PARKING MANAGEMENT STRATEGY

Square One Properties

Mississauga Downtown Core

Prepared For: OMERS Realty Management Corporation & Square One Property Corporation

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1.0 EXECUTIVE SUMMARY

The Downtown Core of Mississauga has experienced considerable growth over recent years in new high density residential development, the Sheridan College Campus, an expanded and more urban Square One Shopping Centre and Celebration Square. In order to achieve the City's vision for the area, it is important to manage the efficient use of parking in a manner that will facilitate compact urban development and improved urban design, support economic development and maximize the return on investment in the major transportation facilities that will be available.

The north side of the Mississauga Downtown Core is designated as a major Anchor Mobility Hub by virtue of it being the nexus of several major transportation facilities including:

- the City Centre Transit Terminal;
- the City Centre Regional GO Bus Terminal;
- the East-West Transitway BRT line;
- the future Hurontario LRT line (2022+-).

As the Downtown Core continues to develop as an urban mixed use centre by leveraging the transportation benefits of the Mobility Hub, it is expected that multi-modal transportation will take on a substantial role in providing mobility for people who live, work and visit the area. It is also anticipated that ride-hailing services (e.g. taxi, Uber, etc.) and autonomous vehicles will take on a greater role into the future, reducing the use of single occupant vehicle travel and the demand for parking in general.

This report recommends reduced parking requirements for the Square One Retail Core, and for office uses, higher density residential uses and ancillary commercial uses within the Square One Properties. It also recommends broadened shared parking permissions for the Square One Properties. While the recommendations for the Square One Retail Core (i.e. Square One Shopping Centre) and the broad based shared parking between all of the Square One Properties are site specific, the other recommendations related to reduced parking supply rates are generally applicable to all properties in the Downtown Core.

Reduced Retail Core Parking Supply Requirements

Since 2000, the owners of Square One Shopping Centre have worked with the City to reduce the amount of parking required to serve the major regional shopping centre, thereby replacing surface lots with new more compact and cost effective development. The reduction in parking supply requirements should continue into the future in order to reflect the very high degree of transit accessibility that will be available, the continued growth in residential development within easy walking and cycling distance and the flexible nature of shopping centre trips. With this in mind, it is recommended that a minimum parking supply rate of 3.8 spaces per hundred square metres GFA be adopted for the shopping centre at this time.

Reduced Office Parking Supply Requirements

In order to facilitate the development of major new office space that will provide area residents with the opportunity to work within walking and cycling distance and wider area Mississauga residents with employment opportunities within the City, it is important to adopt reduced parking supply rates that support economic development and leverage the investment in major new transit facilities in the Downtown Core by reflecting appropriate travel mode share targets. With this in mind, it is recommended that a minimum parking

supply rate of 2.1 spaces per hundred square metres of office GFA be adopted at this time for the Square One Properties.

Reduced Residential Parking Requirements

In order to facilitate the provision of more affordable housing, and encourage people to shift to alternative travel modes by taking advantage of the major new investments in transit and active transportation facilities, minimum parking supply rates for high density residential development should be reduced to reflect appropriate travel mode share targets for the area as follows.

0.70 resident spaces per bachelor/one bedroom unit;
0.90 resident spaces per two bedroom unit;
1.0 resident space per three bedroom unit;
0.15 visitor spaces per unit

Reduced Ancillary Commercial Parking Requirements

In order to facilitate the economic development of ancillary retail commercial space in new development, reflect the urban transit oriented main street vision for the downtown, and facilitate changing tenants in mixed use development, it is desirable to minimize the number of different parking supply rates for various uses and reduce the amount of parking required by implementing a supply rate of:

3.8 spaces per hundred square metres GFA for retail centres less than 2000 square metres, retail stores and personal service establishments;

3.8 spaces per hundred square metres GFA for restaurants less than or equal to 220 square metres GFA and for take-out restaurants;

3.8 spaces per hundred square metres GFA for medical offices, real estate offices and financial institutions.

A summary of the recommended minimum parking supply rates is provided in Table 1, including a comparison with the existing supply rates in the zoning by-law.

Broadened Shared Parking Provisions

One of the most important tools for maximizing the efficient use of parking is the effective use of shared parking resources that allow different land uses to minimize the need for new parking supply by taking advantage of temporal differences in demand. For example, Square One Shopping Centre has considerable vacant parking during the weekday from Monday to Friday that should be used to accommodate some of the parking demand associated with new office space, thereby reducing the need to supply new parking. Similarly, vacant office parking on evenings and weekends can be used to accommodate some of the demand associated with other land uses such as residential visitor parking, retail-commercial parking and cinema parking.

Mississauga was one of the early adopters of shared parking, having incorporated it into their zoning by-laws for several decades. In order to improve the use of shared parking resources, new or revised shared parking factors should be adopted for the Square One Shopping Centre, freestanding Cinemas, and Sheridan College as summarized in Table 2. In addition, the use of shared parking should be extended from individual

development blocks or buildings to include all of the Square One Properties in Downtown Mississauga as illustrated on Figure 1.

TABLE 1 RECOMMENDED PARKING SUPPLY RATES – CC1, CC2 & CCO ZONES

Land Use	Current By-Law (No. of spaces per 100 sm GFA)	Proposed Revisions (No. of spaces per 100 sm GFA)
Retail Centre less than or equal to 2000 sq. m.	4.3[1]	**3.8**
Retail Centre Greater than 2000 sq. m.	5.4	no change proposed
CC1 Retail (Downtown) Core Commercial (Square One)[2]	4.57	**3.8**
Office	3.2	**2.1**
Medical Office Real Estate Office	6.5	**3.8**
Commercial School	5.0	no change proposed
Financial Institution	5.5	**3.8**
Night Club[3]	25.2	**9.0***
Personal Service Establishment	4.3	**3.8**
Repair Establishment	5.4	no change proposed
Recreational Establishment	4.5	no change proposed
Restaurant	16.0	**9.0***
Restaurant less than 220 sq. m.	NA	**3.8****
Take-out Restaurant	6.0	**3.8****
Retail Store	4.3	**3.8**
Entertainment Establishment	10.0	no change proposed
Overnight Accommodation	0.80 per guest room plus 10.0 spaces for non- residential GFA used for public use	no change proposed
Motor Vehicle Rental Facility	4.3	no change proposed
Apartment Dwelling	1.0 resident spaces per unit 0.15 visitor spaces per unit[4]	**For Residents:** **0.70 spaces per Bachelor unit** **0.70 spaces per 1 Bedroom unit** **0.90 spaces per 2 Bedroom unit** **1.00 spaces per 3 bedroom unit** **For visitors:** **0.15 visitor spaces per unit[4]**

Notes:
1. Parking for restaurant, convenience restaurant, place of religious assembly, funeral establishment, overnight accommodation, banquet hall/conference centre/convention centre and entertainment establishment uses will be provided at applicable rates for these uses.
2. Lands bounded by City Centre Drive, Duke of York Boulevard and Rathburn Road West
3. Night Clubs are not currently a permitted use in a C2 zone.

4. For Apartment buildings with mixed use commercial development, a shared parking arrangement may be used for the calculation of required visitor and non-residential parking whereby the greater of the visitor parking or the non-residential parking supply would be provided. The calculation excludes specific commercial uses including banquet hall/conference centre/convention centre, entertainment establishment, overnight accommodation, places of religious assembly, recreational establishment and restaurant uses.

* Denotes reduced parking supply rates already proposed by City in By-Law 0050-2013. ** Denotes where the City has proposed reduced rates of 4.3 in By-law 0050-2013.

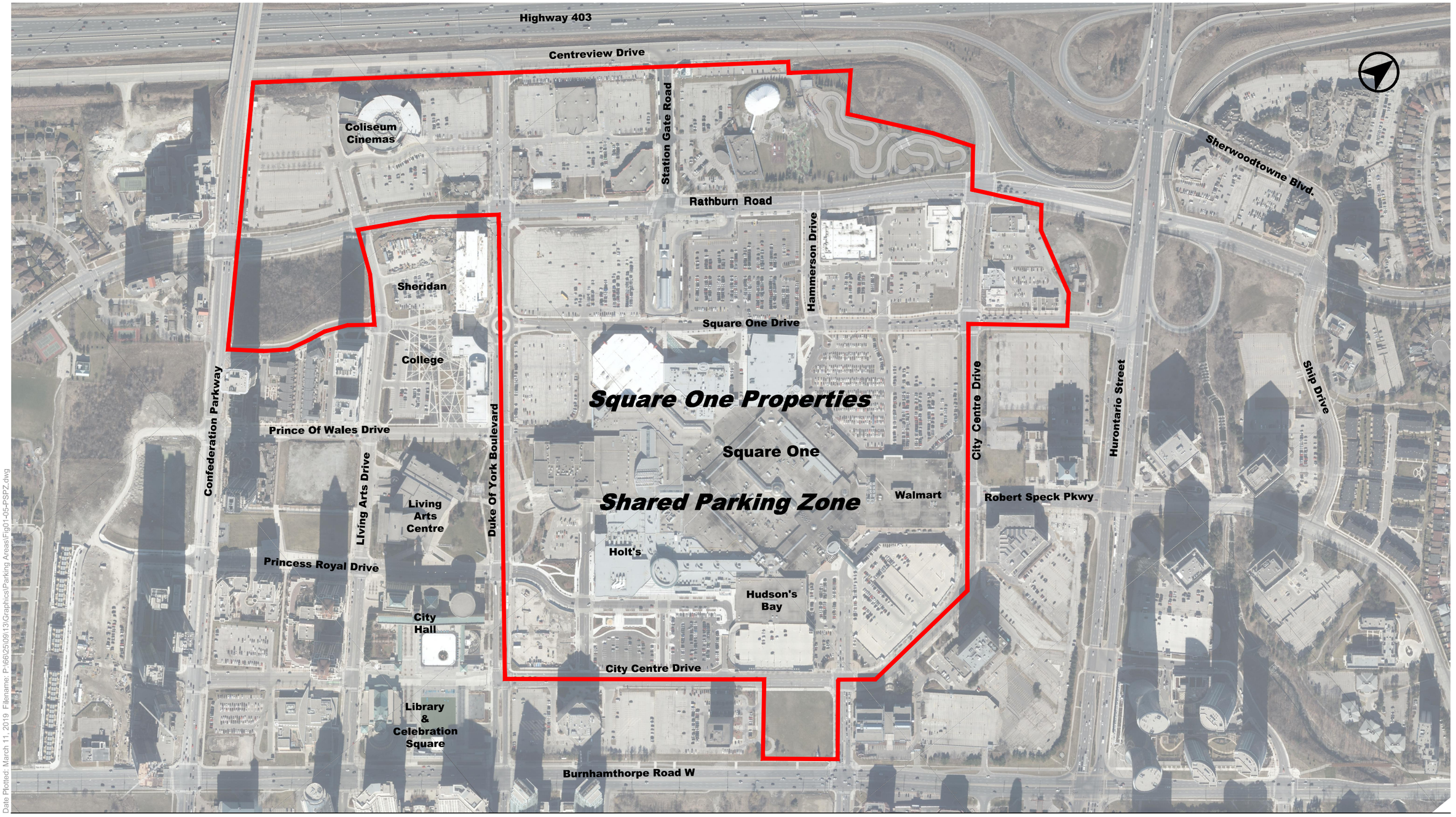
TABLE 2 REVISED SHARED PARKING FACTORS FOR THE SQUARE ONE PROPERTIES

Land Use	Percentage of Peak Period [1]			
	Morning	Noon	Afternoon	Evening
Proposed Requirement Retail (Downtown) Core Commercial (Square One Shopping Centre)	**60 (60)**	**75 (75)**	**80 (100)**	**65 (90)**
Existing Requirement Retail Centre/Retail Store/Personal Service Establishment Retail	80 (80)	90 (100)	90 (100)	90 (70)
Proposed Requirement Cinema	**0 (10)**	**25 (40)**	**25 (65)**	**100 (100)**
Proposed Requirement Sheridan College	**90 (0)**	**100 (0)**	**90 (0)**	**0 (0)**
Existing Requirement Office/Medical Office/Financial Institution	100 (10)	90 (10)	95 (10)	10 (10)
Existing Requirement Restaurant/Convenience Restaurant/ Take-out Restaurant	20 (20)	100 (100)	30 (50)	100 (100)
Existing Requirement Overnight Accommodation	70 (70)	70 (70)	70 (70)	100 (100)
Existing Requirement Residential - Resident Residential – Visitor[2]	90 (90) 20 (20)	65 (65) 20 (20)	90 (90) 60 (60)	100 (100) 100 (100)

Notes:

1. Non- bracketed numbers represent the weekday shared parking factors. Bracketed numbers represent the weekend shared parking factors.
2. The general zoning by-law includes an alternate shared parking calculation for apartment dwellings in CC1 to CC4 zones whereby the greater of the residential visitor parking supply or the parking required for all non-residential uses on the same lot except banquet hall/conference centre/convention centre, entertainment establishment, overnight accommodation, place of religious assembly, recreational establishment and restaurant.

The recommended peak period parking supply rates in Table 1 are multiplied by the percentage of the peak period factors in Table 2 for each of the four time periods (i.e. morning, noon, afternoon, evening). Each column is totalled for the weekday and weekend condition. The highest figure obtained from all of the time periods shall become the required number of parking spaces for the mixed use development.



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PROPOSED SQUARE ONE PROPERTIES SHARED PARKING ZONE

2.0 INTRODUCTION

This report has been prepared to provide a parking management strategy for the existing and future development potential on the multiple blocks of land (the “Square One Properties”) that are owned by OMERS Realty Management Corporation and Square One Property Corporation (together, the “Square One Owners”) in the downtown core area of Mississauga. Figure 2 illustrates the location of the Square One Properties and the general context of the area.

A major portion of the Square One Properties includes the major regional shopping centre known as the Square One Shopping Centre, located on Blocks 1,2,3,4 and 5. The Square One Shopping Centre today consists of approximately 177,000 square metres of retail, personal service, restaurant and entertainment space as well as 7548 parking spaces.[1] There is considerable future development potential on Block 1 as well as on Blocks 2 through 5, likely in the form of retail, hotel, office and residential uses.

Figure 3 illustrates a future development concept that has been prepared for the Square One Owners for the various blocks. The City has also prepared development concepts for the area including the Downtown 21 Plan that envisions high density mixed-use development in a transit oriented setting. The blocks on the north side of Rathburn Road presently include the Coliseum Cinema (Blocks 9-12), retail/restaurant space (Blocks 13-14) and the Sega City Entertainment facility (Blocks 15-16). All of these blocks north of Rathburn Road have considerable development potential for future office, hotel, retail/service and high density residential uses. Block 8 in the southeast corner of Rathburn Road and Confederation Parkway is anticipated to include high density residential development. Block 22 at Kariya Gate and Burnhamthorpe Road is likely to include residential, office or hotel uses.

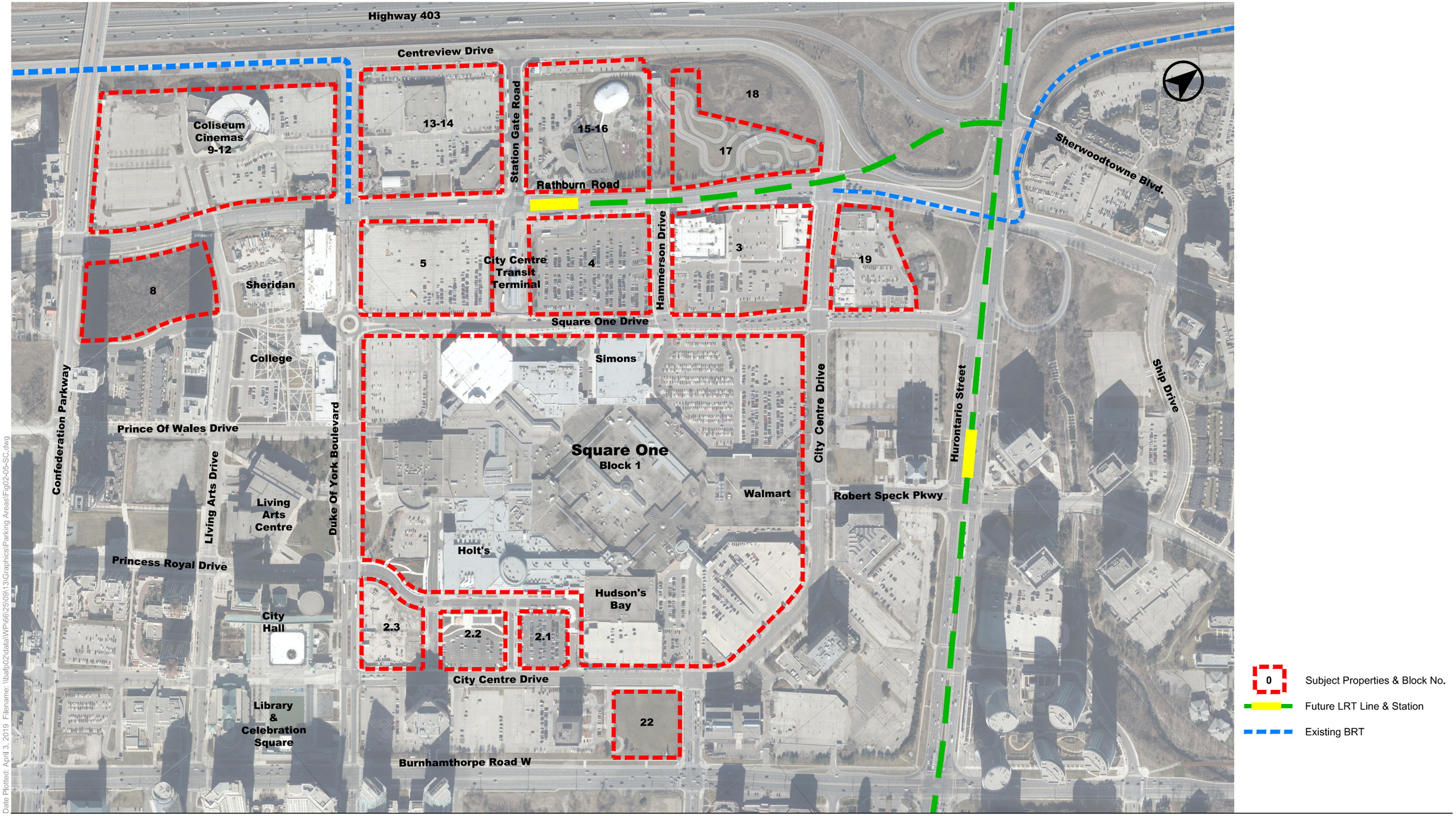
The north side of the Downtown Core is designated as a major Anchor Mobility Hub by virtue of it being the nexus of several major transportation facilities including:

- the City Centre Transit Terminal;
- the City Centre Regional GO Bus Terminal;
- the East-West Transitway BRT line;
- the future Hurontario LRT line (2022+-).

As the Downtown Core continues to develop as an urban mixed use centre by leveraging the transportation benefits of the Mobility Hub, it is expected that multi-modal transportation will take on a substantial role in providing mobility for people who live, work and visit the area. It is also anticipated that ride hailing services (e.g. taxi, Car2Go, Uber, etc.) and autonomous vehicles will take on a greater role into the future, reducing the use of single occupant vehicle travel and the demand for parking in general.

This report provides an assessment of future parking needs for the area considering the City’s vison for an urban downtown core, the very high level of transit service that will be available, the significant potential for walking and cycling for shorter trip lengths as well as the use of transportation demand management initiatives such as car/van pooling, car sharing and parking pricing/supply management.

[1] The existing parking supply will be reduced by approximately 110 spaces down to 7438 spaces when the City rebuilds the western portion of Square One Drive from Hammerson Drive to Duke of York Blvd.



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SITE CONTEXT

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SQUARE ONE PROPERTIES FUTURE DEVELOPMENT CONCEPT

3.0 EXISTING PARKING SUPPLY REQUIREMENTS

Parking supply requirements for the Downtown Core are governed by the existing zoning by-law and any variances that have been granted by the Committee of Adjustment. The Square One Properties are currently zoned either CC1 or CC2. The Square One Shopping Centre and the blocks north of Rathburn between Duke of York Blvd. and City Centre Drive (i.e. Blocks 1 to 5 and 13 to 19) are zoned CC1 while the remaining blocks northwest, northeast and south of the Square One Shopping Centre are zoned CC2. Table 3 provides a summary of the parking supply requirements for the individual uses in a CC1 and CC2 zone that apply to the Square One Properties.

The second column in Table 3 includes revisions that the City is proposing for night clubs and restaurants in the downtown core which would have the effect of reducing the parking supply required for such uses and making the requirements for smaller and take-out restaurants the same as the requirement for retail store and personal service uses. Zoning by-law 0050-2013 which includes these parking changes amongst other revisions is currently under appeal and therefore not yet in force. It should also be noted that By-law 0050-2013 also proposes to create a new CCO land use designation for Blocks 9 through 18 along the north side of Rathburn Road that would emphasize new office development over other uses.

There are three separate rates for retail centres depending on size and location. Small retail centres less than 2000 square metres GFA require parking to be supplied at a rate of 4.3 spaces per hundred square metres excluding higher parking demand uses like restaurants and banquet halls while retail centres larger than 2000 square metres GFA are required to supply parking at a rate of 5.4 spaces per hundred square metres but can include a full range of permitted commercial uses at that supply rate. The retail centre on Block 19 includes a Liquor store as well as two restaurants and retail stores and supplies parking at the 5.4 rate. The 5.4 rate also applies to large shopping centres outside the Downtown Core (e.g. Erin Mills Town Centre) subject to any variances that may have been granted. The 4.57 rate for CC1 – Retail Core Commercial, applies to the Square One shopping centre and was established in consultation with the City based upon a parking supply assessment conducted by BA Group in 2002 that considered the transit oriented nature of the location as well as the desire to gradually reduce parking supply over time to recognize the urban mixed use nature of the downtown core. Subsequent variances have been approved by the Committee of Adjustment that results in an effective parking supply rate of 4.21 spaces per hundred square metres GFA.[2]

The separate parking supply rate for the Retail Core Commercial Area is intended to permit a wide variety of commercial uses using one rate, thereby simplifying land use and tenant changes. For example, restaurants and cinemas do not have to be supplied with parking at the higher rates for these individual uses in the zoning by-law. However, it is interesting to note that this appears to require new office development to supply parking at the 4.57 spaces per hundred square metres GFA rate compared to the specific rate of 3.2 for office buildings not located in the CC1 – Retail Core Commercial area.

The existing zoning by-law allows up to 10% of the floor space in an office building to be used for non – general office uses, including medical office and real estate offices at the office parking supply rate of 3.2 spaces per hundred square metres before separate parking rates are required for all such non-office uses.

[2] 7438 spaces for a GFA of 176,484.11 square metres were approved in September 2016, resulting in an effective supply rate of 4.21 spaces per hundred square metres.

Alternatively, Section 3.1.2.3 of the zoning by-law allows for "Mixed Use Development Shared Parking", which includes non-office uses in an office or medical building or group of buildings on the same lot. Table 4 provides a summary of the shared parking factors from the existing zoning by-law.

TABLE 3 PARKING SUPPLY REQUIREMENTS FOR USES IN CC1, CC2 & CCO ZONES

Land Use	Current By-Law (No. of spaces per 100 sm GFA)	City Proposed By-Law 0050-2013 (No. of spaces per 100 sm GFA)
Retail Centre less than or equal to 2000 sq. m.	4.3[1]	no change proposed
Retail Centre Greater than 2000 sq. m.	5.4	no change proposed
CC1 Retail Core Commercial (Square One Shopping Centre)[2]	4.57	no change proposed
Office	3.2	no change proposed
Medical Office	6.5	no change proposed
Commercial School	5.0	no change proposed
Financial Institution	5.5	no change proposed
Night Club[3]	25.2	**9.0**
Personal Service Establishment	4.3	no change proposed
Repair Establishment	5.4	no change proposed
Recreational Establishment	4.5	no change proposed
Restaurant	16.0	**9.0**
Restaurant less than 220 sq. m.	NA	**4.3**
Take-out Restaurant	6.0	**4.3**
Retail Store	4.3	no change proposed
Entertainment Establishment	10.0	no change proposed
Overnight Accommodation	0.80 per guest room plus 10.0 spaces for non- residential GFA used for public use	no change proposed
Motor Vehicle Rental Facility	4.3	no change proposed
Apartment Dwelling	1.0 residence spaces per unit 0.15 visitor spaces per unit[4]	no change proposed

Notes:
1. Parking for restaurant, convenience restaurant, place of religious assembly, funeral establishment, overnight accommodation, banquet hall/conference centre/convention centre and entertainment establishment uses will be provided at applicable rates for these uses.
2. Lands bounded by City Centre Drive, Duke of York Boulevard and Rathburn Road West
3. Night Clubs are not currently a permitted use in a C2 zone.
4. For Apartment buildings with mixed use commercial development, a shared parking arrangement may be used for the calculation of required visitor and non-residential parking whereby the greater of the visitor parking or the non-residential parking supply would be provided. The calculation excludes specific commercial uses including banquet hall/conference centre/convention centre, entertainment establishment, overnight accommodation, places of religious assembly, recreational establishment and restaurant uses.

The percentage of peak period factors in Table 4 are applied to the peak hour supply requirements for the land uses in Table 3 in order to recognize that some uses have peak parking requirements at different time periods, therefore allowing a portion of the overall parking supply to be shared between different uses. There are separate factors for the Monday to Friday weekday period and for Saturday. The individual parking requirements for each use during each time period are totalled and the time period with the largest number represents the overall parking requirement for all of the uses combined.

TABLE 4 EXISTING ZONING BY-LAW SHARED PARKING SCHEDULE

Use	Percentage of Peak Period			
	Morning	Noon	Afternoon	Evening
Office Medical Office Financial Institution	100 (10)	90 (10)	95 (10)	10 (10)
Retail Centre Retail Store Personal Service Establishment	80 (80)	90 (100)	90 (100)	90 (70)
Restaurant	20 (20)	100 (100)	30 (50)	100 (100)
Overnight Accommodation	70 (70)	70 (70)	70 (70)	100(100)
Residential Residents	90 (90)	65 (65)	90 (90)	100 (100)
Residential Visitors	20 (20)	20 (20)	60 (60)	100 (100)

Notes:
1. Non- bracketed numbers represent the weekday (Mon-Fri) factors. Bracketed numbers represent the Saturday (and presumably Sunday as well) shared parking factors.

It is important to note that the zoning by-law only includes shared parking reductions for mixed use development on the same lot. However, variances have been approved by the Committee of Adjustment to recognize that the shared parking concept can be applied between separate lots or properties. Examples include shared parking for Blocks 1 through 5 (see Figure 1) of the Square One Shopping Centre. There is also an agreement between the Square One Owners and Sheridan College to supply parking for the College on the Coliseum Cinema site (i.e. Blocks 9 -12). Another example is the three office buildings at 33, 55 and 77 City Centre Drive that share parking among the three lots which was formally recognized by the Committee of Adjustment.

4.0 COMPARABLE PARKING MANAGEMENT PRACTICES

While the Mississauga Downtown Core is somewhat unique in terms of its geographic size and scope and the presence of a large super regional shopping centre serving a large extended trade area, we have reviewed the parking management practices for key development areas in other municipalities including:

- The Vaughan Metropolitan Centre;
- City of Toronto;
- City of Ottawa;
- Metrotown Metropolis, Burnaby, B.C.;
- Chinook LRT Station Area, Calgary

4.1 VAUGHAN METROPOLITAN CENTRE

The Vaughan Metropolitan Centre (VMC) is a major development intensification area located at Highway 7 and Highway 400 in the City of Vaughan. It is focused on a Major Mobility Hub that includes the first TTC Subway extension across municipal boundaries into York Region as well as the Highway 7 Viva Bus Rapid Transit line and a York Region Transit Bus Terminal. Unlike the Mississauga Downtown Core, the VMC is largely undeveloped with significant vacant land parcels or single storey commercial uses that will be replaced over time. Similar to the Mississauga Downtown Core, it will include substantial high density residential and office development as well as significant street oriented retail development (although substantially less than Square One).

Recognizing the need to carefully manage parking in order to foster a compact urban transit oriented development form, the City implemented the following parking supply requirements for key land uses:

- a minimum and maximum supply rate of 1.5 and 2.5 spaces per hundred square metres GFA for office uses (including real estate offices);
- a minimum and maximum supply rate of 2.5 and 4.0 spaces per hundred square metres GFA for medical office, financial institution, retail store and personal service uses;
- a minimum and maximum supply rate of 6.0 and 10.0 spaces per hundred square metres GFA for restaurants;
- a minimum and maximum supply rate of 3.0 and 6.0 spaces per hundred square metres GFA for take-out restaurants;
- a minimum and maximum supply rate of 0.70 and 1.0 spaces for each **bachelor** high density residential unit;
- a minimum and maximum supply rate of 0.70 and 1.0 spaces for each **one bedroom** high density residential unit;
- a minimum and maximum supply rate of 0.90 and 1.3 spaces for each **two bedroom** high density residential unit;
- a minimum and maximum supply rate of 1.0 and 1.7 spaces for each **three bedroom** high density residential unit;
- a minimum of 0.15 spaces per unit for residential visitor parking.

The zoning by-law also includes reductions for shared parking in mixed use developments.

The City is currently conducting a study to determine the nature and extent of municipal involvement in the provision of shared public parking resources including curb side on-street parking. The first phases of development include high density residential development and office uses as well as a community centre and YMCA which utilize a common seven level above grade parking garage that will be well screened and integrated into the residential commercial buildings.

Transportation Planning documents for the area indicate that the target transit mode split is 45-50%, which is similar to what will be required in the long term for the Mississauga Downtown Core.

Generally, the maximum end of the parking supply requirements for the VMC are based upon a combination of empirical surveys, comparison with requirements in other jurisdictions and first principles calculations regarding future non-auto mode split expectations for the long term. The minimum requirements are set at roughly 60% of the maximum requirement in order to encourage a reduction in parking supply that will support increased use of non-auto modes of transportation.

The maximum supply rate for office uses is based upon a future auto commute percentage of 70% that does not correspond to the long range targeted mode split for the area used in area wide transportation planning studies. The minimum requirement for office space roughly corresponds to a non-suto mode split of approximately 50%.

The apartment parking supply requirements are largely based on City of Toronto research. However, the City has recently approved new development applications with substantial reductions in the apartment supply rate for residents down to the 0.30 to 0.50 spaces per unit range. The retail rates are based upon empirical surveys of retail plazas in Vaughan and a review of other parking standards.

All of the parking supply rates for the VMC are substantially lower than the existing zoning by-law supply rates for office, retail and residential uses in the Mississauga Downtown Core.

4.2 CITY OF TORONTO

In 2013, the City of Toronto prepared a consolidated zoning bylaw to reconcile the different requirements associated with the former six municipalities that now make up the amalgamated City. From a parking supply perspective, the City adopted an approach that includes four policy areas with varying degrees of development intensity and transit accessibility. The policy areas include PA1 for the downtown core, PA2 for the Yonge-Eglinton node, PA3 that includes the streets along the subway lines, PA3 that includes major arterial streets with frequent bus service and other areas of the City. As one would expect the parking supply requirements increase from PA1 to PA4 and the other areas, reflecting the planned density and transit accessibility for each policy area. The Mississauga Downtown Core is not comparable to the Toronto Downtown area PA1 in terms of density and transit accessibility. However, it is interesting to note that the minimum parking requirements in the other areas of the City category with much less density and transit accessibility than the Square One Properties are significantly lower than the existing parking supply requirements in the Mississauga Downtown Core. For example:

- A minimum of 1.5 spaces per hundred square metres GFA for office uses;
- A minimum of 3.0 spaces per hundred square metres GFA for medical office space;

- A minimum of 4.0 spaces per hundred square metres for financial institutions;
- A minimum of 1.5 spaces per hundred square metres GFA for retail uses in excess of 200 square metres up to 10,000 square metres;
- A minimum of 3.0 spaces per hundred square metres GFA for retail uses between 10,000 and 20,000 square metres;
- A minimum of 6.0 spaces per hundred square metres GFA for retail uses in excess of 20,000 square metres;
- A minimum of 3.0 spaces per hundred square metres GFA for eating establishments in excess of 200 square metres and up to 500 square metres;
- A minimum of 5.0 spaces per hundred square metres GFA for eating establishments in excess of 500 square metres;
- No parking is required for retail or restaurant uses below 200 square metres GFA;

Parking supply rates for high density residential development are based upon unit size/type rather than a single average. The rates for areas for PA4 with less transit accessibility than the Mississauga Downtown Core are:

- 0.70 min, to 1.0 max spaces per bachelor unit;
- 0.80 to 1.2 max for one bedroom units;
- 0.90 min. to 1.3 for two bedroom units;
- 1.0 to 1.5 for three bedroom units;
- 0.15 visitor spaces per unit.

Site specific reductions in the parking supply requirements for high density residential developments in Toronto are common, depending upon the location and the preparation of a transportation demand management plan. The zoning by-law also includes reductions for shared parking in mixed-use developments.

The City generally supplies significant amounts of paid on-street parking as well as some off street parking in most but not all of the PA1 to PA4 locations.

4.3 CITY OF OTTAWA

The City of Ottawa has a well established Bus Rapid Transit system with three major lines that largely run in exclusive rights of way like portions of the Mississauga BRT line along Highway 403 and Eglinton Avenue East. The City is currently in the process of converting the BRT lines to LRT service with Phase One scheduled to open in in late 2018 and the remainder of the system planned to be complete by 2024. Similar to Toronto, the parking supply requirements vary by location and transit accessibility. More recently in 2016, the City decided to eliminate parking supply minimums in strategic areas near LRT Station areas including the downtown core and several areas outside of it, extending into the suburbs in some cases. This policy is intended to encourage substantial transit oriented development in key locations.

Parking requirements in suburban areas within 400 to 800 metres of Rapid Transit require parking to be supplied at the following rates:

- A minimum of 2.3 and maximum of 2.7 spaces per hundred square metres GFA for office space;
- A minimum of 4.0 and maximum of 5.0 spaces per hundred square metres GFA for medical office space;
- A minimum of 3.4 spaces per hundred square metres GFA for retail/personal service uses;
- A minimum of 10.0 spaces per hundred square metres GFA for restaurants;
- A minimum of 5.0 spaces per hundred square metres GFA for take-out restaurants;
- A minimum of 0.50 spaces per high density residential unit for residents;
- A minimum of 0.20 spaces per high density residential unit for visitors.

The supply rates in suburban areas not located within 400 to 800 metres of rapid transit are similar but exclude maximum limits. Most of the parking supply rates outlined above are less than the existing supply rates in the Mississauga Downtown core with the exception of restaurants and high density residential visitor parking.

The zoning by-law also includes reductions for shared parking in mixed-use developments.

4.4 METROTOWN METROPOLIS, BURNABY, B.C.

Metrotown is the designated Regional City Centre for the City of Burnaby B.C. which includes high density transit oriented development along the Expo-Millenium SkyTrain rapid transit line.

The Metropolis high density mixed use development sits immediately adjacent to the Skytrain line at the Metrotown Station and includes approximately 1.1 million square feet of office space and 1.7 million square feet of retail space in an enclosed mall format. Virtually all of the 8264 parking spaces are provided in above or below grade garages and shared between the uses. The parking supply rates approved by the City for Metropolis are 4.0 spaces per 1000 square feet (4.3 per 100 square metres) GLA for the shopping centre and 1.7 spaces per 1000 sq.ft. (1.83 per 100 square metres) GFA for the office towers.

The parking supply for high density residential development in the area is a minimum of 1.1 space per unit.

The office parking supply rate is substantially lower than that required for the Mississauga Downtown Core (i.e. 3.2) while the rate for apartments is slightly lower than the 1.15 rate in Mississauga. The 4.3 supply rate for the regional shopping centre is also lower than the rate for the Square One Shopping Centre in the zoning by-law (i.e. 4.57) but slightly higher than the effective supply rate of 4.21 approved through variances.

4.5 CHINOOK STATION AREA, CALGARY

Chinook Shopping Centre is a major regional centre in Calgary that will eventually become a mixed use centre. The parking supply rate for the shopping centre is 4.5 spaces per hundred square metres GLA. The supply rate for office uses is 2.0 spaces per hundred square metres GFA. The parking supply rate for medical offices is 6.0 spaces per hundred square metres GFA. The parking supply rate for residential high density uses is 1.0 spaces per unit for residents and 0.10 spaces per unit for visitors.

The parking supply rates can be reduced by 10% if the building is located within 400 metres of the LRT Platform or by 5% if it is located within 150 metres of a street where frequent bus service operates. The

Chinook shopping centre does not appear to lie within 400 metres of the LRT platform, but it would qualify for the 5% reduction which would reduce the supply rates for the shopping centre and office space down to 4.28 and 1.90 respectively. Similar to the Burnaby Metrotown example, the supply rate for office space is substantially lower than the 3.2 rate in Mississauga while the apartment rates is slightly smaller. The shopping centre rate is lower than the current Mississauga by-law.

4.6 COMPARABLES SUMMARY

A summary of the parking supply rates for the examples described above compared to the existing supply rates for the Mississauga Downtown Core is provided in Table 5. We have also included a comparison with the reduced supply rates recommended for the Downtown Core as described in the following Section 5 of this report.

All of the examples support the practice of reducing minimum parking supply requirements to reflect transportation planning objectives regarding reduced automobile travel in favour of increased transit, walking and cycling and other transportation demand management initiatives such as car/van pooling and telecommuting. They all include minimum parking supply requirements that are significantly lower than the existing rates for office, retail and residential development in the Mississauga Downtown Core as well as parking supply maximums.

TABLE 5
COMPARABLE PARKING SUPPLY REQUIREMENTS IN OTHER CITIES

Land Use	NUMBER OF PEAK PARKING SPACES REQUIRED (per 100 square metres GFA for non- residential space or per unit for residential space)											
	Existing Downtown Mississauga	Proposed Downtown Mississauga	Vaughan Metropolitan Centre	Toronto PA2 - PA3	Toronto PA4	Toronto Other - Outer Urban	Ottawa Urban	Ottawa Suburban	Ottawa Suburban 400-800m to Rapid Transit	Ottawa Near Major LRT Stations	Metrotown Metropolis Burnaby	Chinook Station Area Calgary
Commercial Uses (per 100 square metres GFA)												
Office	3.2 min.	2.1 min.	1.5 min. to 2.5 max.	1.0 min. to 2.0 max.	1.0 min. to 2.0 max.	1.5 min.	1.0 min.	2.4 min.	2.3 min. to 2.7 max.	No min.	1.83 min.	2.0 min. to 2.0 max.
Real Estate Office	6.5 min.	3.8 min.	same as office	same as office	same as office	same as office		same as above	same as above		NA	same as above
Medical Office	6.5 min.	3.8 min.	2.5 min. to 4.0 max.	1.5 min. to 6.0 max.	1.5 min. to 6.0 max.	3.0 min.	2.0 min.	4.0 min.	4.0 min. to 5.0 max.	No min.	NA	6.0 min. to 6.0 max.
Financial Institutions	5.5 min.	3.8 min.	2.5 min. to 4.0 max.		2.0 min. to 4.5 max.	4.0 min.	1.25 min.	3.4 min.	3.4 min.	No min.	NA	
Retail Store	4.3 min.	3.8 min.	2.5 min. to 4.0 max.		1.0 min. to 4.0 max.	1.5 to 6.0 min.	1.25 min.	3.4 min.	3.4 min.	No min.	NA	
Personal Service	4.3 min.	3.8 min.	2.5 min. to 4.0 max.		same as retail store?						NA	
Shopping Centre	4.57 (4.21) min.	3.8 min.	NA	Site specific	Site specific	Site Specific	1.7 min.	3.6 min.	3.4 min. to 4.0 max.	No min.	4.3 min.	4.5 min. to 4.5 max.
Restaurant Large	9 min.	9.0 min.	6.0 min. to 10.0 max	0.0 min. to 5.0 max.	0.0 min. to 5.0 max.	5.0 min.	5.0 min.	10.0 min.	10.0 min.	No min.	NA	
Restaurant Small	4.3 min.	3.8 min.	6.0 min. to 10.0 max	0.0 min. to 5.0 max.	0.0 min. to 5.0 max.	3.0 min.	5.0 min.	10.0 min.	10.0 min.	No min.	NA	
Restaurant Take-out	4.3 min.	3.8 min.	3.0 min. to 6.0 max.	0.0 min. to 5.0 max.	0.0 min. to 5.0 max.	NA	2.5 min.	5.0 min.	5.0 min.	No min.	NA	
Cinema											NA	
Residential Apartments (per unit rate)												
All Unit Sizes	1.0 min. per unit						0.50 min.	1.2 min.	0.50 min. within 600m	No min.	1.1 Min.	1.0 min. to 1.0 max.
Bachelor	NA	0.70 min.	0.70 min. to 1.0 max.	0.60 min. to 0.90 max.	0.70 min. to 1.0 max.	0.80 min.	NA					
One Bedroom	NA	0.70 min.	0.70 min. to 1.0 max.	0.70 min. to 1.0 max.	0.80 min. to 1.2 max.	0.90 min.	NA					
Two Bedroom	NA	0.90 min.	0.90 min. to 1.3 max	0.90 min. to 1.3 max	0.90 min. to 1.3 max.	1.0 min.	NA					
Three Bedroom	NA	1.0 min.	1.0 min. to 1.7 max.	1.0 min. to 1.5 max.	1.1 min. to 1.6 max.	1.2 min.	NA					
Visitors	0.15 min. per unit	0.15	0.15	0.10	0.15	0.2	0.10 min.	0.20 min.	0.20 min.			0.10 min.

5.0 PROPOSED PARKING SUPPLY REQUIREMENTS

5.1 SQUARE ONE SHOPPING CENTRE

As mentioned earlier, the 4.57 parking supply rate for Square One Shopping Centre was originally established in consultation with the City in 2001-2002. Subsequent variances have been approved by the Committee of Adjustment that result in an effective supply rate of 4.21 spaces per hundred square metres GFA in order to reflect the recent expansions to the centre (i.e. Holts, Simons and the north side plaza) as well as anticipated losses in surface parking due to the future conversion of Square One Drive between Hammerson Drive and Duke of York Boulevard to a public street.[3]

Future parking supply requirements for the Square One Shopping Centre should include the following important considerations that reflect the unique nature and location of the shopping centre in the City's designated Downtown Core.

1. As the area continues to grow in accordance with the City's vision for an urban downtown core, it is generally desirable to reduce the amount of parking provided in order to facilitate a compact urban development form and improved urban design. The discretionary nature of regional shopping centre trips provides the opportunity for such supply reductions to occur gradually over time.

2. The high degree of existing transit accessibility provided by the City Centre Transit Terminal combined with the Highway 403 – Mississauga Transitway BRT system and the eventual introduction of the Hurontario LRT line will provide Square One employees and visitors with attractive alternatives to driving, providing the potential for reduced parking needs.

3. The anticipated greater role that ride hailing services and autonomous vehicles will play into the future, thereby reducing the use of single occupant vehicle travel and the demand for parking in general.

4. The continued high density residential development in the area will increase the number of customers within convenient walking and cycling distance, further reducing the need to drive and park for many customers of the expanded shopping centre.

5. Changing shopping patterns and increased shopping hours appear to be reducing the demand for parking during the traditional peak periods at Christmas, Easter and other special event days.

6. Other large scale regional shopping centre owners are also reducing their parking supply rates as the GTA urbanizes in recognition of the same or similar factors to those described above.

Shopping centre parking demand is unique compared to many other land uses in that shopping trips are discretionary in terms of time and location and the demand being measured is typically unconstrained by price or supply. This means that shopping trips at large regional centres are flexible and can be managed to a significant extent. The gradual reduction in supply rate at the Square One Shopping Centre over the last

[3] The 4.21 parking supply rate is based upon 7438 parking spaces for 176,484.11 square metres GFA.

ten years while the centre continues to expand reflects that characteristic.[4] As we move into the future, with increased transit accessibility and residential density within convenient walking distance, further gradual reductions in the parking supply rate will be achievable. This approach will support the future intensification of the Square One Properties into more compact transit oriented urban development in the City's downtown core immediately adjacent to a major mobility hub where local bus, GO bus, BRT and LRT service will converge.

When we worked with the City in 2001-2002 to determine the parking supply requirement of 4.57 spaces per hundred square metres GFA contained in the existing zoning by-law, transit use at the Square One Shopping Centre was estimated at approximately 20% for customers and 30% for employees. More recent surveys conducted by the Square One Owners in 2010 indicate that customer transit use had increased to approximately 30%. In addition, the number of customers walking into the Square One Shopping Centre has increased from about 6% in 2007 to 10% in 2010. Future improvements in transit service and additional high density residential development within convenient walking distance will facilitate increased non-auto travel and reduced parking demand.

The basic premise of the 2001 reduction in the parking supply rate from 5.4 to 4.57, was that it was no longer desirable to supply enough parking at a large regional shopping centre to meet the near absolute peak demand that occurs for only a few hours on a few days around the Christmas season. For example, the actual peak demand rate observed at the Square One Shopping Centre in 2000 was 5.5 to 5.7 spaces per hundred square metres GLA and this information was explicitly provided to the City. Based upon our analysis and discussion with the City at the time, it was agreed that a more appropriate design day would be the Easter Saturday because it is the only time when the adjacent Friday and Sunday are closed for holidays, therefore compressing the sales and parking demand into the one Saturday. The Easter Saturday demand rate would also cover the initial buildup in parking demand in mid to late November. Since 2001 BA Group has obtained reductions for many other regional shopping centres on a similar premise. The typical approach used to identify an appropriate supply rate is to conduct surveys for several days around Christmas and other times of the year in order to demonstrate the relationship between customer volume and parking demand and understand what level of customer demand can be accommodated by a specific parking supply ratio.

With the aforementioned background in mind, BA Group conducted parking occupancy surveys in mid-November and early December at the Square One Shopping Centre in order to capture a current picture of parking activity during the busiest time of the year. We also conducted occupancy surveys in 2017 during Easter Saturday, Mother's Day Saturday, Saturday May 6 and Saturday May 13 in order to understand the relationship between various demand days in the year. Table 6 summarizes at a high level, the parking occupancy survey results for these days.

The results in Table 6 indicate a peak demand rate of 4.50 to 4.69 spaces per hundred square metres GLA for the three Christmas shopping Saturdays surveyed in 2016. All of these rates are higher than the recent variance approval for an effective rate of 4.21.[5] This is consistent with the earlier premise in 2001-2002 that the appropriate supply rate should accommodate something less than the highest days in November and December.

[4] The actual supply rate (without the transit terminal credit from Variance A611/96) has declined from approximately 5.55 to 4.21 spaces per 100 square metres GFA using current by-law requirements.

[5] This is possible due to the 15% vacancy which effectively increases the parking supply rate for the occupied space.

TABLE 6 SQUARE ONE SHOPPING CENTRE PARKING DEMAND SURVEYS SUMMARY

Survey Date	Peak Demand Rate per 100 m^2	Daily Customer Volume	Daily Customer Rank[6]	Comments
Saturday November 19, 2016	4.63	92,995	7	
Sunday November 20, 2016	4.04	68,009	78	
Saturday December 3, 2016	4.50	86,775	14	
Sunday December 4, 2016	4.06	68,150	77	
Saturday December 10, 2016	4.69	93,586	6	
Sunday December 11, 2016	3.87	68,249	76	
Saturday April 15, 2017	4.46	82,922	18	Easter Weekend
Saturday May 6, 2017	4.33	82,106	19	
Saturday May 13, 2017	4.05	79,276	23	Mother's Day Weekend

In order to understand the relationship between peak parking demand on various days throughout the year, daily customer volumes were obtained from mall management and ranked in descending order for the entire 2016 year. The annual profile is illustrated on Figures 4 and 5. A day by day ranking by volume in tabular format is also provided in the appendix A with key dates noted, including the days that the Christmas 2016 parking occupancy surveys were conducted. For example, the demand rate of 4.69 spaces per 100 square metres GLA observed on Saturday December 10 was the 6th highest shopping day of the year in terms of customer volume. Based upon the number of hours the mall is open in a year (i.e. approximately 3860 hrs.), we estimate that the demand for parking at the centre would be higher than the 4.69 observed peak demand rate on only 30 other hours or 0.80% of the total hours in the year which would occur during only 1.4% of the days the centre is open.

We also conducted surveys for Saturday April 15, during the Easter weekend when the centre is closed on the Friday and Sunday, thereby compressing parking demand into one day. The observed peak demand rate was 4.46 spaces per hundred square metres GFA. Based upon the relative daily customer volumes, we estimate that the demand would be higher than the observed 4.69 peak demand rate on about 80 or 2.1% of the hours in the year. The observed 4.46 demand rate is approximately 6% higher than the effective supply rate approved by the Committee of Adjustment in September 2016. It is also higher than earlier surveys of the Easter Saturday parking demand conducted by BA Group in 2011, 2012 and 2013, although it should be noted that additional deductions for storage space, kiosks and ancillary restaurant seating in corridors that were approved in the September 2016 variance result in an increase in the parking demand rate because the overall floor space is less. [7]

[6] Based upon 2016 total annual customer volumes.

[7] Easter Saturday peak parking demands of 3.84, 4.14 and 3.93 were observed in 2010, 2011 and 2012 were observed. However the additional floor space deductions would increase these rates by approximately 5% to 4.03, 4.35 and 4.13 respectively. The 2017 observed demand rate of 4.46 would be about 5% less or 4.24 using the pre September 2016 definition of GFA.

The occupancy surveys that we conducted on Saturday May 13 during the Mother's Day weekend approximate the parking demand for the 23rd highest day in the year or the 12th highest Saturday in the year. [8] The observed peak demand rate on that day was 4.05 spaces per hundred square metres GFA. Based upon relative daily customer volumes, we estimate that the demand would be higher than 4.05 on about 100 or about 2.6% of the operating hours in a year.

5.1.1 Managing Square One Shopping Centre Parking Demand

As mentioned earlier, shopping centre parking demand is unique compared to many other land uses because the trips are discretionary in terms of time and location and the demand being measured is not constrained by price or supply. This means that shopping trips at large regional centres are flexible and can be managed to a significant extent.

It is important to note that the annual customer volume at the Square One Shopping Centre in Year 2000 was 17,910,186 or 13,663 customers per hundred square metres GLA compared to 21,888,272 or 14,772 customers per hundred square metres in 2016, which indicates an 8% increase in the customer attraction rate per unit of floor area. Despite the absolute increase in customer volumes of 22% between 2000 and 2016, the peak parking demand rate at Christmas has declined by approximately 18%, from 5.5 to 5.7 in 2000 down to 4.5 to 4.69 in 2016. The centre was able to absorb 22% higher customer volumes while peak parking demand dropped by 18% for multiple reasons including;

- The number of hours the centre is open has increased by about 9.5% or 360 hours, from approximately 3,525 in 2000 to about 3,860 in 2016;
- The introduction of the Black Friday weekend sales event which has likely reduced customer volumes in December by becoming the second highest customer volume day just after Boxing Day;
- The number of customers arriving at the centre on transit and by walking/cycling/taxi has increased from approximately 25% in 2000 to approximately 40% today;
- The increasing multicultural make- up of the population may be reducing the relative volume of customers at Christmas;
- The parking supply rate has declined gradually, allowing customers to adjust their shopping times during the Christmas peak period.

In future, there is probably limited scope to influence parking demand at Christmas by increasing shopping hours or adding special event days. However, increased transit, walking, cycling, ride hailing and ridesharing use as well as supply management will allow the peak demand and supply rate to be reduced gradually over time. There is also be some scope to reduce employee parking demand by increasing transit use or carpooling and improve customer parking availability by relocating some employees to the Square One Properties north of Rathburn Road during peak shopping periods. Providing employees with free transit passes would encourage some of them to reduce driving during the peak weekend days in December.

Since all three of the Saturday peak parking demand rates (i.e. 4.50 to 4.69) observed in 2016 exceed the 4.21 supply rate that will be available when the centre is fully leased, the excess demand will have to be

[8] The recorded customer volume at the shopping centre on Saturday May 13, 2017 was 79,276 people, approximately 6% higher than the 2016 average Saturday customer volume of 74,618 people (i.e. 3,954,730 customers on Saturdays in 2016 divided by 53 Saturdays).

accommodated by customers shifting their shopping time to the shoulder hours when considerable vacant parking is available, similar to the demand shift that has occurred since 2000. Figures 6 and 7 illustrate the hourly parking occupancy patterns for the November and December days surveyed in 2016 and the availability of surplus parking capacity in the shoulder hours.

The hourly parking demand profile for the Easter Saturday April 15, 2017 illustrated on Figure 8 also indicates that there is a substantial amount of vacant parking available in the shoulder hours to accommodate customers when the Square One Shopping Centre becomes fully occupied. For example, the peak parking demand occurs for only three hours outside of which it drops down to 3.90 to 3.99 at 1pm and 5pm and then moves significantly lower thereafter, resulting in a substantial amount of vacant parking available to accommodate a time shift in demand.

Based upon the BA Group demand survey on Saturday May 13, 2017, a parking supply rate of 4.00 spaces per hundred square metres GFA represents the 23rd highest day of the year in terms of customer volume and would accommodate the 12th highest Saturday of the year. A supply rate of 3.80 spaces per hundred square metres GFA or 6% less than the 4.00 rate would accommodate the existing demand patterns generated during the average Saturday or approximately 95% of the hours in the year. As illustrated on Figure 9, there is substantial parking supply available in the shoulder hours before and after the peak to absorb demand from the peak period with a lower 3.8 supply rate. Such a shift in demand would be feasible if implemented over time and customer convenience would be significantly improved if most Square One Shopping Centre employees are relocated to more remote sites like the Coliseum Cinema and other locations in order to free up more convenient customer parking close to the shopping centre. For example, the Coliseum site alone has a surplus parking capacity today of approximately 750 spaces which represents a supply rate of 0.43 spaces per hundred square metres on the existing GFA of approximately 176,484 square metres. Using this parking for the Square One Shopping Centre would increase the effective supply rate to 4.23 spaces per hundred square metres GFA which is the same supply rate in effect today with the most recent variances in place.

There is also the potential for decreased parking demand over time due to increased travel by non-auto modes including transit, walking and cycling or by increased use of travel by taxis or Uber type services that do not require a parking space.

Gradually reducing the parking supply at the Square One Shopping Centre will also promote the use of public transit and active transportation and also support the City's objective of building a downtown with a compact urban form. It is therefore logical to adopt a 3.8 spaces per hundred square metres GFA supply rate for the Square One Shopping Centre.

Mississauga Square One
Pedestrian Traffic - Ranked Highest to Lowest
January 1, 2016 - December 31, 2016

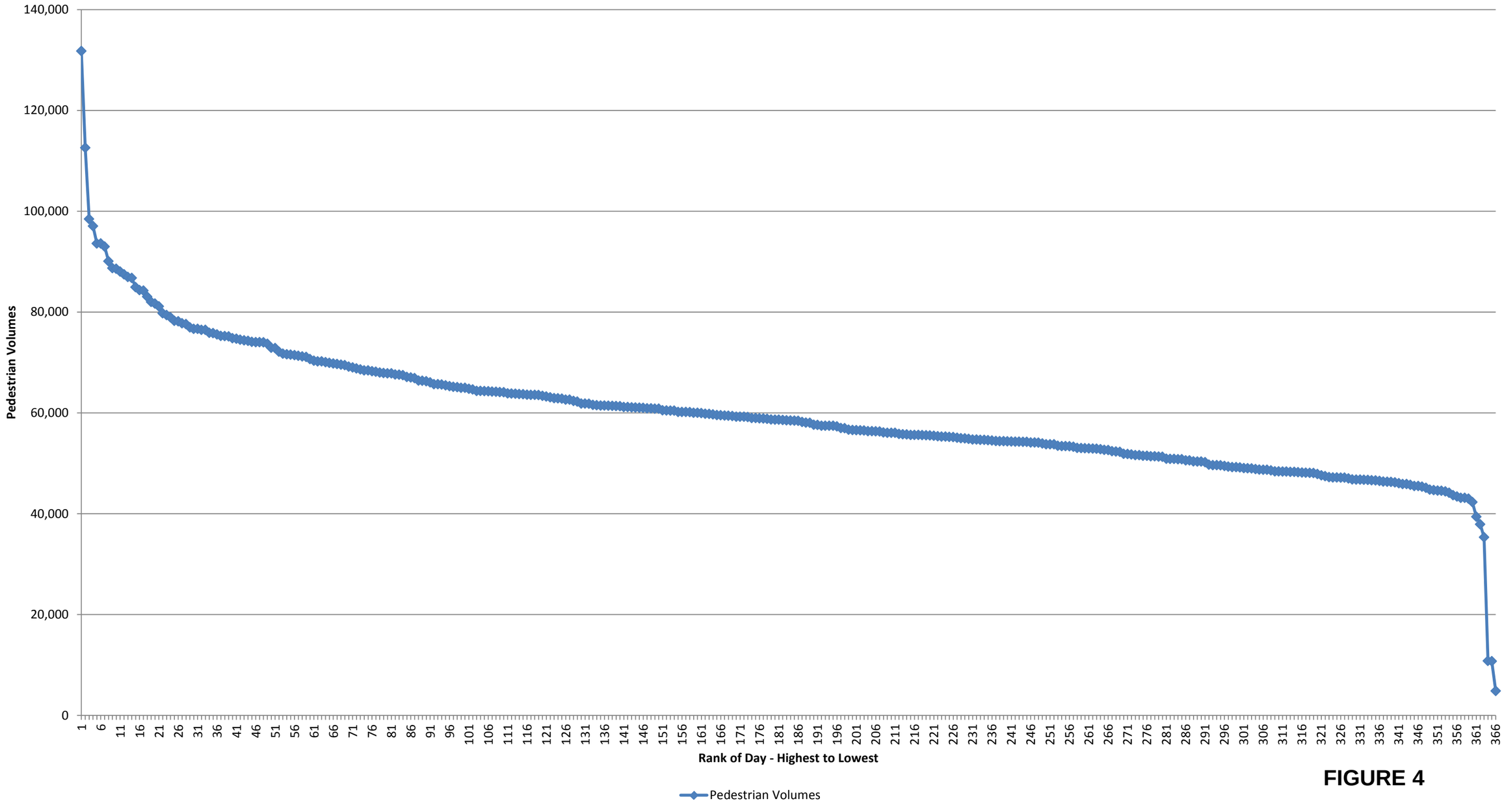


FIGURE 4

Mississauga Square One
Pedestrian Traffic - Ranked by Top 50 Days of the Year
January 1, 2016 - December 31, 2016

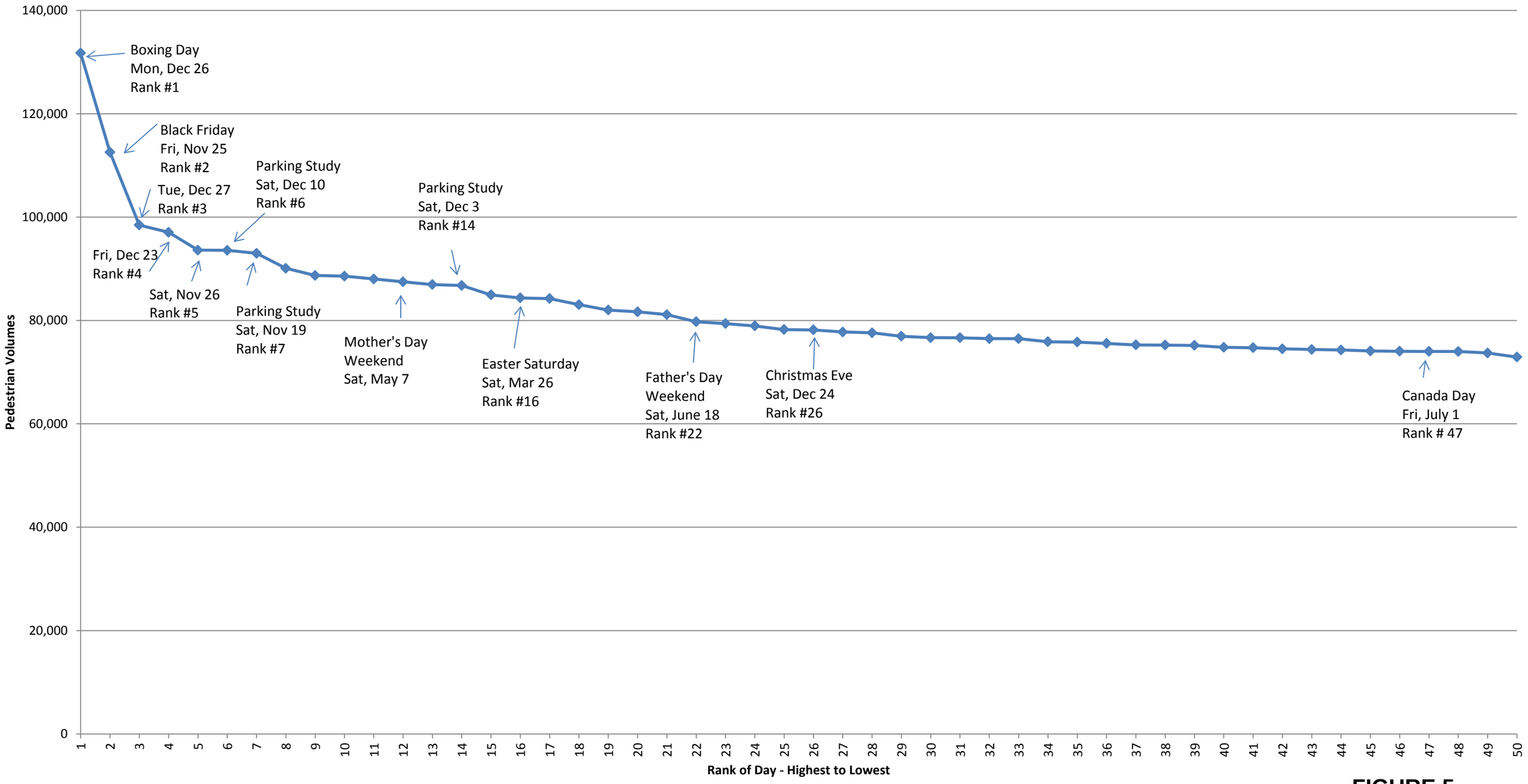
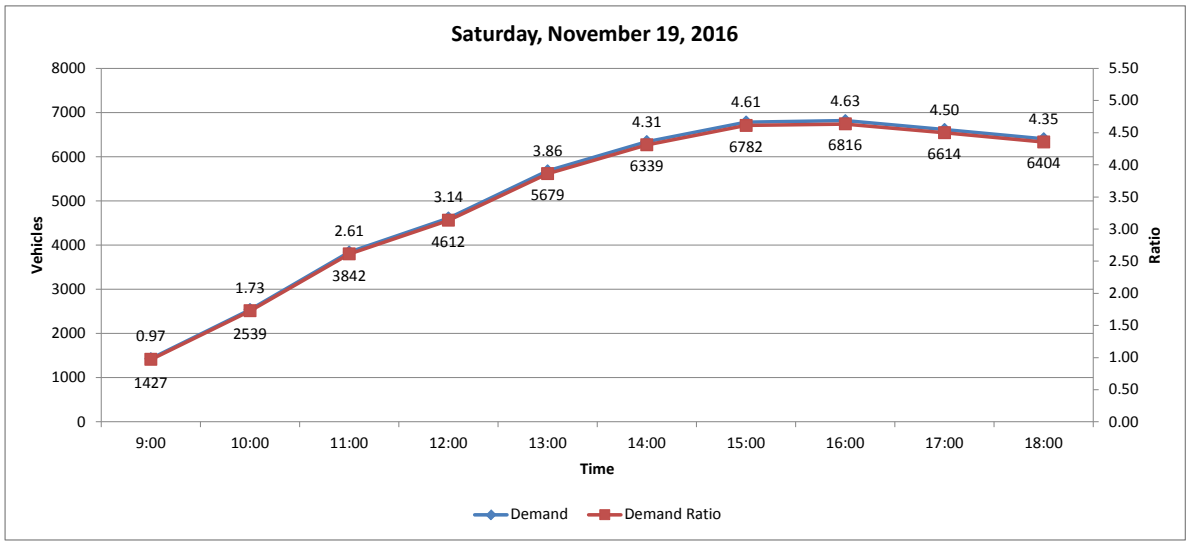
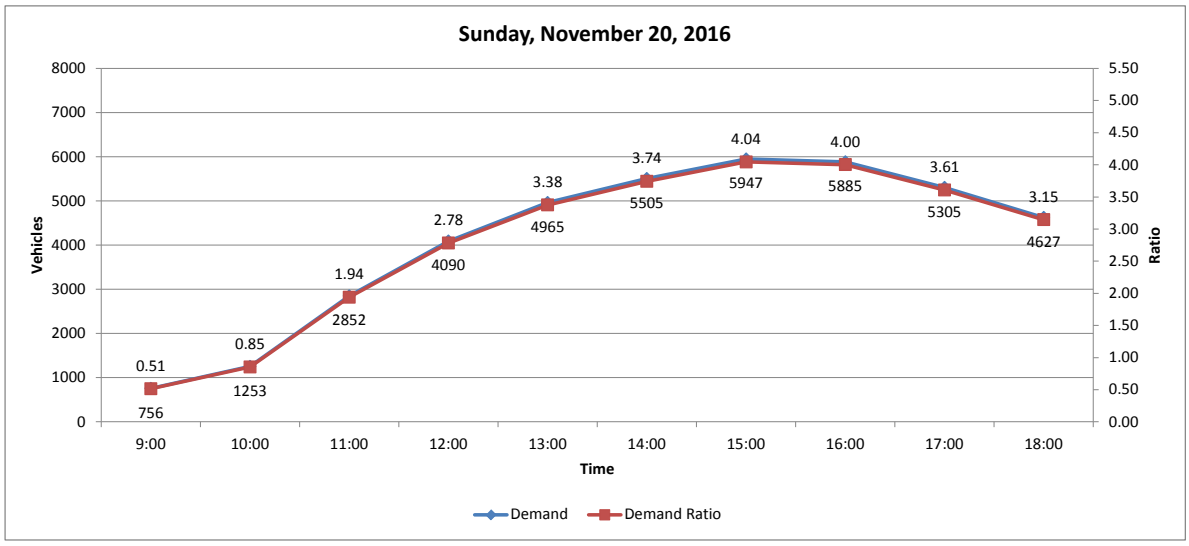


FIGURE 5

MISSISSAUGA SQUARE ONE SHOPPING CENTRE
PARKING DEMAND STUDY
PRE-CHRISTMAS NOVEMBER 2016

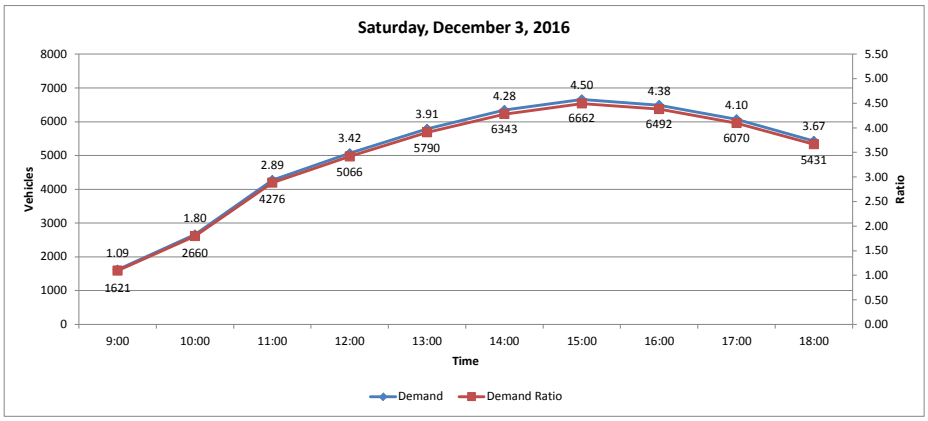


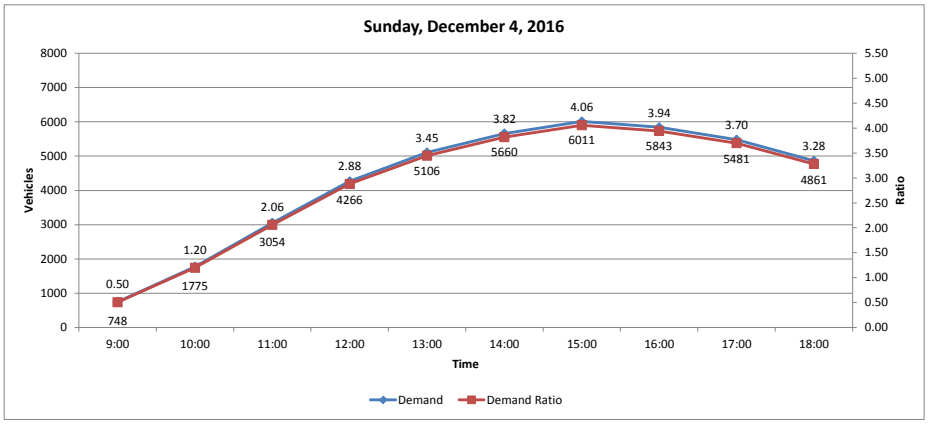


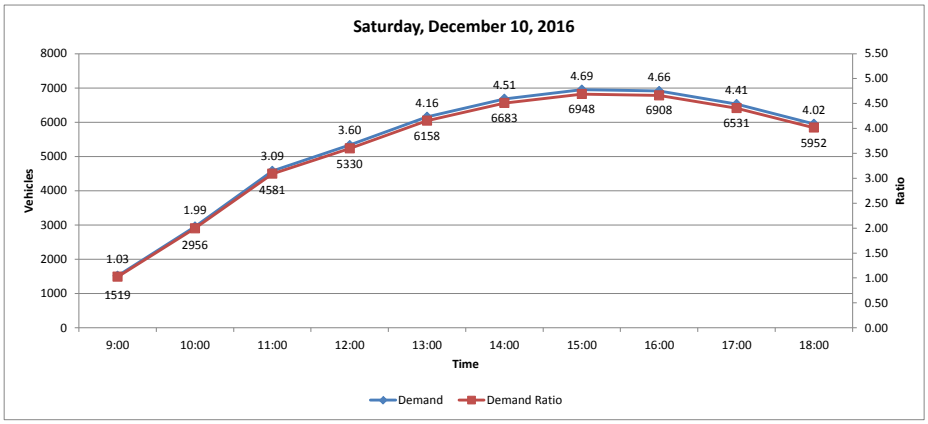
Demand Ratio represents vehicles parked per 100 square metres of occupied gross leasable area.

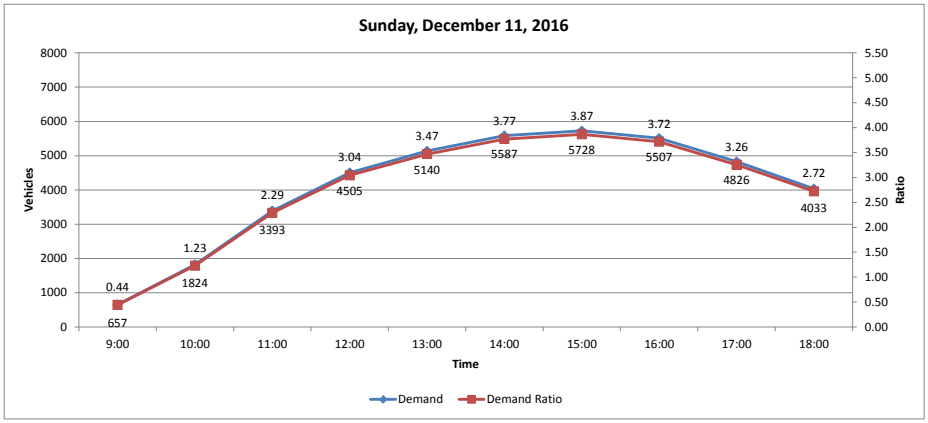
FIGURE 6

MISSISSAUGA SQUARE ONE SHOPPING CENTRE
PARKING DEMAND STUDY
PRE-CHRISTMAS DECEMBER 2016





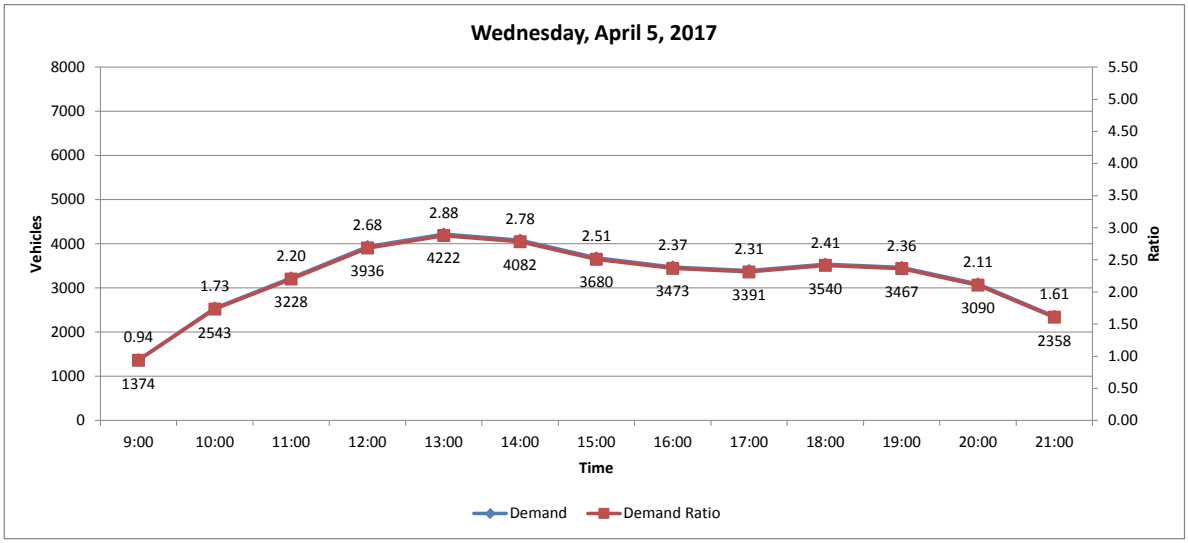


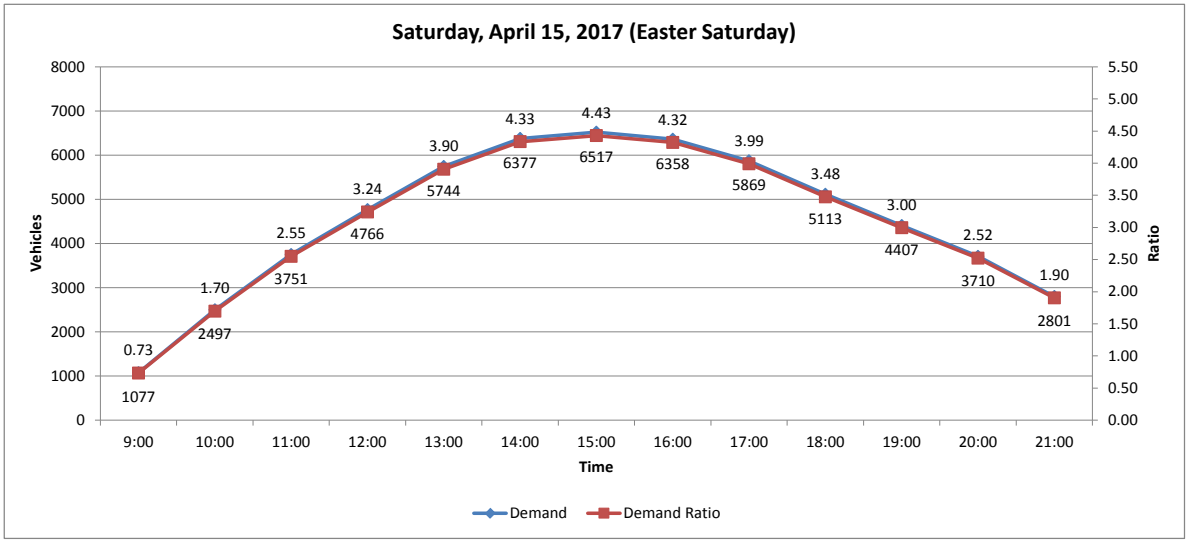


Demand Ratio represents vehicles parked per 100 square metres of occupied gross leasable area.

FIGURE 7

MISSISSAUGA SQUARE ONE SHOPPING CENTRE
PARKING DEMAND STUDY
APRIL 2017

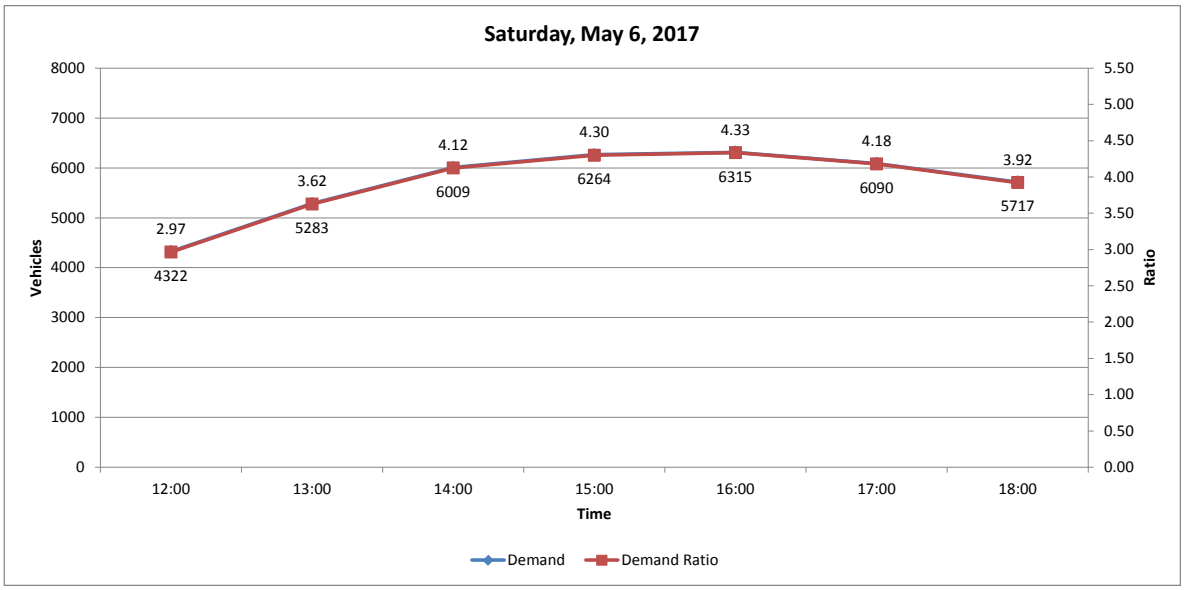


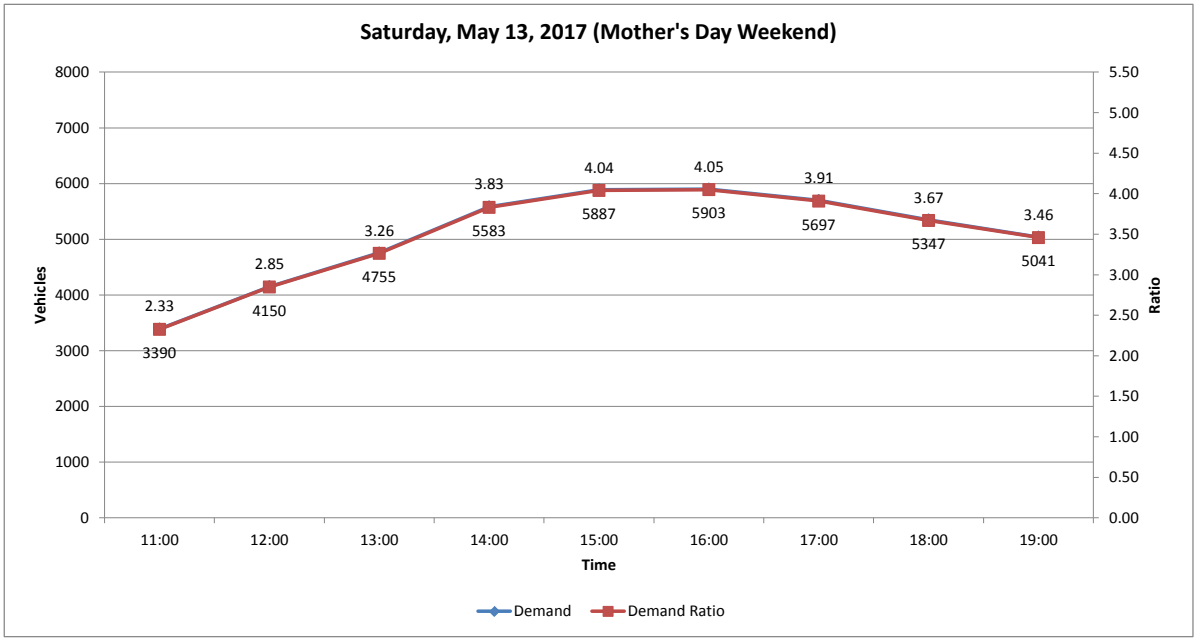


Demand Ratio represents vehicles parked per 100 square metres of occupied gross leasable area.

FIGURE 8

MISSISSAUGA SQUARE ONE SHOPPING CENTRE
PARKING DEMAND STUDY
MAY 2017





Demand Ratio represents vehicles parked per 100 square metres of occupied gross leasable area.

FIGURE 9

5.1.2 Square One Shopping Centre Shared Parking Potential

Large regional shopping centres generate peak traffic and parking demands on Saturdays, Sundays and Friday evenings with substantially less demand during Monday to Friday daytime periods. Since the parking supply provided is typically determined by the demand generated during the peak weekend periods, there is considerable vacant parking supply available during weekday daytime periods that could be used to accommodate the needs of other development that requires parking during the Monday to Friday daytime period from 8 am to 6 pm. The prime candidate for such shared parking is office development. The potential for this shared parking relationship and many others are well documented in the report entitled "Shared Parking", published by the Urban Land Institute and International Council of Shopping Centres in 2005.

In order to document the potential for shared parking at the Square One Shopping Centre, BA Group conducted detailed occupancy surveys at the site on Wednesday April 5, 2017. As illustrated on Figure 8, the peak shopping centre demand rate observed was 2.88 spaces per hundred square metres. This represents 68% of the effective 4.21 parking supply rate approved by the Committee of Adjustment in September 2016. Other weekday daytime occupancy surveys conducted by BA Group at other large regional centres including Square One indicate similar patterns.

As described in Section 3 and Table 4, the City of Mississauga has a shared parking schedule in its existing parking requirements section of the zoning by-law and has recognized this potential for many years. Based upon the Wednesday April 5, 2017 occupancy patterns illustrated on Figure 8, it is apparent that the weekday (i.e. Mon-Fri) shared parking factors for the Square One Shopping Centre should be significantly lower than those currently contained in the zoning by-law for retail centres. [9] The shared parking factors for the weekend Saturday-Sunday condition should also be adjusted from those in the zoning by-law to reflect the peak demand pattern exhibited on Saturday December 10, 2016 as illustrated on Figure 7.[10] Table 7 illustrates the proposed revisions for the Retail (Downtown)[11] Core Commercial Zone compared to the existing by-law requirements. We have based these factors on the use of a 3.8 supply rate for the retail core commercial zone (i.e. Square One Shopping Centre).

[9] The 2.88 weekday peak demand rate at 1pm represents 76% of the proposed 3.8 spaces per hundred square metres parking supply rate which we have rounded up to 80%. The noon demand rate of 2.68 represents 70% of the 3.8 rate which we have rounded up to 75%. The 2.20 11am demand rate represents 59% which we have rounded up to 60% for the weekday morning period. The 2.41 rate at 6pm represents 63% of the 4.0 rate which we have rounded up to 65% for the weekday evening period.

[10] The 11am demand rate of 3.09 represents 66% of the peak 4.69 demand rate at 3pm which we have rounded up to 75% to account for a potential shift in afternoon demand to the morning period due to the proposed reduction in the parking supply rate to 3.8. The noon demand rate of 3.6 represents 77% of the peak demand rate of 4.69 which we have rounded up to 85%. The evening demand rate of 4.02 represents 86% of the peak demand rate of 4.69 which we have rounded up to 90%.

[11] Renaming proposed by City in By-Law 0050-2013.

TABLE 7 PROPOSED SHARED PARKING FACTORS FOR SQUARE ONE

Land Use	Percentage of Peak Period			
	Morning	Noon	Afternoon	Evening
Proposed Requirement Retail Core Commercial	**60 (75)**	**75 (85)**	**80 (100)**	**65 (90)**
Existing Requirement Retail Core Commercial	80 (80)	90 (100)	90 (100)	90 (70)

Notes:
1. Non bracketed numbers represent Monday to Friday factors. Bracketed numbers represent Saturday factors.

5.2 OFFICE PARKING REQUIREMENTS

The current parking supply requirement for general office space in the Downtown Core is the same rate that applies City wide – 3.2 spaces per hundred square metres. However, as mentioned in Section 2.0, there appears to be an anomaly for office space that could be built on the Square One Shopping Centre retail core commercial blocks 1 through 5 whereby parking would have to be supplied at the existing 4.57 rate. Up to 10% of the floor area can be used for non- general office uses such as medical offices, financial institutions, real estate offices, restaurants, retail stores and personal service uses before the separate parking supply rates for these uses are required.

The parking supply rate for office uses should be based upon the level of transit and active transportation services provided or expected to be provided in the near to medium term and the desired travel mode share targets for the area. As mentioned in the introduction, the north side of the Downtown Core is designated as a major Anchor Mobility Hub by virtue of it being at the nexus of several major transit services including:

- the City Centre Transit Terminal;
- the City Centre Regional GO Bus Terminal;
- the East-West Transitway BRT line;
- the future Hurontario LRT line (2022+-).

The substantial amount of high density residential development existing and expected in the future will provide significant potential for increased walking and cycling to and from employment facilities in the Downtown Core. The challenge is to generate new employment opportunities so that more people will have the opportunity to live and work in the same area.

The “Parking Strategy for Mississauga City Centre” report prepared by BA Group for the City in January 2009 recommended the introduction of reduced office parking supply requirements based upon transportation mode targets associated with the provision of increased transit services. More specifically, that report recommended the implementation of a 2.7 spaces per hundred square metres GFA parking supply rate for office space following the implementation of east-west BRT service.[12] It also recommended that further

[12] See Table 1, page 23 of that report and associated text. The 2.7 supply rate is based on a 20% transit, 5% walk/cycle and 12.5% auto passenger utilization rate resulting in a 62.5% auto driver rate applied to an employee density of 4.31 people/100 square metres with an assumed 10% absentee rate and a visitor parking rate of 0.27/100 square metres.

reductions be made in conjunction with the implementation of LRT service in the Hurontario Street corridor and suggested that a supply rate of 2.31 would be appropriate for a transit mode split target of 30%.[13] The BRT service is largely in place and about to be finished while the Hurontario LRT is expected to be in place within five years in 2022. Recent transportation studies conducted for the City and by BA Group strongly suggest that a non- auto mode share target of 40% (i.e. transit plus walk, cycle and carpool) or higher will ultimately be required to accommodate the transportation demands associated with the future build out of the Downtown Core. This would imply an ultimate parking supply rate of approximately 2.1 spaces per 100 square metres.[14]

There are well known economic impediments to developing new office space in the Downtown Core including the high cost of providing parking garages in the dense urban built form expected for the area. While the City is considering economic incentives as part of the Downtown Core Community Improvement Plan, reducing the amount of expensive garage parking is a key factor in making new office development more feasible for the area.

It is also desirable from a transportation demand management perspective to encourage developers to provide reduced parking supply because this will encourage higher parking pricing for employee parking which will in turn encourage people to consider options to single occupant vehicle travel and increase utilization of the high order transit investments that have been made.

With the foregoing factors in mind, it would be reasonable to reduce the parking supply requirement for office buildings to 2.10 spaces per hundred square metres at this time, given that a new building of any significant size is unlikely to be operational until 2022. The 10% allowance for non-office uses in a general office building at the same office parking supply rate should be maintained.

5.3 APARTMENT PARKING REQUIREMENTS

In January of 2001, Mississauga City Council enacted and passed by-laws to adopt then new City Centre District Policies (Amendment 20) and a district-wide City Centre Zoning By-law (By-law 0005-2001).

One of the overriding goals for area in 2001 was to create a planning framework which would promote a distinctive, predominately urban character and identity for Mississauga's City Centre. To achieve these goals, policies which assisted in promoting new development, attaining transit-supportive development densities, and realizing pedestrian-friendly, active streetscapes were recommended by the Planning and Building Department and approved by City Council.

One factor in achieving these objectives related to parking requirements. The then policies for the area stated that consideration would be given to reducing or eliminating parking requirements. The 2001 City Centre Zoning By-law implemented this policy by reducing resident parking for apartment units to 1.0 stall per unit

[13] Same as above footnote, except transit use is increased to 30% resulting in an auto driver rate of 52.5%.

[14] Based upon a travel mode split of 30% transit, 10% active transportation and 12% auto passenger; resulting in an auto driver rate of 48% and an employee demand of 1.86 spaces per hundred square metres. Together with a visitor parking rate of 11% of the employee demand results in a total demand rate of 2.07 or 2.10 spaces per hundred square metres rounded.

and eliminating residential visitor parking requirements.[15] Subsequent experience with some large residential developments with little visitor parking led the City to amend the parking requirements for apartments to include a visitor parking requirement of 0.15 spaces per unit. For the visitor component, a shared parking arrangement may be used for the calculation of required visitor/non-residential parking in accordance with the following:

> the greater of :
>
> 0.15 visitor spaces per unit or
>
> Parking required for all non-residential uses, located in the same building or on the same lot as the residential use, except banquet hall/conference centre/convention centre, entertainment establishments, overnight accommodation, places of religious assembly, recreational establishments and restaurants which are not permitted in the shared parking arrangements and shall be provided in accordance with applicable regulations contained in the new general zoning By-law.

This arrangement recognizes that the peak demand for residential visitors will occur late in the evening on weekends when the utilization of parking supplied for some commercial uses will be low. Retail Stores and Personal Service Establishments are permitted in CC2 to CC4 zones only as accessory uses. The required parking rate for these uses, when developed in conjunction with residential apartments, was reduced from 5.4 spaces/100 m^2 (5.0 spaces/1,000 sq. ft.) GFA - non-residential down to 4.3 spaces/100 m^2 (4.0 spaces/1,000 sq. ft.) GFA - non-residential. The lower standard recognized the parking requirement established in Zoning By-law 0225-2007, for retail commercial developments that are less than 2,000 m^2 (21,528 sq. ft.) GFA - non-residential.

The lower standard recognized that many of the retail facilities will benefit from a “captive market”, that is, residents which live in the building or surrounding buildings and office employees working in the area that will frequent the retail commercial facilities. It was also anticipated that the lower parking standard would encourage more retail development leading to more active streetscapes.

Since 2001, the Downtown Core area has experienced impressive growth in high density residential apartment development with much more in the planning or approval stages. The City is considering new policies to encourage or require the provision of more affordable housing in the area including rental apartment buildings. At the same time some residential apartment developers are beginning to consider the possibility of reducing the parking supply below the one resident space per unit required in the current zoning by-law in order to reflect the smaller unit sizes and types being built as well as the very high level of transit accessibility provided in the Downtown Core. This would also reduce the high cost of providing parking predominantly in underground garages. Reduced parking supply would in turn assist in lowering the cost of new apartments and make them more affordable.

[15] This compares to the parking supply rates for condominium apartments outside the City Centre of 1.0,1.25,1.40 and 1.75 resident spaces per unit for bachelor, one bedroom, two bedroom and three bedroom units respectively)

Recent parking demand surveys conducted by BA Group at six buildings developed by Daniels in the downtown core indicate an existing resident parking space demand rate ranging from 0.81 to 0.97 spaces per unit with an average rate of 0.88.

From a policy perspective, it is desirable to set parking supply rates to encourage people to shift to alternative travel modes. This is best accomplished by adopting supply rates that reflect the target travel mode splits that are reasonable for the area. Based upon the discussion in Section 3.2 regarding office parking supply rates, a 40 to 50% non-auto travel mode share or 50 to 60% auto driver mode share would be a reasonable target for the area. Assuming an average of 1.5 people per unit over the age of 18[16], this would suggest a resident parking requirement of 0.75 to 0.90 spaces per unit on average should be adopted.

It might also be desirable to implement resident parking requirements based upon the unit size in order to more accurately reflect the actual unit characteristics in a building. For example, the City of Vaughan has adopted a reduced parking supply requirement for apartment buildings in the Vaughan Metropolitan Centre, its new transit oriented Downtown Core area that is located at Highways 7 and 400 at the terminus of the new Spadina subway extension and is also served by York Region's new BRT service along Highway 7. The minimum parking requirements are:

- 0.7 resident spaces for each Bachelor/1 Bedroom unit;
- 0.90 resident spaces for each 2 Bedroom unit;
- 1.0 resident spaces per unit for each 3 Bedroom unit;
- 0.15 visitor spaces per unit for each unit.

The visitor parking requirements can be part of a shared parking pool when there is other mixed use development using the same garage.

Using the Vaughan Metropolitan Centre parking supply rates, a building with a large share of one bedroom units (70%) would likely require an average of about 0.75 spaces per unit while buildings with more two and three bedroom units would require an average of about 0.80 spaces per unit.[17] This generally reflects the travel mode share targets of 50 to 60% auto driver described earlier.

Public transit accessibility will be similar at the Mississauga Downtown Core given the imminent completion of the BRT line and the arrival of the Hurontario LRT by 2022.[18] The adoption of parking supply requirements by unit type will more accurately reflect the unit mix in a particular project and support the provision of more affordable housing for people who reside in smaller unit types. With this in mind, the current one space per unit parking supply requirement should be amended to reflect the Vaughan Metropolitan Centre rates.

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[16] The average people per unit rate assumed in the Mississauga 2014 Development Charges Study (Table A.7) is 1.86. Typically about 20% of the residents would be people less than 18 years of age. 80% of 1.86 is 1.49 people of driving age per unit.

[17] For example, a building with 70% one bedroom/bachelor units, 25% two bedroom units and 5% three bedroom units would require an average supply of 0.765 resident spaces per unit. A building with 60% one bedroom/bachelor, 20% two bedroom and 20% three bedroom units would require an average resident supply of 0.80 spaces per unit.

[18] Although the Mississauga Downtown Core does not have subway access it will have BRT and LRT service plus a substantially larger local and regional bus service focused on a major bus transit interchange compared to the Vaughan Metropolitan Centre.

5.4 SMALLER SCALE RETAIL COMMERCIAL & RESTAURANT PARKING

The existing zoning by-law requires parking to be supplied at a rate of 4.3 spaces per 100 square metres GFA for the following uses in a CC1 to CC4 zones in the Downtown Core:

- Personal Service Establishment;
- Retail Centre < 2000 square metres (excluding restaurants and other high generating uses);
- Retail Store;

The same uses in a C4 zone (located outside the Downtown Core) are required to provide parking at a rate of 4.0 spaces per hundred square metres GFA. A C4 zone is intended for commercial main street areas in the City such as Port Credit, Streetsville and Clarkson which generally have significantly less transit service than the Downtown Core. In these locations parking tends to include municipal on-street parking as well as municipal surface lots and garages that serve as a common pool of parking for the area. From a practical perspective, the entire public and private parking pool tends to be shared amongst different commercial uses, much like a shopping centre. In addition, a significant portion of the weekday daytime business and social activity is generated by nearby business employees or visitors and walk in traffic from adjacent residential development.

It would be logical to reduce the existing 4.3 parking supply rate for the aforementioned uses in the Downtown Core down to a 3.8 rate in order to:

- Reflect the main street type environment that the City wishes to achieve in the area;
- Reflect the substantially higher level of non-auto travel expected in the Downtown Core compared to other areas of the City;
- Recognize that the City plays a role in the provision of shared public parking resources in the Downtown Core which could expand in the future to support new development;
- Match the proposed new 3.8 rate for the Square One Shopping Centre retail core commercial area.

As described in Section 2.0 regarding existing parking requirements, the City is also proposing in Zoning By-Law 0050-2013, to reduce the parking supply requirement for restaurants less than or equal to 220 square metres GFA and for Take-out restaurants to 4.3 spaces per hundred square metres, presumably to encourage such uses. Matching these restaurant supply rates with the requirement for retail stores and personal service establishments would also facilitate tenant changes. It would therefore be logical to change the rate for smaller and take-out restaurants to 3.8 spaces per hundred square metres GFA as well.

BA Group conducted detailed parking demand surveys for the three office buildings at 33, 55 and 77 City Centre Drive in 2015 in order to support a variance application to amend the parking supply requirements for these properties. The amendments that were approved by the Committee of Adjustment included a reduced rate of 4.85 spaces per hundred square metres for medical, real estate and financial institutions based upon the Port Credit and Lakeview Parking Strategy that was prepared for the City by BA Group in June 2015. The approved variances for 33, 55 and 77 City Centre Drive also included treating all three lots as one for parking supply purposes in order to recognize the shared parking that actually occurs at these buildings.

The much higher transit accessibility and potential level of walk in traffic in the Downtown Core compared to Port Credit supports a reduction in the existing supply rate for medical, real estate and financial institutions recommended for Port Credit. This would be similar to the proposed reduction in the office supply rate from 3.2 to 2.1 spaces per hundred square metres GFA to reflect match a future non-auto travel mode share of 40% described in Section 5.2. Matching the parking supply rate for medical and real estate offices as well as financial institutions would also facilitate tenant changes. It is recommended that the existing parking supply rates of 6.5 for medical and real estate offices and 5.5 for financial institutions be reduced to 3.8 spaces per hundred square metres GFA.

5.5 PARKING MAXIMUMS

In higher density transit oriented urban settings like the Mississauga Downtown Core, a limit on the amount of parking provided for critical land use types that attract large volumes of people could be considered if:

- it is clear that developers are consistently overbuilding parking well in excess of demand, especially if it is in surface parking lots and;
- substantial investment in high order transit facilities has been made and;
- the municipality will play a significant role in the provision of shared public parking resources to assist in the gradual transition to higher non-auto transportation and reduced parking demand and;
- a robust transportation demand management strategy focused on the Downtown Core is in place.

Developers in the Downtown Core have not been overbuilding parking to date. Square One Properties and others have been actively seeking to reduce parking supply due to high land and parking garage costs and concern that the increasing use of ride hailing services may reduce the need for parking in the future. At the same time, the City has prohibited the development of new surface parking lots through the zoning by-law, therefore the enabling a more compact development form. The largest owner of surface parking is the Square One Shopping Centre who has worked with the City to reduce parking supply requirements by almost 30% since 2000. They have also been providing new parking for recent expansions in underground parking facilities. The specific recommendations in this report regarding parking supply requirements and broadened shared parking provisions will continue to reduce the total quantity of parking required and increase the efficient use of parking.

The City is eager to attract new office development to the Downtown Core because new employment will enhance the mixed-use nature of the area and provide the increasing resident population with additional opportunities to work within walking and cycling distance, thereby reducing the demand for vehicular travel and parking. Although empirical parking demand studies conducted by BA Group at office buildings in the area and elsewhere in Mississauga indicate otherwise, many leasing agents and some developers are of the view that parking demand and supply requirements are higher than existing zoning by-law requirements of 3.2 spaces per hundred square metres GFA. Therefore, limiting office parking supply at this time may discourage new office development, even though it is highly desirable to ensure that the long range office parking supply in the area decreases as transit and other modes of transportation that do not require a parking space increase in the future. Fortunately, as described in the next section, Square One Properties have the unique opportunity to share the large pool of parking serving the shopping centre to meet a substantial portion of future office development parking needs on their lands. This will avoid overbuilding parking on specific office

building sites on the Square One Properties and in most cases supply substantially less than the zoning by-law requirement recommended in this report (i.e. 2.1 spaces per hundred square metres GFA) on each site.

Other office sites in the Downtown Core do not have the same advantage that the Square One Properties do in terms of shared parking opportunities that reduce parking costs and minimize the amount of parking required on specific office building sites. They may also have staging challenges in terms of building new office space in surface parking lots that are already required to service existing space. The City has taken significant steps to establish shared public parking resources for the west side of the core, by converting their existing garages beneath the City Hall, Central Library and Living Arts Centre into paid parking facilities serving the area. They also added temporary on street paid parking as well as surface lots adjacent to Sheridan College. Sheridan College students and employees as well as some office employees from 201 City Centre Drive utilize this shared parking. However, the City has yet to establish a clear plan to provide additional public parking resources in the south and east portions of the core, although they have communicated their intention to play a role to support new office development in their initial draft of a new Community Improvement Plan. Specific plans for municipal parking facilities that would assist in facilitating new office development in these areas may be required in order to address some of the financial and staging challenges described above.

As described earlier, the City and Province have made a substantial investment in providing a high level of transit service including a major City and Regional bus transit terminal and the Highway 403 Bus Rapid Transit service. The Hurontario LRT line will be complete in 2022, further enhancing transit service. In addition, Metrolinx and the City are currently working on a Mobility Hub plan for the area that will integrate all of the transit service components. These investments will provide a very high level of transit service for the area that when combined with a robust parking and transportation demand management strategy, will lead to reduced vehicular travel and parking supply needs over time.

Mississauga Smart Commute has provided education, research and advisory services across the City to existing commercial building owners who are interested in implementing carpooling and cycling programs. However, a fully integrated mobility management service focused on the Downtown Core has not yet been established by the City. In order to maximize the benefits of such a service, it should combine the planning and operation of public parking resources with a broad range of transportation demand management programs for both residents and employees. Such programs could include car share services, carpooling programs, bike share programs, a guaranteed ride home service and bulk purchase transit pass discounts.

Given the situation described above, there is not currently a compelling reason to implement parking supply maximums in the Downtown Core. Once the Hurontario LRT has been operating for a few years and the City has refined its plans to provide additional municipal parking as well as an integrated Parking and Transportation Demand program, the desirability of implementing parking supply maximums can be determined at that time.

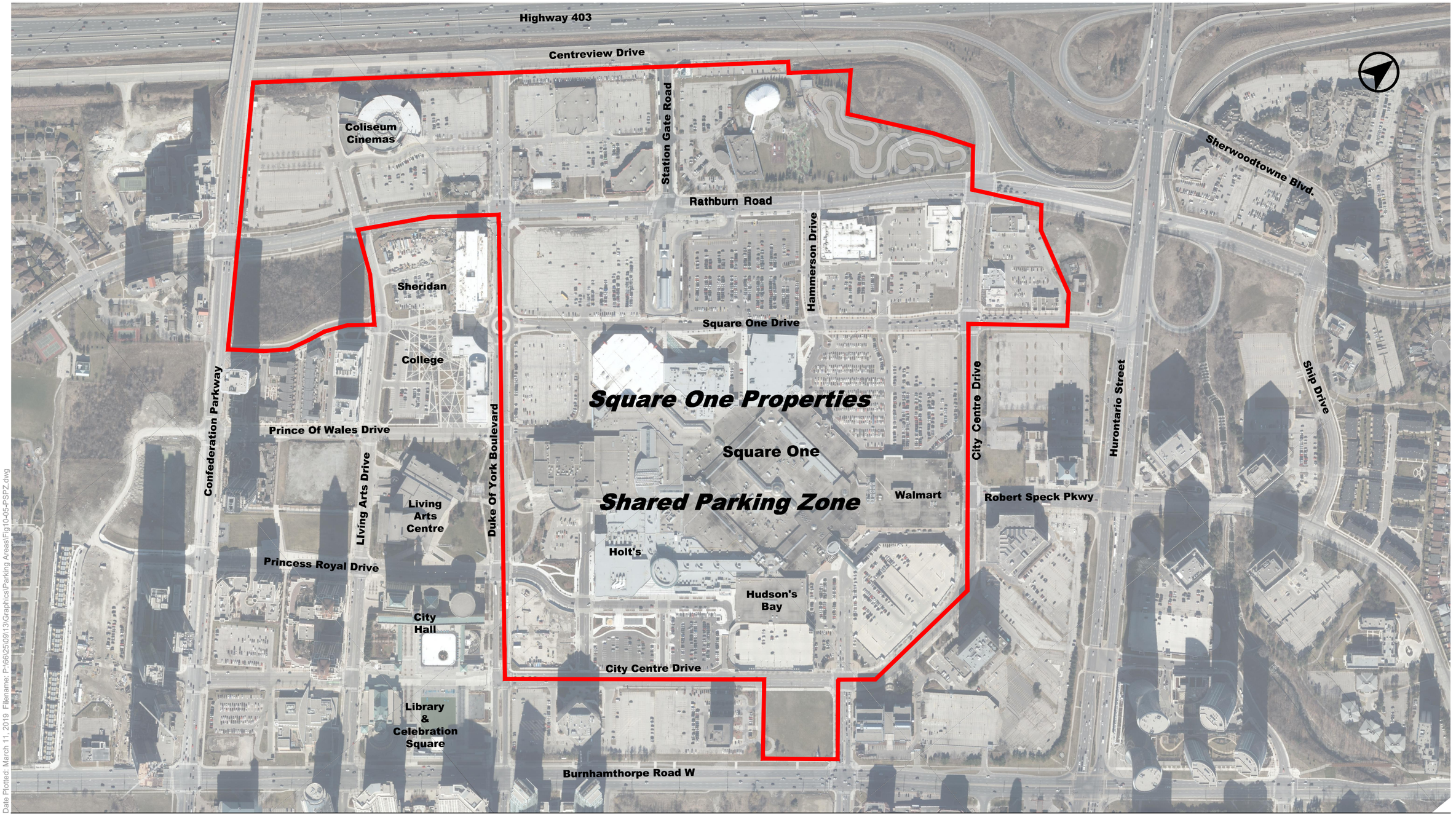
5.6 SQUARE ONE PROPERTIES SHARED PARKING ZONE

The general zoning by-law contains a shared parking schedule which allows mixed-use developments to reduce overall parking supply needs by factoring in the temporal differences in peak parking demands for different land uses. For example, the schedule recognizes that restaurant uses generate peak demand during lunch and dinner, but need less parking during the morning. It also recognizes that office uses generate peak demand during the day and very low demand during evenings and weekends so that office parking could be used by restaurants to meet their peak demand during evenings and weekends. The general zoning by-law schedule is meant to be applied to mixed-use developments located anywhere in the City and therefore is conservative in the reductions allowed for shared parking. It also allows for shared parking only for uses on the same lot.

In traditional downtown urban areas, parking is often shared amongst various uses on different lots, either formally or informally, even those lots with different ownership. This often occurs because most parking facility owners / operators charge a fee for parking and, therefore, are eager to generate business in off peak periods. For example, many office buildings in downtown Toronto keep their garages open for evening and weekend use by theatre and sports venue patrons as well as restaurant and retail customers. Another example is the Eaton Centre in downtown Toronto where many people park off-site in the nearby garages operated by the Toronto Parking Authority at the City Hall and other locations. Recognizing shared parking between separate lots and owners in the Downtown Core can facilitate reduced parking supply and enable garage owners to realize additional revenue generation opportunities.

As mentioned earlier, shared parking is already permitted between different lots on the Square One Properties as a result of certain minor variances.[19] It also occurs between Sheridan College and the Coliseum Cinemas as well as the three office buildings at 33, 55, and 77 City Centre Drive owned by Morguard Properties. Expanding the shared parking zone to include all of the Square One Properties illustrated on Figure 10 is the logical next step to facilitate more efficient use of parking, thereby reducing the overall need to create new supply.

[19] See Committee of Adjustment Applications A-454/13 and A-90/14.



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PROPOSED SQUARE ONE PROPERTIES SHARED PARKING ZONE

5.6.1 Sheridan College & Coliseum Cinemas Shared Parking

The Square One Owners entered into an agreement with Sheridan College dated April 11, 2013, whereby it licensed 473 spaces to the College to be used from 6am to 6pm Monday to Friday. The initial term of the agreement expires on June 30, 2018, at which time the term is automatically extended for successive one year periods unless terminated. The Square One Owners may terminate the agreement for any reason on 18 months of notice. Minor variances were obtained to permit Sheridan College to provide the 473 parking spaces off-site at the Coliseum Cinemas.[20] The rationale for these variances was that there is significant excess parking capacity at the Coliseum Cinemas during weekdays, and thus the shared parking arrangement resulted in a more efficient use of available parking.[21] However the minor variances only recognized the benefit of the sharing arrangement to Sheridan's parking requirements and did not reflect that the same parking could also be used to meet the supply requirements for the Cinema because it's peak demand occurs during weekday evenings and weekends when the shared parking arrangement with Sheridan does not apply. Nor did it recognize that the parking located on the Cinema site that is in excess of the parking supply requirements could be shared with other land uses on the Square One Properties.

It should be noted that the Coliseum Cinema has a total of 1151 parking spaces compared to the approved supply requirement for 613 spaces, resulting in a surplus of 538 parking spaces that can be used for other purposes. Although 473 of the surplus spaces have been licensed to Sheridan College for use on weekdays from 6am to 6pm, recent surveys in January 2017 following the opening of Phase Two indicate that a maximum of 175 spaces were being used. Since the license agreement between the Square One Owners and Sheridan allows the use of the spaces only on Monday to Friday between 6am to 6pm, all of the spaces are available for use during evenings and weekends and should be available to meet the zoning by-law parking supply requirements for other buildings on any of the Square One Properties within the Square One Shared Parking Zone.

The existing shared parking schedule in the zoning by-law does not have a specific category for cinemas. In the absence of a specific set of shared parking factors, we would interpret that the entire supply requirement is 100% utilized during on all time periods, which is clearly inaccurate since the peak demand for cinema parking occurs on weekend evenings. This situation could be rectified if a separate shared parking category for cinemas is inserted into the shared parking schedule in the general zoning by-law. Based upon our experience with cinema parking requirements we recommend the factors in Table 8 be used. We have also included a category for Sheridan College to recognize the limitations in the License agreement between the Square One Owners and the College.

[20] See Committee of Adjustment Applications A-159/13 and A-160/13.

[21] The parking requirements for Sheridan College Phase One and Two were interpreted by the City to be a total of 266 spaces compared to the College supply of 461 spaces that includes 8 parking spaces for persons with disabilities on –site or in the adjacent municipal lots as well as the 473 leased spaces at the Coliseum Cinema.

TABLE 8 RECOMMENDED CINEMA & SHERIDAN COLLEGE SHARED PARKING FACTORS

Land Use	Percentage of Peak Period			
	Morning	Noon	Afternoon	Evening
Proposed Requirement Cinema	**0 (10)**	**25 (40)**	**25 (65)**	**100 (100)**
Existing Requirement Cinema	100 (100)	100 (100)	100 (100)	100 (100)
Proposed Requirement Sheridan College	90 (0)	100 (0)	90 (0)	0 (0)

Notes:
1. Non bracketed numbers represent Monday to Friday factors. Bracketed numbers represent Saturday and Sunday weekend factors.

5.6.2 Square One Properties Shared Parking Zone Example Calculations

Tables 9 through 12 have been prepared to illustrate how the overall parking supply requirements would be calculated for the Square One Properties on a consolidated basis using the recommended shared parking factors described in this report.

Tables 9 and 10 provide an illustration of existing parking supply conditions for the Square One Properties with existing peak parking supply requirements, on a block by block and consolidated shared parking zone basis. Table 9 illustrates the parking supply conditions for the weekday (Monday to Friday) period while Table 10 illustrates the conditions for Saturday conditions.

For example, the Peak Spaces Required column in Table 9 indicates that the Square One Shopping Centre requires 7438 parking spaces for the existing 176,484.11 square metres GFA as per the September 2016 Committee of Adjustment approval. The Columns to the right utilize the recommended adjustments to the shared parking for the shopping centre and indicate a peak requirement for 5950 spaces during a weekday afternoon, leaving 1488 spaces available for sharing with other compatible land uses like new office space. The same process is applied to each of the Square One Properties Blocks. The calculation for Blocks 9 to 12 include the impact of the shared parking agreement with Sheridan College, assuming the entire 473 spaces are eventually utilized.[22] With the shared parking factors, this site would have a peak weekday requirement for 677 spaces at noon, leaving a surplus of 474 spaces that could be shared with other compatible uses. Similarly, there would be a weekday surplus in parking supply on Blocks 13 to 18 and Block 19. The bottom rows of Table 8 indicate the overall parking supply requirements on a weekday from Monday to Friday for all of the Square One Properties on a consolidated basis. The weekday peak demand period occurs in the afternoon with 7173 spaces required compared to the 9470 space supply, leaving a surplus of 2297 spaces that could be used to meet the parking demands for other compatible uses such as office and hotel space.

[22] Occupancy surveys conducted by BA Group in January 2017 following the opening of Sheridan College Phase 2 indicate that approximately 175 spaces were being used.

Table 10, illustrates the parking supply calculations for the weekend period with existing peak parking supply rates, but including the revised shared parking factors. The afternoon time period is the peak demand period on Saturdays. The Square One Shopping Centre would not have any surplus parking but Blocks 9 to 12 (Coliseum Cinema) would have a surplus of 763 spaces, while Blocks 13 to 18 would have a surplus of 131 spaces and Block 19 would have a surplus of 14 spaces. In total, a surplus of 908 spaces would be available for sharing with a compatible land use such as an expansion of the Square One Shopping Centre.

Tables 11 and 12 include the proposed reductions in the peak parking supply rates for the Square One Shopping Centre, office space, small scale retail commercial and restaurant space as well as residential apartments. We have included an average peak resident parking supply requirement for apartments of 0.85 spaces per unit. The actual rate would depend on the unit mix and the proposed supply rates for each unit type as recommended in Section 3.4. Because we have not added any new development over existing conditions, the numerical impact is limited to the Square One Shopping Centre where the proposed reduction in peak demand rate would result in a parking supply surplus of 732 spaces. Once the effects of shared parking are taken into account, a surplus of 2882 spaces (Table 11) would result on a weekday and 1639 spaces (Table 12) on a Saturday.

It should be noted that the zoning by-law includes an alternate way to calculate shared parking for commercial uses in a residential apartment development as described in Section 3.4 which would appear to be more beneficial than using the shared parking factors in Tables 9 through 12.

It is clear that the shared parking zone concept will maximize the efficient use of parking throughout the Square One Properties, thereby minimizing the area allocated to the provision of parking and fostering compact urban development. The tighter parking demand-supply relationship will also encourage the implementation of paid parking and transportation demand management initiatives that will lead to increased transit and active transportation use.

TABLE 9

WEEKDAY SHARED PARKING ZONE SUPPLY REQUIREMENTS - Existing/Proposed Zoning By-Law or Variance Requirements

Square One Properties - Mississauga Downtown Core

WEEKDAY (Monday to Friday) Land Use / Parking Required & Supply	Zoning	GFA (SM)	Peak Demand Rate	Peak Spaces Required	WITH SHARED PARKING FACTORS							
					Morning		Noon		Afternoon		Evening	
					%	Demand	%	Demand	%	Demand	%	Demand
Square One (Blocks 1-5)	CC1											
Retail Core Commercial		176,484	4.21	7,438	60%	4,463	75%	5,578	80%	5,950	65%	4,835
Office			4.57	-	100%	-	90%	-	95%	-	10%	-
sub-total required				7,438		4,463		5,578		**5,950**		4,835
sub-total provided				7,438		7,438		7,438		7,438		7,438
sub-total surplus/deficit				0		2,975		1,860		1,488		2,603
Block 8 (Residential Block)												
Residential residents (per unit)			1.00	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Retail - Commercial			4.30	-	80%	-	90%	-	90%	-	90%	-
Restaurants < 220 sq. metres (City proposed)			4.30	-	20%	-	100%	-	30%	-	100%	-
Restaurants > 220 sq. metres (City proposed)			9.00	-	20%	-	100%	-	30%	-	100%	-
sub-total required				-		-		-		-		-
sub-total provided				-		-		-		-		-
sub-total surplus/deficit				-		-		-		-		-
Blocks 9-12 (Coliseum)	CC2											
Cinema (1 space/6 seats original approval)		3,272	0.17	545	0%	-	25%	136	25%	136	100%	545
Restaurants < 220 sq. metres				-	20%	-	100%	-	30%	-	100%	-
Restaurants > 220 sq. metres (original approval)		674	10.00	67	20%	13	100%	67	30%	20	100%	67
Sheridan College				473	90%	426	100%	473	90%	426	0%	-
Residential residents (per unit)			1.00	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Office			3.20	-	100%	-	90%	-	95%	-	10%	-
Retail - Commercial			4.30	-	80%	-	90%	-	90%	-	90%	-
sub-total required				1,086		439		**677**		582		613
sub-total provided				1,151		1,151		1,151		1,151		1,151
sub-total surplus/deficit				65		712		474		569		538
Blocks 13 -18 (Chapters, Playdium & Province)	CC1(CCO)											
Retail - Commercial		5,678	5.40	307	80%	245	90%	276	90%	276	90%	276
Restaurants < 220 sq. metres				-	20%	-	100%	-	30%	-	100%	-
Restaurants > 220 sq. metres (original approval)		1,456	10.00	146	20%	29	100%	146	30%	44	100%	146
Playdium (original approval)				200	80%	160	90%	180	90%	180	90%	180
Office			3.20	-	100%	-	90%	-	95%	-	10%	-
Residential residents (per unit)			1.00	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
sub-total required				652		434		**602**		500		602
sub-total provided				710		710		710		710		710
sub-total surplus/deficit				58		276		108		210		108
Block 19 (LCBO Plaza)	CC1											
Retail - Commercial > 2000 sq. metres		2,903	5.40	157	80%	125	90%	141	90%	141	90%	141
Office			3.20	-	100%	-	90%	-	95%	-	10%	-
Residential residents (per unit)			1.00	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Restaurants < 220 sq. metres (NA)				-	20%	-	100%	-	30%	-	100%	-
Restaurants > 220 sq. metres (NA)				-	20%	-	100%	-	30%	-	100%	-
sub-total required				157		125		141		**141**		141
sub-total provided				171		171		171		171		171
sub-total surplus/deficit				14		46		30		30		30
Block 22 (Vacant Kariya Gate)	CC2											
Retail - Commercial			4.30	-	80%	-	90%	-	90%	-	90%	-
Office			3.20	-	100%	-	90%	-	95%	-	10%	-
Residential residents (per unit)			1.00	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Restaurants < 220 sq. metres (City proposed)			4.30	-	20%	-	100%	-	30%	-	100%	-
Restaurants > 220 sq. metres (City proposed)			9.00	-	20%	-	100%	-	30%	-	100%	-
sub-total required				-		-		-		-		-
sub-total provided				-		-		-		-		-
sub-total surplus/deficit				-		-		-		-		-
Grand Total Required				9,333		5,462		6,998		**7,173**		6,190
Grand Total Supply				9,470		9,470		9,470		9,470		9,470
Grand Total Surplus/Deficit Parking				137		4,008		2,472		**2,297**		3,280

Notes:

1. Retail Core 4.21 rate is effective approved variance rate of 7438 spaces for 176,484.11 square metres GFA. Existing By-law rate is 4.57.
2. Office supply rate is 4.57 in commercial core and 3.2 elsewhere in the City.
3. Coliseum demand based on originally approved parking supply rates of 1/6 seats in the cinema and 10.0 spaces per 100sm for the restaurant.
4. Sheridan Collge Demand based on existing shared parking agreement for 473 spaces.
5. The City is proposing in Zoning By-Law 0050-2013, reduced rates for restaurants in the downtown core including 9.0/100sm for greater than 2200 sq.m. and 4.3 for less than 2200 sq. m.
6. There is also an alternate shared parking calculation available in the existing zoning by-law for a cpmmercial uses in a residential building on the same lot whereby the greater of the residential visitor requirement of 0.15 spaces per unit or the commercial parking requirement is provided (i.e. not additive but shared).
7. Blocks 13-14 (Chapters) demand based on originally approved parking rates.

TABLE 10

SATURDAY SHARED PARKING ZONE SUPPLY REQUIREMENTS - Existing/Proposed Zoning By-Law or Variance Requirements

Square One Properties - Mississauga Downtown Core

SATURDAY			Peak	Peak	WITH SHARED PARKING FACTORS							
Land Use / Parking Required & Supply	Zoning	GFA (SM)	Demand	Spaces	Morning		Noon		Afternoon		Evening	
			Rate	Required	%	Demand	%	Demand	%	Demand	%	Demand
Square One (Blocks 1-5)	CC1											
Retail Core Commercial		176,484	4.21	7,438	75%	5,578	85%	6,322	100%	7,438	90%	6,694
Office			4.57	-	10%	-	10%	-	10%	-	10%	-
sub-total required				7,438		5,578		6,322		**7,438**		6,694
sub-total provided				7,438		7,438		7,438		7,438		7,438
sub-total surplus/deficit				0		1,860		1,116		0		744
Block 8 (Residential Block)												
Residential residents (per unit)			1.00	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Retail - Commercial			4.30	-	80%	-	100%	-	100%	-	70%	-
Restaurants < 220 sq. metres (City proposed)			4.30	-	20%	-	100%	-	50%	-	100%	-
Restaurants > 220 sq. metres (City proposed)			9.00	-	20%	-	100%	-	50%	-	100%	-
sub-total required				-		-		-		-		-
sub-total provided				-		-		-		-		-
sub-total surplus/deficit				-		-		-		-		-
Blocks 9-12 (Coliseum)	CC2											
Cinema (1 space/6 seats original approval)		3,272	0.17	545	10%	55	40%	218	65%	355	100%	545
Restaurants < 220 sq. metres				-	20%	-	100%	-	50%	-	100%	-
Restaurants > 220 sq. metres (original approval)		674	10.00	67	20%	13	100%	67	50%	34	100%	67
Sheridan College				-	0%	-	0%	-	0%	-	0%	-
Residential residents (per unit)			1.00	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Office			3.20	-	10%	-	10%	-	10%	-	10%	-
Retail - Commercial			4.30	-	80%	-	100%	-	100%	-	70%	-
sub-total required				613		68		286		**388**		**613**
sub-total provided				1,151		1,151		1,151		1,151		1,151
sub-total surplus/deficit				538		1,083		865		763		538
Blocks 13 -18 (Chapters, Playdium & Province)	CC1(CCO)											
Retail - Commercial		5,678	5.40	307	80%	245	100%	307	100%	307	70%	215
Restaurants< 220 sq. metres				-	20%	-	100%	-	50%	-	100%	-
Restaurants > 220 sq. metres (original approval)		1,456	10.00	146	20%	29	100%	146	50%	73	100%	146
Playdium				200	80%	160	100%	200	100%	200	70%	140
Office			3.20	-	10%	-	10%	-	10%	-	10%	-
Residential residents (per unit)			1.00	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
sub-total required				652		434		**652**		579		500
sub-total provided				710		710		710		710		710
sub-total surplus/deficit				58		276		58		131		210
Block 19 (LCBO Plaza)	CC1											
Retail - Commercial > 2000 sq. metres		2,903	5.40	157	80%	125	100%	157	100%	157	70%	110
Office			3.20	-	10%	-	10%	-	10%	-	10%	-
Residential residents (per unit)			1.00	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Restaurants < 220 sq. metres (NA)				-	20%	-	100%	-	50%	-	100%	-
Restaurants > 220 sq. metres (NA)				-	20%	-	100%	-	50%	-	100%	-
sub-total required				157		125		157		**157**		110
sub-total provided				171		171		171		171		171
sub-total surplus/deficit				14		46		14		14		61
Block 22 (Vacant Kariya Gate)	CC2											
Retail - Commercial			4.30	-	80%	-	90%	-	90%	-	90%	-
Office			3.20	-	10%	-	10%	-	10%	-	10%	-
Residential residents (per unit)			1.00	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Restaurants < 220 sq. metres (City proposed)			4.30	-	20%	-	100%	-	50%	-	100%	-
Restaurants > 220 sq. metres (City proposed)			9.00	-	20%	-	100%	-	50%	-	100%	-
sub-total required				-		-		-		-		-
sub-total provided				-		-		-		-		-
sub-total surplus/deficit				-		-		-		-		-
Grand Total Required				8,860		6,206		7,417		**8,562**		7,917
Grand Total Supply				9,470		9,470		9,470		9,470		9,470
Grand Total Surplus/Deficit Parking				610		3,264		2,053		**908**		1,553

Notes:

1. Retail Core 4.21 rate is effective approved variance rate of 7438 spaces for 176,484.11 square metres GFA. Existing By-law rate is 4.57.
2. Office supply rate is 4.57 in commercial core and 3.2 elsewhere in the City.
3. Coliseum demand based on originally approved parking supply rates of 1/6 seats in the cinema and 10.0 spaces per 100sm for the restaurant.
4. Sheridan Collge Demand based on existing shared parking agreement for 473 spaces.
5. The City is proposing in Zoning By-Law 0050-2013, reduced rates for restaurants in the downtown core including 9.0/100sm for greater than 2200 sq.m. and 4.3 for less than 2200 sq. m.
6. There is also an alternate shared parking calculation available in the existing zoning by-law for a cpmmercial uses in a residential building on the same lot whereby the greater of the residential visitor requirement of 0.15 spaces per unit or the commercial parking requirement is provided (i.e. not additive but shared).
7. Blocks 13-14 (Chapters) demand based on originally approved parking rates.

TABLE 11

WEEKDAY SHARED PARKING ZONE SUPPLY REQUIREMENTS - Recommended Parking Supply Rates

Square One Properties - Mississauga Downtown Core

WEEKDAY (Monday to Friday) Land Use / Parking Required & Supply	Zoning	GFA (SM)	Peak Demand Rate	Peak Spaces Required	WITH SHARED PARKING FACTORS							
					Morning		Noon		Afternoon		Evening	
					%	Demand	%	Demand	%	Demand	%	Demand
Square One (Blocks 1-5)	CC1											
Retail Core Commercial		176,484	3.80	6,706	60%	4,024	75%	5,030	80%	5,365	65%	4,359
Office			2.10	-	100%	-	90%	-	95%	-	10%	-
sub-total required				6,706		4,024		5,030		**5,365**		4,359
sub-total provided				7,438		7,438		7,438		7,438		7,438
sub-total surplus/deficit				732		3,414		2,408		2,073		3,079
Block 8 (Residential Block)												
Residential residents (average per unit rate)			0.85	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Retail - Commercial			3.80	-	80%	-	90%	-	90%	-	90%	-
Restaurants < 220 sq. metres (City proposed)			3.80	-	20%	-	100%	-	30%	-	100%	-
Restaurants > 220 sq. metres (City proposed)			9.00	-	20%	-	100%	-	30%	-	100%	-
sub-total required				-		-		-		-		-
sub-total provided				-		-		-		-		-
sub-total surplus/deficit				-		-		-		-		-
Blocks 9-12 (Coliseum)	CC2											
Cinema (1 space/6 seats original approval)		3,272	0.17	545	0%	-	25%	136	25%	136	100%	545
Restaurants < 220 sq. metres				-	20%	-	100%	-	30%	-	100%	-
Restaurants > 220 sq. metres (original approval)		674	10.00	67	20%	13	100%	67	30%	20	100%	67
Sheridan College				473	90%	426	100%	473	90%	426	0%	-
Residential residents (average per unit rate)			0.85	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Office			2.10	-	100%	-	90%	-	95%	-	10%	-
Retail - Commercial			3.80	-	80%	-	90%	-	90%	-	90%	-
sub-total required				1,086		439		**677**		582		613
sub-total provided				1,151		1,151		1,151		1,151		1,151
sub-total surplus/deficit				65		712		474		569		538
Blocks 13 -18 (Chapters, Playdium & Province)	CC1(CCO)											
Retail - Commercial		5,678	5.40	307	80%	245	90%	276	90%	276	90%	276
Restaurants < 220 sq. metres				-	20%	-	100%	-	30%	-	100%	-
Restaurants > 220 sq. metres (original approval)		1,456	10.00	146	20%	29	100%	146	30%	44	100%	146
Playdium (original approval)				200	80%	160	90%	180	90%	180	90%	180
Office			2.10	-	100%	-	90%	-	95%	-	10%	-
Residential residents (average per unit rate)			0.85	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
sub-total required				652		434		**602**		500		602
sub-total provided				710		710		710		710		710
sub-total surplus/deficit				58		276		108		210		108
Block 19 (LCBO Plaza)	CC1											
Retail - Commercial > 2000 sq. metres		2,903	5.40	157	80%	125	90%	141	90%	141	90%	141
Office			2.10	-	100%	-	90%	-	95%	-	10%	-
Residential residents (average per unit rate)			0.85	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Restaurants < 220 sq. metres (NA)				-	20%	-	100%	-	30%	-	100%	-
Restaurants > 220 sq. metres (NA)				-	20%	-	100%	-	30%	-	100%	-
sub-total required				157		125		141		**141**		141
sub-total provided				171		171		171		171		171
sub-total surplus/deficit				14		46		30		30		30
Block 22 (Vacant Kariya Gate)	CC2											
Retail - Commercial			3.80	-	80%	-	90%	-	90%	-	90%	-
Office			2.10	-	100%	-	90%	-	95%	-	10%	-
Residential residents (average per unit rate)			0.85	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Restaurants < 220 sq. metres (City proposed)			3.80	-	20%	-	100%	-	30%	-	100%	-
Restaurants > 220 sq. metres (City proposed)			9.00	-	20%	-	100%	-	30%	-	100%	-
sub-total required				-		-		-		-		-
sub-total provided				-		-		-		-		-
sub-total surplus/deficit				-		-		-		-		-
Grand Total Required				8,601		5,023		6,449		**6,588**		5,715
Grand Total Supply				9,470		9,470		9,470		9,470		9,470
Grand Total Surplus/Deficit Parking				869		4,447		3,021		**2,882**		3,755

Notes:

1. Retail Core 3.8 rate is based upon survey results at Square One (see report).
2. Office supply rate is based upon non auto mode share target of 30%.
3. Coliseum demand based on originally approved parking supply rates of 1/6 seats in the cinema and 10.0 spaces per 100sm for the restaurant.
4. Sheridan College Demand based on existing shared parking agreement for 473 spaces.
5. The City is proposing in Zoning By-Law 0050-2013, reduced rates for restaurants in the downtown core including 9.0/100sm for greater than 2200 sq.m. and 4.3 for less than 2200 sq. m.
6. There is also an alternate shared parking calculation available in the existing zoning by-law for a cpmmercial uses in a residential building on the same lot whereby the greater of the residential visitor requirement of 0.15 spaces per unit or the commercial parking requirement is provided (i.e. not additive but shared).
7. Blocks 13-14 (Chapters) demand based on originally approved parking rates.
8. Residential Apartment rate is the average rate obtained by calculating the required supply for each unit type.
9. Red numbers indicate recommended peak parking supply rate.

TABLE 12

SATURDAY SHARED PARKING ZONE SUPPLY REQUIREMENTS - Recommended Parking Supply Rates

Square One Properties - Mississauga Downtown Core

SATURDAY			Peak	Peak	WITH SHARED PARKING FACTORS							
Land Use / Parking Required & Supply	Zoning	GFA (SM)	Demand Rate	Spaces Required	Morning		Noon		Afternoon		Evening	
					%	Demand	%	Demand	%	Demand	%	Demand
Square One (Blocks 1-5)	CC1											
Retail Core Commercial		176,484	3.80	6,706	75%	5,030	85%	5,700	100%	6,706	90%	6,036
Office			2.10	-	10%	-	10%	-	10%	-	10%	-
sub-total required				6,706		5,030		5,700		**6,706**		6,036
sub-total provided				7,438		7,438		7,438		7,438		7,438
sub-total surplus/deficit				732		2,408		1,738		732		1,402
Block 8 (Residential Block)												
Residential residents (average per unit rate)			0.85	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Retail - Commercial			3.80	-	80%	-	100%	-	100%	-	70%	-
Restaurants < 220 sq. metres (City proposed)			3.80	-	20%	-	100%	-	50%	-	100%	-
Restaurants > 220 sq. metres (City proposed)			9.00	-	20%	-	100%	-	50%	-	100%	-
sub-total required				-		-		-		-		-
sub-total provided				-		-		-		-		-
sub-total surplus/deficit				-		-		-		-		-
Blocks 9-12 (Coliseum)	CC2											
Cinema (1 space/6 seats original approval)		3,272	0.17	545	10%	55	40%	218	65%	355	100%	545
Restaurants < 220 sq. metres				-	20%	-	100%	-	50%	-	100%	-
Restaurants > 220 sq. metres (original approval)		674	10.00	67	20%	13	100%	67	50%	34	100%	67
Sheridan College				-	0%	-	0%	-	0%	-	0%	-
Residential residents (average per unit rate)			0.85	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Office			2.10	-	10%	-	10%	-	10%	-	10%	-
Retail - Commercial			3.80	-	80%	-	100%	-	100%	-	70%	-
sub-total required				613		68		286		**388**		**613**
sub-total provided				1,151		1,151		1,151		1,151		1,151
sub-total surplus/deficit				538		1,083		865		763		538
Blocks 13 -18 (Chapters, Playdium & Province)	CC1(CCO)											
Retail - Commercial		5,678	5.40	307	80%	245	100%	307	100%	307	70%	215
Restaurants< 220 sq. metres				-	20%	-	100%	-	50%	-	100%	-
Restaurants > 220 sq. metres (original approval)		1,456	10.00	146	20%	29	100%	146	50%	73	100%	146
Playdium				200	80%	160	100%	200	100%	200	70%	140
Office			2.10	-	10%	-	10%	-	10%	-	10%	-
Residential residents (average per unit rate)			0.85	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
sub-total required				652		434		**652**		579		500
sub-total provided				710		710		710		710		710
sub-total surplus/deficit				58		276		58		131		210
Block 19 (LCBO Plaza)	CC1											
Retail - Commercial > 2000 sq. metres		2,903	5.40	157	80%	125	100%	157	100%	157	70%	110
Office			2.10	-	10%	-	10%	-	10%	-	10%	-
Residential residents (average per unit rate)			0.85	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Restaurants < 220 sq. metres (NA)				-	20%	-	100%	-	50%	-	100%	-
Restaurants > 220 sq. metres (NA)				-	20%	-	100%	-	50%	-	100%	-
sub-total required				157		125		157		**157**		110
sub-total provided				171		171		171		171		171
sub-total surplus/deficit				14		46		14		14		61
Block 22 (Vacant Kariya Gate)	CC2											
Retail - Commercial			3.80	-	80%	-	90%	-	90%	-	90%	-
Office			2.10	-	10%	-	10%	-	10%	-	10%	-
Residential residents (average per unit rate)			0.85	-	90%	-	65%	-	90%	-	100%	-
Residential visitors (per unit)			0.15	-	20%	-	20%	-	60%	-	100%	-
Restaurants < 220 sq. metres (City proposed)			3.80	-	20%	-	100%	-	50%	-	100%	-
Restaurants > 220 sq. metres (City proposed)			9.00	-	20%	-	100%	-	50%	-	100%	-
sub-total required				-		-		-		-		-
sub-total provided				-		-		-		-		-
sub-total surplus/deficit				-		-		-		-		-
Grand Total Required				8,128		5,658		6,795		**7,831**		7,259
Grand Total Supply				9,470		9,470		9,470		9,470		9,470
Grand Total Surplus/Deficit Parking				1,342		3,812		2,675		**1,639**		2,211

Notes:

1. Retail Core 3.8 rate is based upon survey results at Square One (see report).
2. Office supply rate is 4.57 in commercial core and 3.2 elsewhere in the City.
3. Coliseum demand based on originally approved parking supply rates of 1/6 seats in the cinema and 10.0 spaces per 100sm for the restaurant.
4. Sheridan Collge Demand based on existing shared parking agreement for 473 spaces.
5. The City is proposing in Zoning By-Law 0050-2013, reduced rates for restaurants in the downtown core including 9.0/100sm for greater than 2200 sq.m. and 4.3 for less than 2200 sq. m.
6. There is also an alternate shared parking calculation available in the existing zoning by-law for a cpmmercial uses in a residential building on the same lot whereby the greater of the residential visitor requirement of 0.15 spaces per unit or the commercial parking requirement is provided (i.e. not additive but shared).
7. Blocks 13-14 (Chapters) demand based on originally approved parking rates.
8. Residential Apartment rate is the average rate obtained by calculating the required supply for each unit type.
9. Red numbers indicate recommended peak parking supply rate.

6.0 CONCLUSIONS & RECOMMENDATIONS

1. The Downtown Core of Mississauga has experienced considerable growth over recent years in new high density residential development, the Sheridan College Campus, an expanded and more urban Square One Shopping Centre and Celebration Square. In order to achieve the City's vision for the area, it is important to manage the efficient use of parking in a manner that will facilitate compact urban development and improved urban design, support economic development and maximize the return on investment in the major transportation facilities that will be available.

   The north side of the Mississauga Downtown Core is designated as a major Anchor Mobility Hub by virtue of it being the nexus of several major transportation facilities including:

   - the City Centre Transit Terminal;
   - the City Centre Regional GO Bus Terminal;
   - the East-West Transitway BRT line;
   - the future Hurontario LRT line (2022+-).

   As the Downtown Core continues to develop as an urban mixed use centre by leveraging the transportation benefits of the Mobility Hub, it is expected that multi-modal transportation will take on a substantial role in providing mobility for people who live, work and visit the area. It is also anticipated that ride hailing services (e.g. taxi, Uber, etc.) and autonomous vehicles will take on a greater role into the future, reducing the use of single occupant vehicle travel and the demand for parking in general.

2. Since 2000, the owners of Square One Shopping Centre have worked with the City to reduce the amount of parking required to serve the major regional shopping centre, thereby replacing surface lots with new more compact and cost effective development. The reduction in parking supply requirements should continue into the future in order to reflect the very high degree of transit accessibility that will be available, the continued growth in residential development within easy walking and cycling distance and the flexible nature of shopping centre trips. With this in mind, it is recommended that a minimum parking supply rate of 3.8 spaces per hundred square metres GFA be adopted for the centre.

3. In order to facilitate the development of major new office space that will provide area residents with the opportunity to work within walking and cycling distance and wider area Mississauga residents with employment opportunities within the City, it is important to adopt reduced parking supply rates that support economic development and leverage the investment in major new transit facilities in the Downtown Core by reflecting appropriate travel mode share targets. With this in mind, it is recommended that a minimum parking supply rate of 2.1 spaces per hundred square metres GFA be adopted at this time for the Square One Properties.

4. In order to facilitate the provision of more affordable housing, and encourage people to shift to alternative travel modes by taking advantage of the major new investments in transit and active transportation facilities, minimum parking supply rates for high density residential development should be reduced to reflect appropriate travel mode share targets for the area as follows.

0.70 resident spaces per bachelor/one bedroom unit;
0.90 resident spaces per two bedroom unit;
1.0 resident space per three bedroom unit;
0.15 visitor spaces per unit

5. In order to facilitate the economic development of ancillary retail commercial space in new development, reflect the urban transit oriented main street vision for the downtown, and facilitate changing tenants in mixed use development, it is desirable to minimize the number of different parking supply rates for various uses and reduce the amount of parking required by implementing a minimum supply rate of:

   3.8 spaces per hundred square metres GFA for retail centres less than 2000 square metres, retail stores and personal service establishments;

   3.8 spaces per hundred square metres GFA for restaurants less than or equal to 220 square metres GFA and for Take-out restaurants;

   3.8 spaces per hundred square metres GFA for medical offices, real estate offices and financial institutions.

6. A summary of the recommended minimum parking supply rates is provided in Table 13, including a comparison with the existing supply rates in the zoning by-law.

7. One of the most important tools for maximizing the efficient use of parking is the effective use of shared parking resources that allow different land uses to minimize the need for new parking supply by taking advantage of temporal differences in demand. For example, Square One Shopping Centre has considerable vacant parking during the weekday from Monday to Friday that should be used to accommodate some of the parking demand associated with new office space, thereby reducing the need to supply new parking. Similarly, vacant office parking on evenings and weekends can be used to accommodate some of the demand associated with other land uses such as residential visitor parking, retail-commercial parking and cinema parking.

   Mississauga was one of the early adopters of shared parking, having incorporated it into their zoning by-laws for several decades. In order improve the use of shared parking resources, new or revised shared parking factors should be adopted for the Square One Shopping Centre, freestanding Cinemas, and Sheridan College as summarized in Table 14. In addition, the use of shared parking should be extended from individual development blocks or buildings to include all of the Square One Properties in Downtown Mississauga as illustrated on Figure 10.

TABLE 13 RECOMMENDED PARKING SUPPLY RATES – CC1, CC2 & CCO ZONES

Land Use	Current By-Law (No. of spaces per 100 sm GFA)	Proposed Revisions (No. of spaces per 100 sm GFA)
Retail Centre less than or equal to 2000 sq. m.	4.3[1]	**3.8**
Retail Centre Greater than 2000 sq. m.	5.4	no change proposed
CC1 Retail (Downtown) Core Commercial (Square One)[2]	4.57	**3.8**
Office	3.2	**2.1**
Medical Office Real Estate Office	6.5	**3.8**
Commercial School	5.0	no change proposed
Financial Institution	5.5	**3.8**
Night Club[3]	25.2	**9.0***
Personal Service Establishment	4.3	**3.8**
Repair Establishment	5.4	no change proposed
Recreational Establishment	4.5	no change proposed
Restaurant	16.0	**9.0***
Restaurant less than 220 sq. m.	NA	**3.8****
Take-out Restaurant	6.0	**3.8***
Retail Store	4.3	**3.8**
Entertainment Establishment	10.0	no change proposed
Overnight Accommodation	0.80 per guest room plus 10.0 spaces for non- residential GFA used for public use	no change proposed
Motor Vehicle Rental Facility	4.3	no change proposed
Apartment Dwelling	1.0 resident spaces per unit 0.15 visitor spaces per unit[4]	**For Residents:** **0.70 spaces per Bachelor unit** **0.70 spaces per 1 Bedroom unit** **0.90 spaces per 2 Bedroom unit** **1.00 spaces per 3 bedroom unit** **For visitors:** **0.15 visitor spaces per unit[4]**

Notes:
1. Parking for restaurant, convenience restaurant, place of religious assembly, funeral establishment, overnight accommodation, banquet hall/conference centre/convention centre and entertainment establishment uses will be provided at applicable rates for these uses.
2. Lands bounded by City Centre Drive, Duke of York Boulevard and Rathburn Road West
3. Night Clubs are not currently a permitted use in a C2 zone.
4. For Apartment buildings with mixed use commercial development, a shared parking arrangement may be used for the calculation of required visitor and non-residential parking whereby the greater of the visitor parking or the non-residential parking supply would be provided. The calculation excludes specific commercial uses including banquet hall/conference centre/convention centre, entertainment establishment, overnight accommodation, places of religious assembly, recreational establishment and restaurant uses.

* Denotes reduced parking supply rates already proposed by City in By-Law 0050-2013. ** Denotes where the City has proposed reduced rates of 4.3 in By-Law 0050-2013.

TABLE 14 REVISED SHARED PARKING FACTORS FOR THE SQUARE ONE PROPERTIES

Land Use	Percentage of Peak Period [1]			
	Morning	Noon	Afternoon	Evening
Proposed Requirement Retail (Downtown) Core Commercial (Square One Shopping Centre)	**60 (60)**	**75 (75)**	**80 (100)**	**65 (90)**
Existing Requirement Retail Centre/Retail Store/Personal Service Establishment Retail	80 (80)	90 (100)	90 (100)	90 (70)
Proposed Requirement Cinema	**0 (10)**	**25 (40)**	**25 (65)**	**100 (100)**
Proposed Requirement Sheridan College	**90 (0)**	**100 (0)**	**90 (0)**	**0 (0)**
Existing Requirement Office/Medical Office/Financial Institution	100 (10)	90 (10)	95 (10)	10 (10)
Existing Requirement Restaurant/Convenience Restaurant/ Take-out Restaurant	**20 (20)**	100 (100)	30 (50)	100 (100)
Existing Requirement Overnight Accommodation	70 (70)	70 (70)	70 (70)	100 (100)
Existing Requirement Residential - Resident Residential – Visitor[2]	90 (90) 20 (20)	65 (65) 20 (20)	90 (90) 60 (60)	100 (100) 100 (100)

Notes:

1. Non- bracketed numbers represent the weekday shared parking factors. Bracketed numbers represent the Saturday shared parking factors.
2. The general zoning by-law includes an alternate shared parking calculation for apartment dwellings in CC1to CC4 zones whereby the greater of the residential visitor parking supply or the parking required for all non-residential uses on the same lot except banquet hall/conference centre/convention centre, entertainment establishment, overnight accommodation, place of religious assembly, recreational establishment and restaurant.

The recommended peak period parking supply rates in Table 1 are multiplied by the percentage of the peak period factors in Table 2 for each of the four time periods (i.e. morning, noon, afternoon, evening). Each column is totalled for the weekday and weekend condition. The highest figure obtained from all of the time periods shall become the required number of parking spaces for the mixed use development.

APPENDIX A:
Square One Customer Volume Data

SQUAREONE

PEDESTRIAN TRAFFIC ANALYSIS JANUARY - DECEMBER 2016

No.	Month	Date	Day	Ped Volume	Rank	Comments
361	Dec	26	Mon	131,760	1	Boxing Day
330	Nov	25	Fri	112,580	2	Black Friday
362	Dec	27	Tue	98,459	3	
358	Dec	23	Fri	97,068	4	
331	Nov	26	Sat	93,612	5	
345	Dec	10	Sat	93,586	6	Parking Study
324	Nov	19	Sat	92,995	7	Parking Study
357	Dec	22	Thu	90,097	8	
353	Dec	18	Sun	88,704	9	
365	Dec	30	Fri	88,571	10	
352	Dec	17	Sat	88,032	11	
128	May	7	Sat	87,478	12	Mother's Day Weekend
363	Dec	28	Wed	86,958	13	
338	Dec	3	Sat	86,775	14	Parking Study
354	Dec	19	Mon	84,952	15	
86	Mar	26	Sat	84,362	16	Easter Saturday
356	Dec	21	Wed	84,244	17	
261	Sep	17	Sat	83,056	18	
355	Dec	20	Tue	82,012	19	
296	Oct	22	Sat	81,683	20	
317	Nov	12	Sat	81,122	21	
170	Jun	18	Sat	79,759	22	Father's Day Weekend
247	Sep	3	Sat	79,411	23	
364	Dec	29	Thu	78,946	24	
268	Sep	24	Sat	78,247	25	
359	Dec	24	Sat	78,170	26	Christmas Eve
351	Dec	16	Fri	77,770	27	
249	Sep	5	Mon	77,607	28	Labour Day
149	May	28	Sat	76,960	29	
100	Apr	9	Sat	76,677	30	
93	Apr	2	Sat	76,662	31	
79	Mar	19	Sat	76,484	32	
310	Nov	5	Sat	76,484	33	
163	Jun	11	Sat	75,885	34	
226	Aug	13	Sat	75,821	35	
240	Aug	27	Sat	75,561	36	
198	Jul	16	Sat	75,271	37	
275	Oct	1	Sat	75,245	38	
303	Oct	29	Sat	75,182	39	
344	Dec	9	Fri	74,814	40	
114	Apr	23	Sat	74,724	41	
289	Oct	15	Sat	74,522	42	
323	Nov	18	Fri	74,382	43	
135	May	14	Sat	74,289	44	
282	Oct	8	Sat	74,095	45	
246	Sep	2	Fri	74,044	46	
183	Jul	1	Fri	74,012	47	Canada Day

SQUAREONE

PEDESTRIAN TRAFFIC ANALYSIS JANUARY - DECEMBER 2016

No.	Month	Date	Day	Ped Volume	Rank	Comments
121	Apr	30	Sat	73,993	48	
212	Jul	30	Sat	73,716	49	
156	Jun	4	Sat	72,918	50	
205	Jul	23	Sat	72,860	51	
191	Jul	9	Sat	72,155	52	
332	Nov	27	Sun	71,738	53	
211	Jul	29	Fri	71,616	54	
134	May	13	Fri	71,565	55	
169	Jun	17	Fri	71,448	56	
233	Aug	20	Sat	71,330	57	
2	Jan	2	Sat	71,203	58	
78	Mar	18	Fri	71,096	59	
316	Nov	11	Fri	70,666	60	
337	Dec	2	Fri	70,355	61	
72	Mar	12	Sat	70,231	62	
239	Aug	26	Fri	70,214	63	
260	Sep	16	Fri	70,046	64	
177	Jun	25	Sat	69,909	65	
65	Mar	5	Sat	69,779	66	
127	May	6	Fri	69,712	67	
142	May	21	Sat	69,567	68	Victoria Day Weekend
107	Apr	16	Sat	69,462	69	
219	Aug	6	Sat	69,160	70	
176	Jun	24	Fri	69,005	71	
302	Oct	28	Fri	68,818	72	
9	Jan	9	Sat	68,623	73	
204	Jul	22	Fri	68,441	74	
58	Feb	27	Sat	68,424	75	
346	Dec	11	Sun	68,249	76	Parking Study
339	Dec	4	Sun	68,150	77	Parking Study
325	Nov	20	Sun	68,009	78	Parking Study
16	Jan	16	Sat	67,919	79	
190	Jul	8	Fri	67,856	80	
225	Aug	12	Fri	67,827	81	
232	Aug	19	Fri	67,610	82	
245	Sep	1	Thu	67,576	83	
348	Dec	13	Tue	67,488	84	
284	Oct	10	Mon	67,128	85	Thanksgiving Day
218	Aug	5	Fri	67,034	86	
248	Sep	4	Sun	66,890	87	
210	Jul	28	Thu	66,418	88	
184	Jul	2	Sat	66,374	89	
182	Jun	30	Thu	66,276	90	
30	Jan	30	Sat	66,050	91	
196	Jul	14	Thu	65,689	92	
44	Feb	13	Sat	65,678	93	
129	May	8	Sun	65,633	94	Mother's Day

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PEDESTRIAN TRAFFIC ANALYSIS JANUARY - DECEMBER 2016

No.	Month	Date	Day	Ped Volume	Rank	Comments
23	Jan	23	Sat	65,455	95	
241	Aug	28	Sun	65,313	96	
281	Oct	7	Fri	65,156	97	
46	Feb	15	Mon	65,096	98	Family Day
267	Sep	23	Fri	64,990	99	
197	Jul	15	Fri	64,966	100	
51	Feb	20	Sat	64,783	101	
181	Jun	29	Wed	64,639	102	
99	Apr	8	Fri	64,363	103	
295	Oct	21	Fri	64,351	104	
155	Jun	3	Fri	64,325	105	
242	Aug	29	Mon	64,286	106	
288	Oct	14	Fri	64,231	107	
192	Jul	10	Sun	64,182	108	
349	Dec	14	Wed	64,139	109	
141	May	20	Fri	64,107	110	
77	Mar	17	Thu	63,865	111	
214	Aug	1	Mon	63,829	112	Civic Holiday
162	Jun	10	Fri	63,793	113	
274	Sep	30	Fri	63,723	114	
209	Jul	27	Wed	63,689	115	
244	Aug	31	Wed	63,599	116	
37	Feb	6	Sat	63,580	117	
224	Aug	11	Thu	63,576	118	
366	Dec	31	Sat	63,535	119	New Year's Eve
350	Dec	15	Thu	63,381	120	
231	Aug	18	Thu	63,246	121	
309	Nov	4	Fri	63,070	122	
203	Jul	21	Thu	62,919	123	
243	Aug	30	Tue	62,891	124	
113	Apr	22	Fri	62,820	125	
208	Jul	26	Tue	62,637	126	
195	Jul	13	Wed	62,630	127	
148	May	27	Fri	62,363	128	
175	Jun	23	Thu	62,251	129	
229	Aug	16	Tue	61,855	130	
122	May	1	Sun	61,837	131	
230	Aug	17	Wed	61,822	132	
235	Aug	22	Mon	61,591	133	
262	Sep	18	Sun	61,514	134	
120	Apr	29	Fri	61,462	135	
318	Nov	13	Sun	61,454	136	
236	Aug	23	Tue	61,423	137	
202	Jul	20	Wed	61,406	138	
223	Aug	10	Wed	61,353	139	
43	Feb	12	Fri	61,329	140	
71	Mar	11	Fri	61,169	141	

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PEDESTRIAN TRAFFIC ANALYSIS JANUARY - DECEMBER 2016

No.	Month	Date	Day	Ped Volume	Rank	Comments
255	Sep	11	Sun	61,153	142	
269	Sep	25	Sun	61,109	143	
253	Sep	9	Fri	61,065	144	
297	Oct	23	Sun	61,017	145	
171	Jun	19	Sun	60,985	146	Father's Day
29	Jan	29	Fri	60,904	147	
217	Aug	4	Thu	60,890	148	
329	Nov	24	Thu	60,842	149	
189	Jul	7	Thu	60,834	150	
215	Aug	2	Tue	60,511	151	
237	Aug	24	Wed	60,490	152	
347	Dec	12	Mon	60,460	153	
180	Jun	28	Tue	60,443	154	
194	Jul	12	Tue	60,200	155	
216	Aug	3	Wed	60,177	156	
207	Jul	25	Mon	60,171	157	
75	Mar	15	Tue	60,155	158	
201	Jul	19	Tue	60,033	159	
311	Nov	6	Sun	60,014	160	
199	Jul	17	Sun	59,943	161	
179	Jun	27	Mon	59,841	162	
222	Aug	9	Tue	59,782	163	
200	Jul	18	Mon	59,688	164	
150	May	29	Sun	59,567	165	
304	Oct	30	Sun	59,536	166	
125	May	4	Wed	59,482	167	
343	Dec	8	Thu	59,439	168	
283	Oct	9	Sun	59,365	169	
238	Aug	25	Thu	59,245	170	
276	Oct	2	Sun	59,230	171	
228	Aug	15	Mon	59,227	172	
221	Aug	8	Mon	59,174	173	
126	May	5	Thu	58,988	174	
76	Mar	16	Wed	58,974	175	
290	Oct	16	Sun	58,926	176	
178	Jun	26	Sun	58,874	177	
88	Mar	28	Mon	58,829	178	Easter Monday
234	Aug	21	Sun	58,679	179	
187	Jul	5	Tue	58,667	180	
164	Jun	12	Sun	58,652	181	
144	May	23	Mon	58,576	182	Victoria Day
213	Jul	31	Sun	58,520	183	
250	Sep	6	Tue	58,481	184	
168	Jun	16	Thu	58,448	185	
336	Dec	1	Thu	58,439	186	
186	Jul	4	Mon	58,186	187	
193	Jul	11	Mon	58,059	188	

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PEDESTRIAN TRAFFIC ANALYSIS JANUARY - DECEMBER 2016

No.	Month	Date	Day	Ped Volume	Rank	Comments
342	Dec	7	Wed	58,033	189	
188	Jul	6	Wed	57,632	190	
157	Jun	5	Sun	57,617	191	
92	Apr	1	Fri	57,466	192	
340	Dec	5	Mon	57,459	193	
301	Oct	27	Thu	57,457	194	
106	Apr	15	Fri	57,443	195	
227	Aug	14	Sun	57,330	196	
335	Nov	30	Wed	56,993	197	
333	Nov	28	Mon	56,950	198	
64	Mar	4	Fri	56,668	199	
341	Dec	6	Tue	56,597	200	
259	Sep	15	Thu	56,583	201	
115	Apr	24	Sun	56,535	202	
3	Jan	3	Sun	56,505	203	
167	Jun	15	Wed	56,381	204	
124	May	3	Tue	56,370	205	
154	Jun	2	Thu	56,330	206	
123	May	2	Mon	56,305	207	
80	Mar	20	Sun	56,101	208	
299	Oct	25	Tue	56,062	209	
57	Feb	26	Fri	56,048	210	
8	Jan	8	Fri	56,041	211	
74	Mar	14	Mon	55,816	212	
133	May	12	Thu	55,759	213	
132	May	11	Wed	55,715	214	
98	Apr	7	Thu	55,632	215	
265	Sep	21	Wed	55,628	216	
73	Mar	13	Sun	55,616	217	
220	Aug	7	Sun	55,607	218	
256	Sep	12	Mon	55,563	219	
328	Nov	23	Wed	55,538	220	
172	Jun	20	Mon	55,464	221	
298	Oct	24	Mon	55,377	222	
206	Jul	24	Sun	55,308	223	
131	May	10	Tue	55,305	224	
45	Feb	14	Sun	55,234	225	
152	May	31	Tue	55,219	226	
36	Feb	5	Fri	55,088	227	
50	Feb	19	Fri	54,964	228	
159	Jun	7	Tue	54,938	229	
173	Jun	21	Tue	54,843	230	
185	Jul	3	Sun	54,717	231	
15	Jan	15	Fri	54,714	232	
266	Sep	22	Thu	54,657	233	
161	Jun	9	Thu	54,646	234	
143	May	22	Sun	54,596	235	

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PEDESTRIAN TRAFFIC ANALYSIS JANUARY - DECEMBER 2016

No.	Month	Date	Day	Ped Volume	Rank	Comments
22	Jan	22	Fri	54,521	236	
174	Jun	22	Wed	54,414	237	
136	May	15	Sun	54,403	238	
264	Sep	20	Tue	54,373	239	
285	Oct	11	Tue	54,359	240	
251	Sep	7	Wed	54,330	241	
165	Jun	13	Mon	54,300	242	
137	May	16	Mon	54,298	243	
91	Mar	31	Thu	54,257	244	
66	Mar	6	Sun	54,244	245	
59	Feb	28	Sun	54,140	246	
326	Nov	21	Mon	54,130	247	
334	Nov	29	Tue	54,090	248	
130	May	9	Mon	53,937	249	
153	Jun	1	Wed	53,766	250	
258	Sep	14	Wed	53,764	251	
272	Sep	28	Wed	53,763	252	
118	Apr	27	Wed	53,483	253	
327	Nov	22	Tue	53,422	254	
271	Sep	27	Tue	53,418	255	
147	May	26	Thu	53,385	256	
252	Sep	8	Thu	53,268	257	
108	Apr	17	Sun	53,051	258	
160	Jun	8	Wed	53,019	259	
119	Apr	28	Thu	52,985	260	
95	Apr	4	Mon	52,959	261	
263	Sep	19	Mon	52,930	262	
287	Oct	13	Thu	52,896	263	
1	Jan	1	Fri	52,783	264	New Year's Day
166	Jun	14	Tue	52,664	265	
322	Nov	17	Thu	52,623	266	
145	May	24	Tue	52,418	267	
294	Oct	20	Thu	52,340	268	
300	Oct	26	Wed	52,285	269	
139	May	18	Wed	51,880	270	
140	May	19	Thu	51,840	271	
315	Nov	10	Thu	51,752	272	
319	Nov	14	Mon	51,633	273	
257	Sep	13	Tue	51,606	274	
17	Jan	17	Sun	51,493	275	
89	Mar	29	Tue	51,481	276	
42	Feb	11	Thu	51,392	277	
158	Jun	6	Mon	51,383	278	
321	Nov	16	Wed	51,340	279	
146	May	25	Wed	51,280	280	
151	May	30	Mon	50,890	281	
280	Oct	6	Thu	50,886	282	

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PEDESTRIAN TRAFFIC ANALYSIS JANUARY - DECEMBER 2016

No.	Month	Date	Day	Ped Volume	Rank	Comments
286	Oct	12	Wed	50,870	283	
96	Apr	5	Tue	50,811	284	
270	Sep	26	Mon	50,792	285	
84	Mar	24	Thu	50,583	286	
320	Nov	15	Tue	50,581	287	
4	Jan	4	Mon	50,382	288	
308	Nov	3	Thu	50,346	289	
138	May	17	Tue	50,336	290	
111	Apr	20	Wed	50,220	291	
277	Oct	3	Mon	49,729	292	
110	Apr	19	Tue	49,647	293	
112	Apr	21	Thu	49,647	294	
116	Apr	25	Mon	49,597	295	
103	Apr	12	Tue	49,456	296	
5	Jan	5	Tue	49,348	297	
105	Apr	14	Thu	49,233	298	
10	Jan	10	Sun	49,228	299	
52	Feb	21	Sun	49,163	300	
81	Mar	21	Mon	49,046	301	
117	Apr	26	Tue	49,025	302	
306	Nov	1	Tue	48,996	303	
314	Nov	9	Wed	48,850	304	
7	Jan	7	Thu	48,769	305	
279	Oct	5	Wed	48,723	306	
305	Oct	31	Mon	48,723	307	
90	Mar	30	Wed	48,607	308	
293	Oct	19	Wed	48,410	309	
109	Apr	18	Mon	48,398	310	
101	Apr	10	Sun	48,370	311	
278	Oct	4	Tue	48,363	312	
312	Nov	7	Mon	48,311	313	
273	Sep	29	Thu	48,307	314	
31	Jan	31	Sun	48,231	315	
48	Feb	17	Wed	48,159	316	
102	Apr	11	Mon	48,137	317	
41	Feb	10	Wed	48,114	318	
307	Nov	2	Wed	48,059	319	
24	Jan	24	Sun	47,890	320	
6	Jan	6	Wed	47,627	321	
34	Feb	3	Wed	47,443	322	
70	Mar	10	Thu	47,247	323	
49	Feb	18	Thu	47,196	324	
68	Mar	8	Tue	47,175	325	
35	Feb	4	Thu	47,151	326	
63	Mar	3	Thu	47,149	327	
292	Oct	18	Tue	46,996	328	
82	Mar	22	Tue	46,800	329	

SQUAREONE

PEDESTRIAN TRAFFIC ANALYSIS JANUARY - DECEMBER 2016

No.	Month	Date	Day	Ped Volume	Rank	Comments
69	Mar	9	Wed	46,784	330	
291	Oct	17	Mon	46,761	331	
27	Jan	27	Wed	46,736	332	
14	Jan	14	Thu	46,718	333	
60	Feb	29	Mon	46,633	334	
33	Feb	2	Tue	46,612	335	
38	Feb	7	Sun	46,513	336	
11	Jan	11	Mon	46,371	337	
19	Jan	19	Tue	46,358	338	
97	Apr	6	Wed	46,303	339	
83	Mar	23	Wed	46,226	340	
313	Nov	8	Tue	46,054	341	
94	Apr	3	Sun	45,898	342	
254	Sep	10	Sat	45,876	343	
67	Mar	7	Mon	45,718	344	
18	Jan	18	Mon	45,503	345	
56	Feb	25	Thu	45,492	346	
13	Jan	13	Wed	45,368	347	
104	Apr	13	Wed	45,139	348	
47	Feb	16	Tue	44,768	349	
21	Jan	21	Thu	44,686	350	
54	Feb	23	Tue	44,576	351	
26	Jan	26	Tue	44,549	352	
62	Mar	2	Wed	44,408	353	
28	Jan	28	Thu	44,159	354	
53	Feb	22	Mon	43,681	355	
25	Jan	25	Mon	43,426	356	
40	Feb	9	Tue	43,161	357	
32	Feb	1	Mon	43,159	358	
39	Feb	8	Mon	43,002	359	
12	Jan	12	Tue	42,311	360	
20	Jan	20	Wed	39,393	361	
61	Mar	1	Tue	37,923	362	
55	Feb	24	Wed	35,327	363	
87	Mar	27	Sun	10,807	364	Easter Sunday
85	Mar	25	Fri	10,746	365	Good Friday
360	Dec	25	Sun	4,864	366	Christmas Day
Total				21,888,272		

SQUAREONE

PEDESTRIAN TRAFFIC ANALYSIS JANUARY - DECEMBER 2016

Saturdays

No.	Month	Date	Day	Ped Volume	Rank	Comments
331	Nov	26	Sat	93,612	1	Black Friday Weekend
345	Dec	10	Sat	93,586	2	Parking Study
324	Nov	19	Sat	92,995	3	Parking Study
352	Dec	17	Sat	88,032	4	
128	May	7	Sat	87,478	5	Sat before Mother's Day
338	Dec	3	Sat	86,775	6	Parking Study
86	Mar	26	Sat	84,362	7	Easter Saturday
261	Sep	17	Sat	83,056	8	
296	Oct	22	Sat	81,683	9	
317	Nov	12	Sat	81,122	10	
170	Jun	18	Sat	79,759	11	Sat before Father's Day
247	Sep	3	Sat	79,411	12	
268	Sep	24	Sat	78,247	13	
359	Dec	24	Sat	78,170	14	Christmas Eve
149	May	28	Sat	76,960	15	
100	Apr	9	Sat	76,677	16	
93	Apr	2	Sat	76,662	17	
79	Mar	19	Sat	76,484	18	
310	Nov	5	Sat	76,484	19	
163	Jun	11	Sat	75,885	20	
226	Aug	13	Sat	75,821	21	
240	Aug	27	Sat	75,561	22	
198	Jul	16	Sat	75,271	23	
275	Oct	1	Sat	75,245	24	
303	Oct	29	Sat	75,182	25	
114	Apr	23	Sat	74,724	26	
289	Oct	15	Sat	74,522	27	
135	May	14	Sat	74,289	28	
282	Oct	8	Sat	74,095	29	
121	Apr	30	Sat	73,993	30	
212	Jul	30	Sat	73,716	31	
156	Jun	4	Sat	72,918	32	
205	Jul	23	Sat	72,860	33	
191	Jul	9	Sat	72,155	34	
233	Aug	20	Sat	71,330	35	
2	Jan	2	Sat	71,203	36	
72	Mar	12	Sat	70,231	37	
177	Jun	25	Sat	69,909	38	
65	Mar	5	Sat	69,779	39	
142	May	21	Sat	69,567	40	Victoria Day Weekend
107	Apr	16	Sat	69,462	41	
219	Aug	6	Sat	69,160	42	
9	Jan	9	Sat	68,623	43	
58	Feb	27	Sat	68,424	44	
16	Jan	16	Sat	67,919	45	
184	Jul	2	Sat	66,374	46	
30	Jan	30	Sat	66,050	47	
44	Feb	13	Sat	65,678	48	
23	Jan	23	Sat	65,455	49	
51	Feb	20	Sat	64,783	50	
37	Feb	6	Sat	63,580	51	
366	Dec	31	Sat	63,535	52	New Year's Eve
254	Sep	10	Sat	45,876	53	
Total				3,954,730		

SQUAREONE

PEDESTRIAN TRAFFIC ANALYSIS JANUARY - DECEMBER 2016

Sundays

No.	Month	Date	Day	Ped Volume	Rank	Comments
353	Dec	18	Sun	88,704	1	
332	Nov	27	Sun	71,738	2	Black Friday Weekend
346	Dec	11	Sun	68,249	3	Parking Study
339	Dec	4	Sun	68,150	4	Parking Study
325	Nov	20	Sun	68,009	5	Parking Study
248	Sep	4	Sun	66,890	6	Labour Day Weekend
129	May	8	Sun	65,633	7	Mother's Day
241	Aug	28	Sun	65,313	8	
192	Jul	10	Sun	64,182	9	
122	May	1	Sun	61,837	10	
262	Sep	18	Sun	61,514	11	
318	Nov	13	Sun	61,454	12	
255	Sep	11	Sun	61,153	13	
269	Sep	25	Sun	61,109	14	
297	Oct	23	Sun	61,017	15	
171	Jun	19	Sun	60,985	16	Father's Day
311	Nov	6	Sun	60,014	17	
199	Jul	17	Sun	59,943	18	
150	May	29	Sun	59,567	19	
304	Oct	30	Sun	59,536	20	
283	Oct	9	Sun	59,365	21	
276	Oct	2	Sun	59,230	22	
290	Oct	16	Sun	58,926	23	
178	Jun	26	Sun	58,874	24	
234	Aug	21	Sun	58,679	25	
164	Jun	12	Sun	58,652	26	
213	Jul	31	Sun	58,520	27	
157	Jun	5	Sun	57,617	28	
227	Aug	14	Sun	57,330	29	
115	Apr	24	Sun	56,535	30	
3	Jan	3	Sun	56,505	31	
80	Mar	20	Sun	56,101	32	
73	Mar	13	Sun	55,616	33	
220	Aug	7	Sun	55,607	34	
206	Jul	24	Sun	55,308	35	
45	Feb	14	Sun	55,234	36	
185	Jul	3	Sun	54,717	37	
143	May	22	Sun	54,596	38	
136	May	15	Sun	54,403	39	
66	Mar	6	Sun	54,244	40	
59	Feb	28	Sun	54,140	41	
108	Apr	17	Sun	53,051	42	
17	Jan	17	Sun	51,493	43	
10	Jan	10	Sun	49,228	44	
52	Feb	21	Sun	49,163	45	
101	Apr	10	Sun	48,370	46	
31	Jan	31	Sun	48,231	47	
24	Jan	24	Sun	47,890	48	
38	Feb	7	Sun	46,513	49	
94	Apr	3	Sun	45,898	50	
87	Mar	27	Sun	10,807	51	Easter Sunday
360	Dec	25	Sun	4,864	52	Christmas Day
Total				2,940,704		