the result is often a constrained envelope for the actual architecture of the building, with significantly increased costs to build expensive parking lots or parking structures, and parking located in prime portions of a building or site that would be better used for functions that provide greater support for the public interest.

Parking regulations, when well thought out and connected to larger strategic aspirations, can be a catalyst for positive, forward-thinking growth, and can spur healthy development for residents and the environment. Good parking regulations can take advantage of and support municipal investments in transit and active transportation infrastructure projects. They can support healthy, mixed use communities that require less investment in infrastructure, lessening municipal costs and increasing tax revenues due to a more compact and multi-modal built form. When poorly implemented, however, parking regulations can be an impediment to progress, standing in the way of priorities and objectives for the future of our cities.

Parking regulations are often approached as a formula rooted in past practices and experiences to ensure every building has plenty of parking, which is thought to be the best measure to protect the nearby area from the spillover of vehicles into public parking spots. The

regulations are typically employed broadly, regardless of the future occupants, its geographic location and several other market factors that significantly impact actual demand.

Planning Services staff are responsible for creating and upholding policies to guide the future growth of the City of Kingston. As a principal junction between land use planning, transportation and the economy of our cities, parking policies have the power to do great harm or create great public value, depending on how they are crafted and implemented.

1.2 Parking and Affordability (aka the True Cost of Parking)

According to globally renowned parking expert Donald C. Shoup,

“If motorists don't pay for parking, who does? Initially, developers pay for parking. Providing all the spaces necessary to meet minimum parking requirements in zoning ordinances raises the cost and reduces the density of development. The cost of parking is then shifted into higher prices or lower values for everything else-so everyone pays for parking indirectly. Residents pay for parking through higher prices for housing. Consumers pay for parking through higher prices for goods and services. Employers pay for parking through higher office rents. Workers pay for parking through lower cash wages. Property owners pay for parking through lower land values. Because motorists park free for 99 percent of all trips, only in our role as motorists do we not pay for parking. Everyone but the motorist pays for parking” (Shoup, “In Lieu of Required Parking”).

Among many other implications, parking is an equity issue. The costs associated with the construction of parking permeate through all sectors of the population, rather than being borne solely by the users of the parking spaces due to costs being passed from developer to purchaser to tenant to consumer. The biggest element of the equity issue is the impact on housing affordability. Canadian transportation expert Todd Litman, of the



Aerial Image of Affordable Housing on Brock St
(Source: Nearmap)

Victoria Transport Policy Institute, succinctly summarizes the affordable housing equity issue:

“conventional parking minimums significantly increase housing costs, especially when land prices are high and housing construction costs are relatively low, such as affordable, urban infill housing. Based on typical affordable urban

housing development costs, one parking space per unit increases total development costs by about 12.5%, and two parking spaces increase costs by about 25%" (Litman, "Parking Requirement Impacts on Housing Affordability").

As explained by Litman, lower income households, who tend to live in the most affordable forms of housing and have the lowest levels of vehicle ownership, pay a higher percentage of overall housing costs on the provision of parking than higher income households, whose costs typically include greater construction costs and greater land values, making the proportion spent on parking less, since parking is a relatively fixed cost across local geographies.

In Kingston, this equity issue is further exaggerated by the cost of the construction of parking, which is considered to be expensive relative to a number of other cities due to the regional bedrock geology. According to the [Rental Market Housing Development Viability Analysis Report](#), parking spaces typically cost between \$6,000 (surface) and \$45,000 (underground) per space to construct. Analyses in other Ontario cities suggest even higher costs, as high as \$80,000 to \$100,000 per underground space. In many areas of the City, the bedrock is located very close to the surface of the ground, making it very expensive to dig (or blast) below grade parking structures, with costs significantly increased from the typical costs noted above. The result

is the preference of developers to build open air, surface level parking or above grade parking structures, which are inferior options from an urban design and overall city-building perspective – points that are elaborated on in a subsequent section.

The [final report](#) from the Mayor's Task Force on Housing ("MTFH") recognizes that the proforma (the financial report projecting the cost of a development) "is very sensitive to minor change to any of the revenue and cost inputs" and states:

"good policy in the following areas can make a difference:

a. The need to park cars, especially underground, makes it harder to provide more housing. It is not surprising that that there are many new developments in the Williamsville area targeted to students who, on average, require much less parking. Another population which needs less parking is older seniors (over 75). The City can reduce parking requirements in strategic areas. City policies to promote public transit, active transport, or carsharing will, in the long term, benefit housing. In the suburbs, reducing the parking requirement enough (or having available land) to eliminate underground parking significantly improves economic viability. Having said that, developers often need to have a certain amount of parking simply because tenants demand it." (Mayor's Task Force on Housing).

One of the underlying themes of the MTFH recommendations is that good policy makes a difference for housing affordability. Creating as-of-right entitlements through a zoning by-law setting reduced parking standards not only reduces the construction costs associated with that development by allowing developers to build fewer parking spaces, but also reduces the soft costs of a development approval in terms of time and consultant fees.

“In this regard, the most important and highest priority task is to update and harmonize the City’s zoning bylaws. In their present form, a legacy of the 1998 amalgamation, the outdated bylaws waste valuable staff time. Council should make every effort to ensure that this task is completed as soon as possible. Ultimately, the old zoning bylaws are retarding the building of housing and increasing costs.”

- Mayor’s Task Force on Housing, “A Foundation for the Public Good: Recommendations to Increase Kingston’s Housing Supply for All.”

High parking minimums affect viability/market attractiveness of strategically located infill, a desirable form of development relative to many public interests, that takes advantage of existing infrastructure and services in desirable locations without needing to expand into undeveloped areas in less desirable locations for intensification. The intent of a great deal of city policy, as well as the evolving Density by Design work (Appendix B), is to make strategic density easier in the right places and harder in the wrong places. Creating the appropriate parking policies will greatly assist in the realization of these policies and goals by making infill development more feasible from a financial perspective.

Finally, in addition to cost borne by the owner, unnecessary planning applications also cost Staff time and resources reviewing and processing applications, which is a cost borne by all property owners in Kingston. The MTFH report recognizes that parking construction costs and all other soft costs are passed down to the eventual owner or tenant, so the creation of policies that reduce these costs will ultimately assist in the realization of a more affordable housing market in Kingston.

1.3 Parking and Alternative Transportation Modes

An obvious and direct nexus exists between the provision of parking spaces and alternative modes of transportation including public transit, cycling/biking and any other human-powered mode of travel (walking, inline skating, mobility aids, etc.). The connection is inherent – where someone chooses to use an alternative mode of transportation, they are not travelling in an automobile and do not require the use of a parking space at their destination.

Research suggests that this obvious connection between alternative modes of transportation and parking can be leveraged through appropriate policies and parking management strategies to increase use of alternate modes and decrease the use of personal automobile.

Reducing the reliance on the personal automobile is not just a matter of requiring less parking to be provided on private properties through zoning regulations. It is also an interconnected problem requiring a broad range of solutions and alternatives including public transit system improvements, active transportation pathways and appropriately priced public parking supplies.

Parking costs are an important factor in travel mode choice, where past studies have found that between 25 and 34 percent fewer vehicles were used to drive to work when a fee is charged for parking compared to when parking is free (Zahabi et al). This is supported by other

research which found that higher parking costs are associated with an increase in public transit miles in larger American cities. The research identified a 2.3 fold increase in public transit miles where there are higher parking costs and suggests that “raising the cost of curbside and off-street CBD parking and parking violations may play a role in increasing public transit use in larger cities” (Aucincloss A. et al).

“The zoning regulations and price distortions that induce high automobile use have serious consequences for urban environments. They degrade air quality, imperil safety and use a lot of land that could be used for parks, schools, stores and other things. By understanding the role of parking and how parking rules are enforced, policymakers are more likely to improve everyone’s mobility.”

- Weinberger, R. quoted in “Low Parking Costs May Encourage Automobile Use”

In studying the impact of parking policies on the transportation choices of residents in San Francisco, research found that land use policies and transportation choices are connected. Greater transit accessibility reduces car ownership and use. Greater walkability and active transportation infrastructure reduce car use and increases use of alternative transportation modes. Most importantly, a building's parking supply has a stronger



Photo of Kingston Transit Bus (Source: Kingston Transit)

effect on transportation choices than transit accessibility. Buildings with one parking space per residential unit have more than twice the car ownership rates than buildings with zero parking spaces (Millard-Ball et al).

This confirms that parking supply likely has an even greater effect on car use than the availability of alternative transportation modes. Those who can afford to pay for parking will still use it, but where there is less parking available with a focus on alternative modes, some users will choose alternative modes since they won't have a parking space available to them.

Recognizing the importance of improved transit accessibility throughout the City to shift transportation use away from the private automobile, efforts were focused on improving the overall Kingston Transit system through expansion of service and a phased-in addition of express transit routes. These express routes have been designed to connect a significant portion of the City's urban area with fast, reliable, frequent service providing at least 15-minute service frequency with fewer stops during weekday peak periods. These express routes were established as the "backbone" of the Kingston Transit network and fundamentally changed the Kingston Transit route structure and service levels.

According to the [Kingston Transit 5-Year Business Plan \(2017-2021\)](#), the improvements saw an increase in its transit ridership of 31% between 2011 and 2015. The transit ridership levels were acknowledged by Statistics

Canada as having the highest proportion of commuters in a Canadian mid-sized metropolitan area using transit and active transportation. The success of the Kingston Transit improvements was further honoured in 2018 by the Federation of Canadian Municipalities Sustainable Cities Conference.

At the same time as the City was making significant investments in the transit system, it also expanded regulations to the on-street and off-street public parking supply, removed all day parking options, and significantly increased pricing for long term parking. The provision of higher frequency, high quality transit service provided a viable new option to many commuters that also found their free parking option had been removed, significantly increased in cost, or was located much further away. In addition to encouraging commuter transit use, the parking policy changes also helped protect short term and residential parking options for existing developments.

In addition to a focus on transit and public parking policy improvements, the City has put significant investments into infrastructure supporting active transportation. This investment has been supported by the Active Transportation Master Plan (“ATMP”), titled “Walk N’ Roll Kingston” (Appendix B) and is an ongoing project ensuring that active transportation routes permeate throughout the City. Kingston Transit’s Rack ‘N’ Roll program equips every Kingston Transit bus with a rack that accommodates two or three bikes. The City

continues to grow and upgrade the [cycling network](#) in accordance with Walk ‘N’ Roll Kingston ATMP and is committed to identifying a network of cycling routes that would be maintained throughout the winter in accordance with the [5-year Active Transportation Implementation Plan](#).

By making necessary investments and improvements in transit and active transportation connectivity and infrastructure, the City has set the stage to implement further improvements in parking policy, especially within the private realm, to shift the transportation focus from the private automobile to alternative modes of transportation, with viable, convenient and attractive alternates. But without the corresponding parking rethink, such improvements to transit will fail to achieve their full potential.

1.4 Parking and the Climate Emergency

In 2010, the Sustainable Kingston Plan was completed, describing sustainable development (using the same language as established in 1987 through the Bruntland Report titled “Our Common Future”) as “development that meets the needs of the present without compromising the ability of the future generations to meet their own needs”. It identifies that achieving

sustainability for Kingston requires fundamental changes in the way we live and to challenge long held assumptions about growth. The plan, while setting a long-term sustainability direction and framework, identified the ambition of making Kingston Canada’s most sustainable city.



Aerial Image of Kingston Centre – area bounded by Princess St, Sir John A MacDonalld Blvd and Bath Rd (Source: Nearmap)

On March 5, 2019, the City of Kingston made a declaration that climate change is an emergency that requires an urgent and strategic response, becoming the first municipality in Ontario to make an emergency declaration in this regard. The City of Kingston Strategic Plan 2019-2022 (Appendix A) includes demonstrating leadership on climate action as one of the key Council priorities, identifying:

“Given the economic, social and environmental threats of greenhouse gas emissions and Kingston’s 2019 declaration of a climate emergency, the City is committed to stewarding the environment for future generations. As an internationally connected city, Kingston will address this global issue as a local climate action leader and inspire Kingston residents to become part of the solution” (City of Kingston Strategic Plan 2019-2022).

The [Kingston Community GHG Inventory Update – 2018](#) identifies that the transportation sector is responsible for 36% of the greenhouse gas (“GHG”) emissions in Kingston. In Canada as a whole, the overall transportation sector is responsible for 23% of Canada’s GHG emissions, and of the 15.4 million people who regularly commute, only 12% use public transit as their primary transportation mode (Clean Energy Canada et al). There are great opportunities to reduce GHG emissions in the transportation sector with coordinated transportation policies that assist with the paradigm shift required to

reduce our GHG emissions. According to the “Reducing GHG Emissions in Canada’s Transportation Sector” report:

“Improvements in the availability and efficiency of public transit, incentives for mode shifting away from solo-car rides towards auto-share, public transit and active transportation, and support to make electric vehicles more affordable would provide Canadians with concrete options to change their travel habits and do their part to tackle climate change”

Kingston’s initial Community Climate Action Plan, released in 2014, recognized these emission reduction opportunities at a local scale by including transportation demand management strategies and by supporting adoption of electric vehicles. Over the past several years, progress has been achieved in terms of significant increases to transit ridership and investment in dozens of public electric vehicle (EV) charging stations as well as adding EVs to the City fleet. These opportunities and others are being further advanced with the City’s new Climate Leadership Plan which is further outlined within Section 2.5 of this paper.

In addition to the GHG emissions from the movement of vehicles, it is important to also consider the GHG emissions associated with the construction of parking spaces. Parking spaces, when provided at-grade are often constructed of asphalt or concrete. When provided in a parking structure, are usually constructed of concrete and steel. According to Ellowitz and Wessel, the cement

production industry contributes to 5% of global carbon dioxide emissions, which includes the byproduct of fossil fuels burned during production and the biproduct of a chemical process of calcination which generates 50 to 60% of the carbon dioxide from the cement production process. In addition:

“The Environmental Protection Agency and the Portland Cement Association have found that approximately one ton of CO₂ is emitted in the production of each ton of Portland cement. Consideration should also be given to the embodied carbon of the mining and shipping of raw materials, concrete placement, and transportation of precast members—all processes that currently require the burning of fossil fuels” (Elowitz and Wessel).

Steel is a recycled material, with 69% of steel in North America being recycled annually. However, like cement, the steel production process contributes about 5% of global GHG emissions, primarily from the use of energy resources to fuel the extreme heat required in blast furnaces during production plus the embodied carbon of the mining and transportation of iron ore. Nearly two tonnes of carbon dioxide are emitted from the production of one tonne of steel (Elowitz and Wessel).

Asphalt has a high carbon content from the asphalt cement or bitumen, with an average carbon content of about 82%. In North America, approximately 95% of asphalt pavement removed from the road is either reused

or recycled as a base or shoulder material (Associated Schools of Construction), however the embodied carbon in the production and transportation processes when combined with the GHG emitted during the production and recycling processes, cannot be ignored.

When considering the environmental impacts of the construction of parking spaces, coupled with the environmental impacts of owning a vehicle, the City of Kingston has a major opportunity to demonstrate leadership on climate action through sustainable development and the reduction in GHG emissions with the creation of new parking policies. The effects of reducing the number of available parking spaces, making efficient use of the parking spaces that are available and implementing parking management strategies in locations that support active transportation and transit will help to accelerate more sustainable growth and reduce GHG emissions by encouraging fundamental changes in our transportation behaviours.

1.5 Parking and the Public Realm

The quality of what is often referred to as the “public realm” (the publicly owned or accessible places and spaces in a city) has a significant effect on a city’s success, in almost every way. The cumulative impact of parking on the public realm and urban design of our cities cannot be overstated. The provision of parking spaces is one of the most significant challenges we face in achieving a desirable built form that contributes positively to our experiences as residents of a city.

As stated up front in this Paper, parking has relatively fixed size requirements in order to have a functional layout of spaces, turnaround areas and drive aisles in and out of parking lots. When parking minimums and supply are high, the constraints of laying out parking areas are often the number one consideration an architect or designer must address; even before a building is designed on a property. Simply put, the fixed and inflexible elements of parking shape every element of our buildings and the public realm.

The result of this common design exercise, where parking is first and the rest of the design comes after, is that parking lots and parking structures are often located in prime areas that would be better served by a well-designed building providing a connection between the private and public realms.

“Increased parking requirements increase land costs per area of developed floor space, making development at the urban periphery relatively more attractive due to lower land costs (Willson, 1995). Some studies suggest that such regulations discourage urban infill development (Burby, 2000). Increased parking also creates lower density urban and suburban land use patterns that are unsuitable for walking, bicycling and transit. Development densities under about 12 units per acre cannot effectively support public transit service and neighborhood amenities such as small shops within walking distance that substitute for driving. Since off-street parking is a fixed cost (households must pay it whether or not they own a car), fixed parking standards encourage automobile ownership and use.”

- Litman, “Parking Requirement Impacts on Housing Affordability”

When provided as open-air, surface level parking lots, parking spaces consume an enormous amount of land area. They typically function as voids in the streetscape, interrupting the pattern of building frontage along streets with open, underused land that is not welcoming for pedestrians. When provided in below or above-grade parking structures, parking spaces can contribute to uninspiring architecture that lacks a connection to street level pedestrians unless significant (and expensive) design interventions are used to successfully mask their appearance as being anything other than a parking structure.

Drive aisles providing access to parking lots from public streets can interrupt the continuity of sidewalks, puncturing pedestrian routes with vehicles traversing in and out of private property. Increases in the amount of land required to support a building inherently reduce the overall density of development and lead to increased distances between different uses, further lessening the walkability of our urban areas, resulting in a vicious cycle where more cars are used to move between less dense urban uses, requiring more parking spaces.

The Kingston “Density by Design” work, when addressing the conflict between parking and good urban design, said this:

“The best option to address parking is to build less of it. The next best option is to put as much of it as is feasible underground. Although a ban on

above-grade parking (Option 1) likely isn't viable, this should be considered the ultimate goal (if changes that make parking redundant don't happen first), with timely steps to both reduce the amount of parking and increasing the amount below-grade over time.”

The paradigm shift in parking discussed in this Paper requires us to shift our thoughts about the quantity of parking spaces and would, instead, allow planners to focus on the quality of those spaces from an overall urban design perspective, as recommended by Mukhija and Shoup:

“Off-street parking requirements focus on the ratio of parking spaces to floor area, usually neglecting the consequences for urban design. As a result, most parking lots are asphalt breaks in the urban fabric, and most parking structures present blank walls to the street. Parking lots and garages tend to interrupt the streetscape, expand the distances between destinations, and undermine walkability. We argue that planners should worry less about the quantity of parking provided and should pay more attention to its quality”.

1.6 Parking and It's Reform in Other North American Cities

Many cities across North America are currently shifting from what has been a status quo parking policy approach, to a fundamentally different approach to the supply of parking spaces. This paradigm shift includes replacing outdated parking minimums in zoning by-laws (or their equivalent depending on the jurisdiction) with significantly reduced minimums, or the outright removal



Photo of Edmonton (Source: ExploreEdmonton.com)

of minimums. Instead, the initially favoured options include parking maximums, increased bike parking requirements and other forward-thinking parking management and reuse strategies.

As reviewed in the “Onsite Parking Requirements Update for the City of Kingston” report prepared by students in the Queen’s University SURP 826 Course (summarized in Appendix B of this Paper), the City of Edmonton was the first major Canadian city to remove minimum parking space ratios city-wide. Our project team conducted an information-sharing workshop and additional correspondence with City of Edmonton Staff to discuss issues and learn more about their successes and observations.

Although there are many important differences between Edmonton and Kingston (including the fact that, unlike Kingston, Edmonton has a significant over-supply of underpriced public parking), there were many important learnings from this information-sharing to educate an eventual “made-in-Kingston” approach. In what Edmonton has coined as “Open Option Parking”, they took a phased approach to reducing parking minimums, beginning in 2010, which eventually led to the complete removal of parking minimums in June of 2020, with the exception of accessible parking spaces. In conjunction with the removal of minimum parking space ratios,

Edmonton increased the number of bike parking spaces required and established maximum parking space ratios for commercial, residential and mixed-use classifications in the downtown core, which was eventually extended to transit-oriented development and main street areas.

Edmonton also created opportunities for businesses and homeowners to share parking spaces or lease out parking space to nearby properties. According to the City of Edmonton, the benefits of their Open Option parking include:

Designing our city around parking amenities instead of people has resulted in wasted space and wasted business opportunities. Eliminating parking minimums is a practical, fiscally responsible move that delivers significant long-term benefits for Edmonton, including:

- Improving choice and flexibility in how businesses and homeowners use their properties and meet their parking needs.
- Moving us closer to achieving the vibrant, walkable and compact city envisioned in ConnectEdmonton and the draft City Plan. Parking can take up a lot of space, making neighbourhoods more spread out and less walkable. Removing minimums enables more walkable main street shopping areas and local amenities, such as neighbourhood coffee shops, that Edmontonians have told us they want.
- Removing an economic barrier to new businesses and more diverse, affordable housing

options. Parking is expensive, running anywhere from \$7,000 to \$60,000 per stall. This cost gets passed down in the rent or mortgage Edmontonians pay, goods bought and services used.

- Supporting more diverse transportation options and climate resilience. Transportation contributes more than 30 per cent of greenhouse gas emissions in Edmonton and is responsible for more than 40 per cent of energy use. Open Option Parking helps open the door for the possibility of a less auto-centric future.

- Enabling opportunities for businesses and homeowners to share parking or lease out space to nearby properties. Edmonton has a long history of allocating a disproportionate amount of space to automobiles, which has led to a greater than 50 per cent oversupply of on-site parking city-wide. Allowing developments to share or lease out parking makes more efficient use of this existing oversupply.

The City of Ottawa, which was chosen as one of four case-studies for the SURP 826 project course, began updating their parking requirements in 2015 which saw some major changes through the introduction of three new parking areas (X, Y and Z) representing the inner urban area, inner urban main streets and areas near major light rail transit (LRT) stations, respectively. Through the introduction of these three new areas, new minimum parking space ratios were developed to fit

within the desired development in these areas. For Area Z, Ottawa removed all minimum parking ratios, except for visitor parking spaces acknowledging that the policy framework intended to establish higher density around LRT stations and they sought to balance the need for parking against the costs, such as inefficient land use. The changes were intended to encourage walkability, affordability, and the growth of small business.

The City of Calgary, in what was coined “Parking Choices for Businesses”, voted to remove parking minimums for non-residential uses on November 2, 2020. The amendments removed required minimum parking spaces from their land use by-law, to provide the best opportunity to align parking supply with demand, as businesses and developers know their parking needs best. The amendments also allowed shared parking for any use that does not have a minimum parking requirement. It removed parking requirements for childcare centres and schools, however it maintained minimum pick-up and drop-off requirements for those uses. Future work identified in relation to parking regulations includes a review of the residential parking requirements, bike parking requirements, implementing maximum parking requirements, revisiting the design of parking spaces, curb management of on-street parking, re-evaluation of cash-in-lieu programs, consideration of parking structure permissions and research into parking regulations in transit oriented developments.

Other American cities who have recently passed significant parking reform amendments include South Bend, Indiana and Berkeley, California. Berkeley voted to remove minimum parking requirements city-wide (with a few exceptions on hillside areas due to emergency health and hazard response requirements) while imposing parking maximums in transit-rich areas, amending the residential on-street parking permit program and instituting transportation demand management requirements.

Other cities to watch in the near future for parking reforms are Toronto, which was recently directed by the City’s Planning and Housing Committee to undertake a review of parking minimums, as well as Winnipeg, Sacramento, Los Angeles, Atlanta, and Pittsburgh.

1.7 Parking and the Post Pandemic World

This paper was drafted during the COVID-19 worldwide pandemic. Consultation on this discussion paper will occur during the pandemic and it is anticipated that the New ZBL project will be completed during the pandemic, at a time where we are hopeful that mass public vaccinations will be available to help curb the spread of COVID-19 and return to some normalcy in our daily lives.

The COVID-19 pandemic has had enormous worldwide implications on every element of our lives including our health (both physical and mental), safety, economy, social and family relationships, education, recreation, entertainment, and culture. The pandemic has had significant impacts on our public transportation systems and overall transportation networks, with a shift in certain employment sectors encouraging people to work from home (thus minimizing the use of the personal vehicle) and avoiding locations where members of the public are congregating in indoor spaces (thus reducing the use of public transit).

As of the drafting of this report, it is unknown how much of a lasting impact the pandemic will have on our future post-pandemic world. However, the significant challenges discussed in this Chapter existed before the pandemic, will exist after the pandemic, and may even be made worse by the pandemic.

Some companies and public sector organizations, including the City of Kingston, have also already established more progressive work from home policies to continue to allow telecommuting without travel after the current pandemic is over.

Here in Kingston, we are reminded that one of the Keynote Speakers at the local 2017 Kingston Climate Change Symposium, Dr. Roberta Bondar, focused her presentation specifically on the connection between Climate Change and worse/new viruses.

Planning Services staff are charged with creating policies to guide both the immediate and long-term future growth of the City. The options initially favoured by this Paper recognize that there are long-term benefits of creating parking policies that operationalize the strategic priorities and policies of the City, which focus on active transportation and transit.

The long-term effects of the COVID-19 pandemic on our overall transportation and transit systems are unknown. We will continue to monitor the situation and observe the implementation of a new parking approach in the coming years as we recover from the COVID pandemic.

Chapter 2.

Parking in Kingston

Chapter 2. Parking in Kingston

2.1 The Purpose of this Discussion Paper

Rather than taking a problematic status quo approach to parking regulations, the City of Kingston has an opportunity to join a growing number of cities across Canada, and North America, in reassessing the approach to mandatory parking minimums, recognizing that parking is not simply a technical formula rooted solely on past practices and technical data. Rather, it is also a vision and outcome-focused tool that should consider the current policy objectives and strategic priorities of the City and create parking regulations that are forward thinking, leading us in the direction of where we want to be in the future.

The goal of this Paper is to provide a foundation for public consultation about a potential progressive parking strategy that supports the City's ambitious goals around climate action, sustainability, housing affordability, active transportation and transit for the City's [new zoning by-law project](#) ("New ZBL") (Appendix A).

The creation of a new city-wide zoning by-law represents a significant opportunity to propel our City towards the realization of our policies and priorities. This Paper encourages discussion about parking management strategies in locations that support active transportation and transit. It favours the establishment of low parking ratios that provide an opportunity to incentivize

infrastructure for new alternatives such as car-share and electric vehicles. This Paper aims to be the basis of a new conversation about parking in the City, one which considers the impacts of parking policy on active transportation, transit, climate change, affordable housing and many other important policies and strategic priorities.

This Paper focuses on parking management strategies and standards that can be employed through the New ZBL on private properties, however, future transportation work completed in the City of Kingston should continue to uphold the principles of this Paper to ensure a coordinated approach to parking is employed City-wide, as discussed in Section 3.1.

2.2 The Scope of this Paper

This work program was originally discussed and scoped in October of 2015 with Dillon Consulting Limited, the project consultant on Phase Two of the New ZBL project. The original scope included a review of the common practices of other municipalities in Ontario and a review of past parking reports supporting approved site-specific development applications in Kingston, which would be authored by Planning Services and peer reviewed by Dillon Consulting. This paper does not focus on public

“Eliminating minimum parking requirements does not imply ceasing to plan for parking. Rather than regulating the number of spaces, urban planners can focus on better regulating the many other dimensions of parking - curb cuts, landscaping, layout, location, pedestrian access, provisions for the handicapped, setback, signage, stormwater runoff, and visual impact.”

- Shoup, “The High Cost of Free Parking”

parking policies as it relates to the City’s on-street, off-street and structured parking assets.

Throughout the course of the last 5 years, the approach to creating planning policy in the City has shifted significantly, which has required a shift in approach to the original scope of this Paper. This paper supports the creation of parking policies that propel us towards the realization of broader City policies and objectives, rather than being focused solely on a historical and common practice approach. In creating a more forward-thinking strategy, planning staff have collaborated with planning and urban design consultant Brent Toderian of TODERIAN UrbanWORKS and have consulted with Dillon Consulting, students from Queen’s University participating in the fall 2020 SURP 826 project course, and City of Kingston staff from Transportation Services, Climate Leadership and Engineering Services.

A comprehensive review of the zoning by-laws from 12 municipalities in Ontario has been completed to determine common practices for various parking standards. The City of Barrie, City of Brockville, Corporation of the Town of Grimsby, City of Hamilton, Town of Milton, Town of Oakville, City of Ottawa, Municipality of Port Hope, Town of Prescott, City of Quinte West, City of St. Catharines and the City of Toronto were selected because they are subject to the

same Provincial framework and have recently passed new comprehensive zoning by-laws or updated parking standards. Geographically, they represent a broad range of cities and towns. The data from this review has been included in Appendices D through K of this Paper. For ease of comparison, the data has been assimilated into common land uses and calculated based on a common denominator.

In addition to reviewing the common practices of other municipalities in Ontario, this Paper included an in-depth review of 91 different site-specific development applications where a parking reduction was supported by a parking report and approved by the City of Kingston between 2004 and the data cut-off date of this report; November 16, 2020. Of these reports, 11 did not have enough information on file to be included in this review and 15 were justified on a site-specific basis in a manner that could not be translated into this Paper. The remaining 65 applications included broader justifications that are applicable to this Paper and have been listed by address and file number in Appendix L and has been summarized in Appendices F through I.

This background identified patterns and the rationale used to support reduced parking space ratios for specific land uses and has helped to inform our understanding of justifications that have been successfully employed and the specific standards that were supported. A general observation is that both applicants and the City have frequently perceived the existing parking requirements to

be excessive and have had to expend considerable time and effort to individually amend the existing zoning by-laws.

This Paper is focused on the land uses that are anticipated to be regulated in the New ZBL. Additional uses are regulated in other municipalities for reasons that are specific to those municipalities. If it is determined that different land uses should be added to the New ZBL, this Paper will be consulted to determine a ratio for additional uses that may be added to the New ZBL.

2.3 Existing Policy

Kingston has a vision of being Canada’s most sustainable city with numerous Official Plan (OP) policies and strategic priorities linked to demonstrating leadership on climate action. Despite this, there are no specific climate action policies in the OP directly referring to parking standards. Additional clear climate action policies that specifically address parking would provide a more direct connection to fulfill that current gap. The policies state that the potential impacts of climate change and extreme weather events should be considered when assessing new development, opportunities should be explored to achieve climate positive developments, and climate-resilient architecture of buildings should be supported.

The OP policies are further supported by the Strategic Plan, which prioritizes the demonstration of leadership on climate action, increase housing affordability and improving the walkability of streets and transportation. It prioritizes strengthening economic development opportunities and fostering healthy citizens and vibrant spaces.

As a key strategic priority, housing affordability is a key consideration in the creation of new policy in the City of Kingston. The Strategic Plan, when speaking to housing affordability provided a measurable objective of the development of a zoning framework that supports a minimum of 12,000 residential units over the next 30

years. A combination of as-of-right zoning and other types of relief, such as parking ratio reductions, are identified to support intensification.

The OP encourages the use of active transportation and transit; however, it also currently notes that automobiles will continue to be the primary mode of transportation in the City of Kingston. Other policies support multi-modal options and the goal of fewer car trips, cars, and multi-

“Theory and data play small roles in setting parking requirements, and so we should not be surprised that the requirements often look foolish. This foolishness is a serious problem because minimum parking requirements increase development cost and they powerfully shape land use, transportation, and urban form. While urban planners rarely consider the cost of parking requirements, developers rarely have the luxury of not considering this cost.”

- Shoup, “The trouble with minimum parking requirements”

car household, while recognizing that significant mode shift can and should occur even if the car trips are likely to remain common.

The OP defines transportation demand management (“TDM”) as a set of strategies that result in more efficient use of the transportation system by influencing travel behavior by mode, time of day, frequency, trip length, regulation, route, or cost. The OP recognizes the role of TDM in promoting its strategic direction by making vehicular travel more sustainable, making more efficient use of the existing transportation infrastructure, and increasing transit use. Measures such as flexible work hours and priority parking for carpool vehicles can help to reduce peak travel volumes, which then optimize traffic capacity on the existing road infrastructure.

Overall, the legislative and policy framework supports reduced, modernized parking standards that strike a fine balance between providing some parking spaces (recognizing that many of the policies as a whole are intended to influence such demand, not just meet it), not oversupplying parking to the detriment of active transportation and transit, removing barriers experienced by persons with disabilities and implementing transportation demand management strategies to efficiently use existing and planned public infrastructure.

Appendix A provides a more detailed overview of the current legislative and policy context for land use planning and parking regulations, including the *Planning*

Act, Provincial Policy Statement, the Official Plan, the Strategic Plan 2019-2022, the *Accessibility for Ontarians with Disabilities Act* and zoning by-laws.

2.4 Completed Work

As summarized in Appendix B of this Paper, a number of reports and studies have been completed by, about or on behalf of the City which have contributed to our understanding of parking, including potential options and approaches that could be employed as part of the overall parking strategy.



Aerial Image of Parking Lot on Gardiners Rd (Source: Nearmap)

This Discussion Paper includes several considerations that represent a paradigm shift in our understanding and approach to parking regulations in the City of Kingston, compared to previous work. This shift in understanding and perspective regarding the connection between parking and many critical corporate and policy objectives has grown significantly in recent years, such that what would have been considered “best practice” just a few years ago are already considered out-of-date and even significantly counter-productive.

The New ZBL offers an enormous opportunity to create forward-thinking regulations propelling the City forward, which would have been lost if recommendations of prior studies rooted in past practice had simply been carried forward. From that perspective, the City is fortunate that previous work was not implemented and has served as a foundation and understanding of the parking problem in the City.

Where parking has long been considered a technical and operational detail, it is now understood to be one of the most significant tools and levers at a city’s disposal in achieving many critical goals, from affordability and equity to mitigation of the climate emergency, healthy cities, active transportation, infrastructure efficiency, public cost reduction and so on.

2.5 Concurrent Work

As of the drafting of this Paper, Council recently adopted amendments to the City's second residential unit provisions and implemented new limitations on the number of bedrooms permitted in lower density residential dwellings in the City. The "Multi-Unit Residential Parking Supply Requirement Review" (Appendix B) was completed prior to these amendments and recommended parking ratios be applied on a per bedroom basis, rather than a per unit basis as an alternate method of addressing problems associated with high bedroom counts in multi-unit residential developments. Since a more direct bedroom count limitation has been adopted, parking standards can be simplified based on the number of units for a residential use and still meet the intended objective of the report.

Concurrent to this Paper, Climate Leadership staff, with support from all City departments, are developing a Climate Leadership Plan to provide an integrated corporate and community climate change management strategy. The Plan assesses the likely impact of existing initiatives and defines further required actions to achieve the City's target of carbon neutrality by 2040. The Climate Leadership Plan, expected to be completed by the end of 2021, will define a clear path to carbon neutrality, engage stakeholders who can make the biggest GHG reductions, identify climate adaptation priorities, and consider

solutions that support economic development and prosperity.

The Climate Leadership Plan will include actions that the City can undertake such as developing a community-wide electric mobility strategy (including both vehicles and bikes); exploring non-financial opportunities to incentivize uptake of electric vehicles, such as priority parking areas or other benefits; supporting shared mobility service providers (e.g., car, bike or scooter share companies); and facilitating access to electric charging.

Climate Leadership staff are also developing a Green Standard Community Improvement Plan ("CIP") to support construction of new efficient, sustainable, low-impact buildings to lower community GHG emissions over time. The CIP will provide incentives to builders and owners who design and construct more energy efficient buildings that minimize their carbon footprint. Through this process, various municipal incentives are being explored. This paper is meant to work in tandem with the CIP, by exploring zoning requirements or incentives related to electrical vehicle supply equipment for parking spaces.

Chapter 3.

A New Parking

Paradigm for Kingston?

Chapter 3. A New Parking Paradigm for Kingston?

This Chapter discusses various parking management strategies. Simply put, they are the various policies and programs that work together with the objective of making more efficient use of fewer parking spaces, aligning with the Transportation Demand Management (TDM) objectives of the Official Plan. As Todd Litman states:

“a cost effective, integrated parking management program can often reduce parking requirements by 20-40%, while improving user convenience and helping to achieve other planning objectives, such as supporting more compact development, encouraging use of alternate modes, and increasing development affordability” (Litman, “Innovative Solutions to Parking Problems”).

The policies of the Official Plan allow the City to take different approaches to parking regulations, based on different land use characteristics or user requirements. They also allow for shared or reduced parking for land uses that have similar or compatible ways of operating.

Most of the TDM initiatives implemented thus far in the City of Kingston have focused on the on-street and publicly owned parts of the transportation system. All of the various studies and background information prepared by the City have acknowledged that, in order to meet the City’s integrated TDM objectives, a series of

parking management strategies must also regulate the privately owned, off-street parking supply. The New Zoning By-Law (ZBL) represents the prime opportunity to regulate the privately owned, off-street parking supply in a way that reduces the overall number of parking spaces while ensuring a more efficient use of the spaces we do have.

“Standards can be adjusted to reflect demographic, geographic and management factors. For example, standards can be reduced for housing that serves lower-income people, students and elderly; for housing in more accessible locations (such as near transit stations and in mixed-use neighborhoods); in buildings that have carshare services, and where parking is priced.”

- Litman, “Parking Requirement Impacts on Housing Affordability”

3.1 What does Success Look Like?

The potential parking paradigm shift discussed in this Paper is meant to provide a foundation for a new public conversation about parking policies. To assist with this public discussion, the following key “indicators of success” that have guided the initially favoured options included in this Chapter are defined as follows:

1. Does the parking approach support the City’s stated goals and policies related to demonstrating leadership on climate action?
2. Does the parking approach support the City’s stated goals and policies relating to housing affordability; the intended increase in transportation trip mode share for walking, biking and public transit; general urban health, social equity, livability and quality of life in Kingston; and other key policy in the Official Plan and other Council policies and priorities?
3. Does the parking approach support the economic feasibility and market attractiveness of strategically located infill development by helping such projects be realized faster and more successfully?
4. Is the parking approach easy to understand and implement, both initially, and over time as land uses change, without requiring the need for subsequent applications with little public interest value?

In addition to proactively considering what success looks like for parking policies in the New ZBL, it is equally necessary to consider the impacts that decisions about these private realm parking policies will have on other elements of the public realm. It is important to highlight that the parking policy for the New ZBL only represents one element – the privately owned supply of parking.

The other major parking element is the municipally owned parking – on-street parking spaces as well as parking spaces on municipally owned property in parking lots and parking structures. On-street parking spaces are not controlled by the zoning by-law and are managed by other municipal policies and by-laws to ensure the best use of the municipal supply of parking in a manner that serves the public interest and furthers the City’s transportation goals. The City also controls a significant supply of municipally owned parking lots and structures that are subject to the New ZBL but are operated in a similar manner to the on-street supply.

The City’s public parking supply management policies are outside the scope of this study, however most of the existing policies support active transportation, public transit, and the conversion of parking space to a more intensified use. The City’s existing public parking policies generally do not protect for or provide space for private use or intensified residential overflow, and it would not

be practical for the existing public parking supply to accommodate this in the long term.

Ultimately, this parking reconsideration includes the fundamental and necessary assumption that if the City allows for less parking on privately owned properties, and/or imposes parking maximums in certain areas of the City, it means that there will be less parking spaces available, resulting in and requiring a change in the way we live and move around the City. It may also require further changes to the policies governing the supply of municipally owned parking, such as price increases to ensure that the cost of parking is aligned with the objectives of this Paper.

The municipal supply of parking, where it can continue to be provided without detracting from active and transit needs, is meant to support short-term trips, delivery vehicles and other movements that have a broader public interest for the City. It should be assumed that the municipal supply of parking will be continually reduced as it is converted to other more appropriate uses, and that the spaces that remain will be regulated to ensure that the supply we do have is used appropriately and strategically. The policy changes for private realm parking discussed in this paper is not intended to shift the burden of providing parking to the City.

“Strategies that promote densification, increase land use mix, and improve transit accessibility in train catchment areas would positively influence downtown transit commuting. The results also suggest that increasing parking costs or reducing transit fares would encourage downtown commuting by public transit. More competitive travel times of transit services to downtown would also reduce car use for commuting purposes.”

- Zahabi et al.

3.2 Parking Supply Isn't "One-Size-Fits-All"

When it comes to smart parking approaches across the City, and especially the amount of parking that's needed or strategically effective, "one size doesn't fit all" contexts. What may work in one geographical context for various strategic reasons can easily fail in another, depending on many factors including level of car dependency, existence and quality of transit service and other multi-modal infrastructure, and so on.

A key question for the achievement of many of the City's policy goals, is how the less urban, more suburban portions of the city should be addressed, given the tension between how such areas function currently (usually with generally low densities and separated land-uses, resulting in a high level of auto-dependency), and how they would need to function going forward if they are to more positively contribute to the achievement of Kingston's city-wide goals.

The most obvious parking element where differentiation of approach in different contexts would make sense, is different parking ratios for different geographical areas of a city. The closer people live to places of employment, commercial areas, educational institutions or public transit, and the better the travel experience between such land uses are by modes other than personal vehicles, the less likely that households will feel the need to own (and thus park) private vehicles. Thus, places within the City

that exhibit these characteristics, or are intended to exhibit them over time in keeping with approved vision and policy, are both more capable of accommodating, and benefitting strategically from, fewer constructed parking spaces.

Despite this, Kingston's private parking rules have never purposely differentiated the parking approach by geographical location in the city, aside from the simple fact that the existing fragmented zoning by-laws have different ratios and apply to different areas corresponding with the previous municipal boundaries. Strategically, this is a missed opportunity, and very likely has resulted in parking construction that has been counter-productive to the City's stated goals and objectives.

Please refer to Appendix D for an overview of the background information collected as it relates to locational based parking ratios. From a location perspective in the City of Kingston, the Central Business District and the Williamsville Main Street Corridor are two of the principal areas supporting a diverse range of uses and planned intensification. These areas are well served by transit and active transportation infrastructure and the public parking supply is fully managed. They have policies in effect that would benefit from reduced parking standards to encourage the best possible urban design

while supporting a broad range of uses and contribute positively to our urban fabric. The Williamsville Corridor was recently the subject of an area wide zoning by-law amendment which included a reduced minimum parking standard (Appendix B).

The Kingston Transit express routes, which permeate the City, are the most important transit lines. They are the backbone of our transportation system and support the most direct movement of people to prime locations and destinations across the City. They are logical locations for a parking approach that supports a more urban and multimodal experience.

Initially Favoured Option

In order to ensure that the New ZBL meets all policies and objectives outlined in this Paper, the initially favoured option is to employ parking ratios based on strategically different geographic locations across the City. The proposed Parking Areas are as follows (as identified on the Proposed Parking Areas map):

Parking Area 1: Downtown

Parking Area 2: Williamsville Main Street Corridor

Parking Area 3: "Inner Transit" lands within 400 metres of Kingston Transit Express Route and Strategic Transit-Supported Sites

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

Parking Area 5: Remainder of City

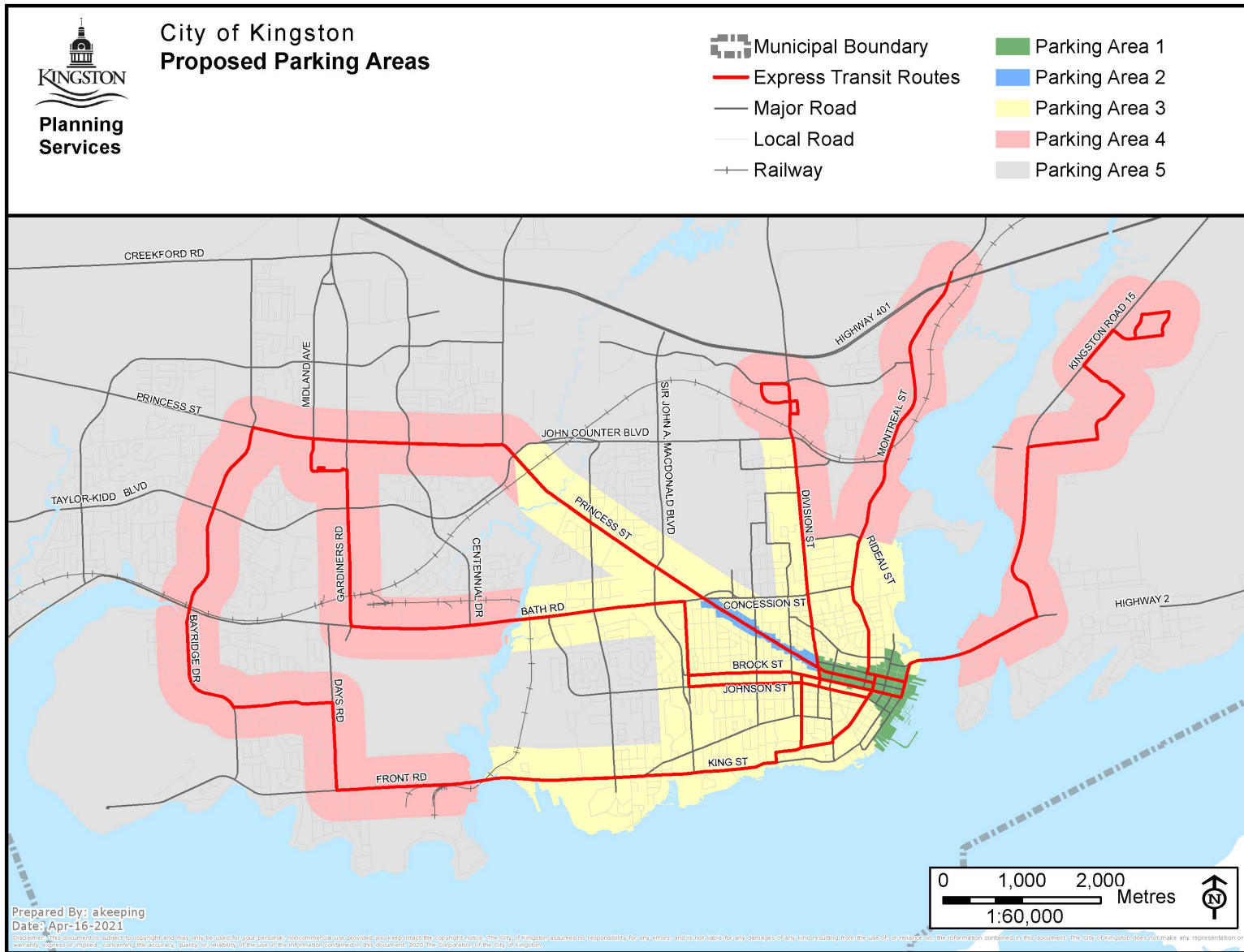
The text of the New ZBL will need to include interpretation provisions about properties that cross the identified parking area boundaries to confirm that the parking ratio for the entire property would be the lowest ratio that applies. In the future, if additional express transit routes are established, the City should amend the mapping of these areas accordingly in the New ZBL.

Other Option

The boundaries of the parking areas could be further refined to identify other key features of various geographical locations in the City such as the recognition of cycling infrastructure or other elements that are supportive of alternative modes of transportation.

Other Option

The New ZBL could take the historical approach to parking and broadly apply minimum parking ratios across the City regardless of the location of the property. This would be a lost opportunity where some of the key elements that affects transportation choice is ignored in our parking policy.



Proposed Parking Areas Map

3.3 Parking Space Minimum & Maximum Ratios

Minimum parking ratios are arguably the most impactful tools a municipality has regarding parking. Such ratios refer to the minimum number of spaces required by the City for specific classifications of land uses. For example, the number of spaces required per unit of residential development or per square metre of commercial floor area. On the other hand, maximum parking space ratios (which have historically been less common but can be even more strategically important) are zoning by-law provisions that establish a maximum number of parking

spaces that may be provided on a site in conjunction with a specific use (or class of use) and are usually regulated in a similar manner as minimum parking space ratios.

According to Donald Shoup, the manifest problem that minimum parking standards are designed to prevent is “spillover parking”, (Shoup, “An Opportunity to Reduce Minimum Parking Requirements”) or parking that is displaced from privately owned properties into nearby, municipally owned on-street parking spaces. This common assumption is founded on the idea that overly low minimum ratio will result in an undersupply of parking on a property, potentially impacting on-street parking and disrupting the local transportation system. The result is the requirement for a robust supply of parking spaces to be provided for the exclusive use of that building, even if those spaces are frequently empty. The resulting approach provides generalized ratios for the land use, regardless of future owners, tenants, or users of that space.

A common problem with minimum parking ratios is that the application of generalized ratios based on land use often results in an oversupply of parking that may be under-used most of the time. Even worse, an oversupply of residential parking can actually induce more vehicle purchases, since “we have the space anyway,” which correspondingly can induce more driving (and emissions)

“Minimum parking requirements can be eliminated, reduced or made more accurate and flexible to better reflect the demand at a particular location and time. Eliminating parking minimums does not eliminate parking, it simply allows property owners to supply parking based on users’ demand.”

- Litman, “Parking Requirement Impacts on Housing Affordability”

since “we have the car anyway”. Thus, minimums that lead to oversupplied parking can easily fuel more driving, traffic congestion, climate change, pollution, unaffordability, weakened urban health, and so on.

It is very important to note that removing or lowering parking minimums doesn't necessarily result in less parking, since developers can and are expected to still provide the parking that they believe is appropriate for their project. In fact, excessive parking is both possible and common in places where parking minimums have been removed, often leading to corresponding discussions about the need for parking maximums (which in many contexts, may actually be the more important public policy tool). But what removing minimums accomplishes is additional flexibility for builders (and correspondingly, less work for municipalities), and the prevention of municipally mandated excessive parking.

The commonly suggested concern with maximum parking space ratios is that they limit the freedom of property owners to supply as much parking as they want on their properties, to meet their perception of demand and tenant expectations. Even when they are created, they are often set too high and don't really provide the intended parking management benefit of ensuring that excessive parking that undermines public objectives isn't constructed.

Notwithstanding such concerns, when established strategically, maximum parking space ratios can be used

in conjunction with reduced or removed minimum parking space ratios to create a specific range of the number of parking spaces that can be provided on a property in a way that supports important public policy objectives. When used together with a removed parking minimum, the zoning by-law only regulates the maximum end of the range and allows property owners to determine how many parking spaces they want to

“To promote land-efficient development that supports nonautomobile modes of transportation, many municipalities are trying to implement parking policies that minimize parking oversupply and use existing parking supply more effectively. A commonly proposed strategy is for municipalities to lower their minimum parking standards. However, parking supply decisions are based on many factors, and experience shows that reducing parking standards does not always lead to corresponding reductions in parking supply.”

- Engel-Yan et al.

supply (if any), so long as they don't go above the maximum. In the establishment of successful parking maximums, context within the city is particularly important – they are easiest to establish where the land-use mix, density, infrastructure, design and service levels all support alternative transportation modes and choices, and the clear policy intent is to support such alternative choices. In less urban places, they are easiest to establish with higher density projects (medium or high-density residential developments) and/or large single use sites (such as shopping centres).

Given the goals and “definitions of success” in existing City policy and other Council directions, such a combination of significantly reduced or removed parking minimums and strategically selected parking maximums would likely have the greatest chance of successfully supporting the achievement of Kingston's important policy goals.

The most potentially challenging question considered in this paper relates to how best to strategically address parking minimums in a way that best achieves the most or largest public interest outcomes. In short, the key strategic question is this:

1. Is it better to remove minimums entirely, either city-wide or at a minimum in the more urban (as opposed to suburban) and multi-modal locations; or

2. Is it better to establish a lowered parking minimum while enabling the use of incentives for public interest outcomes that have a direct connection relative to lowered car use and ownership? Such incentives may include car-share spaces, enhanced bike parking or transit amenities, and electric vehicle supply equipment.

The easiest option to operationalize and communicate from a progressive policy standpoint would be to simply remove parking minimums across the City and let the private sector determine how many parking spaces to provide. As identified in this section, this option on its own addresses one problem but does not address the problem of oversupplying parking.

From a zoning perspective, the City does not have many Provincially legislated “tools” in the toolkit to achieve other policy objectives that support lower car use and ownership, and thus the need for less parking. Assuming that the ability to provide less parking is an attractive option for many or most builders, removing parking minimums essentially “gives away” the ability of the City to offer the incentive of reduced parking to create needed infrastructure to support car-share parking, enhanced bike parking or transit amenities, and/or electric vehicle supply equipment.

However, as we continue to discuss operational challenges with the implementation of an incentive program for car-share spaces, secured bike parking, and

infrastructure for electric vehicles, we may ultimately conclude that they are too difficult to operationalize successfully in the Kingston context, and communicate simply and effectively. For this reason, although our initially favoured option is clearly stated below, the project team's position may change after additional investigation and public consultation.

Initially Favoured Option

The option initially favoured by this Paper includes a continued, albeit significantly lowered, minimum number of parking spaces/parking ratios differing by geographical location. This allows for the strategic inclusion of incentives for public interest achievements that support lower car use and ownership (and thus less parking) for such things as car-share parking, enhanced bike parking or transit amenities, and electric vehicle supply equipment, where the minimum number of required parking spaces would be further reduced where these facilities are provided.

This option also includes the establishment of maximum parking space ratios for residential uses, differing by geographic location in the City.

The ratios favoured by this option are identified in Appendices F, G, H and I. It is difficult to compare the reduced ratios proposed in this paper to the existing fragmented Kingston zoning by-laws, given that the by-laws are not only fragmented, but also were written in a

way that relies on uses that are outdated and do not appropriately compare with the updated uses proposed in the new zoning by-law. Thus, it is difficult to make a simple "before and after" comparison of what currently exists compared to what is now proposed. However, in general, when comparing the favoured option to the existing zoning by-laws, this option generally represents a much more progressive approach requiring significantly less parking spaces.

When compared to both "business as usual" cities in Ontario, and cities that are considered more progressive or even "best practice" in Ontario on the topic of parking, the minimum parking ratios favoured in this option are at least as progressive or more progressive than the current most progressive cities in Ontario. This is considered appropriate, and even necessary, given the many commitments, goals and aspirations made by Kingston as outlined throughout this report.

As it relates specifically to commercial uses, the following innovations have been built into the parking ratios for commercial uses favoured by this option:

1. In addition to lowering the various minimum parking ratios to match or exceed other progressive Ontario cities, the ratios for all commercial uses are proposed to be strategically generalized in a manner that allows for commercial tenants/uses to change without

- requiring an increased number of spaces within existing buildings; and
2. In particular, the common issue associated with higher parking requirements for restaurants, making it difficult or even impossible for restaurants to easily occupy existing commercial spaces without having to construct new parking (which often isn't possible or feasible), is proposed to be removed through the use of generalized commercial ratios.

The cumulative outcome of this option has the potential to achieve a greater number of public interest outcomes than simply removing minimums. It is expected to result in the construction of fewer parking spaces, while encouraging the parking that is supplied to also support broader public interest objectives such as the establishment of a successful network of car-share parking spaces (and hopefully, companies) in Kingston. It would allow for the creation of enhanced bike parking, accessible bike parking and transit amenities. It does all this in a way that doesn't negatively impact accessible vehicle parking (detailed in the next section) and establishes a baseline where parking for residential visitors can be required. Being able to establish a minimum number of short-term parking spaces dedicated to residential visitors will help to ensure that visitor parking will not impact the municipally owned supply of parking.

Finally, it is recognized that affordable housing developments and the protection of heritage buildings are two key public interest elements that should be considered differently in progressive parking policies. This option includes the complete removal of parking minimums for purpose-built affordable housing developments (as defined in the Official Plan) and for designated heritage properties.

This recognizes the need to adaptively reuse heritage buildings to ensure their long-term viability while appropriately conserving heritage resources in a manner that ensures their cultural heritage value or interest is retained under the *Ontario Heritage Act*. This approach offers a solution to a significant design challenge in retaining existing heritage structures and footprints and is intended to encourage appropriate redevelopment of strategically located heritage designated properties.

It is important to recognize that the elimination of parking minimums for affordable housing and heritage properties doesn't necessarily mean they will be constructed without parking, or even less parking. Rather, the applicants will be able to design the parking supply to meet their needs while considering parking requirements which vary greatly across affordable housing resident groups and heritage circumstances.

Accordingly, the following items represent this option:

1. Eliminate parking minimums for all affordable housing developments. Where an application meets the definition of affordable housing in the Official Plan, there should be no minimum parking requirement.
2. Eliminate parking minimums for all designated heritage properties. Where a property is designated under Part IV or Part V of the *Ontario Heritage Act*, there should be no minimum parking requirement.
3. Implement lowered minimum residential parking ratios for all residential building types across the City in accordance with Appendix F, with the ability to further lower the parking provided through incentives for car-share parking spaces, enhanced bike parking or transit amenities and electric vehicle supply equipment. Such incentives would also be available for non-residential developments.
4. Implement maximum residential parking ratios for all residential building types across the City, except ground-oriented buildings with 2 or less principal units per lot. In PA1 and PA2, the maximum residential ratio should be 1 space per dwelling unit. In PA3, PA4 and PA5 it should be 1.5 spaces per dwelling unit. These maximum ratios should be monitored in the future to ensure they provide the intended outcome of reducing the number of spaces.
5. In the downtown (PA1) continue to have no minimum parking requirement for non-residential uses.
6. The favoured parking ratios for all non-residential uses identified in Appendix G to I should be implemented in the New ZBL to ensure that minimum standards are low while still requiring a minimum number of spaces in PA2 through PA5.
7. Notwithstanding the fact that one of the most consistent providers of excessive parking in cities are shopping centres, at the present time, amid the COVID-19 pandemic, no maximum parking ratios should be included for non-residential developments. In the future, after the pandemic is over and the City has a better understanding of the long-term economic effects of the pandemic on the economy, this element should be reviewed to determine if the establishment of a maximum parking ratio is appropriate.

Other Option

Eliminate minimum parking requirements City-wide for all uses. This would remove the ability to include incentives but would help to achieve the desired outcome of less parking spaces being constructed and would represent a significantly easier system to operationalize and communicate.

Other Option

Rather than establishing minimum residential parking ratios based on the number of units, establish minimum ratios based on the number of bedrooms. As explained in Section 2.5., since a more direct regulation of the number of bedrooms within lower density forms of housing is anticipated through zoning, this approach is essentially redundant and would result in a complex formula with different ratios for each parking area.

Other Option

Rather than establishing maximum residential parking requirements City-wide, only establish maximum parking ratios in PA1 and PA2, as these are the most urbanized areas of the City, supported by the best transit, active transportation and mix of uses, which would most benefit from the implementation of maximum ratios. This option would positively address the built form considerations within these two key areas, but would be a lost opportunity in the more suburban forms of mid and high density residential development, which, by the Official Plan policies, should be located in areas that are well supported by transit and other key functional elements discussed in this Paper.

Other Option

Continue with the status quo approach to the establishment of minimum parking ratios, creating ratios that are more reflective of common practices of other municipalities. For all reasons discussed in this Paper, this

would represent a lost opportunity to propel the City towards the realization of many strategic priorities related to climate change, housing affordability, active transportation, transit and so on.



Photo of Parking Lot in Alcan Business Park (Source: N. Oddie)

3.4 Accessible Parking Space Supply and Design

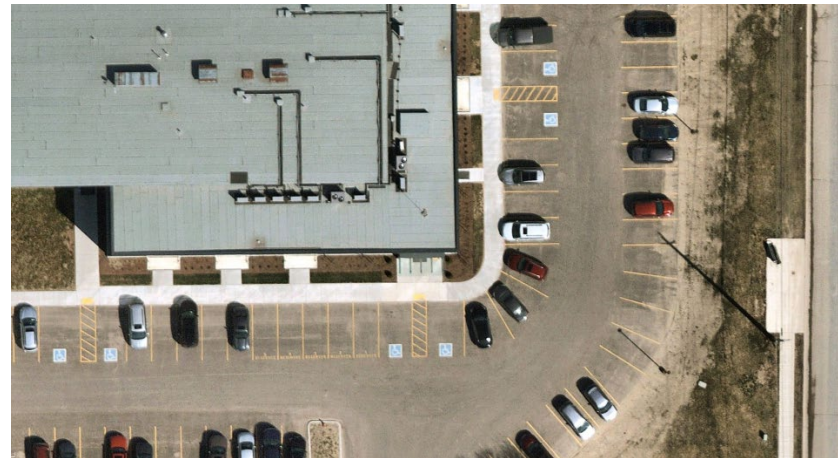
When observing cities across Canada and around the world who have successfully reconsidered approaches to parking, one of the most challenging and critically important details for consideration has been the effect on accessible parking. Successful cities have ensured that the goal of less overall parking (with its many public benefits as discussed throughout this report) does not come at the expense of a sufficient supply of accessible parking.

It is therefore the City's intent to ensure that as parking levels strategically decrease, accessible parking levels do not decrease with them.

Provincial legislation described in Appendix A of this Paper has the stated intent of creating a more accessible Ontario by identifying, and to the extent possible, preventing and eliminating, the various barriers experienced by persons with disabilities. In doing so, the "Design of Public Spaces Standards (Accessibility Standards for the Built Environment)" section of the [Integrated Accessibility Standards Regulation](#) has established province-wide standards for accessible parking spaces.

The provincial accessible parking space requirements are meant to apply to off-street parking facilities which include parking spaces intended for the temporary parking of vehicles by the public, whether or not the payment of a fee is charged.

As outlined in Appendix A, the Provincial standard requires two types of accessible parking spaces to be provided – Type A and Type B, with an accessible aisle along the full length of the accessible parking space. The standards include minimum width requirements for the Type A, Type B and accessible aisle. The standards also include a minimum number of accessible spaces through the use of a simple ratio that is calculated based on the number of parking spaces provided, regardless of the land use.



Aerial Image of Parking Lot with Accessible Spaces and Aisles near Cataraqui Woods Dr and Gardiners Rd (Source: Nearmap)

In 2017, Kingston amended the existing zoning provisions to implement the Provincial standards. In doing so, the zoning by-laws were amended in a manner that went further than the Provincial requirements in a

number of ways. As described in greater detail in Appendix C, the City's current requirements increased the minimum width of Type B accessible spaces from 2.4 metres to 2.7 metres; established a minimum parking space length of 6.0 metres; and established a minimum vertical height clearance of 2.9 metres. The requirements also distinguish the number of spaces required based on the use, rather than the Provincial requirement which is based on the total number of parking spaces regardless of the use.

Understanding all of this, in considering a new accessible parking management strategy for the City's new zoning by-law, there are at least two key elements that should be addressed: the *supply* (ratio) of accessible parking, and the *design* (dimensions) of accessible parking.

Accessible Parking Space Supply:

As discussed elsewhere in this report, the initially preferred new approach to parking management includes the reduction of parking minimums, combined with incentives to further reduce general parking supply in return for such related public achievements as car-share spaces, enhanced bike parking and transit amenities, and electric vehicle supply equipment. In addition, parking maximums are initially favoured.

In the current zoning by-laws, the supply of accessible parking spaces is a calculation based off of the minimum number of parking spaces required on a property,

differentiated by different land uses. In other words, if you increase parking supply beyond the minimum, you are not required to increase the supply of accessible parking.

When considering a new approach to the supply of accessible parking spaces, the intention is to ensure no reduction of accessible spaces, even as the minimum required number of general parking spaces decreases.

In order to meet the stated intent, it is important that the New ZBL approaches the calculation in a manner that "disconnects" the accessible parking supply from the overall reduction in minimums discussed in this paper. This can be achieved in the following ways:

1. For residential uses, the accessible parking ratio could be calculated based off the maximum number of parking spaces or based off the actual supply of parking spaces. The favoured approach is to calculate the ratio based off of the maximum number of spaces required by the New ZBL, since the maximum numbers favoured in this paper are closer to the minimum ratios in the existing zoning by-laws. This would ensure that the number of accessible parking spaces either meets or exceeds existing requirements.
2. For non-residential uses, since there is no maximum, the ratio could be based off of the number of parking spaces supplied on a property. This would ensure that the number of accessible

parking spaces is calculated based on the actual supply, rather than just the minimum number of required spaces. In this scenario, an interpretation provision should make it clear that, if an owner receives a reduction in the minimum number of non-residential parking spaces (through a site-specific application or an as-of-right incentive), and thus has a reduced supply, the accessible parking space ratio would be calculated based on the number of parking spaces required by the New ZBL before the reduction.

The result of such approaches would be that if developers chose to reduce parking numbers in a project under the new system, there would be at least as much accessible parking spaces than would be required under the existing zoning system (and potentially more accessible parking spaces).

Accessible Parking Space Design:

As it relates to the design of accessible parking spaces, it is important to note that in the intervening years since the City amended the accessible parking requirements in 2017, many applications for rezoning to essentially return elements of the parking space design back to the Provincial standards have been requested. Staff have been reluctant to oppose such requests based on the apparent intent of the Provincial direction.

In observing the rezoning requests that have been approved since the current requirements were implemented in 2017 (as described in Appendix C), Staff have noted that the majority have requested relief from the length requirements, and fewer have requested relief from the width and vertical clearance requirements. As noted earlier, there are no Provincial standards for length and vertical clearances specific to accessible parking spaces. The only standards relate to the width of Type A spaces, Type B spaces and access aisles.

Staff note that it is significantly easier from a design and construction perspective for a builder to accommodate additional width of Type B spaces (increased from 2.4 metres to 2.7 metres), as the “consequence” is limited to fewer parking spaces per line of parking (and an associated additional construction cost/GHG emissions per space constructed). On the other hand, extended parking space length is significantly more difficult to viably accommodate in parking lot design (for both at-grade and structured parking lots) and construction without more substantial changes, costs and consequences. The increased vertical clearance requirement is relatively easy to accommodate in exterior, at-grade parking lots, whereas becomes a much more challenging design exercise in structured parking lots.

Given these various observations, and with an interest in reflecting a balance between broader considerations and continued leadership in accessible design, the initially

favoured option is to maintain the enhanced accessible space width for Type B spaces, but to discontinue and remove the requirements for enhanced length requirements, returning the latter to be consistent with the length requirements for standard parking spaces. The preferred approach for vertical clearance includes better alignment with the requirements of the Ontario Building Code and represents a balance, requiring the higher vertical clearance of 2.9 metres when spaces are provided in an exterior, at-grade parking lot and the lower vertical clearance of 2.1 metres when spaces are provided in a parking structure.

Initially Favoured Option

1. The initially favoured option is to continue to implement the increased width for Type B accessible spaces that exceeds the Provincial requirements approved in 2017 (and to generally not support zoning amendments to change this in the future), but to remove the specific length for accessible spaces, instead relying on the length requirements for standard spaces. Vertical clearances should be 2.9 metres for exterior, at-grade accessible parking spaces and access aisles, with a vertical clearance of 2.1 metres when provided in a parking structure. The existing width requirements for Type A and access aisles should remain, as they are consistent with the Provincial Standard.

2. For residential uses, accessible parking space ratios should be calculated based off of the maximum parking space ratio.
3. For non-residential uses, accessible parking space ratios should be calculated based off the total number of parking spaces provided on a lot, not just the reduced minimum ratio. An interpretation provision should make it clear that, if an owner receives a reduction in the minimum number of parking spaces (through a site-specific application or an as-of-right incentive), the accessible parking space ratio will be calculated based on the number of parking spaces required by the New ZBL before the reduction.

Other Option

The New ZBL could require accessible parking spaces to be provided in a manner that is consistent with the existing zoning by-law requirements in Kingston as detailed in Appendix C.

3.5 Car-Share Parking

Car-sharing refers to companies who own a fleet of vehicles located strategically, where members can book and use vehicles for portions of the day, returning the vehicle to the dedicated spot or to a flexible location, depending on the operating model of the company. Individuals who are members of a car-sharing company have the advantage of being able to eliminate the need for owning their own vehicle, or have fewer cars owned within their household, removing their need for some or

“Carsharing (vehicle rental services designed to substitute for private vehicle ownership) tends to reduce vehicle ownership and parking demand (Filosa, 2006). Cervero and Tsai (2003) found that when people join a San Francisco carsharing organization, nearly 30% reduce their household vehicle ownership and two-thirds avoided purchasing another car, indicating that each carshare vehicle in that program substitutes for 5-10 private vehicles.”

- Litman, “Parking Requirement Impacts on Housing Affordability”

all of their dedicated parking spaces. This typically reduces an individual’s actual use of a car (as discretionary trips are more often forgone or changed to trips by alternative mode), reducing GHG emissions, and increasing their usage of alternative modes of transportation such as active transportation or public transit for other trips. In this way, car-share systems are generally considered synergistic rather than competitive with public transit and active transportation. Based on experience over the past 20 years in North America, many cities have found that the establishment of successful car-sharing programs has assisted significantly in the reaching of a strategic turning-point from low vehicle usage (if transit and active transport options are available and attractive) but continued high car ownership, to both reduced vehicle use and reduced ownership (and thus reduced need for parking).

Car-share parking, as a parking management strategy, includes the provision of dedicated car-share parking spaces in publicly accessible (but not necessarily publicly owned) locations for a car-share company to park their vehicles for rent to members.

“Car-sharing demonstrably reduces personal trip distances, as well as reducing vehicle ownership: a car share vehicle is estimated to replace ten private cars. Furthermore, it is estimated that the intrinsic characteristics of car-sharing vehicles,

including being newer and more efficient, allows for the same trips to be completed with an average of 30% less GHG emissions than the average of personal vehicles in Canada" (Climate Change Canada et al)

Car-share parking spaces are not a parking management strategy recognized in the zoning by-laws of the other municipalities reviewed as part of this Paper, or in the site-specific parking reports that were submitted to the City of Kingston. They are, however, an effective and innovative solution that may assist the City of Kingston in meeting the overall transportation objectives and policies, including active transportation and GHG reduction targets through the reduction of car ownership (as opposed to just car use). It is also something that has been specifically identified in the Mayor's Task Force on Housing report as being a policy that will benefit housing in the long term from an affordability perspective.

Other studies have suggested that each car share vehicle effectively replaces between 11-13 privately-owned vehicles, and the City of Vancouver, which has the largest car-share system of any city in North America in terms of vehicles and members across multiple providers, suggests that the number is as high as 20.

The City of Toronto retained IBI Group to prepare a comprehensive review of car-share parking spaces as a TDM strategy. In the review, IBI Group acknowledges that "the City of Toronto recognizes the value of car sharing as part of a transportation demand

management strategy that can reduce the need to own a vehicle and thus mitigate the associated negative impacts of automobile travel, as well as reduce parking demand" (IBI Group, "Parking Standards Review: Examination of Potential Options and Impacts of Car Share Programs on Parking Standards").

A research study prepared by Ryerson Urban Analytics Institute, "[How Parking Regulations Need to Evolve for High-Rise Buildings](#)", which specifically detailed the IBI Group study, summarized that 29% of households with car-share memberships in Toronto's downtown core could dispose of their private vehicles and 55% could forgo the purchase of a first or surplus vehicle. The research study also states:

"While Toronto has established by-law amendments to allow car-share parking up to set maximums and to reduce private vehicle parking at residential buildings in specific areas, other cities in North America have implemented a bolder approach by allowing private vehicle parking reductions based on a prescribed amount of car-sharing parking provided more comprehensively and city-wide. Examples include Seattle, which allows a parking requirement reduction by two parking spaces for each car-share space, and Vancouver, which allows a reduction by five spaces for each car-share space (plus providing the initial car to the car-share service selected), with both cities having a maximum amount of car-share spaces permissible."

The IBI Group study provides a comprehensive overview of the literature and common practices, existing experience in the City of Toronto, survey results and recommendations related to the implementation of car-share parking spaces in the City's comprehensive zoning by-law. The Study recommends the following parking reduction ratio based on an analysis of surveyed data that predicts that one dedicated car-share parking space in a 60-unit building will reduce automobile ownership by just over five vehicles:

"For any apartment or condominium development, the minimum parking requirement should be reduced by up to 4 parking spaces for each dedicated car share stall.

The limit on this parking reduction is calculated as the greater of 4 x (total number of units divided by 60), rounded down to the nearest whole number, or 1 space."

The City of Toronto decided not to implement this reduction as-of-right in its zoning by-law, and instead review applications on a site-specific basis, applying the reduction where an application for a zoning by-law amendment or minor variance has supported it.

Finally, instead of an incentive-based approach which is most discussed for car-share parking spaces, the "Reducing GHG Emissions in Canada's Transportation Sector" identified that:

"Coordinated federal, provincial and municipal policies should also be developed to promote auto-share programmes, such as minimum dedicated free-parking spaces for car sharing services (in both private and public institutions) and funding for infrastructure to support the electrification of the car share fleet" (e.g. charging stations) (Clean Energy Canada et al)

Rather than providing a reduction in the total number of spaces for every car-share parking space, the Clean Energy Canada report recommended minimum ratios be provided, requiring dedicated car-share parking spaces instead of incentivizing them. At present, it is unclear if this approach would be legally enabled by Provincial Legislation since no other municipalities in Ontario have attempted to implement this approach.

At the present time, the majority of the major car-share companies in Canada do not have cars in Kingston. [Communauto](#) (formerly VRTUCAR) has cars in a few different locations primarily located in the downtown area, the Williamsville Main Street corridor and in the area around Queen's University. The City supports car share providers by leasing reserved parking spaces within City surface parking lots if needed.

Kington, as a smaller city, may require larger strategic intervention to attract and retain car-share providers, however the components of that larger strategy is beyond the scope of this document. In addition to the strategic assistance that may be provided through the

parking regulations in the zoning by-Law, Kingston will likely require a coordinated, corporate-wide car-share support strategy to remove barriers and overcome obstacles, if we wish to access the opportunities and public benefits that car-sharing can provide.

This could be aligned with economic development strategies recognizing that transportation as a service (TaaS) has attracted significant private sector investment over the past few years. This growing global market is positioned to integrate car-sharing concepts, the still-uncertain potential for fully or partially autonomous vehicles, and electric or other low emission vehicle technologies. Further monitoring and analysis of this trend in the coming years may yield key insights on the future of car ownership and the locational need for parking as considerations for developing effective long-term strategies that incorporate the City's strategic goals.

Initially Favoured Option

Corporately, the City of Kingston wants to see the successful implementation of a much broader and robust car-share market. It is a very important parking and transportation demand management strategy that can provide residential occupants an opportunity to forgo car ownership, or forgo the purchase of an additional vehicle, in favour of a car-share membership. This also bolsters the use of active transportation and transit, where an alternative transportation trip is convenient and helps to

support broader transportation policies and priorities in the City.

A broader and more robust car-share market is aligned with all TDM policies in the OP, as well as strategic priorities related to climate change and housing affordability in Kingston. The ability to see the construction of dedicated car-share parking spaces on privately owned properties through the zoning by-law is just one element of a broader car-sharing strategy that the City can employ, which may also include the dedication of off-street or municipally owned parking spaces for car-sharing vehicles, and additional approaches to allow car-share vehicles to park flexibly across the city.

Car-share companies need privately owned parking spaces on many properties in numerous and distributed locations to be viable and to be considered an attractive alternative to vehicle ownership, in concert with appropriate population densities, parking pricing and networks for alternative transportation modes. The initially favoured option is allowing an incentive-based reduction in the minimum number of required parking spaces at a ratio of 5 parking spaces for every 1 car-share parking space. The intent is that the incentive be attractive enough that virtually every new application will wish to take advantage of it, so that over time, almost every new project will include some car-share parking and it will become proximate and plentiful.

A critical mass of distributed, accessible car-share parking spaces could be built through this incentive and would open the door for car-share or TaaS companies to be established in Kingston.

Should this incentive be taken advantage of by the development community but a car-share company does not opt to utilize the parking spaces initially or at some point in the future, the City would still realize the many benefits outlined in this report from fewer parking spaces being constructed. The City would have the ability to determine how the spaces could be utilized to maximum public benefit beyond car-share, until such a time as car-share is established or returns. The New ZBL could be amended to allow the conversion of those dedicated car-share parking spaces to other non-assigned spaces, whether it be visitor spaces or bike parking spaces, accessible spaces, or any number of alternatives.

Note that building ownership should not have the option to “opt-out” of car-share if car-share companies wish to take advantage of spaces established through a city incentive.

Conversely, if the car-share market is expanded in the City in the future, the City could review this approach and consider requiring a minimum number of dedicated car-share parking spaces, as recommended by the Clean Energy Canada report.

Other Option

Like Toronto, Kingston could simply allow car-share parking spaces to be provided and count as a normal car parking space on a property. Any reductions in required parking would be done on a site-specific basis. This could represent a lost opportunity for Kingston, a city that currently lacks a robust car-sharing market compared to larger cities. In short, without incentives and other strategic approaches, the City does not expect to be able to attract and obtain a successful and robust car-share market.

3.6 Enhanced Bike Parking and Transit Amenities

Typically, in zoning by-laws, bike parking ratios require a certain number of bike parking spaces for a specific land use, and bike parking dimensions usually outline the required dimensions for bike parking spaces to ensure they are safe, secure, and functional for the intended user.

Only 2 of the 5 existing City of Kingston zoning by-laws require any form of bike parking, the remaining 3 zoning by-laws have no bike parking requirements. Zoning By-law 8499, which applies to the central area of the City, requires 1 bike parking space per residential unit. Zoning By-law 96-259, which applies to the downtown and harbour area, includes the following requirements:

- Office: 0.4 spaces per 100 square metres
- Restaurant: 2 spaces per 100 square metres
- Commercial: 2 spaces per 100 square metres
- Convenience Store: 1 space per 100 square metres
- Multiple Dwelling or Converted Dwelling – 1 space per residential unit, minimum 5 spaces

In both zoning by-laws, the bike parking spaces for residential uses must be provided in a bike parking area, which is secured and covered from weather elements. The minimum dimensions are 1.8 metres by 0.6 metres with a vertical clearance of 2.1 metres. There are no specific requirements for any of the non-residential bike parking spaces in the downtown and harbour area.

As identified in the recommendations of the Active Transportation Master Plan (ATMP) (Appendix B), bike parking space ratios can be separated into two general categories: long-term spaces that are geared towards occupants or employees who intend to stay at their destination for a longer period of time (typically more than two hours), and have access to secured locations on the property; and short term spaces that are geared towards visitors or customers who are likely to have a shorter stay at their destination (typically less than two hours), with such spaces typically found in the public realm and typically considered significantly less secure.

It should be noted that bike theft and bike security are major issues affecting the public's willingness to consider bikes as a viable alternative to other ways of getting around, both in general in the context of reduced car ownership, and for specific kinds of trips in the context of reduced car use and vehicle parking. As bikes increase in cost/value through increased size (cargo bikes) or improved technology (e-bikes), the fear of theft as a barrier to the embracing of urban biking only grows. In many cities, bike theft is cited as one of the largest impediments to the growth of bike mode share. Yet bike theft is often discussed specifically as a crime prevention/policing issue rather than as an important strategic public policy issue that should be addressed comprehensively. If urban biking is to play its potential

role in decreasing both car use and car ownership, bike theft must be mitigated as much as possible to the point where it is not a significant factor in preventing mode shift from motor vehicles to bikes.

Long-term spaces are typically located within a locked and well-lit bike parking room, or a secure enclosure within a parking garage, where there are bike racks to lock up a bike. In such facilities, bikes can generally be accessed by any occupant of the building, and thus are considered only partially secure. In fact, bike theft in communal bike parking areas is common in many cities, and is often the reason cited for either the refusal to purchase a bike as an alternative to a car, or the refusal to keep bikes in such communal spaces. This latter tendency can lead to bikes being brought up and stored in individual homes in multi-home buildings, leading to potential conflicts and issues including the creation of condominium rules to restrict bikes in elevators.

For short term “visitor” bike parking in the public realm, a lack of security (both real and perceived) can be fueled by a general lack of available bike parking; poor locations for bike parking with a lack of visual surveillance; poorly designed bike racks making fully locking up more difficult; a lack of larger bike parking opportunities where cargo bikes, trailers etc. can be fully secured; and the absence of more enhanced bike security options such as bike lockers or shelters. Adding a distinction between short-term and long-term bike parking, with specific security requirements for each category, represents an



Photo of Bike Parking Racks at Megaffin Park
(Source: Cyclomedia)

opportunity to significantly improve upon the existing bike parking requirements.

In addition to security, rider comfort and convenience must be considered strategically. “End-of-trip” facilities are facilities that support cyclists at the end of their trip, such as change rooms, locker rooms and shower facilities and are a recommendation included in the ATMP. They are an important component of cycling infrastructure, as they allow cyclists to ride a bike to work, for example, and have an opportunity to shower and change into work attire. The lack of shower and change facilities is a major deterrent for some cyclists and the availability of such

facilities may be the final element that allows cyclists to choose active transportation rather than use of a private vehicle.

The review of other municipalities has demonstrated that there is no clear common practice to follow when it comes to regular bike parking space ratios for either long-term or short-term parking including bike parking location, bike rack design or enhanced security requirements, as the requirements vary across the board for ratios and different uses or classifications of use that require bike parking spaces.

Standard bike parking space dimensions, however, are relatively fixed across all municipal zoning by-laws, with the most flexible zoning by-laws allowing for combinations of horizontal, vertical, and stacked bike parking spaces. Horizontal spaces are standard spaces where there is some form of rack that the bike can be secured to. A vertical space is equipped with a rack that stands the bike upright with a mechanical device to assist with the positioning of the bike. A stacked space is a space equipped with a mechanical device that positions one bike on top of another bike horizontally.

The flexibility of a range of bike parking space types means that the provision of bike spaces can be done in a more efficient manner, requiring less floor area to support the infrastructure required for these spaces while ensuring the functional and easy use of a robust supply of bike parking.

Adding to the complexity of bike parking ratios and security, in recent years Canadian cities have seen a significant growth in new and oversized bike types, including accessible bikes (adaptive bikes for people with disabilities), e-bikes (electric bikes), recumbent bikes, tandem bikes, cargo bikes, and various types of bike carriers or trailers. These may require special charging infrastructure (for e-bikes, although some batteries may be removed and charged in the primary home) and/or significantly more space, potentially making already challenging bike parking more difficult. Further, because of the increased cost/value of the bikes involved, it further fuels the already existing need for more secured options to prevent theft.

There are no Ontario municipalities, or municipalities in general based on our initial investigation, who have proactively adjusted bike parking requirements in zoning by-laws to address oversized bikes or electric charging opportunities for e-bikes. The Waterfront Toronto "[Green Building Requirements](#)" plan outlines a strategy for how the built environment can address the climate emergency and enable healthier, more resilient and livable cities. As it relates to bike infrastructure, the plan calls for a minimum of 5% of the required long-term bike parking to be provided as oversized bike parking, with minimum dimensions of 1.0 metres by 2.4 metres, which may not be provided as vertical or stacked bike parking spaces.

Two additional amenities that are required by the Waterfront Toronto plan are the provision of 15% of

long-term bike spaces being equipped with an appropriate electrical charging outlet within 1.1 metres of the bike parking space (noting that with some electric bikes, batteries are easily removable and can be brought to the primary home for charging), and bike maintenance rooms with “adequate space for residents to perform repairs and maintenance of bikes within the storage facility space. Include space for a bike pump, bike repair stand and a bench”.

The City of Ottawa’s recently completed [Public Bike Parking Strategy](#) also acknowledges emerging trends in bike design (such as e-bikes and cargo bikes) and the need to provide accessible bike spaces to ensure that proper infrastructure is in place within the public-owned supply of bike infrastructure.

With regard to enhanced bike security, although some buildings may choose to provide private storage rooms or dedicated bike lockers for additional security, we have not seen any Ontario municipalities that mandate such requirements through zoning. Portland, Oregon requires 10% of long-term bike spaces to be provided in lockers. The City of Vancouver requires 20% of long-term bike parking spaces to be provided in lockers that are constructed of solid material with a lockable door and must be weather-proof if located in an area exposed to the elements. Lockers are required to be a minimum width of 0.6 metres at the door end, 0.2 metres in width at the end opposite to the door, 1.8 metres in length and 1.2 metres in height.

The ability to require and/or incentivize bike lockers in the new zoning by-law represents a leadership opportunity for Kingston and a significant improvement from the existing zoning requirements. Some or all of these lockers could be required to be large enough to accommodate accessible bikes, cargo bikes or bike trailers, and e-bikes, and could include a minimum number of standard electrical charging outlets.

As discussed elsewhere in this report, the initially favoured approach to parking supply requirements is to reduce parking minimums and allow for further reductions in required parking spaces in return for car-share spaces, enhanced bike parking, transit amenities or electric vehicle infrastructure.

In the case of enhanced bike parking, there are many leadership opportunities for the City of Kingston to implement in the new zoning by-law as either an incentive, where the standard parking requirement could be reduced, or as a minimum requirement, or a combination of both. In all cases, these enhanced bike parking requirements and incentives represent a significant improvement from the existing zoning by-laws, where only the basics are required (if any, at all). The following requirements and incentives are initially favoured by this paper and would position Kingston as a leader in enhanced bike infrastructure within zoning:

Possible Requirements

1. Minimum percentage of oversized bike parking for accessible bikes, e-bikes and cargo bikes/trailers (5%); and
2. Minimum percentage of bike parking provided in secured lockers or other enhanced security opportunities for residential uses (10%).

Possible Incentives

1. Increased number of standard bike parking spaces;
2. Provision of additional oversized bike parking spaces for cargo bikes/trailers (above 5%);
3. Provision of e-bike plug-ins;
4. Provision of additional enhanced bike security (above 10%) for either residents and visitors, including dedicated bicycle lockers (regular and sufficient size to accommodate oversized bikes, with electrical charging outlets for e-bikes);
5. Provision of weather protection for short-term bike spaces where appropriate, at the discretion of the City; and
6. Maintenance area of sufficient size to accommodate repairs and maintenance of bikes, including space for a bike pump, bike repair stand and a bench.

The specifics of both the achieved parking reduction benefit and the exchanged number of reduced parking

spaces would be further investigated and recommended in the eventual draft by-law.

In the case of “transit amenities,” in locations deemed strategic by the City, at the City’s discretion, developers might be able to construct enhanced transit stops, transit-supporting public art or enhanced design, in return for a reduced number of parking spaces. Such opportunities would have to be clearly defined and would need to be quantifiable in the eventual draft by-law if such an idea could work. It is possible that such transit amenity benefits may be better achieved through mechanisms other than the zoning by-law or negotiated on a site-specific basis through a rezoning application.

Initially Favoured Option

Requiring off-street, privately owned bike parking infrastructure is pivotal to achieving the City’s transportation policies. The New ZBL provides the City with an opportunity to realize key active transportation goals and to become a leader in biking infrastructure requirements in zoning. These requirements would provide necessary facilities to support cycling and take advantage of the investment the City is placing in infrastructure, supportive programming, resources and staffing.

The initially favoured option includes the requirement to provide long-term, secure bike parking spaces to help deter bike theft, short term bike spaces and “end-of-trip”

facilities to support cyclists at their destinations across the City.

This option includes the requirement to provide oversized bicycle parking spaces and bike lockers, as well as a number of incentives related to enhanced bike parking that would enable a developer to reduce the overall parking supply if specific enhanced bike facilities are provided. This option includes the following:

1. The favoured bike parking ratios for all uses identified in Appendix E should be implemented in the New ZBL. The ratios generally maintain the existing ratios for residential uses, but separate them into long-term, secure bike spaces and short-term spaces. The ratios also introduce new bike parking space requirements for commercial, employment, institutional and recreational uses to ensure bike parking spaces are provided at the destination of cyclists, rather than just at their place of residence.
2. As an additional measure to support the active transportation policies of the OP, the New ZBL should adopt the same “end-of-trip” requirements as the City of Toronto, as follows:
 - a. Where less than 5 long-term bike parking spaces are required for non-residential uses, no shower and change facilities;
 - b. Where 5 to 60 long-term bike parking spaces are required for non-residential uses, 1 shower and change facility;
 - c. Where 61 to 120 long-term bike parking spaces are required for non-residential uses, 2 shower and change facilities;
 - d. Where 121 to 180 long-term bike parking spaces are required for non-residential uses, 3 shower and change facilities; and
 - e. Where more than 180 long-term bike parking spaces are required for non-residential uses, 4 shower and change facilities.
3. Within the “end-of-trip” facilities, for all non-residential uses, clothing lockers must be provided at a ratio of 1 clothing locker for every bike required to be provided on a property in a similar manner to what is required by the City of Vancouver.
4. The minimum bike parking space dimensions should allow for as much flexibility in the allocation of bike spaces as possible to ensure the most efficient use of space, while recognizing that a certain number of standard horizontal spaces should be provided as they are more accessible to a wider variety of users (for users who may not be able to use the more difficult vertical or stacked mechanical systems) and bike types. The favoured dimensions and requirements are as follows:
 - a. Minimum horizontal bike parking space dimensions: 1.8 metres horizontal length by 0.6 metres wide with a vertical clearance of 1.9 metres;

- b. Minimum vertical bike parking space dimensions: 1.8 metres vertical length by 0.6 metres wide with a horizontal clearance from the wall of 1.2 metres;
 - c. Oversized bike parking space dimensions: 2.6 metres horizontal length by 1.0 metres wide with a vertical clearance of 1.9 metres;
 - d. Minimum width of bike access aisle for horizontal, vertical and stacked bike parking spaces is 1.2 metres wide;
 - e. Minimum width of bike access aisle for oversized bike parking spaces is 1.5 metres;
 - f. Short term bike parking spaces must be provided as horizontal bike parking spaces and be located in a highly visible and well-lit location within 15 metres of main pedestrian entrance;
 - g. A minimum of 30% of the long-term bike spaces must be provided as horizontal bike parking spaces;
 - h. A minimum of 5% of the long-term bike spaces must be provided as oversized bike parking spaces, which cannot be provided as stacked or vertical spaces;
 - i. A minimum of 10% of long-term residential bike spaces must be provided in a secure bike locker.
5. Enhanced bike parking incentives in return for further reductions in minimum parking, for increased number of short-term or long-term bike parking spaces; the provision of additional oversized bike parking spaces for cargo bikes/trailers (above 5%); the provision of e-bike plug-ins; the provision of enhanced bike security with dedicated bicycle lockers (above 10%); the provision of weather protection where appropriate; and the provision of a bike maintenance area.

3.7 Electric Vehicle Supply Equipment (EVSE)

When it comes to the many benefits of rethinking parking, it is clear that the biggest public interests come from less parking, lower personal vehicle ownership, and fewer/shorter driving trips. In short, despite the attention that "better vehicles" get (for example, electric vehicles, driverless cars), research has shown that as vehicle technology improves, vehicle ownership and vehicle kilometres travelled often actually goes up, erasing much or all of the emission reduction and other benefits achieved from the improved technology. This commonly observed effect is referred to as "Jevons Paradox". For this reason, any consideration of better mobility should start with, and focus predominantly on, strategies to ensure a reduction of vehicle ownership and use. This is often summarized with the saying that "the best cars are fewer cars".

Given the likelihood that, even with fewer vehicles and kilometres travelled, there will still be many vehicles in Kingston for the foreseeable future, a second component of smart public policy would be to support the replacement of the remaining vehicles in circulation with lower-emitting vehicles.

This is aligned with the Climate Leadership Plan, where much of the plan for neutrality depends on the shift to electric vehicles (EVs). Between 2018 and 2019, approximately 50 public charging stations were constructed within Kingston's municipally owned parking

supply. The City continues to focus on the electrification of its fleet of vehicles in accordance with the Strategic Plan 2019-2022, to achieve a corporate GHG reduction of approximately 7% by 2022 based on 2018 GHG levels.

The growth of EV sales in recent years has been dramatic, with many vehicle manufacturers making significant commitments to further expand EV production in the next decade or so, and some committing to go "fully electric" within ambitious timeframes. By the time buildings that are currently being designed are fully constructed, it is possible, and perhaps even likely, that market expectations will have shifted sufficiently that parking spaces equipped with electric vehicle supply equipment (EVSE) is considered relatively normal and expected for viable projects.

However, at the time of writing of this report, we are not there yet. Nonetheless, virtually all automakers are now offering EV models with some even identifying a date in the next 10 years when they will only make electric vehicles. Within modelling activities for the development of the Climate Leadership Plan, forecasted estimates have included up to 90% passenger and 75% commercial vehicles could be EVs by the year 2040. As of 2020, 0.4% of local passenger vehicles were electric. The current trajectory sees this growing to 16% over the next 20 years even in the most conservative scenario.

As has been discussed throughout this report, policy approaches, such as reduced or removed car minimums, parking maximums, car-sharing etc. all have the effect of supporting lower car ownership and less driving. The project team has considered how zoning regulations or incentives for parking spaces with EVSE could support the quicker expansion of EV ownership in Kingston.

While we recognize that EVSE requirements were removed from the Ontario Building Code, requirements to provide parking spaces with EVSE exist in the zoning by-laws of Kitchener and Waterloo, as well as in the Green Standards in Toronto.

Waterloo’s zoning by-law requires 80% of structured parking spaces for multi-unit residential and non-residential buildings to be designed to permit the future installation of EVSE. For surface parking spaces, the zoning by-law provides a table identifying the number of EVSE parking spaces with Level 2 electric charging devices based on the number of spaces, as follows:

Surface Parking Spaces	EVSE Parking Spaces
0-19	0
20-49	1
50-84	2
85-119	3
120-149	4
150 or more	3% of total required parking

Kitchener’s zoning by-law requires 20% of parking spaces for multi-unit residential buildings and 15% of non-residential parking spaces to be designed to permit the future installation of electric vehicle supply equipment (EVSE). For non-residential uses, a minimum of 5% of parking spaces must be provided with EVSE.

The Toronto Green Standards (TGS) that apply to mid to high rise residential and all non-residential developments require 20% of the parking spaces to be provided with EVSE, with the remainder of the parking spaces required to permit future EVSE installation (for the mandatory Tier 1 level of TGS). Tier 2 of the TGS is an optional level of with additional incentives when a number of increased targets are met, including the provision of 25% of parking spaces with EVSE.

As demonstrated in Kitchener, Waterloo and Toronto, it may be possible for municipalities to create requirements and/or incentives for parking spaces with EVSE through zoning by-laws or Green Standards. Green Standards are enabled for most Ontario municipalities through the *Municipal Act*, where Toronto has the *City of Toronto Act* with slightly different language related to Green Standards.

As indicated in Chapter 2 of this Paper, Climate Leadership staff are currently developing a Green Standard CIP which will incentivize the construction of new energy efficient, sustainable, low-impact buildings with a goal of reducing community GHG emissions. While

this work is occurring concurrently to this Paper, there are many benefits to this work happening in concert of each other, allowing the City to leverage all of the possible tools available to ensure the implementing tools, such as the zoning by-law requirements or incentives, combined with other financial based incentives, assist with the realization of broader City goals and strategic priorities. The implementation of requirements or incentives for EVSE parking spaces will be further explored through the Green Standard CIP and may be implemented in the final form of the new zoning by-law.

As it relates to requirements for EVSE parking spaces, staff recognize that there are challenges for builders associated with the theoretical calculation of electrical loads based on the current provincial requirements. Staff recognize that overbuilding infrastructure is an unnecessary expense with long term financial implications for all, including developers, future tenants/owners and the municipality as a whole. The intent is to ensure that the parking policy does not contribute to the need to overbuild electrical infrastructure. Further consultation is planned with key stakeholders in order to ensure that the ultimate parking policy recommended in the final form of the new zoning by-law adequately addresses all constraints and factors associated with the construction of EVSE.

It may be possible to implement a successful incentive-based approach similar to that discussed in the car-sharing discussion for parking spaces with EVSE, however

it is more challenging given the greater difficulties and complexities involved. Such complexities include the costing of such infrastructure and ensuring such incentives (presumably in the form of reduced parking minimums similar to that proposed for car-sharing) would be attractive in the context of rapidly changing market interest in electric vehicles. The project team is considering whether a temporary incentive program with a "sunset clause" may be appropriate, that anticipates when electric charging may become an expected "pre-requisite" for viable/attractive housing in the residential



Photo of Electric Vehicle Supply Equipment (Source: The Kingston Whig Standard)

marketplace, making incentives unnecessarily – however, we note that if this is the case, the City would still be realizing the benefit of fewer constructed parking spaces.

Some municipalities in British Columbia have also included minimum requirements for underground electrical conduit provided within new developments in order to make it easier for the owners of the new building to install the above ground charging equipment, similar to the requirements found in Kitchener, Waterloo and Toronto. This is an important consideration for any related requirement or incentive, as digging up concrete and soil for the trenching needed for adding conduit is much more costly after the fact as a retrofit than providing the sufficient electrical infrastructure at time of construction.

Initially Favoured Option

In conjunction with the Green Standards CIP, develop an incentive or requirement in the new zoning by-law for parking spaces with EVSE, or parking spaces that are designed to accommodate the future installation of EVSE with necessary electrical conduits installed at the time of construction. Incentives would have to reflect the cost of such infrastructure, including the minimum cost of base infrastructure, and the incremental cost of additional spaces, to determine an appropriate expectation for the amount or percent of parking that would have the plug-in availability. Consideration should be given to an initial time period for the incentive, i.e. a “sunset clause,” after

which the city should consider whether the incentive is still necessary based on industry adoption of EV plug-in as a common or normal expectation.

Other Option

Continue to monitor the growth of EV production and sales as a percent of new vehicle sales but allow the market to change practices of providing EV infrastructure for parking spaces at their own discretion. Perhaps consider other incentives within the City's abilities, such as those considered through the Green Standards CIP.

3.8 Shared Parking

Shared parking is a type of parking management strategy that takes advantage of the fact that many parking spaces are only used for a portion of the time by a particular group. When two or more uses exist on one property, a certain percentage of the parking spaces may be shared between different uses if the peak period of usage does not overlap. For example, if a mixed-use development contains retail or office space and residential dwelling units, visitors to the residential dwelling units may be able to share some parking spaces with the retail or office uses since residential visitors typically occupy parking spaces at different times than visitors to retail spaces or employees of offices. This approach has been recommended by MMM Group for Parking Areas 1 and 2 and is employed by three of the municipalities reviewed for common practices as part of this Paper, as reviewed in Appendix D.

In general, the calculation of shared parking spaces is determined by identifying different parking periods throughout the day (for example, morning, afternoon, and evening). The number of parking spaces for each use in each parking period is specified in the by-law. The total number of required spaces would be the largest number of spaces required for any one of the defined parking periods.

Initially Favoured Option

The concept of sharing parking spaces on properties with a mix of uses implements the TDM policies of the Official Plan and is a parking demand management strategy that can help ensure the efficient use of parking spaces across the City. The initially favoured option is implementing the shared parking space recommendation of the MMM Group study (Appendix B) across the entire City.

Other Option

The New ZBL could take the historical approach to parking and disregard the opportunities to share parking spaces. This would represent a lost opportunity in terms of recognizing that different uses may have complementary operating hours where the peak demand for parking does not overlap, making more efficient use of parking spaces.

3.9 Cash-in-Lieu of Parking

[By-law Number 88-270](#), the City's cash-in-lieu of parking by-law, allows for the renovation or conversion of an existing structure in the downtown area (PA1) to be exempt from minimum parking space requirements, and instead, pay a fee of \$3,000 to the City for each parking space that would have been required by the minimum parking ratio. Fees collected through the cash-in-lieu by-law are deposited into a special municipal parking reserve fund for the purpose of constructing new public parking facilities. This fee was last updated in 1992 and, as indicated in Section 1.2. of this report, does not come anywhere close to recouping the replacement cost of parking spaces at a 1 to 1 ratio.

As discussed in Section 3.1. of this Paper, the municipally owned supply of parking is not intended to make up for a reduced supply of residential parking. Rather, it is intended to support short-term commercial trips, delivery vehicles and other movements that have a broader public interest for the City. The overall intent of this Paper is to be the foundation of a new public discussion about parking standards, one which focuses on the reduction in the overall number of residential parking spaces provided, especially in strategic locations like the City's downtown (PA1). Supplementing residential parking requirements through a cash-in-lieu of parking by-law is contrary to the greater public interest and the overarching paradigm shift discussed in this Paper.

As discussed in Appendix B, in 2013, MMM Group Limited completed a Public Parking Policy Study and Cash-in-Lieu of Parking By-law update for the downtown and Williamsville corridor. The report considered options for updating the City's cash-in-lieu of parking by-law, which currently applies to renovations and conversions within existing structures, limited to the downtown area (PA1). Ultimately, the report opined that "a formula-based approach, which accounts for land costs, construction costs (surface, below and above grade area) and the actual number of spots requiring exemption represents a more prudent approach and provides for greater economic use of public resources and viability of future public assets".

Cash-in-lieu of parking was again discussed by BA Group Limited in the Multi-Unit Residential Parking Supply Requirement Review report. The ultimate recommendation of the BA Group report was:

It is recommended to repeal the "cash-in-lieu" aspect of By-law 88-270. As an incentive to facilitate small scale residential development in Parking Area 1 (i.e. the Downtown & Harbour Area, and Princess Street corridor), a minimum parking supply exemption is recommended be implemented to replace the existing "cash-in-lieu" option, exclusively for small scale residential

conversion redevelopment projects with 13 units or less.

Initially Favoured Option

In accordance with the Public Parking Policy Study and Cash-in-Lieu of Parking By-Law and the Multi-Unit Residential Parking Supply Review Requirement reports (Appendix B), the initially favoured option is to repeal the City's cash-in-lieu of parking by-law 88-270 in favour of updated parking standards in the New ZBL.

In conjunction with the repeal of By-law Number 88-270, this option also includes the addition of a provision in the New ZBL allowing for the conversion or renovation of existing structures within PA1 to be exempt from minimum parking space requirements, consistent with the recommendation of the BA Group report. This provision will be consistent with the cash-in-lieu of parking by-law, but in a manner that does not place a perceived onus on the City to provide parking spaces at a significantly reduced cost to private interests.

3.10 Parking Space Dimensions

Minimum parking dimensions are size specifications that each space must comply with to ensure all spaces are functional and safe for the intended user. Zoning by-laws establish minimum dimensions for typical parking spaces and their associated drive aisles (the internal driveway providing access to the parking spaces).

A key challenge with parking space dimensions is that vehicles have been generally getting bigger in recent years, with corresponding implications for fuel or electric energy efficiency/emissions, and also the safety of those outside the vehicle on foot, on bikes or in other vehicles in the event of collisions. If the size of parking spaces is

increased in response, parking lots and structures would correspondingly increase in size, with more volume/area, construction materials and cost required to support the same number of spaces, further increasing GHG emissions, while contributing to less walkable cities. Increasing parking space sizes would likely also have the effect of encouraging the purchase of larger vehicles, supporting a self-fulfilling prophecy regarding vehicle size. In all, although this trend in larger vehicle sizes is often characterized as a matter on individual choice, it clearly has significant public interest and public policy costs and implications.



Aerial Image of Parking Lot near Centennial Dr and Davis Dr (Source: Nearmap)

When it comes to parking space dimensions, the objective of this Paper is to ensure that the dimensions are functional for the intended user, but as small as possible to minimize the amount of surface area, lessening the climate impact by requiring less surface area to be paved and requiring less construction materials to be produced, which also aligns with the affordable housing objectives by lessening the construction costs of those spaces.

Historically, the City has encountered functional concerns when lower density forms of housing (for example, single detached houses, semi-detached houses, duplexes) have a parking space and driveway that is less than 6 metres in length. The functional concerns are primarily focused on snow removal on sidewalks and maintaining unimpeded pedestrian access, as larger vehicles are unable to fit fully within the driveway and overhang a portion of an adjacent sidewalk. This is an issue that is dealt with by enforcement staff, as it is a concern from an accessibility perspective, a snow removal perspective and is a general public safety issue. Based on this experience, this Paper recommends that parking spaces provided in shared parking lots that are accessed by a drive aisle be treated differently than parking spaces provided in a driveway leading directly to the parking space.

Initially Favoured Option

In accordance with the common practices of other municipalities in Ontario, the favoured parking space and drive aisle dimensions are:

1. Minimum parking space width: 2.6 metres;
2. Minimum parking space length where a driveway leads directly to parking space without a drive aisle: 6.0 metres;
3. Minimum combined tandem parking space length where a driveway leads directly to 2 parking spaces in a tandem configuration without a drive aisle: 12.0 metres;
4. Minimum parking space length for parking spaces located in a parking lot accessed by a drive aisle: 5.5 metres;
5. Minimum parallel parking space length: 6.7 metres;
6. Minimum vertical clearance: 2.1 metres;
7. Minimum drive aisle width: 6.7 metres;
8. Where a wall, column, or other obstruction is located along or within 0.3 metres of the length of a parking space, the minimum width of the parking space shall be increased by 0.3 metres for each side that is obstructed. Obstructions within 1 metre of either end of a parking space do not require an increase in parking space width; and
9. Allow for angled parking spaces, accessed by a one-way drive aisle, to have alternate dimensions.

3.11 Loading Space Dimensions & Ratios

The provision of the appropriate number and size of loading spaces is essential to the functionality of industrial, commercial, institutional, and multi-residential uses. A well designed and located loading space provides an area for garbage pick-up, moving trucks and transport trucks to serve various types of uses, which are essential elements in the daily and weekly functionality of buildings across the City, without impacting the functionality or safety of adjacent parking lots, pedestrian walkways and the public realm.

Like parking spaces, loading space standards include both dimensions and ratios. Dimensions are typically specified by length and width, as well as the most important characteristic - the minimum vertical clearance, or height to ensure proper functionality for the movement of larger commercial vehicles.

Initially Favoured Option

1. In accordance with the common practices of other municipalities in Ontario and the loading space dimensions contained within the existing zoning by-laws in the City of Kingston, the following loading space dimensions are favoured: 9 metres long by 3.5 metres wide, with a vertical clearance of 4.2 metres.
2. In accordance with the common practices of other municipalities in Ontario and the loading space ratios contained within the existing zoning by-laws in the City of Kingston, the following loading space ratios in Table 4.5. are favoured.

Table 3.11 Favoured Loading Space Ratios

Use	Size of Use or Building	Number of Loading Spaces Required
Employment Uses	0 – 300 square metres	1
	>300 – 2,500 square metres	2
	>2,500 – 7,500 square metres	3
	>7,500 square metres	3 + 1 for each additional 9,300 square metres beyond 7,500 square metres
Commercial Uses	0 – 300 square metres	0
	>300 – 2,500 square metres	1
	>2,500 – 7,500 square metres	2
	>7,500 square metres	2 + 1 for each additional 9,300 square metres beyond 7,500 square metres
Residential Uses	0 – 50 dwelling units	0
	51-399 dwelling units	1
	>400 dwelling units	2
Exceptions	PA1	No loading spaces required for commercial uses

References

AECOM. *City of Kingston Transportation Master Plan Update*. Prepared for the City of Kingston. March 2015.

Associated Schools of Construction. *Carbon Footprint Calculation for a Typical Roadway Section*. 2018.

Auchincloss, A. et al. *Public Parking Fees and Fines: A Survey of U.S. Cities*. Public Works Management & Policy 2015, Vol. 20(I) 49-59.

BA Group Transportation Consultants Ltd. *North Block District Parking Supply Requirements*. Prepared for the City of Kingston. March 2012.

BA Group Transportation Consultants Ltd. *Williamsville Parking Strategy Future Development Considerations*. Prepared for the City of Kingston. November 6, 2015.

BA Group Transportation Consultants Ltd. *Zoning By-law: Multi-unit Residential Parking Supply Requirement Review*. Prepared for the City of Kingston. August 2020.

City of Barrie. *City of Barrie Comprehensive Zoning By-law 2009-141*. Office Consolidation February 2015.

City of Brockville. *City of Brockville Comprehensive Zoning By-law No. 050-2014*. June 10, 2014.

City of Calgary. *Planning & Development Report to Public Hearing Meeting of Council*. November 2, 2020. <https://pub-calgary.escribemeetings.com/filestream.ashx?DocumentId=148373>.

City of Edmonton. *Parking Rules for New Homes and Businesses*.
https://www.edmonton.ca/city_government/urban_planning_and_design/comprehensive-parking-review.aspx.

City of Kingston. *Cycling and Pathways Study*. November 2003.

City of Kingston. *Density by Design: Kingston Mid-Rise and Tall Building Policy, Issue and Options Report*. 2019.

City of Kingston. *Kingston Transportation Master Plan*. July 2004.

City of Kingston. *Kingston Transportation Master Plan*. December 2015.

City of Kingston. *Official Plan*. Consolidated as of November 1, 2019.

City of Kingston. [Report to Environment, Infrastructure & Transportation Policies Committee Number EITP-13-008](#). May 14, 2013.

City of Kingston. [Report to Environment, Infrastructure & Transportation Policies Committee Number EITP-14-012](#). September 16, 2014.

City of Kingston. [Report to Environment, Infrastructure & Transportation Policies Committee Number EITP-17-008](#). April 11, 2017.

City of Kingston. *Share the Road: A Guide for Motorists and Cyclists*.

City of Kingston. *Strategic Plan*. 2019-2022.

City of Kingston. *Walk 'n' Roll Kingston. City of Kingston Active Transportation Master Plan*. June 2018.

City of Hamilton. *City of Hamilton Zoning By-law 05-200*. May 11, 2010.

City of Ottawa. *City of Ottawa Zoning By-law 2008-250*.

City of Ottawa. *Public Bike Parking Strategy*. March 2021.

City of Quinte West. *City of Quinte West Comprehensive Zoning Bylaw 14-86*. Office Consolidation December 15, 2014.

City of St. Catharines. *City of St. Catharines Zoning By-law 2013-283*. December 16, 2013.

City of Toronto. *City of Toronto Zoning By-law 569-2013*. Office Consolidation August 20, 2014.

Clean Energy Canada et al. *Reducing GHG Emissions in Canada's Transportation Sector*. Submission to the Mitigation Measures Working Group Pan-Canadian Framework on Climate Change and Clean Growth. June 2016.

Cole Engineering. *Technical Paper: Parking & Loading Standards*. Prepared for the Town of Oakville. January 29, 2013.

Drexel NOW. 2014, March 24. *Low Parking Costs May Encourage Automobile Use*.

<https://drexel.edu/now/archive/2014/march/low-parking-costs-may-encourage-automobile-use/>.

Engel-Yan, J. Hollingworth, B. and Andreson, S. *Will Reducing Parking Standards Lead to Reductions in Parking Supply? Results of Extensive Commercial Parking Survey in Toronto, Canada*. Transportation Research Record: Journal of the Transportation Research Board, No. 2010, Transportation Research Board of the National Academies, Washington, D.C., 2007, pp. 102–110.

Government of Ontario. *Provincial Policy Statement, 2020*.

IBI Group Inc. *Parking Standards Review: Examination of Potential Options and Impacts of Car Share Programs on Parking Standards*. Prepared for the City of Toronto. March 2009.

IBI Group Inc. *Review of Parking Standards Contained within the City of Vaughan's Comprehensive Zoning By-law*. Prepared for the City of Vaughan. March 2010.

Litman, A. *Parking Management Strategies, Evaluation and Planning*. February 18, 2011.

Litman, T. *Innovative Solutions to Parking Problems*. 2006.

Litman, T. *Parking Requirement Impacts on Housing Affordability*. Victoria Transport Policy Institute. June 5, 2020.

Mayor's Task Force on Housing Report. *A Foundation for the Public Good: Recommendations to Increase Kingston's Housing Supply for All*.

Mayor's Task Force on Housing Report, Appendix D: Rental Market Housing Development Viability Analysis Report. *A Foundation for the Public Good: Recommendations to Increase Kingston's Housing Supply for All*.

Markham Zoning By-law Consultant Team. *City of Markham Task 9: Review & Assessment of Parking and Loading Standards, Comprehensive Zoning By-law Project*. Prepared for the City of Markham. August 17, 2015.

- Millard-Ball, A. et al. *What do Residential Lotteries Show Us About Transportation Choices?* January 2021.
- MMM Group Limited. *City of Kingston Parking Standard Review Study*. Prepared for the City of Kingston. July 2014.
- MMM Group Limited. *City of Kingston Public Parking Policy Study and Cash-in-Lieu of Parking By-law Update*. Prepared for the City of Kingston. May 2014.
- MMM Group Limited. *Parking Study to Review and Update Zoning Standards and Provisions*. Prepared for the Town of Whitby. September 2009.
- Mukhija, V. and Shoup, D. *Quantity versus Quality in Off-Street Parking Requirements*. Journal of the American Planning Association 72:3, 296-308, DOI. November 26, 2007.
- Municipality of Port Hope. *Municipality of Port Hope Zoning By-law 20/2010*. Office Consolidation February 25, 2011.
- Paradigm Transportation Solutions Limited. *Comprehensive Review of Off-Street Parking and Loading Regulations*. Prepared for the City of Kitchener. August 2015.
- Peters, A. 2018, July 17. Here's how much space U.S. cities waste on parking. Fast Company.
<https://www.fastcompany.com/90202222/heres-how-much-space-u-s-cities-waste-on-parking>.
- Ryerson Urban Analytics Institute. *How Parking Regulations Need to Evolve for High-Rise Buildings: A New Approach for Emerging Trends in Transportation, Housing and the Environment*. Prepared for the Residential and Civil Construction Alliance of Ontario (RCCAO). June 2019.
- Schiller, B. 2014, April 22. How We Think About Parking Spaces is Ruining Our Cities. Fast Company.
<https://www.fastcompany.com/3029157/how-we-think-about-parking-spaces-is-ruining-our-cities#1>.
- Shoup, D. *An Opportunity to Reduce Minimum Parking Requirements*. American Planning Association. Journal of the American Planning Association; Winter 1995; 61, 1; Proquest. 1995.
- Shoup, D. *In Lieu of Required Parking*. 1999.

Shoup, D. *The High Cost of Free Parking*. Journal of Planning Education and Research, Vol. 17, No. 1, September 1997.

Shoup, D. *The trouble with minimum parking requirements*. Transportation Research Part A 33 (1999) 549-574. 1999.

Tinevez, G. et al. *Onsite Parking Requirements Update for the City of Kingston*. December 2020.

Town of Grimsby. *Town of Grimsby Zoning By-law 14-45*. May 12, 2014.

Town of Milton. *Town of Milton Comprehensive Zoning By-law 016-2014 (HUSP Urban Area)*. Office Consolidation January 2015.

Town of Oakville. Technical Paper: Parking and Loading Standards. February 4, 2013.

Town of Oakville. *Town of Oakville Zoning By-law 2014-014*. Office Consolidation May 15, 2015.

Town of Prescott. *Town of Prescott Zoning By-law 09-2009*. February 17, 2009.

TriEdge & Associates. *Kingston Community GHG Inventory Update – 2018*. June 17, 2020.

WATERFRONToronto. *Green Building Requirements*. Version 3.0 / January 2021.

Zahabi, S. et al. *Evaluating the effects of land use and strategies for parking and transit supply on mode choice of downtown commuters*. The Journal of Transport and Land Use Vol. 5 No. 2 [2012] pp. 103-119. 2012.



APPENDICES to The Power of Parking: A New Parking Paradigm for Kingston?

City of Kingston

June 1, 2021

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Appendix A: Kingston's Policy Framework

This Appendix provides a high-level overview of the governing policies and legislation as they relate to parking standards in the City of Kingston. This overview is meant to be read in conjunction with all of the legislation and policy documents described herein.

The Planning Act and the Provincial Policy Statement

Section 26(9) of the [Planning Act](#) requires municipalities to amend all zoning by-laws that are in effect no later than three years after a Five Year Update to an Official Plan to ensure they conform with the Official Plan, while Section 24 states that no by-law shall be passed for any purpose that does not conform with the Official Plan. In 2017 the City completed a Five-Year Update to the Official Plan, which came into effect on August 29, 2017. The New ZBL project, which is underway and considered to be “the most important and highest priority task” by the Mayor’s Task Force on Housing, must conform with the policies of the Official Plan and must be consistent with the Provincial Policy Statement.

The [Provincial Policy Statement, 2020](#) (the “PPS”) considers the overall transportation system as one which consists of facilities, corridors and rights-of-way for the movement of people and goods and associated transportation facilities including, among other things, parking facilities. The PPS seeks to optimize the use of land, resources and public investment in infrastructure and public service facilities through efficient development patterns that promote a mix of housing, including affordable housing, and transportation choices that increase the use of active transportation and transit before other modes of travel. These efficient development patterns also minimize undesirable effects of development and permit better adaptation and responses to the impacts of a changing climate.

Transportation systems should be safe and energy efficient to facilitate the movement of people and goods and appropriate to address projected needs. The PPS encourages the efficient use of existing and planned infrastructure through the use of transportation demand management (“TDM”) strategies. TDM strategies are expected to result in more efficient use of the transportation system by influencing travel behavior by mode, time of day, frequency, trip length, regulation, route or cost.

Transportation and land use considerations are required to be integrated at all stages of the planning process. The PPS requires planning authorities to support energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions and preparing for the impacts of a changing climate through land use patterns which, among other things, promote the use of active transportation and public transit before other modes of travel. Active transportation is considered to be human-powered travel, including walking, cycling, inline skating and travel with the use of mobility aids. Land use patterns within settlement areas shall be transit-supportive where transit is planned, exists or may be developed.

Official Plan

The City of Kingston [Official Plan](#) (the “OP”) is the key planning policy that guides land use decisions in the City. The OP includes strategic direction guiding growth, development and intensification, while supporting physical infrastructure and protecting health, safety, the natural environment and cultural heritage resources.

Transportation Policies

From a transportation perspective, the goal of the OP is to promote an integrated and diverse transportation system for the City through the encouragement of land use patterns, density, road and site design that supports walking, cycling, and transit, as well as commercial traffic, inter-regional travel, and private vehicles. It is the intent of the transportation policies that the system is safe, convenient, affordable, efficient and energy-conserving, while minimizing environmental impacts.

It is the intention of the OP to encourage a balance between providing sufficient parking to address existing or future requirements while not oversupplying parking to the detriment of public transit or active transportation. The City will generally require off-street parking to be provided on-site in accordance with the zoning by-law. However, in certain circumstances, the City may pass a cash-in-lieu of parking by-law; provide alternative parking in accordance with the policies of the Central Business District or Main Street Commercial areas; and establish areas of differentiated parking policies and regulations based on land use characteristics and user requirements. The OP permits shared or reduced parking for uses with compatible operating characteristics or when transportation demand management practices is supported through measures such as dedicating space for car shares, integrating transit and providing additional secured bicycle parking.

The OP defines transportation demand management as a set of strategies that result in more efficient use of the transportation system by influencing travel behavior by mode, time of day, frequency, trip length, regulation, route or cost. The OP recognizes the role of TDM in promoting its strategic direction by making vehicular travel more sustainable, making more efficient use of the existing transportation infrastructure, and increasing transit use. Measures such as flexible work hours and priority parking for carpool vehicles can help to reduce peak travel volumes, which then optimize traffic capacity on the existing road infrastructure.

The OP defines active transportation as “human-powered travel, including but not limited to, walking, cycling, inline skating and accessible travel with the use of mobility aids, including motorized wheelchairs and other power-assisted devices moving at a comparable speed”. The OP seeks to achieve greater sustainability through land use patterns that foster transit and active transportation, and design practices which promote a reduction of automobile trips, active transportation and transit, including secured public access to bicycle storage and parking. The OP specifically states that “in order to implement the Strategic Direction of the Kingston Transportation Master Plan, active transportation will be aggressively promoted with greater emphasis on pedestrians, cyclists and transit, and accessibility for all residents and visitors”.

While the automobile will continue to be the primary mode of transportation in the City, other, more active forms of transportation will be aggressively promoted to maximize existing road capacity and improve environmental conditions. The City will work together with major institutions and employers to promote the shared use of new parking, which should be strategically located to encourage carpooling, transit use or private busing, and pedestrian and cycling accessibility wherever possible, particularly in the Central Business District, east of Division Street.

Climate Change Policies

Section 2.10 of the OP speaks to the role of policy in addressing climate change resiliency as part of a broader response to climate change that includes mitigation and adaptation strategies. The stated goal of this section is “to improve the resiliency of the community by managing the risks associated with natural and human-made hazards and climate change, in order to protect public health and safety, property, and long-term prosperity”. While there are no specific climate change policies directly referring to parking standards, the policies state that the potential impacts of climate change and extreme weather events should be considered when assessing new development, opportunities should be explored to achieve climate positive developments, and climate-resilient architecture of buildings should be supported. It is generally an accepted principle that the provision of parking spaces is significantly directly connected to the City’s transportation infrastructure, which is closely connected to overall City objectives as far as greenhouse gas emission reductions and other climate change initiatives are concerned.

Affordable Housing Policies

Section 3.3.10. of the OP speaks to the City’s affordable housing initiatives that are designed to support the development of housing that is affordable for low and moderate income households, and to help households transition out of core housing need. The initiatives are designed to provide a full range of housing in terms of tenure, affordability, accessibility and location. Initiatives include a target of 25% of all new housing in the City being affordable; placing a high priority on affordable housing as a community benefit; using surplus lands owned by the City to be considered for affordable housing; promoting development for not-for-profit cooperatives and organizations; using upper-storey space in mixed-use developments through such mechanisms as reduced parking requirements or other financial incentives; encouraging intensification and a mix of densities in new communities as a way to promote affordability; and promoting second residential units, among other initiatives. When these initiatives are considered in conjunction with the work completed by the Mayor’s Task Force on Housing (summarized in Section 3.5), it is clear that parking standards are considered to be directly connected to the affordability of housing.

Strategic Plan

[Kingston's Strategic Plan 2019-2022](#) prioritizes the demonstration of leadership on climate action, increasing housing affordability, and improving the walkability of streets and transportation. It prioritizes strengthening economic development opportunities and fostering healthy citizens and vibrant spaces. Within the priorities, the Strategic Plan identifies a number of measurable goals, including "pursue development of all types of housing city-wide through intensification and land-use policies", which includes the completion of a number of studies to enable more housing development including the "Zoning Bylaw Consolidation", known in this Paper as the New ZBL.

The Strategic Plan specifically states that "A number of studies and bylaw changes will provide a zoning framework that will support the development of a minimum of 12,000 residential units within different areas of the city over the next 30 years. Studies will provide a combination of as-of-right zoning and other types of relief, such as parking ratio reduction, in order to support intensification". It is clear that the Strategic Plan makes a direct correlation to parking ratio reductions and the construction of new, affordable residential units. The Parking Standards contained in the New ZBL are one of the single-most effective ways to achieve this clear goal.

The City has a Council-approved ambitious goal of being Canada's most sustainable city. Kingston City Council have demonstrated the City's commitment to climate action by becoming the first municipality in Ontario to declare a climate emergency and ensuring that leadership on climate action was the first strategic priority for 2019-2022.

The Strategic Plan clearly prioritizes active transportation and public transit in its priority related to improving walkability, roads and transportation. It seeks to build on global lessons and engage citizens in modal transformation by investing in infrastructure to enable transit ridership growth, promote pedestrian safety and repair roads. Cycling and bus corridors, pedestrian crosswalks and increased enforcement are investments that should be made to advance active transportation with safe, quality streets for years to come.

Accessibility for Ontarians with Disabilities Act

Official Plan policy 4.6.61. states that “the zoning by-law will be used to regulate the supply of accessible parking as required by provincial legislation” and contains a number of policies related to universal design principles in order to provide uniform accessibility and accommodate the abilities of all. The OP promotes universal design principles throughout its policies recognizing the importance of ensuring opportunities for all people to access the City and make contributions as citizens. It identifies that the location of accessible parking spaces shall provide enhanced accessibility through a consideration of factors including, but not limited to, the distance between parking spaces and accessible building entrances, security of the parking area, lighting of the area, protection from the weather, and ease of maintenance.

The goal of the [Accessibility for Ontarians with Disabilities Act, 2005](#) (“AODA”) is to create a more accessible Ontario by identifying, and to the extent possible, preventing and eliminating barriers experienced by persons with disabilities. The AODA sets out five accessibility standards, including customer service, transportation, information and communications, built environment and employment.

Ontario Regulation 191/11, the [Integrated Accessibility Standards Regulation](#) (the “IASR”), is the only Ontario Regulation passed under the AODA. The IASR, which has been amended by various Ontario Regulations over time, focuses on removing barriers in transportation, employment, information and communications, the design of public spaces and customer service. [Ontario Regulation 413/12](#) amended the IASR to include accessible parking space standards in the “Design of Public Spaces Standards (Accessibility Standards for the Built Environment)” in Part IV.1. This amendment included

requirements for accessible parking which are required to be implemented by municipalities in Ontario.

The accessible parking space requirements are meant to apply to off-street parking facilities which include parking spaces intended for the temporary parking of vehicles by the public, whether or not the payment of a fee is charged and includes visitor parking spaces. They are not meant to apply to private parking reserved for exclusive use (for example, parking for buses, delivery vehicles, law enforcement vehicles, medical transportation vehicles and impounded vehicles) or when parking spaces lead directly to private parking for a dwelling unit.

Tables A.1. and A.2. identify the required dimensions for off-street accessible parking spaces and the required ratios for accessible parking spaces for public use in accordance with the IASR and the AODA.

Table A.1. Accessible Parking Space Dimensions – Legislated Requirements

Type	Minimum Width	Access Aisle Requirements, which may be shared by two parking spaces
Type A, wider parking space with signage that identifies it as “van accessible”	3.4 metres	1.5 metres extending the full length of the parking space, marked with high tonal contrast diagonal lines, which discourages parking in them, where the surface is asphalt, concrete or some other hard surface.
Type B, standard parking space	2.4 metres	

Table A.2. Accessible Parking Space Ratios – Legislated Requirements

Number of Parking Spaces	Number of Accessible Parking Spaces Required
12 or fewer	One parking space for the use of persons with disabilities, which meets the requirements of a Type A parking space
13 – 100	Four percent of the total number of parking spaces for the use of persons with disabilities, in accordance with the following ratio, rounding up to the nearest whole number: <ul style="list-style-type: none"> i) Where an even number of parking spaces for the use of persons with disabilities is provided in accordance with the requirements of this paragraph, an equal number of parking spaces that meet the requirements of a Type A parking space and a Type B parking space must be provided. ii) Where an odd number of parking spaces for the use of persons with disabilities is provided in accordance with the requirements of this paragraph, the number of parking spaces must be divided equally between parking spaces that meet the requirements of a Type A parking space and a Type B parking space, but the additional parking space, the odd-numbered space, may be a Type B parking space.
101 – 200	One parking space and an additional three percent of the total number of parking spaces for the use of persons with disabilities, calculated in accordance with ratios set out in subparagraphs 2 i and ii, rounding up to the nearest whole number.
201 – 1,000	Two parking spaces and an additional two percent of the total number of parking spaces for the use of persons with disabilities, in accordance with the ratio in subparagraphs 2 i and ii, rounding up to the nearest whole number.
More than 1,000	Eleven parking spaces and an additional one percent of the total number of parking spaces for the use of persons with disabilities, in accordance with the ratio in subparagraphs 2 i and ii, rounding up to the nearest whole number.

Zoning By-laws

The Official Plan is the document in which the City of Kingston sets out its high-level goals and policies that guide physical development, the protection of natural and cultural heritage, resource management and necessary supporting infrastructure. The Official Plan manages and directs change with broad policies that are meant to be implemented through other, more detailed and specific municipal by-laws, such as a zoning by-law. A zoning by-law is a separate document that is an implementation tool to put the Official Plan's general policies into specific requirements that can be measured and applied to individual properties across the City. Zoning by-laws must conform with the policies of the Official Plan.

The City of Kingston currently has five main zoning by-laws that are in force across the City, with four additional remnant zoning by-laws that apply to small areas of the City. The [five main zoning by-laws](#) include:

1. City of Kingston By-law Number 8499;
2. Downtown and Harbour Zoning By-law Number 96-259;
3. Township of Kingston Zoning By-law Number 76-26;
4. Cataraqui North Zoning By-law Number 97-102; and
5. Township of Pittsburgh Zoning By-law Number 32-74.

The existing zoning by-laws are a legacy of the former townships that pre-date the amalgamation of the City of Kingston in 1998. They were enacted in the 1970s and 1990s and are not reflective of the City's current Official Plan, which was passed in 2010, with a five-year update completed in 2017.

The City has been discussing, completing background work, creating mapping, revising policies, and drafting provisions for [a new, city-wide zoning by-law](#) since 2011, when "Phase One" was initiated. The substantive work on the New ZBL began as "Phase Two" in 2015 at the same time as the Official Plan Update.

The first draft of the New ZBL was released to the public on October 27, 2016 based on the project's initial scope of work, with the initial round of public

consultation occurring that fall and winter. The parking standards in the existing zoning by-laws were too outdated to be harmonized and carried forward into the first draft of the New ZBL. As a result, when the first draft of the New ZBL was released to the public in October of 2016, the parking section was withheld, and this Paper is intended to direct the standards that are included in the second draft of the document.

Following the release of the first draft of the New ZBL, City Council directed staff to undertake a number of projects and studies in advance of the completion of the New ZBL, so the project was temporarily put on hold pending the completion of those projects. As outlined in [Information Report Number 20-229](#), work is once again underway on the New ZBL project with a goal of bringing a final version forward for Council's consideration in early 2022.

Appendix B: Kingston's Background Studies and Reports

This Appendix provides a brief summary of the background reports that have been undertaken in recent years by or on behalf of the City of Kingston that have informed our considerations around the complex parking problem in Kingston. This overview is provided as a matter of convenience and is meant to be read in conjunction with the reports described herein. The summaries of each document referred to in this Paper are meant for information purposes only and reference should be made to the original document or Paper.

Transportation Master Plan (2004 and 2015)

In 2004, City Council adopted the [Kingston Transportation Master Plan](#) (the "KTMP"), which identifies that parking availability is a critical component in the City, as it is a key factor in determining transportation choices for its' citizens and the City's ability to encourage preferred development patterns. It promoted short-term parking over long-term employee parking, which will simultaneously help the needs of the tourism industry and encourage non-auto modes of travel. The KTMP recommends requiring that the zoning by-laws provide an appropriate capacity of secure bicycle parking at residential apartments, education, community, retail, recreational and employment land uses, and ensuring that off-street parking requirements are at a level that promotes non-auto modes of travel.

In 2015, City Council received an [update report](#) to the KTMP which recommended, among other things, to include zoning by-law requirements for bicycle parking, develop a long-term parking supply management plan for all areas of the City with priorities targeted to the desired type of parking and review parking ratios in the zoning by-law to reflect appropriate parking supply for development. The update report recommended that the City amend parking requirements in zoning by-laws to include maximum parking supply requirements along with minimum and secure bicycle parking requirements. Other recommendations included the introduction of policies

to permit shared parking and a reduction in minimum parking supply requirements along express bus routes or in areas of higher-density mixed-use development. The update report noted that zoning by-laws should reduce minimum parking standards where a developer supports TDM programs (including car-share services, discounted or free transit passes, additional secure bicycle parking above minimum requirements or on-site integration of transit). The study acknowledged that requiring bicycle parking for non-residential uses outside of downtown and providing requirements for short-term and long-term, secure bicycle parking will further encourage cycling, which will help to achieve the City's broader active transportation and TDM objectives.

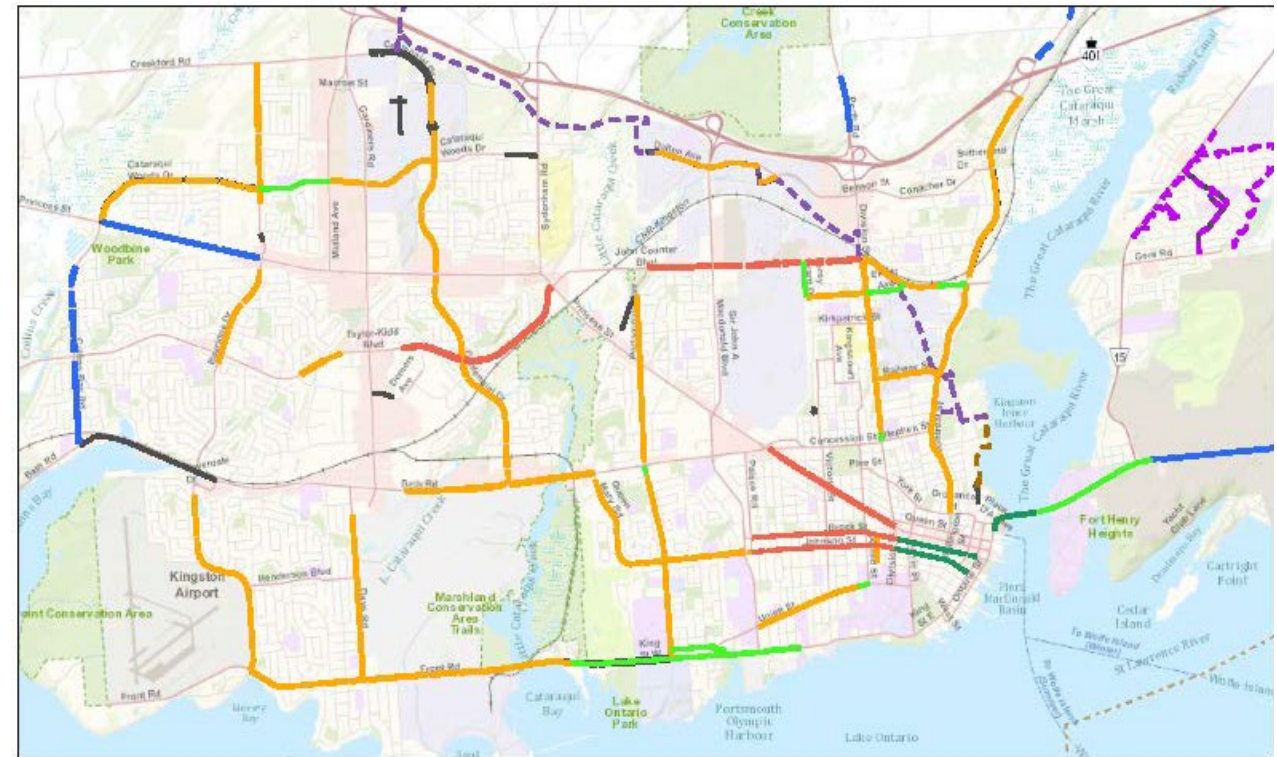
When receiving the 2015 KTMP update, Council set a goal, which at the time was considered aggressive, to achieve a 20% active transportation travel mode share by 2034 (it is noteworthy that, at the time, the existing percent of travel mode share was unknown). This is the City's current goal which ultimately guided the recommendations of the Walk 'n' Roll Kingston report, and its findings of the need for significant investment in infrastructure, supportive programming, resources and staffing required from the City and its partners to meet this goal.

Walk 'n' Roll Kingston (2018)

The City of Kingston's first Active Transportation Master Plan (ATMP) – branded as [Walk 'n' Roll Kingston](#) – was designed and developed specifically for Kingston. Walk 'n' Roll Kingston was informed by public and stakeholder input, the City's strategic objectives and a vision to achieve a 20% active transportation (AT) travel mode share by 2034, which continues to be the City's current goal. To successfully implement the active transportation policies, significant investment in infrastructure, supportive programming, resources and staffing is provided by the City and its partners.

The ATMP establishes a blueprint for City staff, decision makers and stakeholders to better understand, plan, design and implement active transportation routes and improvements throughout the City of Kingston over the next 20+ years. The plan addresses the active transportation needs of the community and provides realistic tools and strategies to guide long-term decision making and help achieve the City's active transportation goals.

The Walk 'N' Roll Kingston report includes an action plan initiative to update the City's zoning by-law to make references to the provision of parking in new developments and employment areas to ensure that adequate, ample and secure bike parking facilities are provided. The report recommends that the City should incorporate bicycle parking into existing zoning by-laws and/or site plan review processes for multi-unit residential, commercial, employment and institutional land uses. End-of-trip facilities such as showers and lockers should also be integrated into the zoning by-laws. In addition, the report recommends that the site plan review process ensures the provision of comfortable and convenient site access and connections for pedestrians and cyclists.



City of Kingston Cycling Map

Parking Standard Review Study (2014)

In conjunction with a 2013 Public Parking Policy Study and Cash-in-Lieu of Parking By-law Update, MMM Group Limited was retained in 2014 to undertake a Parking Standard Review Study for the Central Business District and the Princess Street Corridor to review existing parking ratios in Zoning By-laws 8499 and 96-259. These reports were summarized and included as exhibits to [Report Number 14-282](#). The intent of the study was to maintain the existing commercial parking exemption in the downtown area, update the commercial parking requirements in the Williamsville Main Street Study area

and update the residential parking requirements in both the Central Business District and the Princess Street Corridor.

The report recommended that the City consider allowing car-share parking spaces to promote reduced automobile ownership by including provisions in the zoning by-law that allow a reduction in the total number of required parking spaces by a ratio for every car-share space provided. The resulting recommended parking ratios are outlined in the Table B.1. and recommended shared parking formula for mixed use buildings is outlined in Table B.2.

Table B.1. MMM Group Recommended Parking Ratios for Downtown and Princess Street Corridor

Type of Use		Recommended Parking Ratio	
		Minimum	Maximum
Multi-Unit Residential	Resident	0.65 spaces per unit	1.25 spaces per unit
	Visitor	0.10 spaces per unit	0.10 spaces per unit
General Office	C1 and CMS Zones	-	3 spaces per 100 square metres gross floor area
	Rest of Study Area	2.5 spaces per 100 square metres gross floor area	3 spaces per 100 square metres gross floor area
Medical Office	C1 and CMS Zones	-	3.3 spaces per 100 square metres gross floor area
	Rest of Study Area	2.7 spaces per 100 square metres gross floor area	3.3 spaces per 100 square metres gross floor area
Retail	C1 and CMS Zones	-	-
	Rest of Study Area	2.5 spaces per 100 square metres gross floor area	-
Restaurant	C1 and CMS Zones	-	-
	Rest of Study Area	10 spaces per 100 square metres gross floor area	-
Take-out Restaurant	C1 and CMS Zones	-	-
	Rest of Study Area	6 spaces per 100 square metres gross floor area	-

Table B.2. MMM Group Recommended Shared Parking Formula

Type of Use	Period	Percent of Peak Period Occupancy			
		Morning	Noon	Afternoon	Evening
Residential Visitor	Weekday	0	35	35	100
	Weekend	10	70	70	100
Office	Weekday	100	90	95	10
	Weekend	10	10	10	0
Medical Office	Weekday	100	100	100	0
	Weekend	100	100	0	0
Retail	Weekday	60	90	90	90
	Weekend	80	100	100	70
Restaurant	Weekday	20	100	30	100
	Weekend	20	100	50	100

Multi-Unit Residential Parking Supply Requirement Review (2020)

Following the Parking Standard Review Study completed by MMM Group, it was determined that a subsequent study was required to be completed to specifically focus on the topic of multi-unit residential buildings across the City to determine if parking ratios can be applied based on the size and location of the dwelling unit, namely on per-bedroom basis. BA Group was retained in 2017 and completed the Multi-Unit Residential Parking Supply Requirement Review in 2020, resulting in the following recommendations at that time:

1. Establish "Parking Areas" to implement different minimum residential parking standards for different areas within the City of Kingston. The recommended Parking Areas align with the areas recommended in Chapter 4 of this Paper, except that the downtown area and the Williamsville Main Street corridor are recommended by this Paper to be separated into 2 different Parking Areas to properly implement the residential parking ratio recommended in the Addendum to the Williamsville Main Street Study as per Section 3.6 of this Report.
2. The following minimum resident parking ratios for multi-unit buildings:
Parking Area 1: Bachelor Units: 0.30 spaces per unit, One-bedroom Units: 0.55 spaces per unit, Two-bedroom Units: 0.70 spaces per unit, Three-bedroom Units: 0.95 spaces per unit
Parking Area 2: Bachelor Units: 0.45 spaces per unit, One-bedroom Units: 0.60 spaces per unit, Two-bedroom Units: 0.75 spaces per unit, Three-bedroom Units: 0.95 spaces per unit
Parking Area 3: Bachelor Units: 0.70 spaces per unit, One-bedroom Units: 0.95 spaces per unit, Two-bedroom Units: 1.15 spaces per unit, Three-bedroom Units: 1.45 spaces per unit

- Parking Area 4:** • Bachelor Units: 0.80 spaces per unit, One-bedroom Units: 1.10 spaces per unit, Two-bedroom Units: 1.40 spaces per unit, Three-bedroom Units: 1.70 spaces per unit
3. The City of Kingston has recognized that residential units with more than three bedrooms – and in some cases, significantly more bedrooms – are common in the city. It is recommended to add a clause to the aforementioned minimum resident parking rates:
"For residential units in multi-unit buildings with more than three bedrooms, 0.25 parking spaces per each additional bedroom, after the first three, must be added to the stipulated minimum parking rate for a three-bedroom unit within the applicable Parking Area."4. The following minimum residential visitor parking rates for multi-unit buildings are recommended:
Parking Area 1: 0.06 parking spaces per unit
Parking Areas 2, 3, 4: 0.10 parking spaces per unit
 4. It is recommended to repeal the "cash-in-lieu" aspect of By-law 88-270. As an incentive to facilitate small scale residential development in Parking Area 1 (i.e. the Downtown & Harbour Area, and Princess Street corridor), a minimum parking supply exemption is recommended be implemented to replace the existing "cash-in-lieu" option, exclusively for small scale residential conversion redevelopment projects with 13 units or less.
 5. The City of Kingston should consider an evaluation of its parking study review process. An update to this process will help the City understand the appropriateness of parking studies and the suitability of the methodologies imbedded within.

Mayor's Task Force on Housing (2020)

The final recommendation report released by Mayor's Task Force on Housing, "[A Foundation for the Public Good: Recommendations to Increase Kingston's Housing Supply for All](#)", put forward a number of recommendations related to all areas of housing policy. From the perspective of the New ZBL, the report specifically concluded **"In this regard, the most important and highest priority task is to update and harmonize the City's zoning bylaws.** In their present form, a legacy of the 1998 amalgamation, the outdated bylaws waste valuable staff time. Council should make every effort to ensure that this task is completed as soon as possible. Ultimately, the old zoning bylaws are retarding the building of housing and increasing costs".

"Parking is a costly resource. Parking typically represents 10-20% of the cost of housing. This may be acceptable to most middle and upper income households, which tend to own multiple vehicles and can afford the extra expense, but for lower income families generous parking requirements impose significant financial burdens."

- Litman, "Parking Requirement Impacts on Housing Affordability"

As it relates to parking, the consultant report on rental housing development viability prepared for the Mayor's Task Force on Housing stated that viability is "very sensitive to minor changes in revenue and costs inputs". Therefore, the Task Force recommendation report concluded that good policy can make a difference. One of the issues the report targeted is "the option for less parking" and, in a number of locations, the report identifies reduction in parking requirements, particularly in the downtown and Queens's University areas as suggestions to overcome barriers to Kingston's housing supply problem.

Finally, the report identified that the City can reduce parking requirements in strategic areas. Policies that promote public transit, active transportation or car-sharing will, in the long-term, benefit housing. In the suburbs, reducing parking requirements enough to eliminate the need for underground parking significantly improves economic viability.

Density by Design: Issue and Options Report (2019)

The [Issue and Options Report](#) prepared as part of the Density by Design: Kingston Mid-Rise and Tall Building Policy work identified that the interconnected decisions around land use and transportation have the greatest effect on climate change mitigation out of all municipal powers and responsibilities. The focus of the work is centred around how much density there is, where it is located (and not located), how it is designed, how uses are mixed – which ultimately translates into how car dependent the density is and has powerful implications on sustainability and greenhouse gas emissions.

The Report clearly identified that high-density buildings support ways of getting around the city other than the car, simply through the many benefits of density and design itself. It accurately states:

“There are many details of building design that can provide support for more active, healthy and sustainable alternatives to the car, including walking, biking and public transit ridership. These can include:

1. reduced car parking in general
2. flexibly designed car parking that can convert to other uses over time as less parking is required
3. parking for electric plug-in vehicles
4. secured bike parking (both private e.g. individual storage rooms, and communal)
5. additional bike-supportive facilities (repair, cleaning etc.)
6. dedicated parking spaces for car-share vehicles
7. well-lit, secured bike parking for visitors
8. well-connected end-of-trip facilities

9. enhanced pedestrian amenities (i.e. benches, lighting, landscaping/street trees)

The city already requires convenient, secure bicycle parking in all multi-residential buildings. This requirement should be strengthened to clarify that parking must be provided at or below grade (in the case of underground parking), rather than in unit (which was clearly not intended in the existing approach, however some applicants have tried to make a case for it using the existing wording). Currently, 1 space per dwelling unit is required.”

Density by Design Phase One: Addendum to the Williamsville Main Street Study (2020)

In 2012, the [Williamsville Main Street Study](#) was completed and approved by Council. The study area, known as the Williamsville Main Street Corridor, is a 1.7 kilometre stretch of Princess Street from Division Street to the Bath Road and Concession Street intersection. The goal of the Study was to spur development along a main street that is increasingly becoming pedestrian-oriented and transit-supportive with mixed use developments, and commercial uses to serve the surrounding neighbourhoods. The City implemented the Study in Official Plan and zoning by-law amendments in 2013, which created the “Princess Street Corridor Specific Policy Area, Williamsville Main Street” (Section 10E.1) in the Official Plan and the C4 zone in Zoning By-Law Number 8499 for the majority of the lands within the study area.

In 2019, Council passed an Interim Control By-Law ([By-Law Number 2019-73](#)) within the Williamsville Main Street Study area and directed a review. In response to this direction, Staff in Planning Services completed an Addendum to the Williamsville Main Street Study as the first phase of the detailed [Density by Design](#) project. The Addendum was adopted by Council on December 1, 2020 ([Report Number PC-20-065](#)).

Throughout the public consultation on the Addendum, parking was discussed in many different contexts. The discussions recognized that the amount of parking constructed within developments has a significant impact on construction costs; housing and transportation affordability; vehicle traffic generation; mobility mode shift to walking, biking and public transit; public and private infrastructure costs; greenhouse gas (GHG) emissions and climate emergency implications; air pollution and public health implications; public

safety relative to vehicle-involved collisions; built form and density and overall project viability.

In recent years along this stretch of Princess Street, staff have observed two key trends relating to parking supply. First, many applications have requested reductions to the standard minimum parking required in the city zoning by-law, with 0.5 parking spaces per unit being a typical reduction request supported by staff and approved by Council. Second, some other applicants have proposed a high number of parking spaces that staff considered excessive considering Council’s priorities relating to the climate emergency, affordability, and other key public interest issues.

As a result of the observed trends, the Addendum introduced a reduced parking minimum of 0.4 spaces per residential unit and introduced a maximum of 1 space per residential unit. It was stated that the new approach would act as an interim placeholder until the New ZBL is complete, at which time staff would have an opportunity to revisit the required parking standards. If there is not enough data to determine if the reduced number of residential parking spaces is sufficient, staff have the opportunity to report back to Council at a future point in time accordingly.

In addition to introducing a reduced parking ratio for residential units, the WMSS Addendum also amended the Official Plan to include policies in this area enabling property owners to submit an application for minor variances to further reduce the residential parking ratio, potentially to zero parking spaces. The work did not amend the commercial parking space ratio in Williamsville recognizing that this Study was forthcoming and would provide a more comprehensive approach to commercial ratios.

SURP 826: Onsite Parking Requirements Update for the City of Kingston (2020)

In the fall semester of 2020, students in the Queen's University School of Urban and Regional Planning (SURP) master's program who were enrolled in the SURP 826 Project Course completed a report entitled "Onsite Parking Requirements Update for the City of Kingston" where they explored the goal of determining ways that Kingston can successfully shift towards a practice of parking maximums instead of minimum parking requirements.

"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."

-Tinevez, G. et al.

A series of policy recommendations were developed by the SURP 826 Project Team, which include the following:

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.

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.

Appendix C: Kingston's Existing Accessible Parking Provisions

On March 21, 2017, the City of Kingston passed amendments to the existing zoning by-laws, outlined in [Report Number PC-17-008](#), to implement provincial accessibility requirements. At the time, in consultation with the City's Municipal Accessibility Advisory Committee (MAAC) and in consideration of the existing zoning standards, the City went above and beyond the minimum legislated requirements and required greater dimensions for some accessible spaces and greater ratios for some classes of uses than the standards established by the provincial legislation.

Type B spaces are required by the City's zoning by-laws to have a minimum width of 2.7 metres, as opposed to the provincially legislated minimum of 2.4 metres. The minimum width of the Type B spaces was increased to align with previous City requirements and provide for greater accessibility. The legislation does not stipulate a required parking space length for accessible spaces or the required accessible aisle. The City implemented a specific requirement to provide a 6.0-metre-long accessible parking space and accessible aisle within the zoning by-law for consistency with standard spaces.

The legislation does not stipulate a required vertical clearance for accessible spaces. A vertical clearance requirement of 2.9 metres for accessible spaces was retained within the existing zoning by-laws. At the time, a survey of 11 other municipalities was completed and it was determined that only one had a vertical clearance requirement for accessible spaces – Toronto at 2.1 metres. Comments through the City's internal technical review from Transportation Services identified that a height of 2.1 metres for all spaces would be preferred. The rationale for maintaining the 2.9 metre requirement was based on the existing zoning requirement and the consultation with MAAC, which indicated that a vertical clearance rate higher than 2.9 metres would be

preferred to accommodate vehicles that have been modified for mobility devices.

Through the March 2017 accessible parking amendments, the City implemented accessible parking space ratios based on the use of the lands, rather than the provincially legislated ratios (based on the total number of required spaces regardless of use), as the existing zoning by-laws that were in force at the time differentiated accessible parking ratios by land use.

Between the City's implementation of the new accessibility requirements on March 21, 2017 and the background data cut-off date of this report (November 16, 2020), 101 site-specific zoning by-law amendments were approved. Of the 101 site-specific zoning by-law amendments, 48 were for uses and reasons that did not require accessible parking spaces, meaning 53 site-specific applications were dealt with that would involve accessible parking spaces in some capacity. Of the 53 applications, 23 site-specific by-laws include amendments to the City's new accessible parking standards (among other amendments), representing 43.4% of the total number of site-specific applications where accessible parking spaces are required.

The 23 site-specific amendments that specifically dealt with accessible parking standards primarily did so in areas where the City of Kingston zoning by-law requirements go above and beyond the minimum legislated requirements (for example, the width of Type B spaces, the length of accessible spaces, vertical clearance and the length of the access aisle). When reviewing these 23 amendments, 33.3% reduced the width of Type B spaces, 76.2% reduced the required accessible parking space length, 9.5% reduced the vertical clearance requirement and 66.7% reduced the required accessible aisle length.

Appendix D: Overview of Parking Management Strategies

Location

Approximately 61.5% of the site specific parking studies in Kingston cited proximity to downtown, employment and post-secondary institutions as a major reason that the anticipated parking demand is lower than the ratio required by the existing zoning by-law and another 60% of the studies cited proximity to transit as a justification. This approach is also supported by the recommendations of the Multi-Unit Residential Parking Supply Requirement Review.

The most common locational attribute used by other municipalities reviewed as part of this Paper is the provision of separate parking ratios or the provision of a parking exemption if a property is located within the central business district area. Some municipalities employ additional locational criteria, such as location within a mixed-use zone category or other designated zone category. Of the municipalities reviewed as part of this Paper, Ottawa and Toronto employ the most comprehensive and innovative locational approach to parking space ratios.

Ottawa's zoning by-law differentiates 6 specific areas of the City (B: Outer Urban, C: Suburban, D: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations). For almost every use that is assigned a parking ratio in Ottawa, the zoning by-law provides a specific parking ratio for each of the 6 designated areas. Some uses are anticipated to have the same demand in all 6 designated areas, as such, only one ratio has been provided. In addition to the delineation of 6 specific areas, Ottawa's zoning by-law also contains a provision that allows a further reduction for some uses if a property is located

within a set distance of a rapid transit station identified as a schedule to the Zoning By-law.

Like Ottawa, Toronto's zoning by-law differentiates specific areas of the City. Toronto refers to specific areas as policy areas 1 through 4, which generally correlate with the downtown, centres, areas along a subway line and areas located on a designated "avenue". Toronto also supplies a parking rate for "in all other areas of the City", which effectively functions as policy area 5. The delineation of the five different policy areas is connected primarily to the level of transit service available and the planning objectives of a given area.

Shared Parking

Approximately 7.7% of the site-specific parking studies in Kingston cited some form of shared parking as one of the justifications for a reduction in the expected parking demand. Of the municipalities reviewed as part of this Paper, Ottawa, Toronto and Grimsby recognize shared parking as a parking management strategy in their zoning by-laws. The three zoning by-laws employ a common approach – they establish a "peak period occupancy" for specific land uses. Grimsby and Toronto establish three different peak period times – AM, PM and evening. Ottawa establishes four different periods – morning, noon, afternoon and evening. Ottawa also differentiates between "weekday" and "Saturday" periods, whereas Toronto and Grimsby apply their peak period occupancy rates evenly throughout the week.

Table D.1.: Shared Parking Provisions - City of Ottawa

Land Use	Period	Percent of Peak Period Occupancy			
		Morning	Noon	Afternoon	Evening
Office; Medical Facility; Research and Development	Weekday	100	90	100	15
	Saturday	20	20	10	5
Bank	Weekday	80	100	100	10
	Saturday	80	100	60	10
Retail, Convenience and Retail Food Stores, Personal Service	Weekday	75	80	85	75
	Saturday	60	90	100	50
Restaurant, Bar	Weekday	30	90	60	100
	Saturday	30	80	50	100
Cinema, Theatre, Amusement Centre	Weekday	40	40	60	85
	Saturday	40	70	80	100
Residential Visitor Parking	Weekday	50	50	75	100
	Saturday	100	100	100	100

Table D.2.: Shared Parking Provisions –Town of Grimsby

Land Use	Percent of Peak Period Occupancy		
	AM	PM	Evening
Apartment Building	80	80	100
Apartment Building – Visitor	0	35	100
Restaurant	20	60	100
Personal Service Shop	40	100	70
Retail Store	40	100	90
Offices	100	95	15

Table D.3.: Shared Parking Provisions –City of Toronto

Land Use	Percent of Peak Period Occupancy		
	AM	PM	Eve
Adult Education School	100	100	25
Adult Entertainment	25	100	100
Alternative Housing	100	100	100
Ambulance Depot	100	100	100
Amusement Arcade	25	100	100
Animal Shelter	100	100	100
Artist Studio	25	100	100
Art Gallery	25	100	100
Assisted Housing	100	100	100
Billiard Hall, Pool Hall	25	50	100
Bowling Alley	25	50	100
Bus Station	100	100	50
Cabaret	10	100	100
Cemetery	100	100	100
Clinic (Medical)	100	100	100
Club	25	75	100
Community Centre	25	100	100
Contractor's Establishment	100	100	100
Court of Law	100	100	0
Crisis Care Shelter	100	100	100
Day Nursery	100	100	50
Dwelling Unit – Detached, Semi-detached, Townhouse, Duplex, Triplex	100	100	100
Dwelling Unit – Resident, Multiple Dwelling Unit Building	100	100	100
Dwelling Unit – Visitor, Multiple Dwelling Unit Building	100	100	100
Dwelling Unit – Resident, Apartment and Mixed-Use Buildings	100	100	100
Dwelling Unit – Visitor, Apartment and Mixed-Use Buildings	10	35	100
Eating Establishment	100	100	100
Education Use	100	100	50
Entertainment Place of Assembly	25	50	100
Financial Institution	20	100	50

Land Use	Percent of Peak Period Occupancy		
	AM	PM	Eve
Fire Hall	100	100	100
Funeral Home	20	100	100
Gaming Establishment	100	100	100
Golf Course	100	100	100
Grocery Store	20	100	100
Group Home	100	100	100
Hospice Care Home	100	100	100
Hospital	20	100	100
Hotel	80	75	100
Industrial Sales and Service	100	100	0
Industrial Skills and Training	100	100	0
Kennel	100	100	0
Laboratory	100	60	0
Library	25	100	100
Manufacturing Uses	100	100	100
Medical Office	100	100	50
Motel	80	75	100
Municipal Shelter	100	100	100
Museum	25	100	100
Nightclub	20	50	100
Nursing Home	100	100	100
Office	100	60	0
Park	100	100	100
Performing Arts Studio	10	100	100
Personal Service	20	100	100
Pet Services	20	100	100
Place of Assembly	25	50	100
Place of Worship	100	100	100
Police Station	100	100	100
Post-Secondary School	50	100	50

Land Use	Percent of Peak Period Occupancy		
	AM	PM	Eve
Private School	100	100	20
Production Studio	100	60	0
Public School	100	100	20
Railway Station, Railway Service and Repair Yard	100	100	50
Recreation Use	25	100	100
Religious Education	100	100	20
Religious Residence	100	100	100
Residential Care Home	100	100	100
Respite Care Facility	100	100	100
Retail Store	20	100	100
Retail Service	100	100	20
Retirement Home	100	100	100
Secondary Suite	100	100	100

Land Use	Percent of Peak Period Occupancy		
	AM	PM	Eve
Service Shop	100	100	100
Software Development	100	100	10
Vehicle Dealership	100	100	100
Vehicle Depot	100	100	50
Vehicle Fuel Station	100	100	100
Vehicle Service Shop	100	100	100
Vehicle Repair Shop	100	100	100
Veterinary Hospital	100	100	100
Visitation Centre	100	100	100
Warehouse	100	100	50
Warehouse, Self-Storage	100	100	50
Wholesaling	100	100	50

Appendix E: Overview of Bicycle Parking Ratios & Dimensions

Of the 12 Ontario municipalities reviewed, 9 of the municipalities' zoning by-laws contain bicycle parking ratios for a range of residential, commercial, employment and institutional uses including Toronto, Ottawa and Brockville, which are summarized below.

The City of Toronto's zoning by-law requires long-term bicycle parking spaces for occupants or tenants of a building and short-term bicycle parking spaces for visitors. In residential and commercial zones, long-term spaces must be located in a building and must be located on the first or second storey and they may not be provided in a dwelling unit, on a balcony or in a storage locker. A short-term bicycle parking space may be no more than 30 metres from a pedestrian entrance to the building. Toronto, like many of the other municipalities in Ontario, provides specific bicycle parking ratios for a range of land uses. Unlike many of the other municipalities, Toronto's by-law also identifies two different "bicycle zones" and provides a rate for each zone.

The Association of Pedestrian and Bicycle Professionals (APBP) recommends a maximum of 50 feet (15.2 metres) for the distance between a short-term bicycle parking space and the main pedestrian entrance to the building. This is to ensure that spaces are located within a reasonable walking distance, so that they are convenient to the intended users.

In addition to bicycle parking ratios, if a building in Toronto has uses other than dwelling units for which long-term bicycle parking spaces are required, "end of trip" facilities, namely shower and change facilities, must be provided to support cycling at the following rate:

(a) Where less than 5 long-term bicycle parking spaces are required, no shower and change facilities;

(b) Where 5 to 60 long-term bicycle parking spaces are required, 1 shower and change facility;

(c) Where 61 to 120 long-term bicycle parking spaces are required, 2 shower and change facilities;

(d) Where 121 to 180 long-term bicycle parking spaces are required, 3 shower and change facilities; and

(e) Where more than 180 long-term bicycle parking spaces are required, 4 shower and change facilities.

The City of Ottawa's zoning by-law provides minimum bicycle parking ratios which must be provided for specific uses in Areas A (Central Area), B (Inner City Area) and C (Suburban Area), along with specific villages located in Area D. Bicycle parking must be provided on the same lot as the use or building for which it is required and must be located in order to provide convenient access to main entrances or well used areas. When four or more spaces are provided in a common parking area, each space must contain a parking rack that is securely anchored to the ground and attached to a heavy base such as concrete. Where 50 or more bicycle parking spaces are required, a minimum of 25% of those spaces must be located within a building or structure or a secure area or bicycle lockers.

The City of Ottawa provides an incentive to support active transportation rather than requiring "end of trip" facilities. The zoning by-law allows a reduction in the required number of vehicle parking spaces for non-residential uses – 1 space for every 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms or other similar

facilities intended for the use of cyclists in conjunction with required or provided bicycle parking.

The City of Brockville requires bicycle parking spaces to be provided within the area delineated as the Downtown and Central Waterfront Area or in any area zoned Residential, Mixed Use, Commercial, Employment or Institutional Zone. Bicycle parking spaces must be provided on the same lot as the use or building and any parking areas and associated aisles shall be located and designed such that they are directly accessible by cyclists from a driveway or parking aisle.

Unlike bicycle parking space ratios, the dimensions of bicycle parking spaces are relatively consistent when reviewing the common practices of other municipalities in Ontario. The standard length for a horizontally parked bicycle is 1.8 m. The width is generally 0.6 m. Some municipalities provide a minimum vertical clearance requirement of approximately 1.9 m.

The cities of Toronto and Ottawa allow bicycles to be parked horizontally or vertically. Ottawa specifies that a maximum of 50% of the bicycle parking spaces required by the by-law are permitted to be vertical – the rest must be horizontal. Ottawa’s vertical parking space dimensions are 1.5 metres vertical clearance and 0.5 metres width. Toronto’s vertical parking space dimensions are 1.9 metres vertical clearance, 0.6 metres width and 1.2 metres horizontal clearance. Toronto also allows “stacked” bicycle parking spaces, which means a horizontal bicycle parking space that is positioned above or below another space and equipped with a mechanical device that provides floor level access to both spaces.

In reviewing the site-specific parking studies in Kingston, approximately 21.5% of the studies cited that a reduced parking demand is expected due to the provision of extra bicycle parking spaces or secure bicycle parking spaces.

Table E.1.: Summary of Bicycle Parking Standards by Municipality

Municipality	Standard	Provision
Brockville	Dimension	1.8 metres x 0.6 metres (Aisle Width: 1.5 metres)
	Ratio	Institutional: 0.25 spaces per room Residential: 0.25 spaces per unit School: 1 space per 100 square metres gross floor area Retail, Office, Restaurant: 0.4 spaces per 100 square metres gross floor area Hotel per Motel: 0.1 space per 100 square metres gross floor area Other non-res use: 0.1 space per 100 square metres gross floor area
Hamilton	Dimension	not applicable
	Ratio	Short-Term Bicycle Spaces: “Multiple Dwelling” Use in Downtown Zones: 5 spaces Hotel in Commercial and Mixed-Use Zones: None Commercial Parking Facility in Commercial and Mixed-Use Zones: None Commercial Recreation in Commercial and Mixed-Use Zones: 10 spaces Commercial Entertainment in Downtown, Commercial and Mixed-Use Zones: 10 spaces

Municipality	Standard	Provision
		<p>Other commercial uses not listed above in Downtown, Commercial and Mixed-Use Zones: 5 spaces Education Establishment in Downtown, Commercial and Mixed-Use Zones: 2 spaces per classroom Place of Worship in Downtown, Commercial and Mixed-Use Zones: 5 spaces</p> <p>Long-Term Bicycle Spaces in Downtown and Transit Corridor Zones Multiple Dwelling: 5 spaces All Commercial Uses: <450: 0, 450-1,000: 2 BS, 1,001-10,000: 5 BS, >10,001: 7 spaces</p> <p>Long-Term Bicycle Spaces in Commercial and Mixed-Use Zones Reduce required motor vehicle parking by 1 parking space for every 5 long-term bicycle space provided, up to a maximum reduction of 10% of required parking spaces. May also reduce 1 motor vehicle space for every 15 square metres of gross floor area of locker, change room or shower facilities.</p>
Grimsby	Dimension	not applicable
	Ratio	<p>Downtown, Commercial, Employment and Institutional Zones: at least 7% of required non-residential parking spaces Office: min 3 spaces + at least 7% of required office parking spaces Apartment: 0.3 spaces per unit for residents and visitors</p>
Milton	Dimension	1.8 metres x 0.6 metres x 1.9 metres
	Ratio	<p>Apartment Dwelling: 0.2 spaces per unit Retirement Dwelling: 0.1 space per unit Elementary and Secondary Schools: 5% of the required parking spaces All other Commercial, Employment and Institutional Uses: 3% of the required parking spaces Central Business District: 0 BS All uses permitted in the M2 Zone, Funeral Home, Golf Course, Golf Driving Range, Hotel, Motor Vehicle Rental Agency, Warehouse per Distribution Centre, Warehouse Membership Club, and Wholesale Operation: 5 BS <i>Note: in no circumstance shall the number of minimum bicycle parking spaces required on a lot be greater than 30 BS</i></p>
Oakville	Dimension	not applicable
	Ratio	<p>Apartment Dwelling: 1 space per unit Dormitory: 1 space per lodging unit Long Term Care Facility: Lesser of: 5 spaces or 0.25 spaces per unit Stacked Townhouse: 1 space per unit, max. 30 spaces Retail: Greater of: 2 spaces or 1 space per 1,000 square metres net floor area Adult Entertainment: no minimum requirement Commercial Self-Storage: no minimum requirement Funeral Home: no minimum requirement All other Commercial: Greater of: 2 spaces or 1 space per 1,000 square metres net floor area Business or Medical Office: Greater of: 2 spaces or 1 space per 1,000 square metres net floor area Employment Uses: 2 spaces + 0.25 spaces per 1,000 square metres net floor area Art Gallery: Greater of: 2 spaces or 1 space per 1,000 square metres net floor area</p>

Municipality	Standard	Provision
		<p>Marina: no minimum requirement</p> <p>Post-Secondary School: Greater of: 3 spaces or 2 spaces per 100 square metres net floor area</p> <p>Elementary School: 0.25 spaces per classroom</p> <p>Secondary School: 0.5 spaces per classroom</p> <p>All other Institutional and Community Uses: Greater of: 2 spaces or 1 space per 500 square metres net floor area</p> <p><i>Note: in no circumstance shall the number of minimum bicycle parking spaces required on a lot be greater than 30 BS</i></p>
Ottawa	Dimension	<p>Bicycle Space (Horizontal): 1.8 metres x 0.6 metres</p> <p>Bicycle Space (Vertical): 1.5 metres x 0.5 metres</p>
	Ratio	<p>retirement home; retirement home, converted; rooming house; rooming house, converted; rooming unit other than within a post-secondary educational facility: 0.25 spaces per unit or rooming unit</p> <p>apartment building, low rise; apartment building, mid-high-rise; dwelling unit in the same building as a nonresidential use; stacked dwelling without a garage or carport for each dwelling unit: 0.5 spaces per unit</p> <p>rooming unit or dwelling unit within a post-secondary educational facility: 0.75 spaces per unit or rooming unit</p> <p>school: 1 space per 100 square metres gross floor area</p> <p>bank; convenience store; day care; office; post office; post-secondary educational institution; restaurant; retail food store; retail store: 1 space per 250 square metres gross floor area</p> <p>library; municipal service centre; personal service business; retail food store 8,000 square metres + gross floor area; retail store 8,000 square metres + gross floor area; service or repair shop; shopping centre: 1 space per 500 square metres gross floor area</p> <p>airport; bus station; hospital; hotel; light industrial use; medical facility; technology industry; train station: 1 space per 1,000 square metres gross floor area</p> <p>animal hospital; storage yard; truck transport terminal; warehouse: 1 space per 2,000 square metres gross floor area</p> <p>all other non-residential uses: 1 space per 1,500 square metres gross floor area</p>
Port Hope	Dimension	1.8 metres x 0.6 m
	Ratio	<p>Retail store, service commercial uses, institutional uses: 2 spaces + 1 spaces per 1,000 square metres</p> <p>Industrial uses above 1,000 square metres net floor area: 2 spaces + 0.25 spaces per 1,000 square metres</p> <p>School, private or public: 1 space per 10 students + 1 space per 35 employees</p> <p>Downtown Commercial (COM3) Zone: none required</p>
Prescott	Dimension	not applicable
	Ratio	<p>Residential Apartment, maisonnette, stacked townhouse with communal parking: 1 space per 8 units</p> <p>Boarding house: 1 space per 10 persons</p> <p>Group home: 1 space per 10 residents</p> <p>Athletic or Recreational Establishment: 1 space per 30 square metres gross floor area</p> <p>Bowling Alley, Curling Rink: 1 space per 4 lanes or sheets + 1 space per 24 seats of accessory uses</p> <p>Cinema per Theatre: 1 space per 40 persons</p> <p>Convenience Store: 1 space per 20 square metres</p> <p>Hospital: Greater of: 1 space per 10 beds or 1 space per 1,805 square metres</p> <p>Library: 1 space per 30 square metres gross floor area</p> <p>Public Buildings: 1 space per 40 square metres gross floor area, min 2 spaces</p>

Municipality	Standard	Provision
		<p>Arenas, Halls: 1 space per 20 persons or 1 space per 10 square metres if no fixed seats Restaurant, Drive-in Restaurant: Greater of: 1 space per 20 persons or 1 space per 30 square metres Retail stores, service outlets, video rental outlets, banks: 1 space per 40 square metres School, elementary, private: 1 space per classroom School, adult secondary, college: 1BS per 100 square metres School, secondary: 2 spaces per classroom School, university: 1 space per 100 square metres Shopping Centre, Shopping Plaza: 1 space per 40 square metres gross leasable area <i>Note: minimum 2 spaces required for all uses</i></p>
St. Catharines	Dimension	1.8 metres x 0.3 metres
	Ratio	<p>Apartment building with 10+DU: 6 spaces + 1 space per 10 units above 20 units Place of assembly, Banquet hall, Recreation facility, place of worship: 1 space per 1,000 square metres gross floor area School (elementary and secondary): 1 space per classroom Retail and service commercial, office, shopping centre, light industry, heavy industry: 1 space per 1,000 square metres gross floor area Major transit station: 20 spaces Hospital: 6 spaces + 1 space per 40,000 square metres gross floor area Hotel, motel: 6 spaces + 1 space per 10 guest rooms Restaurant: 1 space per 170 square metres gross floor area</p>
Toronto¹	Dimension	<p>Horizontal: 1.8 metres x 0.6 metres x 1.9 metres Vertical: 1.9 metres x 0.6 metres x 1.2 metres (horizontal clearance from wall) Stacked: 1.8 metres x 0.6 metres x 1.2 metres</p>

Municipality	Standard	Provision
	Ratio	<p>Dwelling Units in Apartment or Mixed Use Building: BZ1= 1 space per unit (0.9 Long-term and 0.1 Short-term) BZ2= 0.75 spaces per unit (0.68 Long-term and 0.07 Short-term)</p> <p>Crisis Care Facility: Long-term: 2 BS</p> <p>Eating Establishment: Short-term: BZ1= 3 spaces + 0.3 spaces per 100 square metres interior floor area, BZ2= 3 spaces + 0.25 spaces per 100 square metres interior floor area Long-term: BZ1= 0.2 spaces per 100 square metres interior floor area, BZ2= 0.13 spaces per 100 square metres interior floor area</p> <p>Education Use, Private School, Public School, Hospital: Short-term: BZ1= 3 spaces + 0.1 space per 100 square metres interior floor area, BZ2= 3 spaces + 0.06 spaces per 100 square metres interior floor area Long-term: BZ1= 0.1 space per 100 square metres interior floor area, BZ2= 0.06 spaces per 100 square metres interior floor area</p> <p>Medical Office: Short-term: BZ1= 3 spaces + 0.15 spaces per 100 square metres interior floor area, BZ2= 3 spaces + 0.1 space per 100 square metres interior floor area Long-term: BZ1= 0.15 spaces per 100 square metres interior floor area, BZ2= 0.1 space per 100 square metres interior floor area</p> <p>Municipal Shelter: Long-term: BZ1= 0.15 spaces per 100 square metres interior floor area, BZ2= 0.1 space per 100 square metres interior floor area</p> <p>Office: Short-term: BZ1= 3 spaces + 0.2 spaces per 100 square metres interior floor area, BZ2= 3 spaces + 0.15 spaces per 100 square metres interior floor area Long-term: BZ1= 0.2 spaces per 100 square metres interior floor area, BZ2= 0.13 spaces per 100 square metres interior floor area</p> <p>Personal Service Shop, Retail Store: Short-term: BZ1= 3 spaces + 0.3 spaces per 100 square metres interior floor area, BZ2= 3 spaces + 0.25 spaces per 100 square metres interior floor area Long-term: BZ1= 0.2 spaces per 100 square metres interior floor area, BZ2= 0.13 spaces per 100 square metres interior floor area</p> <p>Post-Secondary School: Short-term: BZ1= 3 spaces + 0.3 spaces per 100 square metres interior floor area, BZ2= 3 spaces + 0.18 spaces per 100 square metres interior floor area Long-term: BZ1= 1 space per 100 square metres interior floor area, BZ2= 0.6 spaces per 100 square metres interior floor area</p>

¹ BZ1 = Bicycle Zone 1, BZ2 = Bicycle Zone 2. Despite requirements, if a bicycle parking space is required for uses other than a dwelling unit and the total interior floor area is less than 2,000 square metres, then no bicycle parking spaces are required.

Table E.2. Bicycle Parking Ratios from Other Municipalities Categorized by Use (spaces per 100 square metres gross floor area, unless otherwise indicated)

Use Category	Use	Brockville	Grimsby	Milton (flat rate, not a ratio except where indicated)	Oakville	Ottawa	Port Hope	Prescott	St. Catharines	Toronto (interior floor area, BZ = bicycle zone)	Favoured Bicycle Parking Ratio
Not applicable	CBD, Downtown	-	7% of required non- residential car parking	0 spaces	-	-	0	-	-	-	-
Not applicable	Commercial	-	7% of required non- residential car parking	-	-	-	-	-	-	-	-
Not applicable	Employment	-	7% of required non- residential car parking	-	-	-	-	-	-	-	-
Not applicable	Institutional	-	7% of required non- residential car parking	-	-	-	-	-	-	-	-
Not applicable	M2 Zone	-	-	5 spaces	-	-	-	-	-	-	-
Not applicable	Other commercial, employment and institutional	-	-	3% of required car parking	-	-	-	-	-	-	-
Not applicable	Other non-res	0.1	-	-	-	0.07	-	-	-	-	-

Use Category	Use	Brockville	Grimsby	Milton (flat rate, not a ratio except where indicated)	Oakville	Ottawa	Port Hope	Prescott	St. Catharines	Toronto (interior floor area, BZ = bicycle zone)	Favoured Bicycle Parking Ratio
Commercial	All other commercial	-	-	Greater of 2 spaces or 0.1 space per 100 square metres net floor area	-	-	-	-	-	-	-
Commercial	Animal Hospital	-	-	-	-	0.05	-	-	-	-	Short-term: 3 spaces plus 0.2 spaces per 100 square metres Long-term: 0.2 spaces per 100 square metres
Commercial	Bank	-	-	-	-	0.4	-	-	-	-	Short-term: 3 spaces plus 0.2 spaces per 100 square metres Long-term: 0.2 spaces per 100 square metres
Commercial	Banquet Hall	-	-	-	-	-	-	-	0.1	-	Short-term: 3 spaces plus 0.2 spaces per 100 square metres Long-term: 0.2 spaces per 100 square metres
Commercial	Hotel	0.1	-	5 spaces	-	-	-	-	6 spaces + 0.1 space per room	-	Short-term: Bicycle parking required for accessory uses such as restaurant
Commercial	Medical Office	-	-	-	-	-	-	-	-	Short-term: BZ1= 3 spaces + 0.15 spaces per 100 square metres, BZ2= 3 spaces + 0.1 space per 100 square metres	Short-term: 3 spaces plus 0.2 spaces per 100 square metres Long-term: 0.2 spaces per 100 square metres

Use Category	Use	Brockville	Grimsby	Milton (flat rate, not a ratio except where indicated)	Oakville	Ottawa	Port Hope	Prescott	St. Catharines	Toronto (interior floor area, BZ = bicycle zone)	Favoured Bicycle Parking Ratio
										Long-term: BZ1= 0.15 spaces per 100 square metres BZ2= 0.1 space per 100 square metres	
Commercial	Office	0.4	minimum 3 spaces + at least 7% of required non-res car parking	-	Greater of 2 spaces or 0.1 space per 100 square metres net floor area	0.4	-	-	0.1	Short-term: BZ1= 3 spaces + 0.2 spaces per 100 square metres BZ2= 3 spaces + 0.15 spaces per 100 square metres Long-term: BZ1= 0.2 spaces per 100 square metres BZ2= 0.13 spaces per 100 square metres	Short-term: 3 spaces plus 0.2 spaces per 100 square metres Long-term: 0.2 spaces per 100 square metres
Commercial	Personal Service	-	-	-	-	0.2	2 + 0.1 spaces per 100 square metres	-	-	Short-term: BZ1= 3 spaces + 0.3 spaces per 100 square metres BZ2= 3 spaces + 0.25 spaces per 100 square metres Long-term: BZ1= 0.2 spaces per 100 square metres BZ2= 0.13 spaces per 100 square metres	Short-term: 3 spaces plus 0.2 spaces per 100 square metres Long-term: 0.2 spaces per 100 square metres
Commercial	Restaurant	0.4	-	-	-	0.4	-	0.05 spaces per person or 3.33 spaces per 100 square metres	0.59	Short-term: BZ1= 3 spaces + 0.3 spaces per 100 square metres BZ2= 3 spaces + 0.25 spaces per 100 square metres	Short-term: 3 spaces plus 0.2 spaces per 100 square metres Long-term: 0.2 spaces per 100 square metres

Use Category	Use	Brockville	Grimsby	Milton (flat rate, not a ratio except where indicated)	Oakville	Ottawa	Port Hope	Prescott	St. Catharines	Toronto (interior floor area, BZ = bicycle zone)	Favoured Bicycle Parking Ratio
										Long-term: BZ1= 0.2 spaces per 100 square metres BZ2= 0.13 spaces per 100 square metres	
Commercial	Retail	0.4	-	-	Greater of 2 spaces or 0.1 space per 100 square metres net floor area	0.4	2 + 0.1 space per 100 square metres	2.5	0.1	Short-term: BZ1= 3 spaces + 0.3 spaces per 100 square metres BZ2= 3 spaces + 0.25 spaces per 100 square metres Long-term: BZ1= 0.2 spaces per 100 square metres BZ2= 0.13 spaces per 100 square metres	Short-term: 3 spaces plus 0.2 spaces per 100 square metres Long-term: 0.2 spaces per 100 square metres
Commercial	Shopping Centre	-	-	-	-	0.2	-	2.5	0.1	-	-
Commercial	Wholesale	-	-	5 spaces	-	-	-	-	-	-	-
Employment	Airport	-	-	-	-	0.1	-	-	-	-	-
Employment	Bus Station, Train Station	-	-	-	-	0.1	-	-	20 spaces (flat rate, not a ratio per 100 square metres)	-	Short-term: 0.1 spaces per 100 square metres gross floor area
Employment	Employment	-	-	-	2 spaces + 0.25 spaces per 1,000 square metres net floor area	-	-	-	-	-	Long-term: 0.1 spaces per 100 square metres gross floor area

Use Category	Use	Brockville	Grimsby	Milton (flat rate, not a ratio except where indicated)	Oakville	Ottawa	Port Hope	Prescott	St. Catharines	Toronto (interior floor area, BZ = bicycle zone)	Favoured Bicycle Parking Ratio
Employment	Heavy Industrial	-	-	-	-	-	-	-	0.1	-	Long-term: 0.1 spaces per 100 square metres gross floor area
Employment	Light Industrial	-	-	-	-	0.1	-	-	0.1	-	Long-term: 0.1 spaces per 100 square metres gross floor area
Employment	Self-Storage	-	-	-	0 spaces	-	-	-	-	-	Long-term: 0.1 spaces per 100 square metres gross floor area
Employment	Storage Yard	-	-	-	-	0.05	-	-	-	-	Long-term: 0.1 spaces per 100 square metres gross floor area
Employment	Technology Industry	-	-	-	-	0.1	-	-	-	-	Long-term: 0.1 spaces per 100 square metres gross floor area
Employment	Truck Transport Terminal	-	-	-	-	0.05	-	-	-	-	Long-term: 0.1 spaces per 100 square metres gross floor area
Employment	Warehouse	-	-	5 spaces	-	0.05	2 + 0.025 spaces per 100 square metres	-	-	-	Long-term: 0.1 spaces per 100 square metres gross floor area
Employment	Marina	-	-	-	0 spaces	-	-	-	-	-	-
Institutional	Art Gallery	-	-	-	Greater of 2 spaces or 0.1 space per 100 square metres net floor area	-	-	-	-	-	Short-term: 0.2 spaces per 100 square metres gross floor area
Institutional	Daycare	-	-	-	-	0.4	-	-	-	-	Short-term: 0.5 spaces per class

Use Category	Use	Brockville	Grimsby	Milton (flat rate, not a ratio except where indicated)	Oakville	Ottawa	Port Hope	Prescott	St. Catharines	Toronto (interior floor area, BZ = bicycle zone)	Favoured Bicycle Parking Ratio
Institutional	All other institutional and community				greater of 2 spaces or 0.2 spaces per 100 square metres net floor area						-
Institutional	Funeral Home	-	-	5 spaces	0 spaces	-	-	-	-	-	Short-term: 0.1 spaces per 100 square metres gross floor area
Institutional	Hospital	-	-	-	-	0.1	-	0.1 space per bed or 0.05 spaces per 100 square metres	6 spaces + 1 space per 40,000 square metres	Short-term: BZ1= 3 spaces + 0.1 space per 100 square metres BZ2= 3 spaces + 0.06 spaces per 100 square metres Long-term: BZ1= 0.1 space per 100 square metres BZ2= 0.06 spaces per 100 square metres	Short-term: 0.1 spaces per 100 square metres gross floor area
Institutional	Institutional	0.25 spaces per room	-	-	-	-	2 + 0.1 space per 100 square metres	-	-	-	-
Institutional	Library	-	-	-	-	0.2	-	3.33	-	-	Short-term: 0.2 spaces per 100 square metres gross floor area
Institutional	Place of Worship	-	-	-	-	-	-	-	0.1	-	Short-term: 0.1 spaces per 100 square metres gross floor area
Institutional	Post-Secondary	-	-	-	Post-Secondary:	0.4	-	College, University: 1	-	Short-term: BZ1= 3 spaces + 0.3 spaces per	Short-term: 3 spaces per class plus bicycle

Use Category	Use	Brockville	Grimsby	Milton (flat rate, not a ratio except where indicated)	Oakville	Ottawa	Port Hope	Prescott	St. Catharines	Toronto (interior floor area, BZ = bicycle zone)	Favoured Bicycle Parking Ratio
					greater of 3 spaces or 2 spaces per 100 square metres net floor area			space per 100 square metres		100 square metres BZ2= 3 spaces + 0.18 spaces per 100 square metres Long-term: BZ1= 1 space per 100 square metres BZ2= 0.6 spaces per 100 square metres	parking required for offices, places of assembly, rooming units, recreation establishments
Institutional	School	1	-	5% of required car parking	Elementary: 0.25 spaces per class Secondary: 0.5 spaces per class	1	0.1 space per student + 0.03 spaces per employee	Elementary: 1 space per class Secondary: 2 spaces per class	1 space per class	Short-term: BZ1= 3 spaces + 0.1 space per 100 square metres BZ2= 3 spaces + 0.06 spaces per 100 square metres Long-term: BZ1= 0.1 space per 100 square metres BZ2= 0.06 spaces per 100 square metres	Short-term: Elementary: 1 space per class Secondary: 2 spaces per class Long-term: Elementary: 1 space per class Secondary: 2 spaces per class
Recreational	Arenas	-	-	-	-	-	-	0.05 spaces per seat or 10 spaces per 100 square metres	-	-	Short-term: 0.1 spaces per person
Recreational	Cinema	-	-	-	-	-	-	0.025 spaces per person	-	-	Short-term: 0.1 spaces per person
Recreational	Place of Assembly	-	-	-	-	-	-	-	0.1	-	Short-term: 0.1 spaces per person
Recreational	Recreational	-	-	-	-	-	-	3.33	0.1	-	-
Recreational	Golf Course	-	-	5 spaces	-	-	-	-	-	-	-
Residential	Long-term Care Facility	-	-	-	lesser of 5 spaces or	-	-	-	-	-	Short-term: 0.1 spaces per 100 square metres

Use Category	Use	Brockville	Grimsby	Milton (flat rate, not a ratio except where indicated)	Oakville	Ottawa	Port Hope	Prescott	St. Catharines	Toronto (interior floor area, BZ = bicycle zone)	Favoured Bicycle Parking Ratio
					0.25 spaces per unit						
Residential	Multiple Dwelling Unit	0.25 spaces per unit	0.3 spaces per unit for residents and visitors	0.2 spaces per unit	1 space per unit (stacked townhouse = 1 space per unit, maximum 30 spaces)	0.5 spaces per unit or rooming unit	-	0.125 spaces per unit	6 spaces + 0.1 space per unit above 20 unit	BZ1= 1 space per unit (0.9 Long-term and 0.1 Short-term) BZ2= 0.75 spaces per unit (0.68 Long-term and 0.07 Short-term)	Long-term: 0.9 per unit Short-term: 0.1 per unit
Residential	Crisis Care	-	-	-	-	-	-	-	-	Long Term: 2 spaces (flat rate)	Long-term: 0.2 spaces per rooming unit Short-term: 0.05 spaces per rooming unit
Residential	Municipal Shelter	-	-	-	-	-	-	-	-	Long-term: BZ1= 0.15 spaces per 100 square metres BZ2= 0.1 spaces per 100 square metres	Long-term: 0.2 spaces per bed Short-term: 0.05 spaces per bed
Residential	rooming house or unit, boarding, group home	-	-	0.1 spaces per unit	-	0.25 spaces per unit	-	0.1 spaces per unit	-	-	Long-term: 0.2 spaces per rooming unit Short-term: 0.05 spaces per rooming unit
Residential	Dormitory, dwelling unit or rooming unit for post- secondary	-	-	-	1 space per lodging unit	0.75 spaces per unit or rooming unit	-	-	-	-	Long-term: 0.2 spaces per rooming unit Short-term: 0.05 spaces per rooming unit

Appendix F: Overview of Parking Ratios for Residential Uses

Residential Uses and their Visitors

A residential dwelling unit is typically defined as one or more habitable rooms designed to provide sanitary and kitchen facilities for residential purposes. Residential dwelling units come in all sizes, shapes and forms, and are usually categorized by the type of building they occupy. In the New ZBL, it is anticipated that the residential building types that will be regulated include single detached houses, semi-detached houses, duplexes, triplexes, townhouses, stacked townhouses, apartment buildings, mixed use buildings and detached accessory buildings with additional residential units (second residential units or third residential units).

In addition to requiring parking spaces for the occupants of a dwelling unit, when a residential dwelling unit is located in a building that has multiple dwelling units and shared parking configurations, zoning by-laws often require a certain ratio of parking spaces to be provided for visitors to residents of that building.

Of the 65 site specific parking reports in Kingston that were reviewed as part of the background data collection of this Paper, 44 parking reports provided justifications for some form of residential dwelling unit. The ratios recommended by the site-specific parking reports varied widely depending on the location, access to transit and active transportation infrastructure, the anticipated user of the building and a review of proxy sites in the area. These parking studies have been considered in conjunction with the review of the common practices of other municipalities and have helped to inform the recommendations of this Paper.

In reviewing the common practices of other municipalities, Grimsby, Milton, Port Hope, Prescott, Quinte West and St. Catharines classify parking rates for residential dwelling units solely by the type of building they occupy. Barrie, Brockville, Hamilton, Oakville and Ottawa provide parking ratios based on building type and location. The City of Toronto is the only zoning by-law reviewed in this Paper that applies both locational criteria and ratios based on the size of dwelling unit when it is within a multi-unit building. The review of common practices of other municipalities for single detached houses, semi-detached houses and duplexes consistently requires 1, 1.5 and 2 parking spaces per unit.

Additional Residential Units

Accessory residential units are dwelling units that are ancillary to a principal residential dwelling unit. For the purposes of this Paper, they include additional residential units (second residential units and third residential units), garden suites and general accessory dwelling units. The current Official Plan permits second residential units on properties with single detached homes, semi-detached homes and townhouses, subject to a specific set of criteria.

In June of 2019 the More Homes, More Choice Act (Bill 108) received Royal Assent. The Act included substantial changes to the Planning Act, including, among several things, changes to the former Second Residential Units legislation, now called Additional Residential Units (ARU). The amendments replaced the former Second Residential Unit legislation, which previously allowed up to two dwelling units on properties which contain a detached house, semi-detached house or townhouse (either two units in a principal

building or one in a principal building and one in an accessory building). The ARU amendments have the effect of authorizing up to three units on properties which contain a detached house, semi-detached house or townhouse (up to two units in the principal building plus one unit in an accessory building).

The ARU changes in the Planning Act require municipalities to allow ARUs in the Official Plan, and to give effect to these policies through a zoning by-law. Any amendments and zoning by-law provisions associated with ARUs are not subject to appeal. In accordance with the requirements of the Planning Act, it is anticipated that ARUs will be permitted in the New ZBL, subject to specific criteria.

After enacting the changes to permit ARUs in the Planning Act, [Ontario Regulation 299/19](#) was filed on August 29, 2019 which establishes a parking ratio of 1.0 parking spaces per additional residential unit (unless a zoning by-law requires no parking spaces to be provided), which may be provided as a tandem parking space.

A garden suite is a one unit detached residential structure containing bathroom and kitchen facilities that is ancillary to an existing residential structure and that is designed to be portable. Garden suites are permitted as temporary uses in accordance with specific provisions of the *Planning Act*; however, the OP does not allow a lot to have both a garden suite and a second residential unit. The OP permits garden suites as temporary uses, subject to specific provisions including parking.

In reviewing the site-specific parking reports in Kingston, where a second residential unit or other form of accessory unit was permitted, the recommended parking ratio didn't differentiate between the accessory unit and the principal unit and applied the same parking ratio to both units, generally ranging between 0.5 to 1.0 parking spaces per dwelling unit.

In reviewing the common practices of other municipalities in Ontario, accessory residential units are treated consistently by the majority of the municipalities reviewed as part of this Paper – a parking ratio is required per dwelling unit, which is typically 1 space per accessory dwelling unit.

Home Occupations

Home occupations are home based businesses that are ancillary to a principal residential dwelling unit. The Official Plan permits home occupations, subject to a number of requirements, including a specific provision stating that there shall be no parking demand created that is substantially greater than that normally experienced in the neighbourhood.

In reviewing the common practices of other municipalities, home occupations are treated differently than accessory residential units. Ottawa, Port Hope and Quinte West give home occupations a blanket ratio, regardless of the operating characteristics. Grimsby distinguishes home occupation ratios by customers attending or not attending on site. Hamilton and Prescott provide a base parking ratio with an additional ratio per person employed by the occupation who does not live in the dwelling unit. Brockville and Oakville specify that no parking is required for a home occupation, while Barrie, St. Catharines and Toronto do not have a parking ratio for home occupations.

Table F.1. Parking Space Ratio for Residential Uses in Other Municipalities (spaces per dwelling unit, unless otherwise indicated)

Use	Barrie	Brockville	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville	Ottawa [B: Outer Urban, C: Suburban, D: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope	Prescott	Quinte West	St. Catharines	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
Additional Residential Unit	0.5 ³²	1.0	-	-	1.0	1.0	- In a single detached, semi-detached: 0 - In a duplex: 1	1.0	1.0	1.0	1.0	1 for each unit in excess of 1	Second Residential Units: 1 Third Residential Units: 0
Apartment	1.5	1.4	1.25	A: Units <50 square metres Units 1-12: 0, max 1.25 Units 13+: 0.3, max 1.25 Units >50 square metres Units 1-12: 0, max 1.25 Units 13-50: 0.5, max 1.25 Units 51+: 0.7, max 1.25 Units 3+ Bedrooms Units 1-12: 0, max 1.25 Units 13+: 0.3, max 1.25 B: Units <50 square metres: 0.3, max 1.25 Units >50 square metres Units 1-14: 0.7, max 1.25 Units 15-50: 0.85, max 1.25 Units 51+: 1.0, max 1.25 C: Units <50 square metres: 0.3 Units >50 square metres: 0.3, max 1.25	1.5	0.75 or 1.25 ³	X: 0-12 unit: 0 spaces 12+ unit: 0.5, max 1.5 ⁹ Y: 1-4 storeys: 0 spaces 5+ storeys, 0-12 unit: 0 spaces 5+ storeys, 12+ unit: 0.5, max 1.5 ⁹ Z: 0, max 1.5 ⁹ B: 0.5, max 1.75 ⁹ C: 1.2, max 1.75 ⁹ D: 1, max 1.75 ⁹	1.25	1.1	1.25	1.25	1: Bachelor 0.3, max 0.4 ¹² 1B 0.5, max 0.7 2B 0.8, max 1.2 3B+ 1, max 1.5 2, 3: Bachelor 0.6, max 0.9 ¹² 1B 0.7, max 1 2B 0.9, max 1.3 3B+ 1, max 1.5 4: Bachelor 0.7, max 1 ¹² 1B 0.8, max 1.2 2B 0.9, max 1.3 3B+ 1.1, max 1.6 5: Bachelor 0.8 ¹² 1B 0.9 2B 1 3B+ 1.2	1: 0.4, max 1.0 2: 0.4, max 1.0 3: 0.6, max 1.5 4: 0.8, max 1.5 5: 1.0, max 1.5

Use	Barrie	Brockville	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville	Ottawa [B: Outer Urban, C: Suburban, D: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope	Prescott	Quinte West	St. Catharines	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
Apartment - Visitor	-	-	0.25	-	0.25	0.25 ¹⁴	X: 0-12 unit: 0 spaces 12+ unit: 0.1, max 36 Y: 0-12 unit: 0 spaces 12+ unit: 0.1, max 36 Z: 0-12 unit: 0 spaces 12+ unit: 0.1, max 36 B: 0-12 unit: 0 spaces 12+ unit: 0.2 C: 0.2 D: 0.2	0.25 ¹³	0.15 ¹⁴	0.25 ¹³	-	1: 0.1 2, 3: 0.1 4: 0.15 5: 0.2	1, 2: 0.1 3, 4, 5: 0.15
Duplex	1.5	1.5	1.5	A: 0 C: 1	-	2	X, Y, B, C, D: 1 Z: 0	1.5	2	2	1	1	Same as apartment
Dwelling Unit in Mixed Use	-	1.1	-	A: Units <50 square metres Units 1-12: 0, max 1.25 Units 13+: 0.3, max 1.25 Units >50 square metres Units 1-12: 0, max 1.25 Units 13-50: 0.5, max 1.25 Units 51+: 0.7, max 1.25 Units 3+ Bedrooms Units 1-12: 0, max 1.25 Units 13+: 0.3, max 1.25 B: Units <50 square metres: 0.3, max 1.25 Units >50 square metres Units 1-14: 0.7, max 1.25 Units 15-50: 0.85, max 1.25 Units 51+: 1.0, max 1.25 C: Units <50 square metres: 0.3 Units >50 square metres 0.3, max 1.25	1.25	-	X: 0-12 unit: 0 spaces 12+ unit: 0.5, max 1.5 ⁹ Y: 1-4 storeys: 0 spaces 5+ storeys, 0-12 unit: 0 spaces 5+ storeys, 12+ unit: 0.5, max 1.5 ⁹ Z: 0, max 1.5 ⁹ B: 0.5, max 1.5 ⁹ C, D: 1 ³¹ , max 1.5 ⁹	-	-	-	1 ¹	Same as Apartment	Same as apartment

Use	Barrie	Brockville	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville	Ottawa [B: Outer Urban, C: Suburban, D: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope	Prescott	Quinte West	St. Catharines	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
Dwelling Unit in Mixed Use - Visitor	-	-	-	-	0.25 ¹³	-	X: 0-12 unit: 0 spaces 12+ unit: 0.1, max 36 Y: 0-12 unit: 0 spaces 12+ unit: 0.1, max 36 Z: 0-12 unit: 0 spaces 12+ unit: 0.1, max 36 B: 0-12 unit: 0 spaces 12+ unit: 0.2 C: 0.2 D: 0.2	0.25 ¹³	-	0.25 ¹³	-	Same as Apartment	Same as apartment - visitor
Garden Suite	0.5 ³²	1	1	-	-	-	0	1	-	1	-	-	Same as additional residential unit
Home Occupation	-	0	0 or 1 or 4 ²⁵	-	1	0	X, Y, B: 0 Z: 0 C, D: 1	127	1 space per employee ³⁰	127	-	-	1: 0 2,3,4,5: parking required for dwelling unit plus: - where customers attend on site: 1 space - where no customers attend on site: 0 spaces
Semi-Detached	1.5	2	2	A: 0 C: 1	2	2	X, Y, B, C, D: 1 Z: 0	2	2	2	1	1	Same as apartment
Single Detached	1.5	2	2	A: 0 C: 1	2	2	X, Y, B, C, D: 1 Z: 0	2	2	2	1	1	Same as apartment
Stacked Townhouse	-	-	-	A: Units <50 square metres Units 1-12: 0, max 1.25 Units 13+: 0.3, max 1.25 Units >50 square metres Units 1-12: 0, max 1.25 Units 13-50: 0.5, max 1.25	-	1.5 or 2 ⁵	X, Y, B: 0.5 Z: 0 C: 1.2 D: 1	-	1.25 or 2 ²	-	-	-	Same as apartment

Use	Barrie	Brockville	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville	Ottawa [B: Outer Urban, C: Suburban, D: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope	Prescott	Quinte West	St. Catharines	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
				Units 51+: 0.7, max 1.25 Units 3+ Bedrooms Units 1-12: 0, max 1.25 Units 13+: 0.3, max 1.25 B: Units <50 square metres: 0.3, max 1.25 Units >50 square metres Units 1-14: 0.7, max 1.25 Units 15-50: 0.85, max 1.25 Units 51+: 1.0, max 1.25 C: Units <50 square metres: 0.3 Units >50 square metres 0.3, max 1.25									
Stacked Townhouse - Visitor	-	-	-	-	0.25 ¹³	0.25 ¹⁴	- Where each dwelling unit does not have its own driveway on the same lot: 0 - Other: X: 0-12 unit: 0 spaces 12+ unit: 0.1, max 36 Y: 0-12 unit: 0 spaces 12+ unit: 0.1, max 36 Z: 0-12 unit: 0 spaces 12+ unit: 0.1, max 36 B: 0-12 unit: 0 spaces 12+ unit: 0.2 C: 0.2 D: 0.2	0.25 ¹³	0.15 ¹⁴	0.25 ¹³	-	0.2 ¹⁵	Same as apartment - visitor
Townhouse	-	1.5 or 2 ⁶	1.5	B: Units <50 square metres: 0.3	-	1.75	X, Y, B: 0.75 Z: 0	2	1.25 or 2 ²	2	-	1	Same as apartment

Use	Barrie	Brockville	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville	Ottawa [B: Outer Urban, C: Suburban, D: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope	Prescott	Quinte West	St. Catharines	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
				Units >50 square metres: 1			C, D: 1						
Townhouse - Visitor	-	-	-	-	0.25 ¹³	0.25 ¹⁴	- Where each dwelling unit does not have its own driveway on the same lot: 0 - Other: X: 0-12 unit: 0 spaces 12+ unit: 0.1, max 36 Y: 0-12 unit: 0 spaces 12+ unit: 0.1, max 36 Z: 0-12 unit: 0 spaces 12+ unit: 0.1, max 36 B: 0-12 unit: 0 spaces 12+ unit: 0.2 C: 0.2 D: 0.2	0.25 ¹³	0.15 ¹⁴	0.25 ¹³	-	0.2 ¹⁵	Same as apartment - visitor
Triplex	1.5	1.5 or 2 ⁸	-	-	-	-	X, Y, B: 0.5 Z: 0 C: 1.2 D: 1	2	-	2	1	1	Same as apartment

¹ No parking spaces are required for the first 4 dwelling units.

² Where parked in front of dwelling, requirement is 2 spaces per dwelling unit. Where parked in a communal parking lot, requirement is 1.25 spaces per dwelling unit.

³ Where the net floor area is less than 75 square metres, required parking ratio is 0.75 spaces per dwelling unit. All other units are required to provide 1.25 spaces per dwelling unit.

⁴ For first two dwelling units, the parking requirement is 1.25 spaces per dwelling unit. For any additional units, the requirement is 1 space per additional dwelling unit.

⁵ For back-to-back stacked townhouses, the parking requirement is 2 spaces per dwelling unit. For stacked townhouses, the requirement is 1.25 spaces per dwelling unit.

⁶ For street townhouses and linked dwellings, the parking requirement is 2 spaces per dwelling unit. For townhouses, the requirement is 1.5 spaces per dwelling unit.

⁷ Where the floor area is less than 50 square metres, required parking ratio is 0.3 spaces per dwelling unit. All other townhouse units are required to provide 1 space per dwelling unit.

⁸ For units with a shared ownership structure, the parking requirement is 1.5 spaces per dwelling unit. For units on their own lot, the requirement is 2 spaces per dwelling unit.

⁹ Where within 600m of rapid transit station, the maximum limits include a combined total of resident and visitor parking spaces.

¹² For a bachelor unit greater than 45 square metres in area: **1:** 1, max 1.2 spaces per dwelling unit, **2,3:** 1, max 1.3 spaces per dwelling unit, **4:** 1, max 1.3 spaces per dwelling unit and **5:** 1 space per dwelling unit.

- ¹³ The greater of 0.25 spaces per dwelling unit for visitor parking or 4 spaces per 100 square metres of non-residential gross floor area.
- ¹⁴ Visitor required parking if condo and per or communal parking.
- ¹⁵ Visitor required parking if common element condo with 2 or more units.
- ¹⁶ The required parking space ratio for a crisis care facility is 0.5 parking spaces per dwelling unit.
- ¹⁷ The required parking space ratio for a crisis care facility is 0.22 spaces per 100 square metres gross floor area, maximum 1.5 spaces per 100 square metres gross floor area.
- ¹⁸ The required parking space ratio for a care home is 0.22 spaces per 100 square metres gross floor area, maximum 1.5 spaces per 100 square metres gross floor area.
- ¹⁹ The required parking space ratio includes 0.05 spaces per unit for visitor parking.
- ²⁰ Community Home category includes additional comparable uses such as Community Support House, Corrections Residence, Detoxification Centre, and Housing Crisis Shelter.
- ²² Minimum 1 space is required.
- ²³ Greater of 0.33 spaces per bed or 2.5 spaces per 100 square metres.
- ²⁵ Where customers attend on site, required parking is 1 space per home occupation. Where no customers attend on site, no parking is required. If home occupation is a medical office, required parking is 4 spaces.
- ²⁶ Where no customers attend on site, required parking is 1 space per dwelling unit plus 1 space per non-resident employee. If home occupation is in a duplex, multiple dwelling or townhouse, no parking spaces are required for home occupations.
- ²⁷ If the home occupation occupies more than 15 square metres of gross floor area.
- ²⁸ Required parking for dwelling unit is additional.
- ²⁹ If gross floor area is between 0 to 10 square metres, 0 spaces are required. If gross floor area is greater than 10 up to 20 square metres, 1 space is required. If gross floor area is greater than 20, up to 30 square metres, 2 spaces are required. Required parking for dwelling unit is additional.
- ³⁰ Required parking for dwelling unit is additional. No parking is required for a Home Occupation in Multiple Dwellings, Duplexes and Street Townhouses.
- ³¹ On lots abutting Bank St, Bronson Ave, Elgin St and Somerset St W (north of the Queensway), dwelling units in mixed use buildings shall require 0 spaces.
- ³² Parking required for tenants in duplex, semi-detached or single-detached buildings is at a rate of 1 space for every 2 tenants.

Appendix G: Overview of Parking Ratios for Commercial, Agricultural & Office Uses

In general, commercial uses include a wide range of retail, financial and food related uses. Office uses (depending on the scale) are anticipated to be permitted in various commercial locations, as well as employment lands. For the purpose of this Paper, they have been included in this class of use.

Of the 65 site specific parking reports in Kingston that were reviewed as part of this Paper, 15 studies supported specific parking ratios for uses in this category. The justifications for the proposed ratios were more site and use specific than justifications provided for residential uses and were often tied to constraints on an existing property when converting from 1 commercial use to another. Hotels were supported at 1 space per guest room, shopping centres per department stores ranged between 3.5 and 5.1 space per 100 square metres, medical clinics and offices ranged between 1.7 and 3.5 spaces per 100 square metres, and retail stores ranged between 1.7 and 3.26 spaces per 100 square metres.

In reviewing the common practices of other municipalities in Ontario, the level of specificity related to commercial land uses differs, and the required parking ratios vary, however the approach to parking ratios is quite similar

across all 12 municipalities. Parking ratios for commercial uses are commonly provided based on the gross floor area of the use. In the cases of hotels and motels, like bed and breakfast establishments and special residential uses, parking ratios are generally provided based on the number of guest rooms or suites.

For the purposes of this Paper, the common practices of other municipalities in Ontario for uses related to agriculture have been consolidated in this section, even though they are separate and are anticipated to be permitted in separate zones in the New ZBL. In general, zoning by-laws do not include a parking ratio for agricultural uses. It is expected that the rationale for not requiring a specific parking minimum for an agricultural use is that they are often located on the same lot as another use in the by-law, such as a residential dwelling unit, that has its own specific parking ratio. Given the nature of an agricultural use, which is required to be located on a lot that has a large enough area to support such use, parking spaces are usually provided in a manner that suits the specific agricultural operation without the need of the zoning by-law requiring a minimum ratio.

Table G.1. Parking Space Ratio for Commercial, Agricultural & Office Uses in Other Municipalities (spaces per 100 square metres of gross floor area, unless otherwise indicated)

Use	Barrie	Brockville (gross leasable area)	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville (net floor area)	Ottawa [B: Outer Urban, D: C: Suburban, Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope (net floor area)	Prescott	Quinte West (net floor area)	St. Catharines (gross leasable area)	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
Agricultural	-	-	-	3.33 ⁴⁷	0	0	X, Y: 1 ³¹ Z: 0 B, C, D: 2 ³²	-	-	-	-	-	0
Bank, Financial Institution	3.33	6	3.57	A: 2 ⁴ C: 3.33	5	4.54	X, Y: 1.25 Z: 0 B: 2.5 C, D: 3.4	5.55	5 ⁵	5.55	-	1: 2, max 3.5 2, 3, 4: 2, max 4.5 5: 4	1: 0 2, 3: 2 4, 5: 4
Banquet Hall	-	-	10	-	20 ³⁸	-	-	17.24	-	17.24	5 ⁴⁹	-	1: 0 2: 2 3, 4, 5: 4
Bar, Tavern, Cabaret, Dance Hall, Night Club	0.25 spaces per person	-	10	-	20 ⁴⁵	-	X, Y: 3 Z: 0 B, C, D: 6	-	10 ⁴⁶	-	0.25 spaces per person	1: 0, max 3.5 2: 0, max 4 3, 4: 0, max 5 5: 3 or 5	1: 0 2: 2 3, 4, 5: 4
Building Supply Establishment, Hardware Store	1.42	2	3.57 ¹³	2	-	-	-	-	5 ⁶	-	-	-	1: 0 2, 3: 2 4, 5: 4
Community Garden	-	-	-	-	-	-	0	-	-	-	-	-	0
Factory Outlet, Wholesale Establishment	2	1.5	-	-	-	1	-	-	-	-	-	1: 1, max 3.5 ⁹ 2, 3, 4: 1, max 4 ⁹ 5: 1.5 or 3 or 6	1: 0 2,3,4, 5: 1
Garden Centre, Greenhouse, Farm Produce Outlet	1.4 ²	-	-	-	-	-	-	5.0	5.0 ⁴⁰	5.0	-	-	1: 0 2, 3: 2 4, 5: 4
Grocery Store, Supermarket, Retail Food	-	6	-	-	-	-	X: 1.25, max 1 if within 600 metres of rapid transit	7.24	5.0 ⁵	-	-	1, 2, 3, 4: 1.0, max 4.5 ⁹ 5: 2.5 ⁹	1: 0 2, 3: 2 4, 5: 4

Use	Barrie	Brockville (gross leasable area)	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville (net floor area)	Ottawa [B: Outer Urban, C: Suburban, D: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope (net floor area)	Prescott	Quinte West (net floor area)	St. Catharines (gross leasable area)	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
							<p>Y: where located on the ground floor or basement with gross floor area of 1500 square metres or less: 0, max 1 if within 600 metres of rapid transit</p> <p>- Other: 1.25, max 1 if within 600 metres of rapid transit</p> <p>Z: 0, max 1 if within 600 metres of rapid transit</p> <p>B: 2.5, max 3.6 if within 600 metres of rapid transit</p> <p>C, D: 3.4, max 4 if within 600 metres of rapid transit</p>						
Hotel, Motel	1 space per room	1 space per room ¹⁰	1 space per room ¹⁰	<p>A: 0.6 spaces per room</p> <p>C: 1 space per room</p>	1 space per room ¹¹	1 space per room ¹²	<p>X, Y:</p> <p>- Up to 40 rooms: 0.5 spaces per room</p> <p>- 41+ rooms: 0.08 spaces per room</p> <p>Z: 0</p> <p>B:</p> <p>- Up to 40 rooms: 1 space per room</p> <p>- 41+ rooms: 0.17 spaces per room</p> <p>C, D: 1 space per room</p>	<p>Hotel: 1 space per room</p> <p>Motel: 1.1 space per room</p>	1 space per room ¹⁰	1 space per room ¹⁰	1 space per room	<p>1, 2, 3, 4: 0.2, max 1</p> <p>5: 1 space per room</p>	<p>1: 0</p> <p>2, 3: 0.5 spaces per room</p> <p>4, 5: 1.0 space per room</p>
Kennel	3.33 ³⁶	-	2.5	-	0	2.85 ³⁷	<p>- 0 to 4 dog runs: 1 space per run</p> <p>- 5+ dog runs: 2 spaces per run</p>	6.06	-	6.06	-	¹⁴²	1 space per dog run
Medical Office, Clinic	6.66	6.66	6.66	<p>A: 2²¹</p> <p>C: 6.25</p>	5.88	2.85 ²²	<p>X, Y: 2, max 5 if within 600 metres of rapid transit</p>	5.91 ²³	6.66 ²⁴	6.25	-	<p>1: 0.3, max 3</p> <p>2: 1, max 3.5</p>	<p>1: 0</p> <p>2, 3: 2</p>

Use	Barrie	Brockville (gross leasable area)	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville (net floor area)	Ottawa [B: Outer Urban, C: Suburban, D: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope (net floor area)	Prescott	Quinte West (net floor area)	St. Catharines (gross leasable area)	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
							Z: 0, max 5 if within 600 metres of rapid transit B, C, D: 4, max 5 if within 600 metres of rapid transit					3, 4: 1.5, max 6 5: 3	4, 5: 4
Office	3.33 ²⁵	3.5 ²⁶	-	A: 2 ²¹ C: 3.33 ²¹	3.33	2.85 ²⁷	X: 1, max 1 if within 600 metres of rapid transit Y: where located above first storey in a building with 4 or less storeys: 0, max 1 if within 600 metres of rapid transit - Other: 1, max 1 if within 600 metres of rapid transit Z: 0, max 1 if within 600 metres of rapid transit B: - 400-800m of rapid transit: 1.8, max 2.2 (within 600 m) - Other: 2 C, D: - 400-800m of rapid transit: 2.3, max 2.7 (within 600 m) - Other: 2.4	3.33	5 ²⁵	3	3.57	1: 0.35, max 0.8 2: 1, max 1.4 3, 4: 1, max 2 5: 1.5	1: 0 2, 3: 2 4, 5: 4
Restaurant	0.25 spaces per person	6.66 ²⁸	22.22 ²⁹	B: 2 ²¹ C: 12.5 ³⁰	11.11	10	X: 5 Y: -where located on the ground floor or basement with gross floor area of 350 square metres or less: 0 - Other: 5 Z: 0 B: - 0-50 square metres gross floor area: 3 - 50+ square metres gross floor area: 10	10.75	10 ³³	11.11	5	1: 0, max 3.5 2: 0, max 4 3, 4: 0, max 5 5: 0 or 3 or 5 ³⁴	1: 0 2, 3: 2 4, 5: 4

Use	Barrie	Brockville (gross leasable area)	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville (net floor area)	Ottawa [B: Outer Urban, C: Suburban, D: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope (net floor area)	Prescott	Quinte West (net floor area)	St. Catharines (gross leasable area)	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
							C, D: 10						
Retail Store, Convenience Store	3.33 ¹	5	3.57	5.88 ⁴⁸	5	5.55	X: where located on the ground floor with gross floor area of 200 square metres or less: 0, max 1 if within 600 metres of rapid transit 200+ square metres gross floor area: - Other: 1.25, max 1 if within 600 metres of rapid transit Y: where located on the ground floor or basement with gross floor area of 500 square metres or less: 0, max 1 if within 600 metres of rapid transit - Other: 1.25, max 1 if within 600 metres of rapid transit Z: 0, max 1 if within 600 metres of rapid transit B: 2.5, max 3.6 if within 600 metres of rapid transit C, D: 3.4, max 4 if within 600 metres of rapid transit	5	5 ⁵	5 ⁷	5	1: 1, max 3.5 ⁹ 2, 3, 4: 1, max 4 ⁹ 5: 1.5 or 3 or 6	1: 0 2, 3: 2 4, 5: 4
Service Store, Personal Services Shop	2 ⁴³	-	-	6.25 ²¹	5	4.54	X, Y: 1.25 Z: 0 B: 2.5 C, D: 3.4	5	5 ⁵	5	5	1: 1, max 3.5 ⁹ 2, 3, 4: 1, max 4 ⁹ 5: 1.5 ⁹	1: 0 2, 3: 2 4, 5: 4
Veterinary Clinic, Animal Hospital	2	3.5	2.5	A: 2 ²¹	-	4.54	X, Y: 2 Z: 0 B, C, D: 4	5.91	-	5.91	5	1: 0.4, max 0.8 2, 3, 4, 5: 1	1: 0 2, 3: 2 4, 5: 4

- ¹ Minimum 2 parking spaces.
- ² Required parking calculated based on the display area.
- ³ Required parking calculated based on the area available to the public.
- ⁴ Required parking calculated on the area in excess of 450 square metres.
- ⁵ Minimum 5 parking spaces.
- ⁶ Required parking calculated based on the bulk storage area.
- ⁷ For any property with less than 1,400 square metres of floor area, no less than 4 spaces per 100 square metres and no more than 5.88 spaces per 100 square metres shall be provided.
- ⁸ Required parking calculated based on the office floor area.
- ⁹ Required parking calculated only if floor area is in excess of 200 square metres.
- ¹⁰ Required parking for accessory uses is additional.
- ¹¹ Required parking is 1 space per guest room plus 10 spaces per 100 square metres of accessory services, excluding hallways and washrooms.
- ¹² Required parking is 1 space per guest room plus 3.33 spaces per 100 square metres outside of guest room. In Mixed Use Zones: required parking is 1 space per guest room plus 2.5 spaces per 100 square metres outside of guest room.
- ¹³ Required parking calculated based on the retail floor area.
- ¹⁴ Required parking calculated based on the office, retail and showroom floor area.
- ¹⁵ Required parking for first 7,500 square metres is 1 space per 100 square metres. For additional floor area, required parking in excess of 7,500 square metres is 0.5 spaces per 100 square metres.
- ¹⁶ For floor area more than 200 to less than 10,000 square metres, required parking is 1.5 spaces per 100 square metres. For 10,000 to less than 20,000 square metres, required parking is 3 spaces per 100 square metres. For more than 20,000 square metres, required parking is 6 spaces per 100 square metres.
- ¹⁷ For floor area less than 4,645 square metres, required parking is 2.7 spaces per 100 square metres. For 4,645 to less than 30,000 square metres, required parking is 2.7 spaces per 100 square metres (maximum 5 spaces per 100 square metres). For more than 30,000 square metres, required parking is 3.7 spaces per 100 square metres (maximum 5 spaces per 100 square metres).
- ¹⁸ Minimum 5 spaces.
- ¹⁹ Parking is only required where gross floor area is greater than 200 square metres.
- ²⁰ If gross floor area is more than 200 to less than 10,000 square metres, required parking is 1.5 spaces per 100 square metres. If gross floor area is 10,000 to less than 20,000 square metres, required parking is 3 spaces per 100 square metres. If gross floor area is 20,000 or more square metres, required parking is 6 spaces per 100 square metres of gross floor area.
- ²¹ In excess of 450 square metres.
- ²² For first 60% of net floor area on the lot occupied by office, required parking is 2.85 spaces per 100 square metres. Where office occupies more than 60%, required parking is 5.55 spaces per 100 square metres for entire building.
- ²³ Greater of 5 spaces or 5.91 space per 100 square metres.
- ²⁴ Greater of 4 spaces per practitioner or 6.66 spaces per 100 square metres.
- ²⁵ Minimum 2 spaces.
- ²⁶ Required parking on 1st storey is 3.5 spaces per 100 square metres. Where office area is on 2nd storey above or 1st storey below grade, required parking is 2 spaces per 100 square metres.
- ²⁷ Where office is accessory to E1, E2, E3, the parking rate for the main permitted use shall apply to any floor area occupied by office provided the office occupies an area equal to or less than 25% of the total net floor area on the lot. The office ratio shall apply for all net floor area occupied by office where the office occupies more than 25% of the total net floor area on the lot.
- ²⁸ Minimum 5 spaces.
- ²⁹ Required parking calculated on area accessible to public. Minimum 10 spaces.
- ³⁰ If there are no seats provided for dining, minimum is 3 spaces.
- ³¹ 1 space per farm plus 1.5 spaces per 100 square metres of floor area for farm produce outlet.
- ³² 2 spaces per farm plus 3 spaces per 100 square metres of floor area for farm produce outlet.
- ³³ Required parking is greater of 10 spaces per 100 square metres or 0.25 spaces per person.

³⁴ Where floor area is less than 200 square metre, no required parking. Where floor area is 200 to less than 500 square metres, required parking is 3 spaces. Where floor area is 500 or more square metres, required parking is 5 spaces per 100 square metres.

³⁵ Parking is only required for an outdoor patio when its area exceeds 50% of the gross leasable area of the restaurant.

³⁶ Parking ratio is calculated based on the floor area used for office space only.

³⁷ Maximum requirement of 6 spaces.

³⁸ Required parking is 20 spaces per 100 square metres of gross floor area. If outdoor patio, required parking for patio area is 5.55 spaces per 100 square metres of patio area.

³⁹ Required parking is 3.33 spaces per 100 square metres of office gross floor area + 0.5 spaces per 100 square metres of non-office gross floor area.

⁴⁰ Parking ratio is calculated based on the floor area used for retail area only.

⁴² Required parking is calculated on pen area for animals.

⁴³ Required parking for a personal service shop is 3.33 spaces per 100 square metres.

⁴⁵ If establishment has an outdoor patio, parking is calculated at a rate of 5.55 spaces per 100 square metres of patio area.

⁴⁶ Required parking is the greater of 0.25 spaces per person or 10 spaces per 100 square metres.

⁴⁷ Required parking calculated based on the retail floor area, plus 1 space per 100 square metres for warehousing.

⁴⁸ In a Commercial and Mixed-Use Zone, 0 required for less than 450 square metres. 5.88 spaces per 100 square metres between 450 and 4,000 square metres. 2 spaces per 100 square metres greater than 4,000. Where retail is located in an industrial zone 5 spaces per 100 square metres.

⁴⁹ Maximum 33.3 spaces per 100 square metres of gross leasable area.

Appendix H: Overview of Parking Ratios for Community, Institutional & Recreational Uses

For the purposes of this Paper, institutional, community and recreational uses have been grouped into their own category, which includes places of assembly, places of worship, schools and a wide variety of uses that are treated distinctively by other municipalities because of the nature of these uses. Due to their operating characteristics, for some of the uses, it is not appropriate to simply apply a parking ratio based on the gross floor area. Depending on the type of use, it may be more appropriate to base the parking ratio on the number of seats in an establishment, the number of classrooms or the maximum number of persons that are able to occupy the space according to the Ontario Building Code regulations.

In reviewing the site specific parking reports in Kingston, 1 report addressed an arena, 1 report addressed a recreational facility, 1 report addressed a community centre, 1 report addressed a place of assembly (performing arts centre) and 1 was a school with a daycare centre, community room, cultural offices and theatre. The justifications provided in support of these specific uses were often catered to the specific operational characteristics of the use plus a review of the requirements of other municipalities in Ontario. The justifications also tended to break down the number of spaces required by the number of people who are able to use the facility, which was typically translated into a ratio per 100 square metres of gross floor area in order to conform with the City's typical approach to parking ratios.

Table H.1. Parking Space Ratio for Community, Institutional & Recreational Uses in Other Municipalities (spaces per 100 square metres of gross floor area, unless otherwise indicated)

Use	Barrie	Brockville (gross leasable area)	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville (net floor area)	Ottawa [B: Outer Urban, C: Suburban, D: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope (net floor area)	Prescott	Quinte West (net floor area)	St. Catharines (gross leasable area)	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
Arena	0.25 spaces per person	-	-	-	-	5.55 ¹	X, Y: 0.125 spaces per seat Z: 0 B, C, D: 0.25 spaces per seat	0.33 spaces per seat	0.25 spaces per person ²	0.25 spaces per seat	-	3	0.25 per person
Art Gallery	3.33 ⁶⁰	2 ⁶¹	2.15 ⁶²	-	-	3.57	-	2.5	-	2.5	-	1, 2, 3, 4: 0.5 5: 1.3	1: 0 2, 3: 2 4, 5: 4
Artist Studio	3.33	-	-	-	-	-	X: 1.25 Y: where located above first storey in a building with 4 or less storeys: 0	-	-	-	-	1: 0.1, max 3.5 ⁶⁴ 2, 3, 4: 0.1, max 4 ⁶⁴ 5: 1.5 or 3 or 6 ⁶⁵	1: 0 2, 3: 2 4, 5: 4

Use	Barrie	Brockville (gross leasable area)	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville (net floor area)	Ottawa [B: Outer Urban, D: Suburban, Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope (net floor area)	Prescott	Quinte West (net floor area)	St. Catharines (gross leasable area)	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
							- Other: 1.25 Z: 0 B: 2.5 C, D: 3.4, minimum 5 spaces						
Campground	-	-	1.25 spaces per site	-	-	-	X, Y: 0.5 spaces per camp Z: 0 B, C, D: 1 space per camp	-	-	1 space per site ¹⁴	-	-	1 space per site
Commercial School, Training Facility	1 space per stud	-	0.33 spaces per stud ⁵³	²⁵⁴	5 spaces per class	4.54	X, Y: 1.25 Z: 0 B: 400-800m walk to rapid transit: 1.6, Other: 2.5 C, D: 400-800m walk to rapid transit: 2.3, Other: 3.4	5	-	-	-	-	1: 0 2, 3: 2 4, 5: 4
Community Centre	0.25 spaces per person	-	-	-	-	4.54	X, Y: 2 Z: 0 B, C, D: 4	10	-	10	-	1, 2, 3, 4: 0.5, max 1.3 5: 3	0.25 per person
Correctional Facility	1	-	-	-	-	-	X, Y: 0.5 Z: 0 B, C, D: 1	-	-	-	-	-	Parking required for office area
Daycare centre	1 space per class ⁵	10	2.5 ⁶	0.8 ⁶	1.5 spaces per class ⁷	2.5	X, Y: 1 Z: 0 B, C, D: 2	1.5 spaces per class ⁸	-	1.5 spaces per class ⁸	4	1, 2, 3, 4: 0.4, max 0.8 5: 1	1.5 spaces per classroom
Entertainment Establishment, Place of	0.25 spaces	0.2 spaces	0.1 space	0.16 spaces per person	11.11 ³⁰	4.54	Entertainment: X, Y: 2 per alley, court, ice sheet, game table or other game surface	0.25 spaces per seat	0.25 spaces	11.11 ³³	5 ¹⁷	1: 5 2, 3, 4: 8 5: 10	0.25 per person

Use	Barrie	Brockville (gross leasable area)	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville (net floor area)	Ottawa [B: Outer Urban, D: C: Suburban, D: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope (net floor area)	Prescott	Quinte West (net floor area)	St. Catharines (gross leasable area)	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
Amusement, Theatre, Cinema	per person	per seat	per seat ¹⁶				+ 5 spaces per 100 square metres of dining area Z: 0 B, C, D: 4 per alley, court, ice sheet, game table or other game surface + 10 spaces per 100 square metres of dining area Cinema: X, Y: 0.06 spaces per seat Z: 0 B: 0.125 spaces per seat C, D: 0.25 spaces per seat		per person				
Fitness Club, Commercial Club	0.5 spaces per person	-	5 ²³	6.66	-	-	-	5	-	5	-	1: 3 2: 4.5 3, 4: 5.5 5: 7	1: 0 2, 3: 2 4, 5: 4
Funeral Establishment	3.33 ³⁷	-	10 ³⁸	5	32.25 ³⁹	7.14	X, Y: 3.5 Z: 0 B, C, D: 7	7.69 ⁴⁰	5.55 ⁴¹	7.69 ⁴⁰	-	1, 2: 1, max 4 3: 2, max 5 4: 3, max 6 5: 6	0.25 per person
Golf Course	1 space per hole	3 spaces per hole ²⁴	4 spaces per hole ²⁵	-	-	6 spaces per hole ²⁶	X, Y: 0.5 spaces per 100 square metres gross floor area + 2 spaces per hole Z: 0 B, C, D: 1 space per 100 square metres gross floor area + 4 spaces per hole	2.66 spaces per hole	-	5 spaces per hole	2 spaces per hole ²⁸	3.5 ²⁹	3 spaces per hole plus parking required for accessory retail, restaurant etc.

Use	Barrie	Brockville (gross leasable area)	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville (net floor area)	Ottawa [B: Outer Urban, C: Suburban, D: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope (net floor area)	Prescott	Quinte West (net floor area)	St. Catharines (gross leasable area)	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
Hospital	2	0.5 spaces per bed	0.25 spaces per bed ⁴²	1	2.5	2	X, Y: 0.7, max 1.6 if within 600 metres of rapid transit Z: 0, max 1.6 if within 600 metres of rapid transit B, C, D: - 400-800 metres walk to rapid transit: 1.4, max 1.6 - Other: 1.4	4.76	2.7 ⁴⁴	4.76	2	1, 2, 3, 4: 0.4, max 0.8 5: 3.5	1: 0.5 2, 3, 4, 5: 1
Library	3.33 ¹⁰	-	2.15 ⁹	-	2.85	3.57	X, Y: 1.25 Z: 0 B, C, D: 2.5	3.77	-	3.77	-	1, 2, 3, 4: 0.5 5: 1.3	1: 0.5 2, 3, 4, 5: 1
Laundry or Dry Cleaning	2	-	2.5 ⁶⁶	0.87	-	4.54	-	8.33	-	5	-	-	1: 0 2, 3: 2 4, 5: 4
Museum	3.33 ¹⁰	2 ¹¹	2.15 ⁹	-	-	3.57	X, Y: 1 Z: 0 B, C, D: 2	2.5	-	2.5	-	1, 2, 3, 4: 0.5 5: 1.3	1: 0.5 2, 3, 4, 5: 1
Place of Assembly	0.25 spaces per person	10	10	A: 1 ⁵⁴ C: 3.33	11.11	-	X, Y: 5 Z: 0 B, C, D: 10	0.16 spaces per person	0.25 spaces per person ²	11.11 ¹⁵	5 ⁴	1: 3 2: 4.5 3, 4: 5.5 5: 7	0.25 per person
Place of Worship	0.2 spaces per person	4 ⁴⁵	0.125 spaces per seat ⁴⁶	6.25	9.09 ⁴⁷	0.2 spaces per person ⁴⁸	X, Y: 5 Z: 0 B, C, D: 10	0.25 spaces per person ⁴⁹	0.25 spaces per person ⁴⁶	0.25 spaces per person ⁴⁹	5 ⁵⁰	Fixed seats: 1: 9, max 18 2: 15, max 23 3, 4: 18, max 29 5: 23 No or variable seats: 1: 11, max 22 2: 18, max 27 3, 4: 22, max 33 5: 27	0.25 per person

Use	Barrie	Brockville (gross leasable area)	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville (net floor area)	Ottawa [B: Outer Urban, D: Suburban, Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope (net floor area)	Prescott	Quinte West (net floor area)	St. Catharines (gross leasable area)	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
Recreation Establishment	0.5 spaces per person	5	10	-	3.33 ³ ₅	-	X, Y: Greater of 0.125 spaces per seat or 2 spaces per field Z: 0 B, C, D: Greater of 0.25 spaces per seat or 4 spaces per field	-	-	-	5 ³⁶	1, 2, 3, 4: 0.5, max 1.3 5: 3	3.5 spaces per 100 square metres for all buildings plus 30 per playing field plus 4 per court or alley
School (E = Elementary, S = Secondary)	E: 1 space per class + 1 space per office S: 1 space per class ⁵¹	E: 2 spaces per class S: 4 spaces per class	E: 1.25 spaces per class S: 3 spaces per class	E: 1.25 spaces per class S: 3 spaces per class ⁵²	E: 2 spaces per class S: 4 spaces per class	E: 1.5 spaces per class S: 4 spaces per class	E: X, Y: 0.75 Z: 0 B, C, D: 1.5 S: X, Y: 1.25 per class Z: 0 B, C: 2 D: 3	4 spaces per class	E: 1.5 spaces per class S: 4 spaces per class	4 spaces per class	-	1: 0.15, max 0.3 2, 3: 0.5, max 1 4: 1, max 2 5: 1.5	E: 1.5 spaces per class S: 3 spaces per class
University and College	1 space per class ⁵¹	4 spaces per class	-	5 spaces per class ⁵⁷	5 spaces per class	0	X, Y: 0.375, max 1.2 if within 600 metres of rapid transit Z: 0, max 1.2 if within 600 metres of rapid transit B: 0.75, max 1.2 if within 600 metres of rapid transit C, D: 1, max 1.5 if within 600 metres of rapid transit	-	0.66 spaces per stud ⁵⁸	-	-	1, 2, 3: 0.1 4: 1 5: 2	3 spaces per class plus parking required for offices, places of assembly, rooming units, recreation establishments

¹ Required parking is 5.5 spaces per 100 square metres of net floor area plus 2 spaces per outdoor playing court plus 12 spaces per outdoor playing field.

² Required parking is 0.25 spaces per person. Where no fixed seats, required parking is 10 spaces per 100 square metres.

⁴ Maximum 33.3 spaces per 100 square metres of gross leasable area.

⁵ Required parking is 1 space per classroom plus 1 space per office.

⁶ Required parking is 0.8 spaces per 100 square metres of gross floor area, except where day nursery is located in a place of worship or a school – no required parking.

- ⁷ Required parking is 1 space per classroom plus 3.33 spaces per 100 square metres of gross floor area, except where day nursery is located in a place of worship or a school – no required parking.
- ⁸ Required parking is 1 space per classroom plus 3.33 spaces per 100 square metres of net floor area, except where day nursery is located in a place of worship or a school – no required parking.
- ⁹ Required parking is calculated based on the area available to the public.
- ¹¹ Required parking is calculated based on the display area.
- ¹² Required parking is 15 spaces plus 3.33 spaces per 100 square metres of gross floor area for all buildings, structures and pavilions plus 30 spaces per baseball field plus 30 spaces per soccer field plus 4 spaces per tennis court, except no required parking for parks less than 2 ha in area.
- ¹³ Required parking for a sports field is the greater of 0.25 spaces per seat or 4 spaces per sports field, all other cases have no requirement.
- ¹⁴ Required parking for a building with a recreation use located in the OR zone.
- ¹⁶ Required parking is the greater of 10 spaces per 100 square metres of area for public assembly or 0.1 space per seat.
- ¹⁷ Required parking is calculated based on the area dedicated to public assembly.
- ¹⁸ Parking is only required if gross floor area exceeds 200 square metres.
- ¹⁹ If gross floor area exceeds 200 square metres and is less than 10,000 square metres, the required parking is 1.5 spaces per 100 square metres. If gross floor area is 10,000 to less than 20,000 square metres, the required parking is 3 spaces per 100 square metres. If gross floor area exceeds 20,000 square metres, required parking is 6 spaces per 100 square metres.
- ²⁰ If establishment has an outdoor patio, parking is calculated at a rate of 5.55 spaces per 100 square metres of patio area.
- ²¹ Required parking is the greater of 0.25 spaces per person or 10 spaces per 100 square metres.
- ²² If gross floor area is 200 square metres to less than 500 square metres, the required parking is 3 spaces per 100 square metres. If gross floor area exceeds 500 square metres, required parking is 5 spaces per 100 square metres.
- ²³ Minimum 5 spaces.
- ²⁴ Required parking is 3 spaces per hole plus 4 spaces per 100 square metres of indoor public area.
- ²⁵ Required parking is 4 spaces per hole plus required parking for places of assembly or restaurants.
- ²⁶ Required parking is 6 spaces per hole plus 4.54 spaces per 100 square metres for accessory uses.
- ²⁸ Required parking is 2 spaces per hole plus 3.7 spaces per 100 square metres of club house gross leasable area.
- ²⁹ Required parking is the greater of 3.5 spaces per 100 square metres of all buildings or 24 spaces.
- ³⁰ Required parking is 11.11 space per 100 square metres. If an indoor playground, required parking is 5 spaces per 100 square metres.
- ³¹ Required parking is 1 space per camping site plus any required parking for additional uses.
- ³³ Required parking is the greater of 11.11 space per 100 square metres or 0.25 spaces per seat.
- ³⁴ Required parking is 2 spaces per 100 square metres in excess of 450 square metres.
- ³⁵ Required parking is 15 spaces plus 3.33 spaces per 100 square metres for all buildings, structures and pavilions plus 30 spaces per baseball field plus 30 spaces per soccer field plus 4 spaces per tennis court, except no required parking for parks less than 2 ha in area.
- ³⁶ Required parking is 5 spaces per 100 square metres of gross leasable area dedicated to the assembly of persons.
- ³⁷ Minimum 2 spaces.
- ³⁸ Required parking calculated based on publicly accessible area.
- ³⁹ Required parking for first 93 square metres is 32.25 spaces per 100 square metres. Required parking for additional floor area is 5 spaces per 100 square metres.
- ⁴⁰ Minimum 10 spaces.

- ⁴¹ Minimum 8 spaces.
- ⁴² 1 space for every 4 employees plus the greater of 1.07 spaces per 100 square metres or 0.25 spaces per bed.
- ⁴⁴ Required parking is the greater of 0.5 spaces per bed or 2.7 spaces per 100 square metres.
- ⁴⁵ Required parking is the greater of 4 spaces per 100 square metres or 0.2 spaces per seat. Where open benches, every 0.5 metres of bench is 1 seat.
- ⁴⁶ Where no fixed seats, required parking is 10 spaces per 100 square metres.
- ⁴⁷ Required parking is 18.18 spaces per 100 square metres in the nave plus 9.09 spaces per 100 square metres for public hall, banquet hall, etc.
- ⁴⁸ Required parking is 0.2 spaces per person in worship area plus 4.54 spaces per 100 square metres of accessory assembly area.
- ⁴⁹ Required parking is the greater of 0.25 spaces per person or 11.11 space per 100 square metres in the worship area.
- ⁵⁰ Required parking calculated based on area dedicated to assembly of persons. Maximum 33.33 spaces per 100 square metres.
- ⁵¹ Required parking is 1 space per class plus 1 space per office plus 0.1 space per student.
- ⁵² Plus 0.14 spaces per seat in an auditorium, theatre or stadium.
- ⁵³ Plus 1 space per employee.
- ⁵⁴ Required parking calculated on floor area in excess of 450 square metres.
- ⁵⁵ Required parking calculated on floor area of office.
- ⁵⁶ Plus 1 space per office.
- ⁵⁷ Required parking is the greater of: 5 spaces per class plus 0.14 spaces per seat in auditorium, theatre or stadium OR 5 spaces per classroom plus 4.34 spaces per 100 square metres of the auditorium, theatre or stadium.
- ⁵⁸ Plus 1 space per 100 square metres.
- ⁵⁹ Minimum 2 spaces.
- ⁶⁰ Minimum 2 parking spaces.
- ⁶¹ Required parking calculated based on the display area.
- ⁶² Required parking calculated based on the area available to the public.
- ⁶⁴ Parking is only required where gross floor area is greater than 200 square metres.
- ⁶⁵ If gross floor area is more than 200 to less than 10,000 square metres, required parking is 1.5 spaces per 100 square metres. If gross floor area is 10,000 to less than 20,000 square metres, required parking is 3 spaces per 100 square metres. If gross floor area is 20,000 or more square metres, required parking is 6 spaces per 100 square metres of gross floor area.
- ⁶⁶ Required parking is 2.5 spaces per 100 square metres for dry cleaning or 0.25 spaces per wash and drying machine for laundry.

Appendix I: Overview of Parking Ratios for Employment, Automotive & Marine Uses

The Official Plan and Provincial Policy Statement define employment areas as areas for clusters of business and economic uses including manufacturing, warehousing and office, along with retail and other facilities that are accessory to principal employment uses. One of the goals for employment areas is to create attractive, sustainable employment areas that improve the quality of life and reduce dependence on the private automobile for employees by having personal services and amenities in close proximity to employment uses. Office uses are included in the Commercial, Agricultural and Environment category of this Paper but may also be permitted in employment areas in the New ZBL. For the purposes of this Paper, all automotive and transportation related uses have been included in this section.

The Employment Land Strategy review prepared by Watson & Associates Economists Ltd. In March of 2015 identified that consideration should be

given to reduce the parking space requirements for both manufacturing and warehouse uses to reflect the low density as a calculation of employees-per-net-hectare for these types of land uses.

When reviewing the common practices of other municipalities in Ontario, the parking ratio for the majority of the uses in this category are delineated based on the gross floor area of the use. Automotive uses represent an exception, as other municipalities take a split approach to parking ratios – approximately half of the municipalities calculate the number of parking spaces based on the number of automotive service bays for a vehicle, while the other half calculate the required parking ratio based on the gross floor area of the use.

Of the 65 site specific parking reports in Kingston reviewed as part of this Paper, 1 report provided justification for a manufacturing and warehouse use, supporting a ratio of 1 space per 100 square metres of gross floor area..

Table I.1. Parking Space Ratio for Employment, Automotive & Marine Uses in Other Municipalities (spaces per 100 square metres of gross floor area, unless otherwise indicated)

Use	Barrie	Brockville (gross leasable area)	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville (net floor area)	Ottawa [B: Outer Urban, C: Suburban, D: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope (net floor area)	Prescott	Quinte West (net floor area)	St. Catharines (gross leasable area)	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
Airport	-	-	-	-	-	-	X, Y: 0.25 ¹ Z: 0 B, C, D: 0.5 ⁶	-	-	-	-	-	-

Use	Barrie	Brockville (gross leasable area)	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville (net floor area)	Ottawa [B: Outer Urban, D: Suburban, C: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope (net floor area)	Prescott	Quinte West (net floor area)	St. Catharines (gross leasable area)	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
Automobile Body Shop	-	3.33	-	-	3 spaces per bay	1	X, Y: 1.5 spaces per bay Z: 0 B, C, D: 3 spaces per bay	5 ²	3 spaces per bay	5 ⁴	-	-	1 space per bay
Automobile Repair Establishment	2 ⁵	4 spaces per bay	-	0.87	3 spaces per bay	1	-	5 ²	3 ³	5 ⁷	5	3.5	1 space per bay
Automobile Sales Establishment	2 ⁵	5	-	1 space per 100 + 2 per bay	-	1	X, Y: - showroom: 1.0 - service area: 1 space per bay - Other areas: 0.5 Z: 0 B, C, D: - showroom: 2.0 - service area: 2 spaces per bay - Other areas: 1.0	5 ⁷	5 ³	5	3.33	1, 2, 3, 4: 1, max 1.5 5: 3	1 space per bay
Gas Station	2 ⁵	4 spaces per bay	4 spaces per bay	4 spaces per bay	2.22 ⁸	1	X, Y: greater of 0.5 or 1 space per bay Z: 0 B, C, D: greater of 1.0 or 2 spaces per bay	5 ²	3 spaces per bay ³	5	5	1, 2, 3: 2.5 4: 3 5: 3.5	1 space per bay
Car Wash	1.42	3 spaces per bay ¹¹	-	3.33 spaces per 100 + 2 spaces per bay	-	1	0	-	3 spaces per bay ¹¹	1 space per bay	-	-	1 space per bay
Concrete Plant	1.42	-	-	-	-	-	-	-	-	-	-	-	1
Contractor	-	-	-	0.87	-	1	-	-	-	-	1	0.5	1
Heavy Equipment Dealer, Sales, Rental, Servicing	2	-	-	1	-	-	X, Y: 0.375 Z: 0 B, C, D: 0.75	-	-	-	2.85	-	1
Industrial Equipment Sales,	-	3	-	1	-	-	-	-	-	-	-	1: 0.1, max 3.5 ¹³ 2, 3, 4: 0.1, max 4 ¹³ 5: 1.5 or 3 or 6 ¹⁴	1

Use	Barrie	Brockville (gross leasable area)	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville (net floor area)	Ottawa [B: Outer Urban, C: Suburban, D: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope (net floor area)	Prescott	Quinte West (net floor area)	St. Catharines (gross leasable area)	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
Service and Rental													
Industrial Use	1.42	1.25	1.11 ¹⁵	-	3.33 ¹⁷	1 ¹⁸	X, Y: 0.4 Z: 0 B, C, D: 0.8	1 ¹⁹	1.42 ²⁰	1 ¹⁹	1	1, 2, 3, 4: 0.5 5: 1	1
Laboratory	-	-	-	2	-	-	-	-	-	-	-	1: 0.35, max 0.8 2: 1, max 1.4 3, 4: 1, max 2 5: 1.5	1
Marina	1 space per slip	0.5 spaces per slip ²²	-	1 space per slip	-	0.6 spaces per slip	X, Y: 0.5 + 0.5 spaces per slip Z: 0 B, C, D: 1.0 + 1.0 space per slip	-	1 space per slip ²⁴	0.5 spaces per slip ²³	0.6 spaces per slip	-	0
Mineral Aggregate Operation	0.0 ²⁷	-	-	-	-	-	0	0 ²⁶	-	0 ²⁶	-	-	0
Research Establishment	1.42	-	-	1.33 ²⁸	-	-	X, Y: 0.4, max 1 if within 600 metres of rapid transit Z: 0, max 1 if within 600 metres of rapid transit B, C, D: 0.8, max 1 if within 600 metres of rapid transit	-	-	-	1	-	1
Storage Building	0.2	1	-	-	1 ²⁹	1 ³⁰	X, Y: 0.25 Z: 0 B: 0.5 C, D: 1.0	1 ²⁹	-	1	-	0.6	1
Transportation Terminal, Bus Station	2 ⁵	-	-	3.33 ¹⁰	-	-	X, Y: 0.25 Z: 0 B, C, D: 0.5	-	-	-	5	1, 2, 3: 0.1 4, 5: 0.2	1

Use	Barrie	Brockville (gross leasable area)	Grimsby	Hamilton [A: Downtown, B: Transit Corridors C: All other]	Milton	Oakville (net floor area)	Ottawa [B: Outer Urban, D: Suburban, C: Rural, X: Inner Urban, Y: Inner Urban Mainstreet, Z: Major LRT Stations]	Port Hope (net floor area)	Prescott	Quinte West (net floor area)	St. Catharines (gross leasable area)	Toronto [1: Downtown, 2: Centres, 3: Subway, 4: Surface Transit, 5: Rest of City]	Favoured Parking Ratio [1: Parking Area 1 2: Parking Area 2 3: Parking Area 3 4: Parking Area 4 5: Parking Area 5]
Transportation Depot, Station	0.1	0.54	-	3.33 ¹⁰	-	1	X, Y: 0.4 Z: 0 B, C, D: 0.8	1.17	-	1.17	1	0.1	1
Utility Installation	-	-	-	3.33 ¹⁰	-	-	X, Y: 0.4 Z: 0 B, C, D: 0.8	-	-	-	-	-	0
Warehouse	0.1	0.54	-	3.33 ¹⁰	-	1 ¹⁸	X, Y: 0.4 Z: 0 B, C, D: 0.8	1.17	-	0-2,750 square metres gross floor area: 1 2,750+ square metres gross floor area: 0.5	-	1 ³¹	1
Waste and Recycling Processing, Transfer or Disposal Facility	1.42	-	-	3.33 ¹⁰	-	1	0	-	-	-	-	-	1

¹ 0.25 spaces per 100 square metres used for passenger terminal or aircraft hangar.

² Required parking is 5 spaces per 100 square metres of area used for office plus any required parking for accessory uses.

³ Plus 1 space per employee.

⁴ Required parking is calculated based on the area used for office and retail space.

⁵ Minimum 2 spaces.

⁶ 0.5 spaces per 100 square metres used for passenger terminal or aircraft hangar.

⁷ Required parking is 5 spaces per 100 square metres of area for sales and rental plus any spaces required for accessory uses.

⁸ Required parking is calculated based on the area used for retail sales.

¹⁰ Required parking is calculated based on the area used for office.

- ¹¹ Required parking for self-service car wash is 3 spaces per wash bay. Required parking for automatic car wash is 5 spaces per wash bay.
- ¹² Required parking is calculated based on the area used for office, retail and showroom.
- ¹³ Gross floor area must be more than 200 square metres.
- ¹⁴ If gross floor area is more than 200 to less than 10,000 square metres, required parking is 1.5 spaces per 100 square metres of gross floor area. If gross floor area is 10,000 to less than 20,000 square metres, required parking is 3 spaces per 100 square metres of gross floor area. If gross floor area is 20,000 or more.
- ¹⁵ Required parking is 1.11 space per 100 square metres plus 3.57 spaces per 100 square metres of retail sales.
- ¹⁶ Required parking is 0.5 spaces per 100 square metres plus 3.33 spaces per 100 square metres of office.
- ¹⁷ Required parking is 3.33 spaces per 100 square metres for the first 1,000 square metres. Between 1,001 and 5,000 square metres of gross floor area, 1 space per 100 square metres. For gross floor area greater than 5,000 square metres, 0.5 spaces per 100 square metres.
- ¹⁸ For first 7,500 square metres, required parking is 1 space per 100 square metres. For additional floor area, required parking is 0.5 spaces per 100 square metres.
- ¹⁹ For first 1,000 square metres, required parking is 3.33 spaces per 100 square metres. For additional floor area above 1,000 to 5,000 square metres, required parking is 1 space per 100 square metres. Above 5,000 square metres, required parking is 0.5 spaces per 100 square metres.
- ²⁰ For first 200 square metres, required parking is 1.42 spaces per 100 square metres. For additional floor area, required parking is 0.5 spaces per 100 square metres.
- ²² Plus required parking for accessory uses.
- ²⁴ Required parking is 1 space per seasonal slip plus 0.25 spaces per transient slip.
- ²⁵ Required parking is 3.33 spaces per 100 square metres of office plus 0.5 spaces per 100 square metres of the remainder.
- ²⁶ Plus required parking for business office.
- ²⁷ Required parking is calculated per 100 square metres of lot area.
- ²⁸ In M1 Zone, required parking is 1.33 spaces per 100 square metres, except that portion used for laboratory, warehouse and manufacturing uses is 0.86 spaces per 100 square metres. Outside of the M1 Zone, required parking is 2 spaces per 100 square metres.
- ²⁹ Required parking is 1 space per 100 square metres of building area plus 20 spaces per 100 square metres of office, except where driveway accessing unit has minimum width of 7 metres, 0 spaces are required.
- ³⁰ To a maximum minimum requirement of 8 spaces.
- ³¹ For first 2,750 square metres, required parking is 1 space per 100 square metres. For additional floor area, required parking is 0.5 spaces per 100 square metres

Appendix J: Overview of Parking Space Dimensions

The width of a drive aisle and the parking space length need to be considered together when creating zoning standards to ensure the functional use of parking lots, whether they are single loaded (one drive aisle to access one side of parking spaces) or double loaded (one drive aisle to access two sides of parking spaces). The angle of the parking space also needs to be considered relative to the drive aisle. In order to ensure there is a good level of comfort for users of these spaces, the dimensions should be set to reduce the number of 2 or 3 point turns required to maneuver a vehicle in and out of the parking space.

The dimensions of parking spaces are generally similar across other municipalities in Ontario. The width for a typical parking space is consistently between 2.6 metres and 2.75 metres across all 12 municipalities reviewed as part of this Paper. The length of a typical parking space is generally between 5.5 metres and 6 metres in length, with some outliers allowing a shorter length of 5.2 m. For a typical, 90-degree parking space, the majority of the other municipalities reviewed in this Paper require a drive aisle width of 6.0 m.

In reviewing the site-specific parking studies in Kingston, approximately 28% of the studies requested a reduced parking space dimension. This request was typically connected to proposals that included more than one parking space

in a common parking lot, accessed by a drive aisle, as opposed to parking spaces for low density forms of housing where a driveway leads directly to one parking space. The most commonly supported dimension was 2.6 metres by 5.2 m, which was often recommended in conjunction with an increased drive aisle width. The reduced dimensions of the parking spaces were reviewed on a site-specific basis to ensure the functionality of the spaces and, in many situations, considered the intended user of the space as the rationale for the reduced dimension.

One additional concept that is added to the zoning by-laws in Oakville, Ottawa, St. Catharines and Toronto is an increased width requirement for an obstructed parking space. When a parking space is obstructed by a wall, column or other structure on one or both sides, in an area that limits the opening of the doors of a parked vehicle, the width of the parking space is required to be increased by a fixed measurement. The most common measurement is an increase in width by 0.3 metres for each side that is obstructed to ensure the proper functionality and operation of the space. This requirement allows a typical parking space dimension to be smaller for the majority of spaces, but an increase in parking space size is required only where it is needed to ensure proper functionality of the user.

Table J.1. Parking Space Dimensions in Other Municipalities (length x width in metres, unless otherwise indicated)

Type of Parking Space	Barrie	Brockville	Grimsby	Hamilton	Milton	Oakville	Ottawa	Port Hope (net floor area)	Prescott	Quinte West	St. Catharines	Toronto
Typical	5.5 x 2.7	5.5 x 2.75	5.75 x 2.75	5.5 x 2.6	5.8 x 2.75	5.7 x 2.7	5.2 x 2.6 ¹	5.5 x 2.7 ⁴	6 x 2.7	5.5 x 2.7 ⁷	5.2 x 2.6	5.6 x 2.6 ⁹
Parallel	6.7 x 2.7	6 x 2.75	-	6.7 x 2.4	6.5 x 2.75	7 x 2.7	6.7 x 2.6 ¹	6.9 x 2.75	-	6.8 x 2.75	-	6.7 x 2.6
Angled	-	30°-60°: 5.5 x 2.6	0°-15°: 6.7 x 2.75	-	6.5 x 2.75	-	6.4 x 2.75	-	-	10°-70°: 6.4 x 2.75	-	-

Type of Parking Space	Barrie	Brockville	Grimsby	Hamilton	Milton	Oakville	Ottawa	Port Hope (net floor area)	Prescott	Quinte West	St. Catharines	Toronto
			30°-45°: 6 x 2.75 60°-90°: 5.75 x 2.75									
Tandem	-	-	-	-	-	11.7 x 2.7	-	-	-	-	-	-
Private Garage	-	-	-	-	-	1 space: 5.7 x 3 2 spaces: 5.7 x 5.6	-	6 x 2.9 ⁵	-	6 x 2.9 ⁵	-	-
Increases due to Obstructions	-	-	-	-	-	Increase width by 0.3 ²	Minimum width 2.6 ³	-	-	-	5.2 x 3 ⁸	Increase width by 0.3 ¹⁰
Vertical Clearance	-	-	-	-	-	-	-	-	-	-	-	2
Compact	-	-	-	-	-	-	-	5.5 x 2.5 ⁶	-	-	-	-
Aisle Width	30°: 2.8 ¹¹ 45°: 3.4 ¹¹ 60°: 5.2 ¹¹ 90°: 6.4	0°: 4.5 30°: 4.5 45°: 4.5 60°: 5.5 90°: 6.0	0°: 3.7 ¹¹ 0°: 6.75 15°: 3.7 ¹¹ 30°: 3.7 ¹¹ 45°: 4.5 ¹¹ 60°: 5.5 ¹¹ 75°: 6.0 ¹¹ 90°: 6.0	See below ⁹	6.0 ¹²	6.0 ¹³	0-40°: 3.5 41-55°: 4.3 56-70°: 6.5 71-90°: 6.7	0-45°: 3.5 45-56°: 4.3 56-70°: 6.5 70-90°: 6.7	6.5 ¹⁴	0-45°: 3.5 45-56°: 4.3 56-70°: 6.5 70-90°: 6.7	-	6.0 ¹⁵

¹ Maximum width 2.75 metres. Reductions allow parking spaces (other than visitor and parallel) to be reduced as follows:

- up to 40% of required spaces: 4.6 metres x 2.4 metres (where in parking lot or garage with 21+ spaces, must be identified for small cars only);
- up to 50% of required spaces: 5.2 metres x 2.4 metres (where 50+ spaces required for specific non-residential uses and specific residential buildings up to 20 units);
- up to 100% of required spaces: 5.2 metres x 2.4 metres (where provided for rapid transit network, incl. park and ride).

² Where a wall, column, or other obstruction is located abutting or within any parking space, the minimum width of the parking space shall be increased by 0.3 metres for each side that is obstructed. Obstructions within 1.15 metres of either stall end do not require an increase in parking space width, provided the obstruction projects no more than 0.15 metres into the parking space.

³ Where a parking space is located abutting or near a wall, column or other similar surface that obstructs the opening of the doors of a parked vehicle or limits access to a parking space, that parking space must have a minimum width of 2.6 metres.

⁴ Surface spaces are required to be 5.5 x 2.7 metres. Underground spaces may be 5.4 x 2.7 metres.

⁵ With a separating wall, spaces are required to be 6 x 2.9 metres with a vertical clearance of 2.1 metres. Without a separating wall, spaces are required to be 6 x 2.75 metres with a vertical clearance of 2.1 metres.

⁶ Where 10 or more spaces are required, not more than 10% shall be 5.5 x 2.5 metres.

⁷ Where parking spaces are provided in a surface parking area, dimensions shall be 5.5 x 2.7 metres. Where parking spaces are provided in an enclosed or underground parking area, dimensions shall be 5.4 x 2.7 metres.

In the case of parking areas containing more than 3 parking spaces where parking spaces are provided in a row, the parking spaces located at each of the row shall have a minimum width of 3 metres.

⁸ Where obstructed on 2 sides, 5.2 x 3.5 metres. Where obstructed on 1 side, 5.2 x 3 metres.

⁹ Where drive aisle is 6 or more metres in width, 5.6 x 2.6 metres, maximum 6 x 3.2 metres. Where drive aisle less than 6 metres in width, 5.6 x 2.9 metres, maximum 6 x 3.2 metres.

¹⁰ The minimum width must be increased by 0.3 metres for each side of the parking space that is obstructed. The side of a parking space is obstructed if any part of a fixed object such as a wall, column, bollard, fence or pipe is situated: (i) within 0.3 metres of the side of the parking space, measured at right angles, and (ii) more than 1.0 metre from the front or rear of the parking space.

¹¹ One way travel only.

¹² If angled parking, accessed by one-way drive aisle, minimum width is 4.5 metres.

¹³ If angled parking 60 degrees or greater, accessed by one-way drive aisle, minimum width is 5.5 metres. If angled parking less than 60 degrees, accessed by one-way drive aisle, minimum width is 4.0 metres.

¹⁴ Two-way aisle: 6.5 metres. Two way where parking is angled: 5 metres. One-way aisle where parking is angled: 3.5 metres. Parallel parking: 3 metres.

¹⁵ For parking at an angle of 70 to 90 degrees, aisle width is 6.0 metres. For 50 to less than 70 degrees, each lane of the aisle must be 5.5 metres. For less than 50 degrees, each lane of the aisle must be 4.0 metres.

Appendix K: Overview of Loading Space Dimensions and Ratios

In reviewing the common practices of the other municipalities in Ontario, the minimum loading space dimensions were identified in 10 of the 12 municipalities. Of the 10 municipalities, 9 include one minimum loading space dimension (Barrie, Brockville, Grimsby, Milton, Oakville, Ottawa, Port Hope, Prescott and Quinte West). The City of Toronto has 4 separate types of loading spaces (identified as Type "A", Type "B", Type "C" and Type "G"), with specific dimensions for each type. This Paper is focusing on the requirements of the 9 municipalities that have one type of loading space.

Of the 9 municipalities with one type of loading space, 5 have a minimum length of 9 m, 2 have a minimum length of 12 m, while 7 metres and 7.5 metres are each required by one municipality. The width requirement across the 9 municipalities is consistently between 3 metres and 3.74 m, with 5 municipalities requiring 3.5 metres in width. The vertical clearance, or height, requirement is consistently between 4 metres and 5 metres across all 9 municipalities, 3 of which require 4.2 m, with slight deviations at 4.25 m, 4.3 metres and 4.5 m.

The five main zoning by-laws in Kingston have similar dimensions that fall within the same range of the other municipalities in Ontario. The dimensions (length x width x height) are as follows:

1. Kingston Township (76-26): 9.14 m x 3.65 m x 4.26 m;
2. Township of Pittsburgh (32-74): 9 m x 3.5 m x 4 m;
3. City of Kingston (8499): 10.5 m x 3.5 m x 4.3 m;
4. Downtown & Harbour (96-259): 9 m x 3.6 m x 4.2 m; and
5. Cataraqui North (97-102): 9.1 m x 3.6 m x 4.25 m.

Unlike loading space dimensions, which are relatively consistent when reviewing the common practices of other municipalities in Ontario, the number of required loading spaces for a given land use varies across Ontario. Of the 12 municipalities reviewed as part of this Paper, 9 include loading space ratios (Barrie, Brockville, Grimsby, Milton, Ottawa, Port Hope, Prescott, Quinte West and Toronto). Of these 9 municipalities, 6 include a general ratio-based floor area in a category of land use (e.g. industrial or employment, commercial, institutional), while 3 include more specific land use types (e.g. warehouse, hospital, place of worship, retail store, etc.).

Barrie and Grimsby's zoning by-laws include one general ratio based on floor area shared between employment and commercial uses. Brockville includes two specific ratios based on floor area for commercial and employment. Milton provides one general ratio based on floor area shared between commercial, employment, institutional and non-residential in a residential zone. Prescott requires loading spaces only for commercial uses and Quinte West provides one ratio based on any use that involves receiving, shipping, loading or unloading of goods, wares, merchandize or raw materials.

Port Hope and Toronto are the only municipalities that include a loading space ratio for residential uses. Port Hope requires 1 loading space for an apartment building with 50 or more dwelling units. Toronto requires 1 loading space for an apartment building with 31 to 399 dwelling units and 2 loading spaces for apartment buildings with 400 or more dwelling units.

Of the five main existing zoning by-laws in Kingston, four have similar requirements that fall within the same range of the other municipalities in Ontario. The loading space ratios for the existing by-laws are:

Table K.1. Loading Space Ratios in Existing Kingston Zoning By-laws

	Use	Gross Floor Area (square metres)	Number of Loading Spaces
Kingston Township Zoning By-law 76-26	any use involving the receiving, shipping, loading or unloading of persons, animals, goods, wares, merchandise or raw materials, other than a farm	0 – 279	Commercial: 0 Industrial: 1
		279 – 2,323	Commercial: 1 Industrial: 2
		2,323 – 7,432	Commercial: 2 Industrial: 3
		>7,432	Commercial: 2 + 1 for each additional 9,290 square metres Industrial: 3 + 1 for each additional 9,290 square metres
Township of Pittsburgh Zoning By-law 32-74	any use involving the receiving, shipping, loading or unloading of persons, animals, goods, wares, merchandise or raw materials, other than a farm	0 – 280	1
		>280 – 2,300	2
		>2,300 – 7,400	3
		>7,400	3 + 1 for each additional 9,300 square metres
City of Kingston Zoning By-law 8499	Retail Stores (except C zone east of Division St)	1 loading space per 465 square metres, however not more than 2 spaces shall be required unless the building has a total floor area of over 1,860 square metres, in which case 1 space for each additional 930 square metres	
	Office Buildings (except C zone east of Division St)	1 loading space per 1,860 square metres	
	Hotels (except C zone east of Division St)	1 loading space per 2,325 square metres, however, not more than 2 spaces shall be required unless the building has a total floor area of over 18,580 square metres, in which case 1 space for each additional 3,715 square metres	
	Hospitals or Sanitariums (except C zone east of Division St)	1 loading space per 2,325 square metres, however not more than 2 spaces shall be required unless the building has a total floor area of over 9,290 square metres, in which case 1 space for each additional 4,645 square metres	
Downtown & Harbour Zoning By-law 96-259	any building on a lot used for non-residential uses	0 – 550	Office: 0 Other Commercial: 1
		550 – 2,300	Office: 1 Other Commercial: 2
		>2,300	Other Commercial: 1 for each additional 9,300 square metres
Catarauqui North Zoning By-law 97-102	Commercial Uses	0 – <278	0
		278 – 2,322	1
		2,322 – 7,432	2
		>7,432	2 + 1 for each additional 9,290 square metres

Table K.2. Summary of Loading Space Standards by Municipality (length x width x height in metres)

Municipality	Standard	Provision
Barrie	Dimension	9 x 3 x 4
	Ratio	Industrial, Commercial: 0-999 square metres: 0 1,000-2,999 square metres: 1 3,000-7,499 square metres: 2 7,500-13,999 square metres: 3 14,000-19,999 square metres: 4 20,000 square metres+: 1 per each additional 10,000 square metres
Brockville	Dimension	9 x 3 x 4.5
	Ratio	Residential, Institutional: not required, but permitted Commercial: 0-300 square metres: 0 300-1,000 square metres: 1 1,000-7,500 square metres: 2 7,500 square metres+: 2+ 1 per each additional 9,000 square metres above 7,000 square metres Employment: 0-420 square metres: 0 420-2,300 square metres: 1 2,300 square metres+: 2
Grimsby	Dimension	9 x 3.5 x 4.5
	Ratio	Industrial, Commercial: 0-250 square metres: 0 251-2,350 square metres: 1 2,351-7,500 square metres: 2 7,501-14,000 square metres: 3 14,000 square metres+: 3+ 1 additional per 9,300 square metres
Milton	Dimension	12 x 3.5 x 4.2 ¹
	Ratio	Commercial, Employment, Institutional Zones and Non-Res in Res Zone: 0-280 square metres: 0 space 0 area 281-930 square metres: 0 space 1 area 931-2,325 square metres: 1 space 0 area 2,326-7,440 square metres: 2 spaces 0 area 7,441 square metres += 3 spaces 0 area + 1 additional space per 9,300 square metres in excess of 7,441 square metres
Oakville	Dimension	12 x 3.5 x 4.2
	Ratio	There is no minimum number of loading spaces required by Zoning By-law 2014- 014. Should loading spaces be provided, appropriate dimensions and locations are identified.
Ottawa	Dimension	7 x 3.5 x 4.2 ³
	Ratio	Heavy industrial use, light industrial use, truck transport terminal, warehouse, hospital, museum, place of worship, post-secondary, educational institution, school, sports arena, theatre, cannabis production facility): 0-999 square metres: 0 1,000-9,999 square metres: 1 10,000-24,999 square metres: 2 25,000+: = 3 Office, research and development centre, except in the TM Zone: 0-999 square metres: 0 1,000-9,999 square metres: 1 10,000+: = 2 Retail food store, retail store, shopping centre, except in the TM Zone: 0-1,999 square metres: 0 2,000-4,999: 1 5,000+: 2 All other Non-Res, except TM Zone: 0-999 square metres: 0 1,000-1,999 square metres: 1 2,000+: 2 Residential Uses: None required
Port Hope	Dimension	9 x 3.7 x 4.3
	Ratio	Apartment Building with 50 or more dwelling units: 1 Automotive Sales/Rental: 1 Business Office: 1 All Other (Except Downtown or Self Storage): 0-300 square metres: 0 300-3,700 square metres: 1 3,700-9,250 square metres: 2 9,250 square metres-14,800 square metres: 3 14,800 square metres+: 3+ 1 additional per 7,400 square metres
Prescott	Dimension	7.5 x 3.74 x 4.25
	Ratio	Commercial Uses: 0-200 square metres: 0 200.1-1,000 square metres: 1 1,000 square metres+: 1+ 1 additional per 1,000 square metres
Quinte West	Dimension	9 x 3.5 x 5
	Ratio	Any use involving receiving, shipping, loading or unloading of goods, wares, merchandise or raw materials: < 280 square metres: 1 280-2,300 square metres: 2 2,300 square metres-7,500 square metres+: 3+ 1 additional per 9,300 square metres in excess of 7,500 square metres

Toronto	Dimension	Type "A": 17 x 3.5 x 4.4 Type "B": 11 x 3.5 x 4 Type "C": 6 x 3.5 x 3 Type "G": 13 x 4 x 6.1 ²
	Ratio	Residential: 0-30 unit: 0 31-399 unit: 1 Type G 400+ unit: 1 Type G and 1 Type C Retail, Eating Establishment, Personal Service Shop: 0-499 square metres: 0 500-1,999 square metres: 1 Type B 2,000-4,999 square metres: 2 Type B 5,000-9,999 square metres: 3 Type B 10,000-19,999 square metres: 1 Type A and 3 Type B 20,000-29,999 square metres: 1 Type A, 3 Type B and 1 Type C 30,000+ square metres: 1 Type A, 3 Type B and 1 Type C Grocery, Supermarket: 0-499 square metres: 0 500-999 square metres: 1 Type B 1,000-1,999 square metres: 1 Type A 2,000-4,999 square metres: 1 Type A and 1 Type B 5,000-9,999 square metres: 1 Type A and 2 Type B 10,000-19,999 square metres: 2 Type A and 2 Type B 20,000+ square metres: 2 Type A and 3 Type B Office: 0-499 square metres: 0 500-999 square metres: 1 Type B 1,000-1,999 square metres: 1 Type B and 1 Type C 2,000-3,999 square metres: 1 Type B and 2 Type C 4,000-27,999 square metres: 2 Type B and 2 Type C 28,000-51,999 square metres: 2 Type B and 3 Type C 52,000+ square metres: minimum of 2 Type B and 3 Type C Hotel: 0-4,999 square metres: 1 Type B 5,000-9,999 square metres: 1 Type B and 1 Type C 10,000-19,999 square metres: 2 Type B and 1 Type C 20,000-49,999 square metres: 2 Type B and 2 Type C 50,000+ square metres: minimum of 1 Type A, 1 Type B and 2 Type C Manufacturing or Warehouse: 0-99 square metres: 0 100-499 square metres: 1 Type C 500-999 square metres: 1 Type B 1,000-4,999 square metres: 1 Type A 5,000-9,999 square metres: 2 Type A 10,000-14,999 square metres: 3 Type A 15,000+ square metres: minimum of 3 Type A

¹ Loading space = 12 x 3.5 x 4.2 metres. Loading area = 6 x 3.5 x 3 metres.

² Toronto has various types of loading spaces: Type "A": 17 metres x 3.5 metres x 4.4 m, Type "B": 11 metres x 3.5 metres x 4 m, Type "C": 6 metres x 3.5 metres x 3 m, Type "G": 13 metres x 4 metres x 6.1 m. If a loading space is required for a building located in Policy Area 1 that does not have a dwelling unit, despite the dimension requirements, the loading space must have a minimum vertical clearance of 4.4 metres.

³ Standard loading space accessed by parallel drive aisle: 9 x 3.5 x 4.2 metres. Standard loading space accessed by all other aisles: 7 x 3.5 x 4.2 metres. Oversized loading space accessed by all drive aisles: 13 x 4.3 x 4.2 metres.

Appendix L: Site Specific Development Applications in Kingston

Table L.1. Summary of Kingston Site-Specific Parking Reports Reviewed for this Paper

Municipal Address	File Number
1 Curtis Crescent	D14-019-2018
1035 Gardiners Rd	D14-106-2007
1040-1162 Division St & 88-120 Dalton Ave	D14-095-2007
1102-1110 King St W	D14-092-2007
11-27 Wright Crescent	D14-012-2019
1130 Midland Ave	D14-124-2008
1-15 Mack St & 318-320 Alfred St	D14-211-2011
1200 Highway 15	D14-226-2011
1300 Bath Rd	D14-126-2008
1350 Gardiners Rd	D14-049-2006
1381 Newport Avenue	D14-006-2019
1485 Westbrook Rd & 3567 Genge Rd	D14-225-2011
149 Collingwood St	D14-106-2015
15 Grenadier Drive	D14-026-2018
165 Wellington St	D14-026-2013
168 Division St and 227 Brock St	D14-031-2018
180-182 Bagot St & 111 William St	D14-077-2014
203-205 Colborne Street	D14-195-2010
205 Resource Road	D14-022-2018
213-219 Princess Street	D14-045-2016
219 University Ave & 330 William St	D14-092-2014
225-227 Earl St	D14-137-2008
228-230 Brock St & 122-126 Sydenham	D14-127-2015
235 Gore Road	D14-026-2019
235 Montreal Street	D14-025-2017
235-243 Colborne and 60-64 Elm	D14-114-2015
241 University Avenue	D14-130-2015
2435 Princess St	D14-179-2010

Municipal Address	File Number
2628 Princess St	D14-094-2007
269-274 Chimo Lane & 539 Armstrong Road	D14-196-2010
271-273 Earl Street	D14-022-2016
299 Concession St	D14-142-2009
301-303 Sydenham	D14-003-2013
316 Albert Street	D14-006-2018
326 Alfred Street	D14-180-2010
326 Bagot St	D14-208-2011
363-367 Johnson St	D14-238-2012
36-40 Cliff Cres	D14-094-2014
390 King St W	D14-158-2009
401-403 Barrie St	D14-053-2013
41 Joseph Street	D14-021-2004
425-427 Division Street	D14-006-2020
460-480 Princess St & 327 University Ave	D14-076-2014
467-471 Johnson St	D14-063-2006
471 Cataraqui Woods Dr	D14-209-2011
493-497 Princess St & 19-23 Chatham St & 2, 10 Creighton St	D14-075-2014
495-513 Frontenac St	D14-025-2018
540 Montreal St	D14-256-2012
575-611 Princess Street and 510 Frontenac Street	D35-005-2016
58 Leroy Grant Dr	D14-266-2012
630 Princess St	D14-188-2010
652, 662-670 Princess Street and 551 Victoria Street	D35-002-2017
653-663 Princess St & 582-604 Victoria St	D14-263-2012 & D14-036-2013
671 Brock Street	D14-038-2016
67-69 Chatham Street	D14-002-2020
720 Princess St	D14-063-2014

Municipal Address	File Number
247 Portsmouth Ave	D14-231-2011
809-829 Development Dr	D14-046-2013
810 Blackburn Mews	D14-144-2009
817 Division St	D14-157-2009
823 Highway 15	D14-124-2015
84 Stephen Street	D14-109-2008
877 Division St	D14-141-2015
950 Centennial Drive	D14-010-2017
Venture Dr, Resource Rd & Centennial	D14-230-2011