

---

## General Committee

### Date

2019/06/12

### Time

9:00 AM

### Location

Civic Centre, Council Chamber,  
300 City Centre Drive, Mississauga, Ontario, L5B 3C1

### Members

Mayor Bonnie Crombie	
Councillor Stephen Dasko	Ward 1
Councillor Karen Ras	Ward 2
Councillor Chris Fonseca	Ward 3
Councillor John Kovac	Ward 4
Councillor Carolyn Parrish	Ward 5 (Chair)
Councillor Ron Starr	Ward 6
Councillor Dipika Damerla	Ward 7
Councillor Matt Mahoney	Ward 8
Councillor Pat Saito	Ward 9
Councillor Sue McFadden	Ward 10
Councillor George Carlson	Ward 11

### Contact

Stephanie Smith, Legislative Coordinator, Legislative Services  
905-615-3200 ext. 3795  
Email [stephanie.smith@mississauga.ca](mailto:stephanie.smith@mississauga.ca)

### Find it Online

<http://www.mississauga.ca/portal/cityhall/generalcommittee>

---

Meetings of Council streamed live  
and archived at [Mississauga.ca/videos](http://Mississauga.ca/videos)

**GENERAL COMMITTEE INDEX - June 12, 2019****1. CALL TO ORDER****2. APPROVAL OF AGENDA****3. DECLARATION OF CONFLICT OF INTEREST****4. PRESENTATIONS – Nil****5. DEPUTATIONS**

5.1. Brian Bentz, President and CEO of Alectra Inc. to provide an update on Alectra Inc.

5.2. Item 8.1 David Warner, Chair of the Enersource Board, to provide an update on the Enersource Board

5.3. Anne Marie Peirce, President & CEO and Bonnie Yagar, Chair, Community Leadership Committee regarding the Community Foundation of Mississauga 2018 Vital Signs Report

5.4. Lee Dewitt III, Founder, Black Music Month Canada regarding June as Black Music Month

5.5. Items 8.2 and 8.3 Mickey Frost, Director, Works Operations and Maintenance and Scott Holmes, Senior Manager, Works Admin Operations and Maintenance

5.6. Item 8.5 Jamie Brown, Manager, Municipal Parking and Erica Warsh, Project Lead

**6. PUBLIC QUESTION PERIOD - 15 Minute Limit (5 minutes per speaker)**

Pursuant to Section 42 of the Council Procedure By-law 0139-2013, as amended: General Committee may grant permission to a member of the public to ask a question of General Committee, with the following provisions:

1. The question must pertain to a specific item on the current agenda and the speaker will state which item the question is related to.
2. A person asking a question shall limit any background explanation to two (2) statements, followed by the question.
3. The total speaking time shall be five (5) minutes maximum, per speaker.

**7. CONSENT AGENDA****8. MATTERS TO BE CONSIDERED**

8.1. Enersource Corporation - 2018 Audited Financial Statements



- 
- 8.2. Revisions to Minimum Maintenance Standards for Highways (Ontario Regulation 239/02)
  - 8.3. Winter Maintenance Pressures
  - 8.4. Review of a Sidewalk Snow Clearing By-law
  - 8.5. Parking Master Plan and Implementation Strategy Final Report
  - 8.6. Lower Driveway Boulevard Parking – Tea Garden Circle (Ward 4)
  - 8.7. Lower Driveway Boulevard Parking – Invergordon Lane (Ward 6)
  - 8.8. Lower Driveway Boulevard Parking – Montevideo Road (Ward 9)
  - 8.9. 15-Hour Parking – Kenway Drive, Gemstar Drive and Pendant Drive (Ward 5)
  - 8.10. Parking Prohibition – Inglewood Drive (Ward 1)
  - 8.11. Parking Prohibition – Nanticoke Road (Ward 7)
  - 8.12. Parking Prohibition - High Density Residential Roads (Ward 10)
  - 8.13. U-Turn Prohibition – Multiple Locations on Sombrero Way (Ward 11)
  - 8.14. 2019 Traffic Signal Installation and Modernization Program
  - 8.15. 40 km/h Neighbourhood Area Speed Limits
  - 8.16. Automated Speed Enforcement Update
  - 8.17. Water Gathering with the Credit – Ward 6
  - 8.18. Endorsement of the Canadian Urban Libraries Council's Government Relations Campaign on Accessing Digital Publications and "One eRead Canada"
  - 8.19. Trail Naming of Off-Road Trail #2 to "Nine Creeks Trail" (Wards 1, 2, 7 and 8)
  - 8.20. Surplus Declaration of City lands adjacent to 5031 Hurontario Street (Ward 5)
  - 8.21. Recommended Projects for the One-Time Doubling of Federal Gas Tax
  - 9. **ADVISORY COMMITTEE REPORTS**
  - 9.1. Road Safety Committee Report 4 - Part 2 - May 21, 2019
  - 9.2. Traffic Safety Council Report 3 - 2019 - May 29, 2019

9.3. Heritage Advisory Committee Report 6 - 2019 - June 4, 2019

10. **MATTERS PERTAINING TO REGION OF PEEL COUNCIL**

11. **COUNCILLORS' ENQUIRIES**

12. **OTHER BUSINESS/ANNOUNCEMENTS**

13. **CLOSED SESSION**

(Pursuant to Subsection 239 (2) of the Municipal Act, 2001)

13.1. Litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board; 125 Eglinton Avenue West – Claim against Pinnacle International (Ontario) Inc. and Terraprobe Inc. (Ward 5)

14. **ADJOURNMENT**

# City of Mississauga Corporate Report



Date: 2019/05/27

To: Chair and Members of General Committee

From: Gary Kent, CPA, CGA, ICD.D, Commissioner of  
Corporate Services and Chief Financial Officer

Originator's files:

Meeting date:  
2019/06/12

## Subject

**Enersource Corporation - 2018 Audited Financial Statements**

## Recommendation

That the 2018 Audited Financial Statements for Enersource Corporation, as outlined in the report entitled Enersource Corporation - 2018 Audited Financial Statements, from the Commissioner of Corporate Services and Chief Financial Officer, be received for information.

## Report Highlights

- As of February 1, 2017, Enersource Corporation became owner of 31% of Alectra Utilities Inc.
- The Enersource Board of Directors, at their Board meeting on April 16, 2019, reviewed and approved the 2017 audited financial statements of the Enersource Corporation (Appendix 1). KPMG is the auditor for Enersource Corporation.
- Dividends paid to Shareholders in 2018 were \$14.4 million:
  - \$12.9 million to the City of Mississauga (90% share)
- \$1.5 million to BPC Energy (10% share)

## Background

As of February 1, 2017, Enersource transformed into the owner of 31% of Alectra Utilities Inc.. Enersource Corporation is a company with its principal business activities being to hold 31% equity interest in Alectra Utilities, receive dividends from Alectra Utilities, and distribute dividends to its shareholders annually. The shareholders are the Corporation of the City of Mississauga with 90% share and BPC Energy Corporation (Borealis) with 10% share.

BDO Canada LLP has been retained by Enersource Corporation for a five year contract, to June 2022, to provide accounting and financial reporting services.

General Committee	2019/05/27	2
-------------------	------------	---

---

KPMG LLP has been retained as the Enersource Corporation's auditor. KPMG completed the 2018 audit of Enersource Corporation. On April 16, 2019, the Audited Financial Statements and Audit Report were presented to the Enersource Board which were subsequently received and approved.

On May 6, 2019, the Audit Committee of the City of Mississauga, reviewed a report entitled, '2018 Audited Financial Statements' which presented the consolidated financial statements of the City of Mississauga, plus other entities (Library board, BIA's, etc.) including Enersource Corporation. The Audit Committee received the 2018 Audited Financial Statements for information.

For transparency purposes, it should be noted that Gary Kent, as signatory of this corporate report, is also the City appointed CEO of Enersource Corporation.

## Comments

The attached Consolidated Financial Statements of Enersource Corporation, is a report card on the financial position, health and strength of the Enersource Corporation. The accompanying annual consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ('IFRS') as issued by the International Accounting Standards Board ('IASB'). These financial statements have been prepared on a historical cost basis. The financial statements provide information on the cost of all activities, reflecting the full nature and extent of the Enersource Corporation's financial affairs.

In the opinion of KPMG, the consolidated financial statements present fairly, in all material respects, the consolidated financial statements of Enersource Corporation as of December 31, 2018, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (Appendix 1- Page 2).

## Financial Impact

The following represents some highlights (as of Dec. 31, 2018) found in the financial statements, as attached in Appendix 1:

- Total Assets: \$ 613.8M (2017 \$597.1M)
- Total Liabilities and Shareholder Equity: \$ 613.8M (2017 \$597.1M)
- Total Non-Operating Revenues and (Expenses): \$31.8M (2017 \$246.4M)
- Total Comprehensive Income for the period: \$33.6M (2017 \$241.0M)

General Committee	2019/05/27	3
-------------------	------------	---

---

### Key Financial Statement Items:

- Cash balance at the end of 2018, after all dividend payments were made, was \$4.2M.
  - This cash balance is sufficient to sustain current and future operations.
- Enersource holds \$53.1M in debt, through CIBC, as a result of the merger.
- Shareholder equity increased from \$538.9M in 2017 to \$558.2 in 2018.
- Share of net income from investment in Alectra was \$32.9M (2017 \$23.3M).
- Majority of the expenses represent debt interest expenses and other administrative expenses to run Enersource Corporation.
- Dividends received from Alectra in 2018 were \$ \$18.8M, representing Q4 2017 and Q1-3 2018.
  - Q4 2018 was paid in March 2019.
- Dividends paid to Shareholders in 2018 were \$14.4M (2017 \$14.3M):
  - \$12.9M to the City of Mississauga (90% share) and
  - \$1.5M to BPC Energy (10% share)
- The City continues to provide a loan guarantee on Enersource's \$53.1M debt balance.

On January 1, 2019, Alectra Inc. amalgamated with Guelph Hydro Electric Systems Inc. ("GHESI"). Alectra Inc. issued 485,000 Class G Common Shares to Guelph Municipal Holdings Inc. ("GMHI") in consideration for all the issued and outstanding shares of GHESI. This common shares issuance by Alectra Inc. represents an effective 4.6% interest in its aggregate issued and outstanding classes of common shares. The amalgamation is expected to result in more efficient and enhanced service delivery through lower operating costs, while providing significant benefits for communities and shareholders.

The new shareholder ownership structure as a result of this merger is as follows: Barrie Hydro Holdings - 8.4%, Enersource Corporation - 29.6%, Hamilton Utilities Corporation - 17.3%, Markham Enterprises Corporation - 15%, St. Catharines Hydro Inc. - 4.6%, Vaughan Holdings Inc. - 20.5% and GMHI - 4.6%. The accounting and valuation for the amalgamation is still being finalized. Consequently, disclosures regarding the amount of the purchased assets and liabilities cannot be determined.

## **Conclusion**

The Enersource Corporation 2018 Audited Financial Statements identify no concerns, going into the second year of existence. The financial position of Enersource Corporation is considered fully healthy through sound management and business practices.

General Committee

2019/05/27

4

---

**Attachments**

Appendix 1: 2018 Audited Financial Statements - Enersource Corporation



---

Gary Kent, CPA, CGA, ICD.D, Commissioner of Corporate Services and Chief Financial Officer

Prepared by: Mark Beauparlant, Sr Internal Auditor

Financial Statements of

# **ENERSOURCE CORPORATION**

Years ended December 31, 2018 and December 31, 2017

KPMG LLP  
 Bay Adelaide Centre.  
 333 Bay Street, Suite 4600  
 Toronto, ON M5H 2S5  
 Canada  
 Tel 416-777-8500.  
 Fax 416-777-8818

## INDEPENDENT AUDITORS' REPORT

To the Shareholders of Enersource Corporation

### **Opinion**

We have audited the financial statements of Enersource Corporation (the Entity), which comprise:

- the statement of financial position as at December 31, 2018
- the statement of comprehensive Income for the year then ended
- the statement of changes in equity for the year then ended
- the statement of cash flows for the year then ended
- and notes to the financial statements, including a summary of significant accounting policies (Hereinafter referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Entity as at December 31, 2018, and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRS).

### **Basis for Opinion**

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the **"Auditors' Responsibilities for the Audit of the Financial Statements"** section of our auditors' report.

We are independent of the Entity in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada and we have fulfilled our other responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### **Responsibilities of Management and Those Charged with Governance for the Financial Statements**

Management is responsible for the preparation and fair presentation of the financial statements in accordance with IFRS, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Entity's ability to continue as a going concern, disclosing as applicable matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Entity's financial reporting process.



## **Enersource Corporation**

### **Auditors' Responsibilities for the Audit of the Financial Statements**

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit.

We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.

The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

*Enersource Corporation*

---

- Communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

*KPMG LLP*

---

Chartered Professional Accountants, Licensed Public Accountants

Toronto, Canada  
April 16, 2019

# ENERSOURCE CORPORATION

## Statement of Financial Position

(In thousands of Canadian dollars)

As at December 31, 2018 and December 31, 2017

	Note	December 31, 2018	December 31, 2017
<b>Assets</b>			
<b>Current assets:</b>			
Cash		\$ 4,241	\$ 3,533
Income taxes receivable	6	-	3
Prepaid expense		137	98
Total current assets		4,378	3,634
<b>Non-current assets:</b>			
Investment in Alectra	5	609,060	593,079
Interest rate swaps	8	405	422
Total non-current assets		609,465	593,501
Total assets		\$ 613,843	\$ 597,135
<b>Liabilities and Shareholders' Equity</b>			
<b>Current liabilities:</b>			
Accounts payable and accrued liabilities	7	\$ 39	\$ 83
Loans and borrowings	8	2,500	2,500
Total current liabilities		2,539	2,583
<b>Non-current liabilities:</b>			
Loans and borrowings	8	53,125	55,625
Total non-current liabilities		53,125	55,625
Total liabilities		55,664	58,208
<b>Shareholders' equity:</b>			
Share capital	9	175,691	175,691
Accumulated other comprehensive income (loss)		(1,672)	(3,532)
Retained earnings		384,160	366,768
Total shareholders' equity		558,179	538,927
Total liabilities and shareholders' equity		\$ 613,843	\$ 597,135

The accompanying notes are an integral part of the financial statements.

# ENERSOURCE CORPORATION

## Statement of Comprehensive Income

(In thousands of Canadian dollars)

Years ended December 31, 2018 and 2017

	Notes	December 31, 2018	December 31, 2017
<b>REVENUE:</b>			
Energy sales		\$ -	\$ 70,863
Distribution		-	10,607
Services		-	1,308
Other revenue		-	1,356
<b>Total operating revenue</b>		-	<b>84,134</b>
<b>EXPENSES:</b>			
Energy purchases		-	74,559
Employee salaries and benefits		-	3,523
Materials and transportation		-	788
Contract labor		-	814
Other expenses		-	1,870
Conservation and demand management		-	892
Depreciation of property, plant and equipment		-	2,457
Amortization of intangible assets		-	390
<b>Total operating expenses</b>		-	<b>85,293</b>
<b>Results from operating activities</b>		-	<b>(1,159)</b>
<b>Non-operating revenue (expenses):</b>			
Gain on Investment In Enersource Holdings for Investment In Alectra	5	-	225,260
Share of net income from investment in Alectra	5	32,917	23,330
Unrealized fair value (loss) gain on Interest rate swap		(17)	422
Office supplies		(21)	-
Professional services fee		(86)	-
Board management fee		(74)	(80)
Finance income		111	134
Financial expenses		(1,348)	(2,700)
Interest expense on post-employment benefits		-	(19)
<b>Non-operating revenue</b>		<b>31,482</b>	<b>246,347</b>
Profit before Income taxes		31,482	245,188
Income tax recovery	6	289	493
<b>Profit for the year</b>		<b>31,771</b>	<b>245,681</b>
Other comprehensive Income/(loss), net of Income tax:			
Share of other comprehensive Income/(loss) from investment in Alectra	5	1,860	(4,650)
<b>Total comprehensive income for the year</b>		<b>\$ 33,631</b>	<b>\$ 241,031</b>

The accompanying notes are an integral part of the financial statements.

# ENERSOURCE CORPORATION

## Statement of Cash Flows

(In thousands of Canadian Dollars)

Years ended December 31, 2018 and 2017

	Notes	December 31, 2018	December 31, 2017
Cash flows from operating activities:			
Comprehensive Income for the year		\$ 33,631	\$ 241,031
Adjustments for:			
Depreciation of property, plant and equipment		-	2,457
Amortization of Intangible assets		-	390
Gain on Investment In Alectra		-	(225,260)
Share of net income from Investment In Alectra		(32,917)	(23,330)
Share of OCI from Investment In Alectra		(1,860)	4,650
Amortization of deferred contributions		-	(53)
Loss/(gain) on disposals of property, plant and equipment		-	5
Post-employment benefits		-	27
Environmental provision		-	13
Interest rate swap		17	(422)
Income tax recovery		(289)	(493)
Non-operating Income		(111)	(134)
Non-operating expense		1370	2,700
Promissory note		-	-
Income tax received (paid)		292	(55)
Changes in non-cash working capital balances	10	(83)	6,997
Cash (used in)/from operating activities		50	8,523
Cash flows from Investing activities:			
Customer deposits		-	261
Interest received		111	134
Additions to property, plant and equipment		-	(3,662)
Additions to Intangible assets		-	(149)
Additions to deferred contributions		-	411
Proceeds from sales of property, plant and equipment		-	15
Dividends from Alectra	5	18,796	8,629
Bank overdraft eliminated upon disposition of Enersource Holdings		-	46,253
Working capital payment from Alectra		-	1,200
Equity Injection to Enersource Holdings		-	(50,000)
Cash from/(used in) Investing activities		18,907	3,092
Cash flows from financing activities:			
Customer deposits		-	(261)
Proceeds from bank loans		-	69,836
Repayment of bank loans		(2,500)	(11,875)
Dividends paid		(14,379)	(14,340)
Interest paid		(1,370)	(1,284)
Cash (used in)/from financing activities		(18,249)	42,076
Increase in cash during the year		708	53,691
Cash, beginning of the year		3,533	(50,158)
Cash, end of the year		\$ 4,241	\$ 3,533

The accompanying notes are an integral part of the financial statements.

ENERSOURCE CORPORATION  
Statement of Changes In Equity  
(In thousands of Canadian dollars)  
Years ended December 31, 2018 and 2017

	Share Capital	Accumulated other Comprehensive Income(Loss)	Retained Earnings	Total Equity
Balance at January 1, 2018	\$ 175,691	\$ (3,532)	\$ 366,768	\$ 538,927
Profit for the year	-	-	31,771	31,771
other comprehensive income (loss), net of tax	-	1,860	-	1,860
Dividends paid	-	-	(14,379)	(14,379)
<b>Balance at December 31, 2018</b>	<b>\$ 175,691</b>	<b>\$ (1,672)</b>	<b>\$ 384,160</b>	<b>\$ 558,179</b>

Balance at January 1, 2017	\$ 175,691	\$ 1,118	\$ 135,427	\$ 312,236
Profit for the year	-	-	245,681	245,681
Other comprehensive income (loss), net of tax	-	(4,650)	-	(4,650)
Dividends paid	-	-	(14,340)	(14,340)
<b>Balance at December 31, 2017</b>	<b>\$ 175,691</b>	<b>\$ (3,532)</b>	<b>\$ 366,768</b>	<b>\$ 538,927</b>

# ENERSOURCE CORPORATION

Notes to the Financial Statements

(In thousands of Canadian dollars)

For the years ended December 31, 2018 and 2017

## 1. General Information

### a) Corporate Information

Enersource Corporation (the "Corporation"), incorporated under the Ontario Business Corporations Act, was formed to conduct electricity distribution and non-regulated utility service ventures. The Corporation is owned 90% by the City of Mississauga (the "City") and 10% by BPC Energy Corporation ("Borealis"), a wholly owned subsidiary of the Ontario Municipal Employees Retirement System ("OMERS").

The Corporation's equity is not traded in a public market. The Corporation's registered office is located at 300 City Centre Drive, Mississauga, Ontario, L5B 3C1.

The Corporation's audited financial statements are presented Canadian dollars, which is the Corporation's functional currency.

Further, all amounts contained herein are rounded to the nearest thousand, unless otherwise noted.

Prior to January 31, 2017, the Corporation had the following wholly-owned subsidiaries: Enersource Holdings Inc. ("Enersource Holdings"), Enersource Hydro Mississauga Inc. ("Enersource Hydro") and Enersource Services Inc. ("Enersource Services"), Enersource Technologies Inc. ("Technologies") and Enersource Power Services Inc. ("Power Services").

On January 31, 2017 as part of a series of unrelated transactions, the Corporation disposed of its wholly-owned subsidiary, Enersource Holdings. On the same date, Enersource Holdings amalgamated with PowerStream Holdings Inc. ("PowerStream") and Horizon Holdings Inc. ("Horizon") to form Alectra Inc. ("Alectra"). Alectra's primary businesses are to distribute electricity to customers in municipalities in the greater golden horseshoe area as well as provide non-regulated energy services. In consideration for its disposition of Enersource Holdings, the Corporation received a 31 % ownership interest in Alectra's issued and outstanding common shares. Accordingly, the Corporation is considered to have significant influence over Alectra's financial and operating policies and has accounted for its investment in Alectra under the equity method. Refer to note 5 for further details.

As this transaction was effective January 31, 2017, the 2017 comparative figures contain one month of results where Enersource Holdings' operations were consolidated into the Corporation.

### b) Nature of operations

#### i) Prior to January 31, 2017

Prior to the disposition of Enersource Holdings on January 31, 2017, the Corporation provided electricity distribution services to businesses and residences in the City of Mississauga, Ontario through its subsidiary, Enersource Hydro.

Power Services provided utility services, including electricity distribution infrastructure design, construction and operations and streetlight construction and maintenance services to customers in Ontario.

## ENERSOURCE CORPORATION

Notes to the Financial Statements

(In thousands of Canadian dollars)

For the years ended December 31, 2018 and 2017

### ii) Post January 31, 2017

Subsequent to the disposition of Enersource Holdings on January 31, 2017, the Corporation acts as a holding company. The Corporation's principal business activity is to hold a 31% equity interest in Alectra. Dividends are received from Alectra. The Corporation also distributes dividends to its shareholders annually.

## 2. Basis of Preparation

### a) Statement of compliance

The financial statements have been prepared in accordance with *International Financial Reporting Standards* ("IFRS") as Issued by the *International Accounting Standards Board* ("IASB").

These financial statements have been approved by the Corporation's Board of Directors on April 16, 2019.

Certain prior year figures have been reclassified to conform to the presentation of the current year.

### b) Basis of measurement

These financial statements have been prepared on a historical cost basis, with the exception of the unrealized fair value gain on Interest rate swap, which is measured at fair value through profit and loss.

## 3. Key Accounting Judgments, Estimates and Assumptions

The preparation of financial statements requires management to make judgments, estimates and assumptions that affect the application of accounting policies and amounts reported and disclosed in the financial statements. Actual results may differ from these estimates. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

There were no key sources of estimation uncertainty and judgments at the end of the reporting period that could have a significant impact on the financial statements.

## 4. Significant Accounting Policies

### a) Changes in accounting policies

Effective January 1, 2018, the Corporation adopted new IFRS standards and applied the following new policies in preparing the financial statements.



## ENERSOURCE CORPORATION

Notes to the Financial Statements

(In thousands of Canadian dollars)

For the years ended December 31, 2018 and 2017

### *Financial instruments*

The Corporation adopted IFRS 9 *Finance Instruments* ("IFRS 9") with a date of initial application on January 1, 2018. IFRS 9 replaced IAS 39 - *Financial Instruments: Recognition and Measurement* ("IAS 39"). The Corporation adopted IFRS 9 retrospectively. Despite the retrospective adoption of IFRS 9, the Corporation is not required, upon initial application, to restate comparative figures.

IFRS 9 requires classification of financial assets as measured at amortized cost, fair value through profit or loss ("FVTPL") or fair value through other comprehensive income ("FVOCI") based on the business model in which they are held and the characteristics of their contractual cash flows. IFRS 9 requires classification of financial liabilities as measured at amortized cost or fair value.

The impact of IFRS 9 on the classification and measurement of the Corporation's financial instruments is set out below.

<b>Financial Instrument</b>	<b>IAS 39 Measurement basis</b>	<b>IFRS 9 Measurement basis</b>
Cash	FVTPL	Amortized cost
Interest rate swaps	FVTPL	FVTPL
Accounts payable	Financial liability - amortized	Financial liability - amortized
Loans and borrowings	Financial liability - amortized	Financial liability - amortized

IFRS 9 also introduces a new single model for the measurement of impairment losses on all financial assets. The IFRS 9 expected credit loss ("ECL") model replaces the current "Incurred loss" model of IAS 39. The incurred loss model under IAS 39 recognizes impairment when there is objective evidence of deterioration in the credit quality of the asset. Under IFRS 9, ECL will be recognized in the profit or loss before a loss event has occurred, which could result in earlier recognition of credit losses compared to IAS 39.

The adoption of IFRS 9 did not have an impact on the financial statements.

### *Revenue from Contracts with Customers*

The Corporation adopted IFRS 15 *Revenue from Contracts with Customers* ("IFRS 15") with an initial application date of January 1, 2018 which replaces IAS 11 *Construction Contracts* and IAS 18 *Revenue* ("IAS 18"). IFRS 15 sets out the requirements for recognizing revenue that apply to all contracts with customers, except for contracts that are within the scope of the standards on leases, Insurance contracts and financial Instruments. IFRS 15 uses a control-based approach to recognize revenue, which is a change from the risks and reward approach under previous standards.

The Corporation applied IFRS 15 using the cumulative effect method recognizing the cumulative effect of initially applying IFRS 15 as an adjustment to the opening equity balance as at January 1, 2018. Therefore, the comparative information has not been restated and continues to be reported under IAS 18. The adoption of IFRS 15 had no impact on the Corporation's financial statements as no revenue is currently being generated with customers.

## ENERSOURCE CORPORATION

Notes to the Financial Statements

(In thousands of Canadian dollars)

For the years ended December 31, 2018 and 2017

### b) Investment in Alectra

The Corporation's interest in Alectra is recognized and measured in line with IAS 28, *Investments in Associates and Joint Ventures* ("IAS 28").

Associates are those entities over which the Corporation has significant influence, but not control or joint control, over the financial and operating policies. Significant influence is presumed to exist when the Corporation holds between 20% and 50% of the voting power of another entity, but can also arise where the Corporation holds less than 20%, if it has the power to be actively involved and influential in policy decisions affecting the entity.

Investments in associates are accounted for using the equity method. The equity method involves the recording of the initial investment at cost, which includes transaction costs. Subsequent to initial recognition, the financial statements include the Corporation's share of profit or loss and any other changes in the associates' net assets, such as dividends of equity accounted investees, until the date on which significant influence ceases.

Adjustments are made to align the accounting policies of the associate with those of the Corporation before applying the equity method. When the Corporation's share of losses exceeds its interest in an equity accounted investee, the carrying amount of that interest is reduced to zero, and the recognition of further losses is discontinued except to the extent that the Corporation has incurred legal or constructive obligations or made payments on behalf of the associate. If the associate subsequently reports profits, the Corporation resumes recognizing its share of those profits only after its share of the profits equals the share of losses not recognized.

### c) Revenue recognition

The Corporation's source of income is interest and investment income. Interest income is recognized when earned, while investment income from Alectra is recorded as per Note 4 b) above.

### d) Income taxes

The Corporation recognizes deferred tax using the balance sheet method. Under this method, deferred income taxes reflect the net tax effects of temporary differences between the tax basis of assets and liabilities and their carrying amounts for accounting purposes, as well as for tax losses available to be carried forward to future years that are probable. Deferred tax assets and liabilities are measured using enacted or substantively enacted tax rates, at the reporting date, expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the year that includes the date of enactment or substantive enactment.

A deferred tax asset is recognized to the extent that it is probable that future taxable profits will be available against which the temporary difference can be utilized. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realized. Deferred tax liabilities are generally recognized on all taxable temporary differences.

## ENERSOURCE CORPORATION

Notes to the Financial Statements

(In thousands of Canadian dollars)

For the years ended December 31, 2018 and 2017

Current taxes are based on taxable profit or loss for the year, which differ from profit or loss as reported in the statement of comprehensive income because it excludes items that are taxable or deductible in other years and items that are neither taxable nor deductible. The Corporation's liability for current tax is calculated using tax rates that have been enacted or substantively enacted at the end of the reporting period.

Both current and deferred taxes are included as part of income tax expense in the statement of comprehensive income.

### e) Provisions and contingencies

The Corporation recognizes provisions if, as a result of a past event, there is a present legal or constructive obligation that can be measured reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and, where appropriate, the risks specific to the liability.

The evaluation of the likelihood of the contingent events requires judgment by management as to the probability of exposure to potential gain or loss. Actual results could differ from these estimates.

A contingent asset is not recognized in the financial statements. However, a contingent asset is disclosed where an inflow of economic benefits is probable.

### f) New standards and interpretations not yet adopted

Certain pronouncements were issued by the IASB or the IFRS Interpretations Committee that are mandatory for accounting years beginning after January 1, 2019 or later.

In January 2016, the IASB issued IFRS 16 *Leases* ("IFRS 16"), which replaces the IAS 17 *Leases* and related interpretations. IFRS 16 establishes the principles for the recognition, measurement, presentation and disclosure of leases, with the objective of ensuring that lessees and lessors provide relevant information that faithfully represents those transactions. The new standard brings most leases on-balance sheet for leases under a single model, eliminating the distinction between operating and finance leases. IFRS 16 is effective for annual reporting periods beginning on or after 1 January 2019. A lessee shall either apply IFRS 16 with full retrospective effect or alternatively not restate comparative information but recognize the cumulative effect of initially applying IFRS 16 as an adjustment to opening equity at the date of initial application. Earlier application is permitted if IFRS 15 has also been applied. The Corporation does not expect IFRS 16 to have any impact on its financial statements.

IFRIC 23 *Uncertainty over Income Tax Treatments* provides guidance on recognition and measurement of uncertain income tax treatments. The effective date of IFRIC 23 is January 1, 2019. The Corporation is in the process of evaluating the impact of this interpretation.

# ENERSOURCE CORPORATION

Notes to the Financial Statements

(In thousands of Canadian dollars)

For the years ended December 31, 2018 and 2017

## 5. Investment in Alectra

	December 31, 2018	December 31, 2017
Investment in Alectra	\$ 609,060	\$ 593,079
<b>Movement in equity accounted investee</b>		
Opening investment	\$ 593,079	\$ -
Initial investment in Alectra	-	583,028
Share of net income from investment in Alectra	32,917	23,330
Share of OCI in Alectra	1,860	(4,650)
Dividends received from Alectra	(18,796)	(8,629)
Closing investment in Alectra as at December 31	\$ 609,060	\$ 593,079

### Alectra Inc.

On January 31, 2017, the Corporation disposed of its wholly-owned subsidiary, Enersource Holdings. Enersource Holdings amalgamated with PowerStream and Horizon to form Alectra. Alectra's primary business is to distribute electricity to customers in municipalities in the greater golden horseshoe area as well as provide non-regulated energy services. In consideration for its disposition of Enersource Holdings, the Corporation received a 31% ownership interest in Alectra's issued and outstanding common shares. Accordingly, the Corporation is considered to have significant influence over Alectra's financial and operating policies and has accounted for its investment in Alectra under the equity method.

Alectra also issued Class S shares to the former PowerStream shareholders relating to Ring Fenced Solar Portfolio, a division of Alectra. In accordance with the Solar Services and Indemnity Agreement between the former PowerStream shareholders and Alectra, the solar division within Alectra is beneficially owned indirectly by the former PowerStream shareholders and as such, allocates the risks and rewards of Ring Fenced Solar Portfolio's operations to the former PowerStream shareholders through Alectra's Class S shares. As such, the Corporation does not hold Class S shares of Alectra.

As a result of the Alectra formation on January 31, 2017, the Corporation derecognized its investment in Enersource Holdings at cost of \$357,768 and recognized its initial 31% equity interest in Alectra at fair value of \$583,028 resulting in a gain on disposition of \$225,260 recorded in the statement of comprehensive income in December 31, 2017.

The following table summarizes the financial information of Alectra as included in its own financial statements, adjusted for fair value adjustments at acquisition as well as the removal of Ring Fenced Solar Portfolio's net assets and operating results. The table also reconciles the summarized financial information to the carrying amount of the Corporation's interest in Alectra.

**ENERSOURCE CORPORATION**

Notes to the Financial Statements

(In thousands of Canadian dollars)

For the years ended December 31, 2018 and 2017

	December 31, 2018	December 31, 2017
Percentage ownership interest:	31%	31%
Current assets (including cash of \$16,000 (2017 - \$122,000))	\$ 663,000	\$ 702,000
Non-current assets	3,992,000	3,779,000
Current liabilities (including current liabilities excluding AP, accruals and provisions of \$345,000 (2017 - \$268,000))	(788,000)	(739,000)
Non-current liabilities (including non-current liabilities excluding AP, accruals and provisions of \$2,175,000 (2017 - \$2,089,000))	(2,178,000)	(2,094,000)
<b>Net assets (100%)</b>	<b>1,689,000</b>	<b>1,648,000</b>
Ring Fenced Solar Portfolio Net Assets	(20,209)	(30,974)
Fair value adjustments from purchase price	296,145	296,145
	<b>1,964,936</b>	<b>1,913,171</b>
Carrying value of investment in Alectra (31%)	\$609,060	\$ 593,079
Revenue	\$ 3,452,000	\$ 3,125,000
Depreciation and amortization	(140,000)	(124,000)
Other expenses	(3,101,000)	(2,844,000)
Finance expenses	(64,000)	(55,000)
Income tax expense	(39,000)	(30,000)
Net income	109,000	74,000
Other comprehensive loss	6,000	(15,000)
Total comprehensive income	115,000	59,000
Ring Fenced Solar Portfolio net gain (loss)	2,816	(1,257)
Ring fenced Solar Portfolio other comprehensive income	-	1
Share of income (31%)	\$ 32,917	\$ 23,330
Share of other comprehensive income (loss) (31%)	\$ 1,860	\$ (4,650)

## ENERSOURCE CORPORATION

Notes to the Financial Statements

(In thousands of Canadian dollars)

For the years ended December 31, 2018 and 2017

### 6. Income Taxes

The components of income tax expense for the years ended December 31, 2018 and 2017 were as follows:

	December 31, 2018	December 31, 2017
Current income tax expense (recovery):		
Expense (recovery) for the year	\$ (289)	\$ 147
Total current Income tax expense (recovery)	(289)	147
Deferred income tax expense (recovery):		
Reversal of temporary differences	-	(640)
Total deferred Income tax expense (recovery)	-	(640)
Total income tax expense (recovery)	\$ (289)	\$ (493)

The provision for income taxes differs from the amount that would have been recorded using the combined federal and Ontario statutory income tax rate. Reconciliation between the statutory and effective tax rates is provided as follows:

	December 31, 2018	December 31, 2017
Federal and Ontario statutory income tax rate	26.50%	26.50%
Profit before provision for income taxes	\$ 33,631	\$ 241,031
Provision for income taxes at statutory rate:	\$ 8,912	\$ 63,873
<i>Increase/(decrease) resulting from:</i>		
Recovery of prior year's tax expense due to loss carryback	(289)	-
Differences between accounting net income and net income for tax purposes	(8,912)	(64,367)
Provision for income taxes	\$ (289)	\$ (493)
Effective income tax rate	0.86%	0.20%

## ENERSOURCE CORPORATION

Notes to the Financial Statements

(In thousands of Canadian dollars)

For the years ended December 31, 2018 and 2017

### 7. Accounts Payable and Accrued Liabilities

The components of accounts payable and accrued liabilities are as follows:

	December 31, 2018	December 31, 2017
Trade payables	\$ 39	\$ 39
Interest owed on rate swap	-	44
Total accounts payable and accrued liabilities	\$ 39	\$ 83

### 8. Loans and Borrowings

Bank Loan	December 31, 2018	December 31, 2017
Current	\$ 2,500	\$ 2,500
Non-current	53,125	55,625
Net bank loan	\$ 55,625	\$ 58,125

Outstanding debt is comprised of two bank loans, Credit Facility A and Credit Facility B which were entered into on January 27, 2017 and an interest rate swap, held with Canadian Imperial Bank of Commerce (CIBC). The interest rate on Credit Facility A and B bank loans is determined through a combination of the 3-month CDOR rate, reset 4 times each year: Feb 1st, May 1st, August 1st and November 1st plus a stamping fee of 0.60%. Credit Facility A has a 10 year term to maturity with a balance of \$35,000 and will be carried for the duration of the Facility. Credit Facility A has a floating interest rate with the last interest rate being reset at 2.807% on November 1, 2018 and is carried with quarterly interest payments. Credit Facility B has a 10 year term to maturity and an outstanding balance \$20,625. Credit Facility B is being paid down with quarterly principal and interest payments at a rate of \$625 per quarter and has an accompanying amortising interest rate swap associated with it, to create an effective fixed interest rate of 2.414%.

The credit facilities contain a covenant stating that the Corporation cannot incur any additional debt without CIBC's consent. In addition, the Corporation must advise CIBC if dividends are not received from Alectra in any quarter if the dividend amount is not sufficient to make the required monthly or quarterly payments of principal and interest. These covenants have not been breached in 2018 or 2017. The secured bank loans are guaranteed by the City of Mississauga in the amount of \$70,000.

The Corporation included \$17 of unrealized loss (2017 - \$422 gain) in its financial statements. \$405 is the fair value of the interest rate swap derivative, which represents the amount that the Corporation would have paid to unwind its position as at December 31, 2018. The notional value on the interest rate swap is \$20,625.

## ENERSOURCE CORPORATION

Notes to the Financial Statements

(In thousands of Canadian dollars)

For the years ended December 31, 2018 and 2017

Reconciliation of debt arising from financing activities:

	December 31, 2018	December 31, 2017
Balance beginning of the year	\$ 58,125	\$ 378,309
Net proceeds from loans	-	70,000
Principal repayment	(2,500)	(11,875)
Non Cash Changes:		
Disposition of EHI debt at Jan 31, 2017	-	(378,309)
	\$ 55,625	\$ 58,125

The corporation made interest payments of \$1,370 (2017 - \$1,284).

### 9. Share Capital

	December 31, 2018	December 31, 2017
<b>Authorized:</b>		
Unlimited, Class A shares, voting		
1,000 Class B shares, non-voting		
100 Class C shares, voting		
<b>Issued:</b>		
180,555,562 Class A shares	\$ 155,628	\$ 155,628
1,000 Class B shares	1	1
100 Class C shares	20,062	20,062
	\$ 175,691	\$ 175,691

The holders of Class A shares and Class C shares are entitled to receive notice of, to attend, and to vote at all general and special meetings of the Corporation's shareholders. The holders of Class B shares are not entitled to vote at any meeting of the Corporation's shareholders (except as required by law) and are only entitled to receive notice of special meetings called to consider certain fundamental changes.

Holders of Class A shares are entitled to one vote per share. Holders of Class C shares are entitled to such number of votes in respect of each Class C share as will entitle the holders of the Class C shares, as a class, to the proportion of the total number of votes of all shareholders entitled to vote at any such meeting that the Class C total base equity is of the aggregate regulated rate base equity of the Corporation's and its subsidiaries.



## ENERSOURCE CORPORATION

Notes to the Financial Statements

(In thousands of Canadian dollars)

For the years ended December 31, 2018 and 2017

The holders of the Class A shares and holders of the Class C shares, in priority to the holders of the Class B shares, are entitled to receive, if, as and when declared by the Corporation's Board of Directors, concurrent preferential dividends at a rate per annum equal to the regulated rate of return on the rate base equity represented by each such class of shares. The cumulative portion of such preferential dividend is the amount by which the preferential dividend for each class of shares exceeds the amount of regulated capital expenditures represented by each class of shares. The remaining portion is non-cumulative. As at December 31, 2018, there were no cumulative preferential dividends outstanding (December 31, 2017 – \$Nil). Once these preferential dividend entitlements have been satisfied, holders of each class of shares are entitled to receive, on a concurrent basis with each other class of shares, additional dividends if, as and when declared by the Corporation's Board of Directors and in such amounts and payable in such manner as may be determined from time to time by the Corporation's Board of Directors. Holders of the Class A shares and the Class C shares are together entitled to 60% of any such additional dividends, which are to be allocated between the holders of each such class of shares in proportion to the rate base equity represented by each such class. Holders of the Class B shares are entitled to 40% of any such additional dividends. Class A, B and C shares have no par value.

Dividends may be declared by the Board of Directors through a resolution. In 2018, dividends of \$14,379 (2017 - \$14,340) were declared and paid to the Shareholders of the Corporation.

### 10. Change in Non-cash Working Capital Balances

	December 31, 2018	December 31, 2017
Accounts receivable	\$ -	\$ (7,973)
Unbilled revenue	-	17,639
Inventories	-	376
Prepaid expense	(39)	(270)
Accounts payable and accrued liabilities	(44)	(2,980)
Advance payments	-	205
Decrease in working capital	\$ (83)	\$ 6,997

### 11. Related Party Transactions

As at December 31, 2018, accounts payable and accrued liabilities include \$Nil (2017 - \$16) due to the Borealis.

During the year, the Corporation incurred \$Nil (2017 – \$111) for property taxes to the City.

The Corporation charged Borealis \$Nil in 2018 (2017 – \$1) for an access agreement. These transactions are in the normal course of operations and were recorded at amounts agreed to by the parties.

## ENERSOURCE CORPORATION

Notes to the Financial Statements

(In thousands of Canadian dollars)

For the years ended December 31, 2018 and 2017

For 2018, a dividend of \$12,941 was declared and paid to the City (2017 - \$12,906), and a dividend of \$1,438 was declared and paid to Borealis (2017 - \$1,434). No Director had, during or at the end of the period, any material interest in any contract of significance in relation to the Corporation's business.

The following compensation has been provided to the key management personnel of the Corporation and members of the Board of Directors (Directors Honorarium), who have the authority and responsibility for planning, directing and controlling the activities of the entity, directly or indirectly.

	December 31, 2018	December 31, 2017
Salaries and short term employee benefits	\$ -	\$ 1,782
Retirement OMERS contributions	-	87
Other compensation	-	4
Directors honorarium and per diems	74	136
	<u>\$ 74</u>	<u>\$ 2,009</u>

### 12. Contingencies, Provisions, Commitments and Guarantees

#### a) Contingencies

The Corporation is a member of the Municipal Electric Association Reciprocal Insurance Exchange ("MEARIE"). A reciprocal insurance exchange may be defined as a group of persons formed for the purpose of exchanging reciprocal contracts of indemnity or inter-insurance with each other. MEARIE is licensed to provide general liability insurance to its members. Insurance premiums charged to each member consist of a levy per thousand dollars of service revenue subject to a credit or surcharge based on each member's claims experience. Current liability coverage is provided to a level of \$30,000 per occurrence.

As at December 31, 2018 and 2017, there are no legal actions where the Corporation is a defendant.

### 13. Financial Instruments and Risk Management

Financial instruments which are disclosed at fair value are to be classified using a three-level hierarchy. Each level reflects the inputs used to measure the fair values disclosed of the financial liabilities, and are as follows:

Level 1 – inputs are unadjusted quoted prices for identical instruments in active markets,

Level 2 – inputs other than quoted market prices included within Level 1 that are observable for the instrument, either directly or indirectly, and

Level 3 – inputs that are not based on observable market data. There were no financial instruments carried at fair value categorized in Level 3 as at December 31, 2018 and 2017.

## ENERSOURCE CORPORATION

Notes to the Financial Statements

(In thousands of Canadian dollars)

For the years ended December 31, 2018 and 2017

There were no transfers between levels during the year.

The fair values of cash and accounts payable and accrued liabilities approximate their carrying values due to the immediate or short-term maturity of these financial instruments.

The Corporation entered into an amortizing Interest Rate Swap (IRS) with CIBC on January 31 2017. The IRS is amortizing (being paid down) at the same rate as Credit Facility B. Both Credit Facility B and the IRS will be retired effective February 1, 2027. The IRS is an interest rate hedging instrument against CIBC Credit Facility B (identified in Note 8) and has the effect of locking in the interest rate associated with Credit Facility B at 2.414%. As a stand-alone financial instrument, CIBC provides a month-end "fair market value (FMV)" associated with the IRS. The FMV for the IRS as at December 31 2018 is \$405 (2017 - \$422). The interest rate swap is classified as a level 2 in the hierarchy.

The Corporation considers its capital to be its shareholders' equity. The Corporation manages its capital exposure to risk as described below. Exposure to market risk, credit risk, and liquidity risk arises in the normal course of the Corporation's business.

### a) Market Risk

Market risk refers primarily to risk of loss that results from changes in commodity prices, foreign exchange rates and interest rates.

The Corporation does not have a commodity risk or foreign exchange risk at December 31, 2018 and 2017.

The Corporation is exposed to short-term interest rate risk on its loans and borrowings and its net cash balances. The Corporation manages interest rate risk by monitoring its mix of fixed and floating rate instruments, and taking action as necessary to maintain an appropriate balance.

### b) Credit Risk

The Corporation is not exposed to significant credit risk given then nature of its operations.

### (c) Liquidity Risk:

Liquidity risk is the risk that the Corporation will not be able to meet its financial obligations as they come due. Short-term liquidity is provided through cash and funds from operations. Short-term liquidity is expected to be sufficient to fund normal operating requirements.

The Corporation has contractual obligations in the normal course of business; future minimum undiscounted contractual maturities are as follows:

Financial Liabilities	Due within 1 year	Due between 1 and 5 years	Due past 5 years
Accounts payable and accrued liabilities	\$ 39	\$ -	\$ -
Bank loan (interest and principal)	3,946	15,148	45,723
Total	\$ 3,985	\$ 15,148	\$ 45,723

## ENERSOURCE CORPORATION

Notes to the Financial Statements

(In thousands of Canadian dollars)

For the years ended December 31, 2018 and 2017

### 14. Subsequent Events

#### *Dividends*

On March 15, 2019, the Corporation received a dividend of \$10,055 from Alectra.

#### *Merger*

On January 1, 2019, Alectra Inc. amalgamated with Guelph Hydro Electric Systems Inc. ("GHESI"). Alectra Inc. issued 485,000 Class G Common Shares to Guelph Municipal Holdings Inc. ("GMHI") in consideration for all the issued and outstanding shares of GHESI. This common shares issuance by the Alectra Inc. represents an effective 4.6% interest in its aggregate issued and outstanding classes of common shares. The amalgamation is expected to result in more efficient and enhanced service delivery through lower operating costs, while providing significant benefits for communities and shareholders.

The new shareholder ownership structure as a result of this merger is as follows: Barrie Hydro Holdings – 8.4%, Enersource Corporation – 29.6%, Hamilton Utilities Corporation – 17.3%, Markham Enterprises Corporation – 15%, St. Catharines Hydro Inc. – 4.6%, Vaughan Holdings Inc. – 20.5% and GMHI – 4.6%.

The accounting and valuation for the amalgamation is still being finalized. Consequently, disclosures regarding the amount of the purchased assets and liabilities cannot be determined.

# City of Mississauga Corporate Report



Date: 2019/05/27

To: Chair and Members of General Committee

From: Geoff Wright, P. Eng., MBA, Commissioner of  
Transportation and Works

Originator's files:

Meeting date:  
2019/06/12

## Subject

**Revisions to Minimum Maintenance Standards for Highways (Ontario Regulation 239/02)**

## Recommendation

That the report from the Commissioner of Transportation and Works, dated May 27, 2019 and entitled "Revisions to Minimum Maintenance Standards for Highways (Ontario Regulation 239/02)", be received for information.

## Report Highlights

- The City's levels of service have traditionally met or exceeded many of the standards set out in the Minimum Maintenance Standards for Municipal Highways (Ontario Regulation 239/02) (MMS).
- On May 2, 2018 the Government of Ontario approved changes to the MMS in a number of key areas, namely winter maintenance of all sidewalks, greater inspection standards for sidewalks, winter maintenance of bicycle lanes and a new significant weather event declaration protocol.
- These changes were made effective on May 3, 2018.
- The City has a duty to maintain municipal roadways, including sidewalks in accordance with the *Municipal Act, 2001*. Due to recent amendments, the MMS now specifies sidewalk service levels, particularly in the area of winter maintenance, which the City is not presently meeting.

## Background

On May 2, 2018 the Government of Ontario approved changes to the MMS in a number of key areas, namely:

- winter maintenance of sidewalks;
- inspection standards for sidewalks;
- winter maintenance of bicycle lanes; and,
- declaration of a significant weather event.

General Committee	2019/05/27	2
-------------------	------------	---

---

These changes were made effective on May 3, 2018.

The MMS are reviewed by the Province every five years by a group led by the Ontario Good Roads Association (OGRA). Staff from a number of Ontario municipalities, the Ministry of Transportation, insurance carriers and lawyers were involved in the consultation process between the spring of 2015 and the fall of 2017.

Based on information shared by the Province during the consultation process, municipalities were expecting a “grace period” to plan and marshal resources in advance of the revisions taking effect; however, this was not the case due to the timing of the 2018 provincial election. It should be noted that one of the municipal representatives involved in the review is now employed with the City, and continues to provide support to the Department regarding the MMS changes and other road maintenance related matters.

The MMS are not mandatory, but they do provide the standard of care which, when met, satisfies a municipality’s duty to maintain a highway in a “state of repair” and provides a defense for municipalities against law suits and risk management claims. The City’s levels of service have traditionally met or exceeded many of the standards set out in the MMS.

## Comments

### Summary of Changes

The following summarizes the changes to the MMS:

- *New Winter Maintenance Standards for Sidewalks*

The MMS now includes a standard for sidewalk winter maintenance. The regulation states that:

***“The standard for addressing snow accumulation on a sidewalk after the snow accumulation has ended is:***

***a) To reduce the snow to a depth less than or equal to eight centimetres within 48 hours; and***

***b) To provide a minimum sidewalk width of 1 metre. O. Reg. 366/18, s.15.”***

Municipalities are under a duty to maintain all highways, including all sidewalks, in a “state of repair” pursuant to s. 44(1) of the *Municipal Act, 2001*. Currently, the City maintains priority sidewalks only. This accounts for approximately 1,700 kilometres (1,100 miles) out of a total of 2,400 kilometres (1,500 miles) of sidewalk. The remaining 700 kilometres (400 miles) of secondary sidewalks currently do not receive winter maintenance.

Staff are providing updated information on the cost to perform winter maintenance on secondary sidewalks in a separate report to General Committee, also being considered at its meeting of June 12, 2019.

- *New Inspection Standards for the Area Adjacent to the Sidewalk*

As outlined in Section 16.2 of the MMS, the area 45 centimetres (17.8 inches) on either side of the sidewalk should be inspected for encroachments once per calendar year. If the municipality identifies an encroachment that is highly unusual given its character and location, or constitutes a significant hazard to pedestrians, it must be treated within 28 days of making this determination to be considered in a state of repair. This is a new inspection standard for the MMS.

The City's sidewalk inspections are undertaken on an annual basis by the Works Operations and Maintenance Division's Technical Services section. The City's current sidewalk inspection program does not include the area immediately adjacent to the sidewalk.

The new standard may be incorporated into the current sidewalk inspection program without impacting staffing levels. However, there may be administrative and operational impacts related to addressing hazards given the various boulevard users (i.e. utilities, Region of Peel, City and residential/commercial/industrial encroachments).

- *New Winter Maintenance Standards for Bicycle Lanes*

Prior to the changes to the MMS, there were no MMS standards for winter maintenance of bicycle lanes. The City has cleared on-street bicycle lanes on priority roads as those roads are cleared. The new MMS provides a definition of "bicycle lane" and section 4.2 of the regulation outlines specific winter maintenance standards.

Under the MMS, a "bicycle lane" is defined as:

***"(a) a portion of a roadway that has been designated by pavement markings or signage for the preferential or exclusive use of cyclists, or  
(b) a portion of a roadway that has been designated for the exclusive use of cyclists by signage and a physical or marked buffer."***

Further, multi-use trails and bike paths are not considered bicycle lanes for the purposes of the MMS.

As a result, the City's Council-approved level of service for major/priority roads meets the new requirements for winter maintenance on bike lanes in the new MMS.

General Committee	2019/05/27	4
-------------------	------------	---

---

- *Significant Weather Event*

The new MMS includes a standard that allows municipalities to declare a “Significant Weather Event”. This allows municipalities to deploy in a timely manner during severe winter events and provides a level of reasonable protection against legal claims for the duration of the declaration. Roads and sidewalks are considered to be in “a state of repair” during the declaration and municipal and/or MMS service levels are deferred until after the end of both the event and declaration and resource deployment.

This change allows municipalities to effectively marshal resources to respond to significant winter weather events.

Standards for declaring a significant weather event have also been added to the MMS.

For instance, Section 16.4 of the regulation states:

***“(1) If a municipality declares a significant weather event relating to snow accumulation, the standard for addressing snow accumulation on sidewalks until the declaration of the end of the significant weather event is,***  
***(a) to monitor the weather in accordance with section 3.1; and***  
***(b) if deemed practicable by the municipality, to deploy resources to address snow accumulation on sidewalks starting from the time that the municipality deems appropriate to do so.”***

The regulation also outlines a requirement to communicate the declaration of a significant weather event to the public. The City has developed a protocol for the declaration and communication of a significant weather event this past winter season, which includes advising the Mayor and Members of Council when a significant weather event has been declared and advising the public through social media.

### **Key Considerations**

The City has a duty to maintain municipal roadways, including sidewalks in accordance with the *Municipal Act, 2001*. Due to recent amendments, the MMS now specifies sidewalk service levels, particularly in the area of winter maintenance, which the City is not presently meeting.

The MMS are not mandatory, but they do provide a standard of care that must be met to satisfy a municipality’s duty to maintain a highway in a “state of repair”. When the MMS are met, they provide a possible defense for municipalities against law suits and risk management claims. However, municipalities can have service levels that differ from the MMS. A copy of the MMS has been attached as Appendix 1.

The City continues to be at risk for claims on sidewalks that do not receive winter maintenance.



However, this level of risk appears to be consistent with the risk assumed on these sidewalks prior to the new MMS being enacted. For example, for the five-year period from 2013 to 2018, the City received 156 claims related to sidewalks during the winter months. Of these 156, 23 or 14.7%, were related to the City's non-priority sidewalks and had a total claims value of \$370,000.

Enforcement staff have been investigating the feasibility of implementing a by-law requiring residents to clear their sidewalks not currently cleared by the City under the current service level, and are reporting to General Committee on this matter in a separate report also being considered at its meeting of June 12, 2019.

### **Actions of other Municipalities**

Staff consulted with other local municipalities to determine how they were responding to the requirements of the new MMS given the lack of a grace period for implementation. In particular, staff contacted the following municipalities: Brampton, Burlington, Hamilton, Niagara Falls, Oakville, Richmond Hill, St. Catharines, Toronto, and Vaughan.

A chart showing staff's findings is shown below:

<b>Sidewalk Snow Clearing Municipal Scan</b>			
<b>Municipality</b>	<b>Are all sidewalks cleared now?</b>	<b>Are changes proposed to sidewalk winter maintenance?</b>	<b>Do you have an existing by-law for sidewalk clearing?</b>
<b>Brampton</b>	No	No	Yes
<b>Burlington</b>	Yes, clear residential sidewalks once accumulation reaches two inches or greater.	No	No
<b>Hamilton</b>	No	No	Yes
<b>Niagara Falls</b>	No	No	Yes
<b>Oakville</b>	Yes after 5cm on Priority 8cm Residential	No	No
<b>Richmond Hill</b>	Yes	No	No
<b>St. Catharines</b>	No	No	Yes

General Committee	2019/05/27	6
-------------------	------------	---

---

<b>Toronto</b>	No	No	Yes
<b>Vaughan</b>	Yes	No	No

## Financial Impact

There are no financial impacts associated with this report as it is being presented for information. Should Council change service levels on sidewalk winter maintenance to align with the new MMS standards, additional resources would be required. The details of this impact are presented in a separate report to General Committee at its meeting of June 12, 2019.

## Conclusion

This report summarizes Provincial changes to the MMS in a number of key areas, namely winter maintenance of sidewalks, greater inspection standards for sidewalks, winter maintenance of bicycle lanes and a new significant weather event declaration protocol.

There was no “grace period” provided between the announcement of the new MMS requirements by the Province and the date the new amendments came into effect. The MMS are not mandatory, but they do provide the standard of care which, when met, satisfies a municipality’s duty to maintain a highway in a “state of repair”.

## Attachments

Appendix 1: Minimum Maintenance Standards for Highways (Ontario Regulation 239/02)




---

Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Prepared by: Scott Holmes, Senior Manager, Works Administration, Operations and Maintenance

## Appendix 1

**ONTARIO REGULATION 366/18**

made under the

**MUNICIPAL ACT, 2001**

Made: May 2, 2018

Filed: May 3, 2018

Published on e-Laws: May 3, 2018

Printed in *The Ontario Gazette*: May 19, 2018

Amending O. Reg. 239/02

(MINIMUM MAINTENANCE STANDARDS FOR MUNICIPAL HIGHWAYS)

**1. (1) The definition of “surface” in subsection 1 (1) of Ontario Regulation 239/02 is amended by striking out “roadway or shoulder” and substituting “sidewalk, roadway or shoulder”.**

**(2) Subsection 1 (1) of the Regulation is amended by adding the following definitions:**

“bicycle facility” means the on-road and in-boulevard cycling facilities listed in Book 18 of the Ontario Traffic Manual;

“bicycle lane” means,

- (a) a portion of a roadway that has been designated by pavement markings or signage for the preferential or exclusive use of cyclists, or
- (b) a portion of a roadway that has been designated for the exclusive use of cyclists by signage and a physical or marked buffer;

“encroachment” means anything that is placed, installed, constructed or planted within the highway that was not placed, installed, constructed or planted by the municipality;

“pothole” means a hole in the surface of a roadway caused by any means, including wear or subsidence of the road surface or subsurface;

“sidewalk” means the part of the highway specifically set aside or commonly understood to be for pedestrian use, typically consisting of a paved surface but does not include crosswalks, medians, boulevards, shoulders or any part of the sidewalk where cleared snow has been deposited;

“significant weather event” means an approaching or occurring weather hazard with the potential to pose a significant danger to users of the highways within a municipality;

“utility” includes any air, gas, water, electricity, cable, fiber-optic, telecommunication or traffic control system or subsystem, fire hydrants, sanitary sewers, storm sewers, property bars and survey monuments;

“utility appurtenance” includes maintenance holes and hole covers, water shut-off covers and boxes, valves, fittings, vaults, braces, pipes, pedestals, and any other structures or items that form part of or are an accessory part of any utility;

“weather hazard” means the weather hazards determined by Environment Canada as meeting the criteria for the issuance of an alert under its Public Weather Alerting Program.

**(3) Subsections 1 (2) and (3) of the Regulation are amended by striking out “annual” wherever it appears.**

**(4) Subsection 1 (4) of the Regulation is revoked and the following substituted:**

(4) For the purposes of this Regulation, unless otherwise indicated in a provision of this Regulation, a municipality is deemed to be aware of a fact if, in the absence of actual knowledge of the fact, circumstances are such that the municipality ought reasonably to be aware of the fact.

**(5) The Table to section 1 of the Regulation is revoked and the following substituted:**

TABLE  
CLASSIFICATION OF HIGHWAYS

Column 1 Average Daily Traffic (number of motor vehicles)	Column 2 91 - 100 km/h speed limit	Column 3 81 - 90 km/h speed limit	Column 4 71 - 80 km/h speed limit	Column 5 61 - 70 km/h speed limit	Column 6 51 - 60 km/h speed limit	Column 7 41 - 50 km/h speed limit	Column 8 1 - 40 km/h speed limit
53,000 or more	1	1	1	1	1	1	1

23,000 - 52,999	1	1	1	2	2	2	2
15,000 - 22,999	1	1	2	2	2	3	3
12,000 - 14,999	1	1	2	2	2	3	3
10,000 - 11,999	1	1	2	2	3	3	3
8,000 - 9,999	1	1	2	3	3	3	3
6,000 - 7,999	1	2	2	3	3	4	4
5,000 - 5,999	1	2	2	3	3	4	4
4,000 - 4,999	1	2	3	3	3	4	4
3,000 - 3,999	1	2	3	3	3	4	4
2,000 - 2,999	1	2	3	3	4	5	5
1,000 - 1,999	1	3	3	3	4	5	5
500 - 999	1	3	4	4	4	5	5
200 - 499	1	3	4	4	5	5	6
50 - 199	1	3	4	5	5	6	6
0 - 49	1	3	6	6	6	6	6

**2. The Regulation is amended by adding the following section:**

**Purpose**

**2.1** The purpose of this Regulation is to clarify the scope of the statutory defence available to a municipality under clause 44 (3) (c) of the Act by establishing maintenance standards which are non-prescriptive as to the methods or materials to be used in complying with the standards but instead describe a desired outcome.

**3. (1) The heading before section 3 of the Regulation is amended by striking out “MINIMUM” and substituting “MAINTENANCE”**

**(2) Subsections 3 (1) and (2) of the Regulation are amended by striking out “minimum” wherever it appears.**

**(3) Subsection 3 (4) of the Regulation is amended by striking out “section 16.1” and substituting “section 16.1, 16.2, 16.3 or 16.4”.**

**4. Subsections 3.1 (1) and (2) of the Regulation are amended by striking out “minimum” wherever it appears.**

**5. (1) Subsection 4 (1) of the Regulation is amended by striking out the portion before clause (a) and substituting the following:**

**Snow accumulation, roadways**

(1) Subject to section 4.1, the standard for addressing snow accumulation on roadways is,

“ . . . . .”

**(2) Subsection 4 (3) of the Regulation is amended by adding “and, if applicable, lane width under clause (1) (b),” after “roadway” in the portion before paragraph 1.**

**(3) Subsection 4 (4) of the Regulation is amended by adding “and lane width” after “roadway” in the portion before clause (a).**

**(4) Subsections 4 (5) and (6) of the Regulation are revoked and the following substituted:**

(5) For the purposes of this section, addressing snow accumulation on a roadway includes,

- (a) plowing the roadway;
- (b) salting the roadway;
- (c) applying abrasive materials to the roadway;
- (d) applying other chemical or organic agents to the roadway;
- (e) any combination of the methods described in clauses (a) to (d);
- (6) This section does not apply to that portion of the roadway,

- (a) designated for parking;
- (b) consisting of a bicycle lane or other bicycle facility; or
- (d) used by a municipality for snow storage;

**(5) The heading of the Table to section 4 of the Regulation is revoked and the following substituted:**

## SNOW ACCUMULATION - ROADWAYS

### 7. The Regulation is amended by adding the following sections:

#### Snow accumulation on roadways, significant weather event

**4.1** (1) If a municipality declares a significant weather event relating to snow accumulation, the standard for addressing snow accumulation on roadways until the declaration of the end of the significant weather event is,

- (a) to monitor the weather in accordance with section 3.1; and
- (b) if deemed practicable by the municipality, to deploy resources to address snow accumulation on roadways, starting from the time that the municipality deems appropriate to do so.

(2) If the municipality complies with subsection (1), all roadways within the municipality are deemed to be in a state of repair with respect to snow accumulation until the applicable time in the Table to section 4 expires following the declaration of the end of the significant weather event by the municipality.

(3) Following the end of the weather hazard in respect of which a significant weather event was declared by a municipality under subsection (1), the municipality shall,

- (a) declare the end of the significant weather event when the municipality determines it is appropriate to do so; and
- (b) address snow accumulation on roadways in accordance with section 4.

#### Snow accumulation, bicycle lanes

**4.2** (1) Subject to section 4.3, the standard for addressing snow accumulation on bicycle lanes is,

- (a) after becoming aware of the fact that the snow accumulation on a bicycle lane is greater than the depth set out in the Table to this section, to deploy resources as soon as practicable to address the snow accumulation; and
- (b) after the snow accumulation has ended, to address the snow accumulation so as to reduce the snow to a depth less than or equal to the depth set out in the Table to this section to provide a minimum bicycle lane width of the lesser of 1 metre or the actual bicycle lane width.

(2) If the depth of snow accumulation on a bicycle lane is less than or equal to the depth set out in the Table to this section, the bicycle lane is deemed to be in a state of repair in respect of snow accumulation.

(3) For the purposes of this section, the depth of snow accumulation on a bicycle lane and, if applicable, lane width under clause (1) (b), may be determined in the same manner as set out in subsection 4 (4) and by the persons mentioned in subsection 4 (3), with necessary modifications.

(4) For the purposes of this section, addressing snow accumulation on a bicycle lane includes,

- (a) plowing the bicycle lane;
- (b) salting the bicycle lane;
- (c) applying abrasive materials to the bicycle lane;
- (d) applying other chemical or organic agents to the bicycle lane;
- (e) sweeping the bicycle lane; or
- (f) any combination of the methods described in clauses (a) to (e).

TABLE

SNOW ACCUMULATION – BICYCLE LANES

Column 1 Class of Highway or Adjacent Highway	Column 2 Depth	Column 3 Time
1	2.5 cm	8 hours
2	5 cm	12 hours
3	8 cm	24 hours
4	8 cm	24 hours
5	10 cm	24 hours

#### Snow accumulation on bicycle lanes, significant weather event

**4.3** (1) If a municipality declares a significant weather event relating to snow accumulation, the standard for addressing snow accumulation on bicycle lanes until the declaration of the end of the significant weather event is,

- (a) to monitor the weather in accordance with section 3.1; and
  - (b) if deemed practicable by the municipality, to deploy resources to address snow accumulation on bicycle lanes, starting from the time that the municipality deems appropriate to do so.
- (2) If the municipality complies with subsection (1), all bicycle lanes within the municipality are deemed to be in a state of repair with respect to snow accumulation until the applicable time in the Table to section 4.2 expires following the declaration of the end of the significant weather event by the municipality.
- (3) Following the end of the weather hazard in respect of which a significant weather event was declared by a municipality under subsection (1), the municipality shall,
- (a) declare the end of the significant weather event when the municipality determines it is appropriate to do so; and
  - (b) address snow accumulation on bicycle lanes in accordance with section 4.2.

**8. Section 5 of the Regulation is revoked and the following substituted:**

**Ice formation on roadways and icy roadways**

**5.** (1) The standard for the prevention of ice formation on roadways is doing the following in the 24-hour period preceding an alleged formation of ice on a roadway:

1. Monitor the weather in accordance with section 3.1.
2. Patrol in accordance with section 3.
3. If the municipality determines, as a result of its activities under paragraph 1 or 2, that there is a substantial probability of ice forming on a roadway, treat the roadway, if practicable, to prevent ice formation within the time set out in Table 1 to this section, starting from the time that the municipality determines is the appropriate time to deploy resources for that purpose.

(2) If the municipality meets the standard set out in subsection (1) and, despite such compliance, ice forms on a roadway, the roadway is deemed to be in a state of repair until the applicable time set out in Table 2 to this section expires after the municipality becomes aware of the fact that the roadway is icy.

(3) Subject to section 5.1, the standard for treating icy roadways is to treat the icy roadway within the time set out in Table 2 to this section, and an icy roadway is deemed to be in a state of repair until the applicable time set out in Table 2 to this section expires after the municipality becomes aware of the fact that a roadway is icy.

(4) For the purposes of this section, treating a roadway means applying material to the roadway, including but not limited to, salt, sand or any combination of salt and sand.

(5) For greater certainty, this section applies in respect of ice formation on bicycle lanes on a roadway, but does not apply to other types of bicycle facilities.

TABLE 1  
ICE FORMATION PREVENTION

Class of Highway	Time
1	6 hours
2	8 hours
3	16 hours
4	24 hours
5	24 hours

TABLE 2  
TREATMENT OF ICY ROADWAYS

Class of Highway	Time
1	3 hours
2	4 hours
3	8 hours
4	12 hours
5	16 hours

**Icy roadways, significant weather event**

**5.1** (1) If a municipality declares a significant weather event relating to ice, the standard for treating icy roadways until the declaration of the end of the significant weather event is,

- (a) to monitor the weather in accordance with section 3.1; and

(b) if deemed practicable by the municipality, to deploy resources to treat icy roadways, starting from the time that the municipality deems appropriate to do so.

(2) If the municipality complies with subsection (1), all roadways within the municipality are deemed to be in a state of repair with respect to any ice which forms or may be present until the applicable time in Table 2 to section 5 expires after the declaration of the end of the significant weather event by the municipality.

(3) Following the end of the weather hazard in respect of which a significant weather event was declared by a municipality under subsection (1), the municipality shall,

- (a) declare the end of the significant weather event when the municipality determines it is appropriate to do so; and
- (b) treat icy roadways in accordance with section 5.

**8. (1) Subsection 6 (1) of the Regulation is amended by striking out “minimum”.**

**(2) Section 6 of the Regulation is amended by adding the following subsections:**

(1.1) For the purposes of this section, the surface area and depth of a pothole may be determined in accordance with subsections (1.2) and (1.3), as applicable, by a municipal employee, agent or contractor whose duties or responsibilities include one or more of the following:

- 1. Patrolling highways.
- 2. Performing highway maintenance activities.
- 3. Supervising staff who perform activities described in paragraph 1 or 2.

(1.2) The depth and surface area of a pothole may be determined by,

- (a) performing an actual measurement; or
- (b) performing a visual estimate.

(1.3) For the purposes of this section, the surface area of a pothole does not include any area that is merely depressed and not yet broken fully through the surface of the roadway.

**9. (1) Subsections 7 (1) and (2) of the Regulation are revoked and the following substituted:**

**Shoulder drop-offs**

(1) If a shoulder drop-off is deeper than 8 cm, for a continuous distance of 20 metres or more, the standard is to repair the shoulder drop-off within the time set out in the Table to this section after becoming aware of the fact.

(2) A shoulder drop-off is deemed to be in a state of repair if its depth is less than 8 cm.

**(2) The Table to section 7 of the Regulation is revoked and the following substituted:**

TABLE  
SHOULDER DROP-OFFS

Class of Highway	Time
1	4 days
2	4 days
3	7 days
4	14 days
5	30 days

**10. (1) Subsections 8 (1) and (2) of the Regulation are revoked and the following substituted:**

**Cracks**

(1) If a crack on the paved surface of a roadway is greater than 5 cm wide and 5 cm deep for a continuous distance of three metres or more, the standard is to repair the crack within the time set out in the Table to this section after becoming aware of the fact.

(2) A crack is deemed to be in a state of repair if its width or depth is less than or equal to 5 cm.

**(2) The Table to section 8 of the Regulation is revoked and the following substituted:**

TABLE  
CRACKS

Column 1 Class of Highway	Column 2 Time
---------------------------------	------------------

1	30 days
2	30 days
3	60 days
4	180 days
5	180 days

**11. Subsection 9 (1) of the Regulation is amended by striking out “minimum”.**

**12. Subsections 10 (0.1), (1), (2), (3), (4), (5) and (6) of the Regulation are revoked and the following substituted:**

**Luminaires**

(1) The standard for the frequency of inspecting all luminaires to check to see that they are functioning is once per calendar year, with each inspection taking place not more than 16 months from the previous inspection.

(2) For conventional illumination, if three or more consecutive luminaires on the same side of a highway are not functioning, the standard is to repair the luminaires within the time set out in the Table to this section after becoming aware of the fact.

(3) For conventional illumination and high mast illumination, if 30 per cent or more of the luminaires on any kilometre of highway are not functioning, the standard is to repair the luminaires within the time set out in the Table to this section after becoming aware of the fact.

(4) Despite subsection (2), for high mast illumination, if all of the luminaires on consecutive poles on the same side of a highway are not functioning, the standard is to deploy resources as soon as practicable after becoming aware of the fact to repair the luminaires.

(5) Despite subsections (1), (2) and (3), for conventional illumination and high mast illumination, if more than 50 per cent of the luminaires on any kilometre of a Class 1 highway with a speed limit of 90 kilometres per hour or more are not functioning, the standard is to deploy resources as soon as practicable after becoming aware of the fact to repair the luminaires.

(6) Luminaires are deemed to be in a state of repair,

- (a) for the purpose of subsection (2), if the number of non-functioning consecutive luminaires on the same side of a highway does not exceed two;
- (b) for the purpose of subsection (3), if more than 70 per cent of luminaires on any kilometre of highway are functioning;
- (c) for the purpose of subsection (4), if one or more of the luminaires on consecutive poles on the same side of a highway are functioning;
- (d) for the purpose of subsection (5), if more than 50 per cent of luminaires on any kilometre of highway are functioning.

**13. The Regulation is amended by striking out “minimum” wherever it appears in the following provisions:**

**1. Sections 11 to 16.**

**2. Subsection 16.1 (1).**

**14. Subsections 16.1 (2), (2.1), (3) and (4) of the Regulation are revoked and the following substituted:**

(2) If a surface discontinuity on or within a sidewalk exceeds two centimetres, the standard is to treat the surface discontinuity within 14 days after acquiring actual knowledge of the fact.

(3) A surface discontinuity on or within a sidewalk is deemed to be in a state of repair if it is less than or equal to two centimetres.

(4) For the purpose of subsection (2), treating a surface discontinuity on or within a sidewalk means taking reasonable measures to protect users of the sidewalk from the discontinuity, including making permanent or temporary repairs, alerting users' attention to the discontinuity or preventing access to the area of discontinuity.

(5) In this section,

“surface discontinuity” means a vertical discontinuity creating a step formation at any joint or crack in the surface of the sidewalk or any vertical height difference between a utility appurtenance found on or within the sidewalk and the surface of the sidewalk.

**15. The Regulation is amended by adding the following sections.**

**Encroachments, area adjacent to sidewalk**

**16.2** (1) The standard for the frequency of inspecting an area adjacent to a sidewalk to check for encroachments is once per calendar year, with each inspection taking place not more than 16 months from the previous inspection.



(2) The area adjacent to a sidewalk that has been inspected in accordance with subsection (1) is deemed to be in a state of repair in respect of any encroachment present.

(3) For greater certainty, the area adjacent to a sidewalk begins at the outer edges of a sidewalk and ends at the lesser of the limit of the highway, the back edge of a curb if there is a curb and a maximum of 45 cm.

(4) The area adjacent to a sidewalk is deemed to be in a state of repair in respect of any encroachment present unless the encroachment is determined by a municipality to be highly unusual given its character and location or to constitute a significant hazard to pedestrians.

(5) If a municipality determines that an encroachment is highly unusual given its character and location or constitutes a significant hazard to pedestrians, the standard is to treat the encroachment within 28 days after making such a determination, and the encroachment is deemed in a state of repair for 28 days from the time of the determination by the municipality.

(6) For the purpose of subsection (4), treating an encroachment means taking reasonable measures to protect users, including making permanent or temporary repairs, alerting users' attention to the encroachment or preventing access to the area of the encroachment.

#### **Snow accumulation on sidewalks**

**16.3** (1) Subject to section 16.4, the standard for addressing snow accumulation on a sidewalk after the snow accumulation has ended is,

- a) to reduce the snow to a depth less than or equal to 8 centimetres within 48 hours; and
- b) to provide a minimum sidewalk width of 1 metre.

(2) If the depth of snow accumulation on a sidewalk is less than or equal to 8 centimetres, the sidewalk is deemed to be in a state of repair in respect of snow accumulation.

(3) If the depth of snow accumulation on a sidewalk exceeds 8 centimetres while the snow continues to accumulate, the sidewalk is deemed to be in a state of repair with respect to snow accumulation, until 48 hours after the snow accumulation ends.

(4) For the purposes of this section, the depth of snow accumulation on a sidewalk may be determined in the same manner as set out in subsection 4 (4) and by the persons mentioned in subsection 4 (3) with necessary modifications.

(5) For the purposes of this section, addressing snow accumulation on a sidewalk includes,

- (a) plowing the sidewalk;
- (b) salting the sidewalk;
- (c) applying abrasive materials to the sidewalk;
- (d) applying other chemical or organic agents to the sidewalk; or
- (e) any combination of the methods described in clauses (a) to (d).

#### **Snow accumulation on sidewalks, significant weather event**

**16.4** (1) If a municipality declares a significant weather event relating to snow accumulation, the standard for addressing snow accumulation on sidewalks until the declaration of the end of the significant weather event is,

- (a) to monitor the weather in accordance with section 3.1; and
- (b) if deemed practicable by the municipality, to deploy resources to address snow accumulation on sidewalks starting from the time that the municipality deems appropriate to do so.

(2) If the municipality complies with subsection (1), all sidewalks within the municipality are deemed to be in a state of repair with respect to any snow present until 48 hours following the declaration of the end of the significant weather event by the municipality.

(3) Following the end of the weather hazard in respect of which a significant weather event was declared by a municipality under subsection (1), the municipality shall,

- (a) declare the end of the significant weather event when the municipality determines it is appropriate to do so; and
- (b) address snow accumulation on sidewalks in accordance with section 16.3.

#### **Ice formation on sidewalks and icy sidewalks**

**16.5** (1) Subject to section 16.6, the standard for the prevention of ice formation on sidewalks is to,

- (a) monitor the weather in accordance with section 3.1 in the 24-hour period preceding an alleged formation of ice on a sidewalk; and

(b) treat the sidewalk if practicable to prevent ice formation or improve traction within 48 hours if the municipality determines that there is a substantial probability of ice forming on a sidewalk, starting from the time that the municipality determines is the appropriate time to deploy resources for that purpose.

(2) If ice forms on a sidewalk even though the municipality meets the standard set out in subsection (1), the sidewalk is deemed to be in a state of repair in respect of ice until 48 hours after the municipality first becomes aware of the fact that the sidewalk is icy.

(3) The standard for treating icy sidewalks after the municipality becomes aware of the fact that a sidewalk is icy is to treat the icy sidewalk within 48 hours, and an icy sidewalk is deemed to be in a state of repair for 48 hours after it has been treated.

(4) For the purposes of this section, treating a sidewalk means applying materials including salt, sand or any combination of salt and sand to the sidewalk.

#### **Icy sidewalks, significant weather event**

**16.6** (1) If a municipality declares a significant weather event relating to ice, the standard for addressing ice formation or ice on sidewalks until the declaration of the end of the significant weather event is,

(a) to monitor the weather in accordance with section 3.1; and

(b) if deemed practicable by the municipality, to deploy resources to treat the sidewalks to prevent ice formation or improve traction, or treat the icy sidewalks, starting from the time that the municipality deems appropriate to do so.

(2) If the municipality complies with subsection (1), all sidewalks within the municipality are deemed to be in a state of repair with respect to any ice which forms or is present until 48 hours after the declaration of the end of the significant weather event by the municipality.

(3) Following the end of the weather hazard in respect of which a significant weather event was declared by a municipality under subsection (1), the municipality shall,

(a) declare the end of the significant weather event when the municipality determines it is appropriate to do so; and

(b) address the prevention of ice formation on sidewalks or treat icy sidewalks in accordance with section 16.5.

#### **Winter sidewalk patrol**

**16.7** (1) If it is determined by the municipality that the weather monitoring referred to in section 3.1 indicates that there is a substantial probability of snow accumulation on sidewalks in excess of 8 cm, ice formation on sidewalks or icy sidewalks, the standard for patrolling sidewalks is to patrol sidewalks that the municipality selects as representative of its sidewalks at intervals deemed necessary by the municipality.

(2) Patrolling a sidewalk consists of visually observing the sidewalk, either by driving by the sidewalk on the adjacent roadway or by driving or walking on the sidewalk or by electronically monitoring the sidewalk, and may be performed by persons responsible for patrolling roadways or sidewalks or by persons responsible for performing roadway or sidewalk maintenance activities.

#### **Closure of a highway**

**16.8** (1) When a municipality closes a highway or part of a highway pursuant to its powers under the Act, the highway is deemed to be in a state of repair in respect of all conditions described in this Regulation from the time of the closure until the highway is re-opened by the municipality.

(2) For the purposes of subsection (1), a highway or part of a highway is closed on the earlier of,

(a) when a municipality passes a by-law to close the highway or part of the highway; and

(b) when a municipality has taken such steps as it determines necessary to temporarily close the highway or part of a highway.

#### **Declaration of significant weather event**

**16.9.** A municipality declaring the beginning of a significant weather event or declaring the end of a significant weather event under this Regulation shall do so in one or more of the following ways:

1. By posting a notice on the municipality's website.

2. By making an announcement on a social media platform, such as Facebook or Twitter.

3. By sending a press release or similar communication to internet, newspaper, radio or television media.

4. By notification through the municipality's police service.

5. By any other notification method required in a by-law of the municipality.

#### **Commencement**

**16. This Regulation comes into force on the day it is filed.**

Made by:

KATHRYN MCGARRY  
*Minister of Transportation*

Date made: May 2, 2018

[Back to top](#)

# City of Mississauga

## Corporate Report



Date: 2019/05/29

To: Chair and Members of General Committee

From: Geoff Wright, P. Eng., MBA, Commissioner of  
Transportation and Works

Originator's files:

Meeting date:  
2019/06/12

## Subject

**Winter Maintenance Pressures**

## Recommendation

1. That the request for proposal for the new winter maintenance contract include provisional items for secondary sidewalk winter maintenance; residential windrow clearing; timing of winter maintenance on bus stops and priority sidewalks; clearing of secondary roads to bare pavement; physically removing snow from designated priority bike lanes; and, Hurontario LRT winter maintenance, as outlined in the report from the Commissioner of Transportation and Works, dated May 29, 2019 and entitled "Winter Maintenance Pressures".
2. That staff report back to General Committee on the results of the request for proposal on the new winter maintenance contract, including recommendations regarding winter maintenance service levels over the duration of the new contract, as outlined in the report from the Commissioner of Transportation and Works, dated May 29, 2019 and entitled "Winter Maintenance Pressures".

## Report Highlights

- Currently, the City of Mississauga clears 5,600 lane kilometres (3,360 lane miles) of roads. Of that, approximately 4,000 kilometres (2,400 lane miles) are priority roads and approximately 1,600 kilometres (960 lane miles) are secondary roads.
- The City of Mississauga currently has 2,400 kilometres (1,500 miles) of sidewalks, 1,700 kilometres (1,100 miles) of which are included in the City's winter maintenance program.
- 174 residents were enrolled in the 2018/2019 Driveway Windrow Snow Clearing program. This program continues to be an option for seniors and people with physical disabilities who would like assistance with clearing their windrows. With the exception of residents enrolled in this program, the City does not clear windrows caused by winter maintenance activities.
- Winter maintenance on the Hurontario LRT (HLRT) will require additional resources and

General Committee	2019/05/29	2
-------------------	------------	---

equipment to maintain this new infrastructure. This could impact winter maintenance activities as early as late 2019 when construction is targeted to commence on the HLRT, and during the course of the next winter maintenance contract.

- The City's existing Winter Maintenance contract has completed the fifth of seven years expiring in April of 2021. Staff will bring a report to General Committee in the spring of 2020, which will outline the results of the tender and make recommendations on related winter maintenance services levels.
- The contract review period presents an opportunity to evaluate possible changes to winter maintenance operations and identify related costs. A preliminary estimate of the cost of these options is \$31.2M (including \$5.4M for land purchase) the first year and \$25.7M annually thereafter.

## Background

In response to questions raised by Councillors Ras and Parrish at the General Committee meeting of February 13, 2019, the Commissioner, Transportation and Works, indicated that staff would report on the feasibility of clearing sidewalks and windrows on secondary (residential) roads. The purpose of this report is to provide updated information on sidewalk and windrow snow clearing on secondary roads. This report also provides information on other re-occurring winter maintenance issues.

At its meeting of June 25, 2014, the Budget Committee approved a report from the Commissioner of Transportation and Works dated June 6, 2014 and entitled "Winter Maintenance Operations". This report indicated that in 2014, the cost to perform winter maintenance on residential sidewalks would be approximately \$3M annually, including the cost for additional leased space to store the additional vehicles and equipment to perform this additional service. A copy of this report is attached as Appendix 1.

### Council-approved Winter Maintenance Levels of Service

Winter maintenance is performed through the use of City staff and contractors. Currently, 10% of the equipment used for winter maintenance is City-owned. Contractors provide the remaining 340 pieces of equipment through the City's winter maintenance contract. This number has consistently increased over the past two contracts as it is not economically efficient for the City to purchase this type of single-use winter equipment as the program grows. This model is consistent with other large municipalities in the Greater Toronto Area.

Council has approved levels of service for winter maintenance of priority roads, secondary roads, dead ends, bends, cul-de-sacs, sidewalks, bus stops, pedestrian crossings and snow removal in Business Improvement Areas (BIA's). The levels of service are provided in Appendix 2 and key information is summarized below:

General Committee	2019/05/29	3
-------------------	------------	---

---

- Priority roads are cleared to bare pavement. Priority roads consist of major roads and collector routes and are addressed first to ensure that emergency services and the public can safely travel to hospitals, schools and access public transportation systems and work immediately after a winter event.
- Secondary roads are cleared once priority routes have been completed and are cleared to be safe and passable; bare pavement may not be achievable.
- Winter maintenance activities are performed on sidewalks that have been declared a priority sidewalk. Priority sidewalks are located on arterial, residential and industrial collector roads, transit routes; and, on roadways having school, nursing home and hospital frontage.
- Secondary roads, priority sidewalks, bus stops and pedestrian crossings are addressed after service levels have been met for priority roads.
- Winter maintenance activities are not performed on non-priority (secondary) sidewalks. Residents and businesses are encouraged to clear sidewalks in front of, or adjacent to, their property.
- With the exception of those residents enrolled in the Driveway Windrow Snow Clearing Program, windrows are not cleared.

Currently, the City performs winter maintenance on 5,600 lane kilometres (3,360 lane miles) of road. Of that, approximately 4,000 kilometres (2,400 lane miles) are priority roads and approximately 1,600 kilometres (960 lane miles) are secondary roads.

## Comments

### Secondary Sidewalk Winter Maintenance

The City of Mississauga has 2,400 kilometres (1,500 miles) of sidewalks. Of that, 1,700 kilometres (1,100 miles) are designated as priority sidewalks and are included in the City's winter maintenance program.

In order to add the remaining 700 kilometres (400 miles) of sidewalk into the winter maintenance program an additional 92 pieces of equipment would be required.

The addition of these units could be implemented as early as the 2019/2020 winter season. To do this, staff from Works Operations and Maintenance (WOM) and Revenue and Materiel Management would source the necessary equipment from contractors through the City's existing winter maintenance contract.

As outlined in the report from the Commissioner of Transportation and Works, dated June 6, 2014 and entitled "*Winter Maintenance Operations*", a location to store this additional equipment would also have to be sourced since the City's Works yards do not have room to safely store additional vehicles and equipment. The report is attached as Appendix 1, as previously mentioned.

General Committee	2019/05/29	4
-------------------	------------	---

---

The cost of additional storage could be mitigated somewhat by using existing City-owned land, such as recreation centres and community centres. However, suitable locations would have to be available and adequate security fencing, power and lighting would need to be installed.

The cost to provide winter maintenance on secondary sidewalks has been estimated based on the costs in the City's existing winter maintenance contract. It should be noted that when staff requested secondary sidewalk winter maintenance as a provisional item in the last contract, prices were higher than the cost to perform priority sidewalk winter maintenance. This is because sidewalk clearing in densely populated areas is a complex operation. Residential areas often have more obstacles such as encroachments, which can cause operators to drive more slowly and may increase the risk of damage to equipment.

Staff forecast the following costs to perform winter maintenance on secondary sidewalks:

- Operational and standby costs for the additional units of \$1.85M;
- Additional salt costs of \$370,000;
- Additional staffing costs of \$520,000 (one assistant supervisor in each of the four yards to manage service delivery and inspection of the operation, as well address higher service request volume due to service expansion); and,
- Temporary land costs for equipment storage until additional yard capacity is available. Staff continue to evaluate options that could include purchasing property (\$2.7M for a .81 hectare (2.0 acre) site) or leasing land at an estimated annual cost of \$250,000. Alternatively, contractors could be required to source their own storage locations as a condition of the contract. The latter could present operational concerns and may result in higher costs as the contractors would likely pass along the expense with a built in overhead fee to the City.

The following should also be considered when evaluating the addition of this service:

- potential increase in claims due to damages to encroachments such as curbs, landscaping and sprinklers;
- increased call volumes to the Citizen Contact Centre;
- additional windrows placed on driveways from the sidewalk plows;
- increased salt use complaints and impact to pets due to new service on secondary sidewalks;
- increased sod and driveway damage and associated complaints;
- increased use of salt and pretreated salt (4,000 tonnes annually) and resultant negative environmental impacts to natural areas and watercourses;
- purchased land may require rezoning to store equipment and/or material;
- travel times may increase depending on the location of land used to house equipment; and,
- requirements to sustain the program as new sidewalks are constructed.

General Committee	2019/05/29	5
-------------------	------------	---

---

In summary, the inclusion of all sidewalks could be accommodated for the 2019/2020 winter season, as outlined above, at an increased annual operating cost of \$2.7M. It is recommended, however, that staff include this new service level as a provisional item in the new winter maintenance contract for future consideration. Staff will continue to assess options for temporary land for equipment storage which would add additional costs as reference above.

### **City-wide Windrow Clearing**

The Driveway Windrow Snow Clearing Program had 174 residents enrolled during the 2018/2019 winter season. For the past five seasons, the numbers have fluctuated slightly with an average enrollment of 164. This program continues to be an option for seniors and people with physical disabilities who would like assistance with clearing their windrows. Those who are income qualified are able to receive this service free of charge whereas those that are not, pay a fee of \$200. The program has a maximum capacity of 300 residents.

With the exception of the residents enrolled in the Driveway Windrow Snow Clearing Program, the City does not clear windrows.

#### Windrow Clearing Programs in Other Municipalities

Staff consulted with the following municipalities regarding their windrow clearing winter maintenance activities: Brampton, Burlington, Hamilton, London, Markham,

Newmarket, Niagara Falls, Oakville, Ottawa, Richmond Hill, Toronto, and Vaughan. A summary of the benchmarking exercise conducted by staff is attached as Appendix 3.

Of the 12 nearby municipalities that were consulted, two municipalities, Richmond Hill and Vaughan, offer a city-wide windrow clearing program; Toronto offers the program to the areas of Etobicoke, North York and Scarborough only; four municipalities namely, London, Newmarket, Niagara Falls and Ottawa do not offer any type of windrow program; Brampton, Burlington, Hamilton, Markham, Oakville and Richmond Hill offer a program for eligible residents only.

It should be noted that in speaking with the City of Toronto regarding their windrow program, complaints related to this program increased by 50% once it was implemented. Staff would expect something similar to this increase if implemented here due to resident expectations for this service.

Based on information received from the municipalities that are currently clearing windrows, staff forecast the following costs for the addition of a city-wide windrow program in our winter maintenance program:

- Operational and standby costs for the additional units of \$5.1M;
- Additional staffing costs of \$520,000 (one assistant supervisor staff in each of the four yards to manage execution and inspection of the operation, as well address service



request volume, which is anticipated to be higher given the experience of other municipalities); and,

- Similar to the sidewalk clearing, temporary land costs for equipment storage would be required until additional yard capacity is available. These costs would be similar and include options such as purchasing property (\$2.7M for a .81 hectare (2.0 acre) site) or leasing land at an estimated annual cost of \$250,000. Alternatively, contractors could be required to source their own storage locations as a condition of the contract.

In summary, the inclusion of a city-wide windrow program could be accommodated for the 2019/2020 winter season, as outlined above, at an increased annual operating cost of \$5.6M. It is recommended, however, that staff include this new service level as a provisional item in the new winter maintenance contract for future consideration. Staff will continue to assess options for temporary land for equipment storage which would add additional costs as reference above.

### **Other Winter Maintenance Service Level Considerations**

#### Re-occurring Winter Maintenance Issues

In addition to the performance of winter maintenance activities on secondary sidewalks and the clearing of windrows on secondary roads, staff have observed other re-occurring issues with winter maintenance service levels. These are noted below and may present opportunities to review winter maintenance service levels in the future:

3. The timing of winter maintenance on bus stops and sidewalks on priority roads: Existing service levels have bus stops and sidewalks on priority roads addressed after winter maintenance activities are completed on priority roads. A consideration for the future may be to perform winter maintenance activities of bus stops and sidewalks on priority roads at the same time as plowing and/or salting of priority roads. This would provide quicker access for transit and sidewalk use. The cost to increase the level of service for this operation is estimated at \$2.2M annually.
4. Clearing secondary roads to bare pavement: Existing service levels require secondary roads to be made safe and passable and not cleared to bare pavement. The cost to increase the level of service for this operation is estimated at \$7.0M annually.
5. Winter maintenance on bike lanes: Bike lanes are salted and cleared of snow and ice as part of winter maintenance activities on priority roads. However, snow and ice tends to re-accumulate in bike lanes as a result of a lack of available snow storage space and freeze/thaw cycles. In the future, designating some bike lanes as priority bike lanes and physically removing snow and ice from them may be a more effective practice. The City's Active Transportation office, in consultation with the Mississauga Cycling Advisory Committee could designate the priority bike lanes for winter maintenance, subject to Council approval. The cost to perform enhanced snow removal from priority bike routes would be approximately \$5.2M annually.

General Committee	2019/05/29	7
-------------------	------------	---

---

### Hurontario LRT Project

Winter maintenance on the HuLRT will require additional resources and equipment to maintain this new infrastructure. This could impact winter maintenance activities as early as late 2019 when construction is targeted to commence on the HLRT and during the course of the next winter maintenance contract.

The construction of the HuLRT will present winter maintenance challenges given the lack of space to store snow on the road. This will require additional, specialized equipment to remove snow from the road allowance and transport it to snow storage sites and will increase the City's snow storage requirements. WOM's existing snow storage sites are at capacity and new snow storage locations will need to be identified. The cost to perform snow removal from the HRLT would be approximately \$3.0M annually.

Snow storage capacity will continue to be a consideration upon completion of HuRLT construction. Storage space in the boulevard will be limited and clearing of boulevard infrastructure such as sidewalk, cyclepath and a possible multi-use trail will add to snow volume. This will mean an increase in snow removal activities after every plowing event.

### **Winter Maintenance Contract**

The City's existing Winter Maintenance contract has completed the fifth of seven years and expires in April of 2021. Staff have commenced work on the new contract. The new contract is targeted to be awarded in summer of 2020 and would commence in the fall of 2021 for the 2021/2022 winter season. It is recommended that the new contract include provisional items for the following:

- secondary sidewalk winter maintenance;
- residential windrow clearing;
- changes to winter maintenance on bus stops and priority sidewalks;
- clearing of secondary roads to bare pavement;
- snow removal from priority bike lanes; and,
- HLRT winter maintenance.

Including these items in the request for proposal as provisional items will assist staff in determining the actual cost of these items and identify any related winter maintenance service level changes for Council's consideration.

Further, given the space limitations at the existing Works yards to store any additional vehicles and equipment required for winter maintenance, the request for proposal for the next winter maintenance contract will also seek costing options for contractors to provide local storage for winter maintenance vehicles and equipment.

General Committee	2019/05/29	8
-------------------	------------	---

---

Regarding existing operational yard capacity, staff in Community Services and Transportation and Works are currently:

- Assessing the capacity of the Parks, Forestry and Environment (PFE) Division and WOM Division's four shared yards, the PFE yard at 950 Burnhamthorpe and various PFE satellite yard locations.
- Assessing the capacity of the present WOM snow storage locations.
- Identifying the PFE and WOM Division's yard requirements in the short, medium and long-term.
- Justifying short, medium and long-term yard and snow storage requirements using industry best practices, benchmarking, measurable data and quantifiable outcomes.
- Developing a strategy and implementation plan to meet the PFE and WOM Division's short-term yard requirements, as well as the WOM Division's short-term snow storage requirements, considering industry best practices in service delivery, environmental sustainability and energy efficiency.
- Developing a strategy and implementation plan to meet the PFE and WOM Division's medium and long-term yard requirements, as well as the WOM Division's medium and long-term snow storage requirements, considering industry best practices in service delivery, environmental sustainability and energy efficiency.

The results of the above-mentioned review will be built into the 2021 Business Plan and form the basis of a Yards Master Plan.

Staff will provide a report to General Committee in the spring of 2020 to outline the results of the Winter Maintenance tender and make recommendations on related winter maintenance services levels.

## Financial Impact

The City's current winter maintenance contract had a budget of \$15.6M for the 2018 winter season. Early estimates for potential changes to service levels based on requests and opportunities for improvement are as follows:

- |   |   |
|---|---|
| • Secondary Sidewalk Program            | \$2.8M annually (plus temporary land costs) |
| • City-Wide Windrow Program             | \$5.6M annually (plus temporary land costs) |
| • Enhance Bus Stop and Sidewalk Program | \$2.2M annually                             |
| • Secondary Routes to Bare Pavement     | \$7.0M annually                             |
| • Snow Removal on Priority Bike Routes  | \$5.2M annually                             |
| • HuLRT winter maintenance              | \$3.0M annually                             |

It is recommended that these items be included in the upcoming request for tender for the new winter maintenance contract as provisional items. These will be reported back to Council in the Spring of 2020 for future direction.

---

## Conclusion

The report provides updated information and estimated costs for six enhanced levels of service options for consideration in the winter maintenance program. It is recommended that these items be included in the upcoming tender for the new winter maintenance contract as provisional items. This will enable staff to present Council with the actual costs from a competitive procurement process for consideration and future direction.

## Attachments

Appendix 1: Report from the Commissioner of Transportation and Works, dated June 6, 2014 and entitled "Winter Maintenance Operations"

Appendix 2: Existing Council-approved Levels of Service for Winter Maintenance

Appendix 3: Actions of Other Municipalities – Windrow Clearing Winter Maintenance Activities



---

Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Prepared by: Scott Holmes, C.E.T., Senior Manager, Works Administration, Operations and Maintenance



## Corporate Report

Clerk's Files

Originator's  
Files

MG.23.REP

BUDGET COMMITTEE  
JUN 25 2014

---

**DATE:** June 6, 2014

**TO:** Chair and Members of Budget Committee  
Meeting Date: June 25, 2014

**FROM:** Martin Powell, P.Eng.  
Commissioner, Transportation and Works

**SUBJECT:** Winter Maintenance Operations

---

- RECOMMENDATION:**
1. That the Purchasing Agent be authorized to award a seven-year contract for the 2014/2015, 2015/2016, 2016/2017, 2017/2018, 2018/2019, 2019/2020 and 2020/2021 winter seasons to the vendors as outlined in Appendix 2 of the Corporate Report dated June 6, 2014 from the Commissioner of Transportation and Works Department for the provision of winter maintenance services.
  2. That Council provide direction regarding the addition of Secondary Sidewalks Winter Maintenance as a new service level with an estimated annual cost of \$3.0 million which equates to a 0.8% tax rate increase in 2015.
  3. That subject to Council approval of the new service level for Secondary Sidewalks Winter Maintenance that the 2014 Sidewalk Snow Clearing budget be increased by \$1.1 million and be funded from the Reserve for Winter Maintenance.
  4. That subject to Council Approval of the new service level for Secondary Sidewalks Winter Maintenance that the City's 2014 full time equivalent be increased by two.

5. That the Purchasing Agent be authorized to renew the existing contract as a single source for a period of seven years to Webtech Wireless Inc. in the estimated amount of \$2.1 million for the provision of GPS/AVL and Software as a Service for the Fleet Management System.
6. That a new project for the (PN14192) West Credit Snow Storage site be established with a gross budget of \$480,000, recovery of \$24,000 and net budget of \$456,000.
7. That the West Credit Temporary Snow Storage Site project be funded from the Capital Reserve Fund (Account #33121) for \$456,000.

**REPORT  
HIGHLIGHTS:**

- The 2013/14 winter season was the final year of the previously approved five year Winter Maintenance Contract.
- A new Winter Maintenance Contract was tendered with an increase in duration from five to seven years.
- A review of the City's winter maintenance operations was completed and several changes have been incorporated into the new tender that will improve efficiency and effectiveness of operations.
- A provisional item was included in Winter Maintenance Contract tender to identify the cost of adding Secondary Sidewalks Winter Maintenance as a new service level for the municipality.
- The annual cost to add a new level of service for Secondary Sidewalks Winter Maintenance is \$3.0 Million.
- The previous five-year GPS/AVL Fleet Management System contract expires in 2014 with Webtech Wireless Inc. The new contract is proposed as a single source award for seven years plus an optional three years to align with the timing and award of the new seven year Winter Maintenance Contract.
- A temporary snow storage facility is proposed to be established in the North West quadrant of the city by utilizing recently purchased city lands.

**BACKGROUND:**

The winter season of 2013/2014 was the final year of the five-year Winter Maintenance Contract (Procurement FA.49.133-09). A new Winter Maintenance Contract has now been tendered (Procurement FA.49.324-14). During the past few winter seasons, a number of operational issues had been identified with respect to the provided levels of service and quality of the snow clearing operations. In response to these issues, a review of winter maintenance operations was completed. The new Winter Maintenance Tender incorporated changes from the previous contract to address these issues. In an effort to secure competitive pricing, to acquire the appropriate winter maintenance vehicles and to meet evolving industry standards, a new seven-year contract period was chosen.

Requests were received by the Transportation & Works Department to evaluate an increased level of service for sidewalks so that all sidewalks in the municipality (Priority Sidewalks and Secondary Sidewalks) receive winter maintenance. Currently only Priority Sidewalks receive winter maintenance. The estimated budget for the addition of Secondary Sidewalks was presented at the February 19, 2014 Transportation Committee. In an effort to get an accurate costing for this service, a provisional item was included in the new Winter Maintenance Contract tender. A full updated costing to add this new service is included in this report.

The existing GPS/AVL Fleet Management System Contract (Procurement FA.49.121-09) expires in 2014. It is proposed that this contract be renewed (Procurement FA49.441-14) for a term of seven years to align with the timing and award of the new seven year Winter Maintenance Contract. This renewal contract will allow the City to transition from hardware ownership to a lease arrangement to take advantage of changing technology for future hardware upgrades.

Currently the City has very limited snow storage capacity. Depending on the amount of snowfall received, the facilities currently used can quickly reach capacity. Snow removal requirements also continue to grow with increased expectations in BIA's, Transit Stops including the Transitway, dead ends and the desire to maintain sight lines.

Long term permanent snow storage solutions have been identified and are incorporated into the Business Plan for future considerations. An opportunity currently exists to utilize recently purchased city owned land for snow storage capacity in the North West quadrant of the city. This will help bridge the gap until permanent solutions are available.

Based on the above, this report will cover the following items:

1. New Winter Maintenance Contract Tender
2. Secondary Sidewalks Winter Maintenance
3. GPS/AVL Fleet Management System - Contract Renewal
4. Snow Storage Requirements

**COMMENTS:**

**New Winter Maintenance Contract Tender**

The new tender for winter maintenance included the provision of contracted equipment and crews to perform various snow and ice control activities throughout the City of Mississauga for a seven year period covering the 2014 through 2021 winter seasons. A seven year period was selected to take advantage of more competitive pricing that is expected for a longer contract.

In preparation for the tender, Transportation and Works staff reviewed winter maintenance operations with a focus to ensure operational efficiency and establish equipment levels to provide Council approved service levels for winter operations.

Materiel Management publicly advertised a call for 14 items including one provisional item for the winter maintenance of all secondary sidewalks throughout the City for tenders to supply of various winter equipment/crews, and vendors were invited to submit bids for one or more of the 14 items listed for the 2014/2015 winter season. Each item specified a minimum number of units to be bid and allowed unit price bids to be submitted for standby.

For the first 10 items and item 14 (provisional item for all Secondary Sidewalks), the tender established hourly operational rates for the specified equipment/crews. Items 11 and 12 in the tender invited vendors to submit unit price bids for the operation of snow removal/melting crews. Item 13 is specified as an operational rate only for anti-icing purposes.



The tender provides a price adjusting index per winter season over the duration of the contract to increase or decrease the standby and operational unit prices for the subsequent winter seasons (2015 through 2021). The price adjusting index will be based on the Consumers Price Index for Ontario (all items), as recorded by Statistics Canada, for the annual percentage change from September to September on each year.

A total of 83 vendors registered for this procurement where 48 bid submissions were received.

Appendix 1 outlines all bids received for the 2014/2015 winter season for all 14 tendered items.

Appendix 2 provides detailed bid costs for the recommended vendors and equipment/crews required for each of the 14 tendered items for the contract duration. The equipment/crews will allow Transportation and Works to meet the services levels approved by Council.

The Winter Maintenance Contract Tender was reviewed and analyzed by Transportation and Works staff. In addition, staff from Materiel Management and Financial Services also reviewed the bids and evaluation process.

The tenders were evaluated based on the lowest bids received from the number of equipment/crews identified for each of the items. In addition, tenders were evaluated as to the capabilities and experience of the vendors, including equipment suitability.

In this tender, there were items included to expand the City's anti-icing program. Presently, we use our own water trucks to place brine (a salt water solution) on our bridges and steep hills and curves to help minimize slippery conditions including the formation of black ice. We are now planning on providing this operation on all our arterial roads throughout the City as an enhanced winter service level. We will have dual purpose vehicles that have side saddle tanks as well as an item for water tankers to help with this operation

The anti-icing program has been expanded to allow the city to meet recent changes to the provincial Minimum Maintenance Standards

(MMS). This program reduces liability risk for the city by reducing or preventing the formation of black ice and also helps reduce the bonding of snow to the roadway which improves plowing efficiency. The anti-icing program places a brine solution on the roadway in key areas which will now include arterial roads. Anti-icing can be achieved prior to the snow event and can remain in place for several days.

Also included in this tender were some equipment changes. In an effort to reduce sod damage, sidewalk skid steer machines were removed and replaced with standard sidewalk tractor plows which allow for better steering capability. The number of street tractor plows were reduced and replaced with single axle dual purpose vehicles. This will allow the routes to be plowed and salted at the same time improving efficiency and providing cost savings. Similarly, graders used in the Malton District were replaced with dual purpose vehicles. A snow melting machine was removed from the tender resulting in a savings of \$100,000 per season in standby costs alone.

Based on the challenges faced in clearing sidewalks during larger snow events, snow blower attachments were included for the sidewalk machines. This will allow the sidewalks to be cleared with greater efficiency in large volume snow events reducing the number of required passes.

#### **Sidewalk Winter Maintenance Level of Service**

A Corporate Report was presented to Transportation Committee on February 19, 2014 where the cost to undertake sidewalk winter maintenance on all Secondary Sidewalks was presented. In an effort to refine the cost estimate, staff included provisional items for this work in the current tender. The level of service included in the tender is based on meeting the Provincial Minimum Maintenance Standards. The tender has closed and the updated cost estimate is presented in this report.

To clear Secondary Sidewalks, an additional 1,000 km (621 miles) of sidewalks need to be added. Based on the tender process it is calculated that the annual cost would be \$3.0 million for an average winter. This cost estimate includes standby and operational costs for

contracted equipment, additional costs for pretreated salt, additional staff resources, cost to repair sod and boulevard damages from encroachments and cost to lease land for equipment storage and dispatching. Leasing of land was considered a more economical approach to land purchase costs.

The following should be considered when evaluating the addition of this service:

- Potential increase in claims due to boulevard damages to encroachments such as curbs, gardens and sprinklers;
- An expected increase in calls to the 311 call centre;
- Additional windrows placed onto driveways from sidewalk plows;
- Complaints regarding salt use and the impact to pets due to higher pet usage in these areas;
- Increase in sod damages and associated complaints; and
- Increase in pretreated salt usage (5,000 to 6,000 tonnes) and resultant negative environmental impacts to natural areas and watercourses

#### **GPS/AVL Fleet Management System – Contract Renewal**

The GPS/AVL Fleet Management System is a web based solution, Software as a Service (SAAS) that allows the city to monitor its winter operations, contractor vehicles as well as the city's mobile fleet assets. The system previously selected was competitively bid, and Webtech Wireless Inc. was the successful vendor for providing mobile telematics portfolio. The renewal contract allows the City to transition from hardware ownership to a lease arrangement from 2014 through 2021 to take advantage of changing technology for future hardware upgrades and aligning with the seven year Winter Maintenance Contracts starting from 2014/2014 winter season.

Transitioning from a hardware ownership to a lease arrangement is very advantageous to the City. Any issues that arise during the term of the contract are covered by a service plan. Any hardware failures will be replaced automatically at no cost to the City. The existing units purchased are up to five years old and will be replaced and will be upgraded automatically to keep pace with technological advances.

Leasing of these GPS/AVL equipment's will provide flexibility and protection against technological obsolescence. The equipment will be upgraded automatically to keep pace with Technology. Additional equipment can be easily installed should the fleet be expanded. A service plan is part of the lease agreement that includes a turnkey solution covering any related hardware issues, installation and other services as required to maintain GPS/AVL equipment and SAAS Fleet Management System.

The GPS/AVL locator hardware units were designed and manufactured by Webtech Wireless Inc. and functions with their proprietary system. Webtech Wireless Inc. is the exclusive and unique sole source provider to all Webtech Wireless AVL hardware and software. Webtech products have copyrighted proprietary source code and intellectual property that is owned by Webtech Wireless. No other vendor or service provider has the rights or source code for this service offering.

The renewal contract includes additional services such as Route Compliance package, Public Information package to provide service to the Mobile Roads App, Sensors to be installed on all plows that will enable verification of plow up/plow down status, preseason service and "light up" to test functionality and reporting of all hardware locator units, training modules and a hardware maintenance package.

### **Snow Storage Requirements**

In early 2014, the City took ownership of a parcel of land located at 7300 West Credit Avenue. The property is identified for a future transit maintenance and storage facility. Until such time, it is proposed that the lands be available for use by Transportation & Works, Community Services and Enersource for the storage of materials.

In order to utilize a portion of the site for snow storage, an access driveway and asphalt pad will be required to accommodate vehicles and snow placement. Snow melt treatment structures will also be installed to meet environmental requirements.

The use of this parcel of land will have the positive impact of reducing the snow storage requirements at Dunton Park. The park is typically

scheduled for use by the first week of May and with excessive snow storage it is not possible to prepare the park for early season usage without mechanically removing the snow.

Additional future permanent snow storage requirements have been previously identified in the business plan for future consideration. These requirements will be addressed at three future permanent sites including the proposed Loreland South East Works Yard, and two additional locations to be determined in the North West and North Central zones. Further, the City is also currently working with the Region of Peel to find land in the South West quadrant of the city for a shared use facility. The addition of the temporary snow storage site at 7300 West Credit Avenue will alleviate pressure until permanent sites become available.

#### **FINANCIAL IMPACT: Winter Maintenance Tender**

Detailed winter contract bid costs by each vendor for each of the 14 items tendered are provided in Appendix 2.

An overall summary of winter contractor costs is provided in Appendix 3. The winter contract standby and operational project costs (excluding H.S.T.) for the first year (2014/15) are summarized as follows:

Standby Cost	Operational Cost	Total Cost
\$9,810,908.66	\$4,015,046.22	\$13,825,954.88

The contract project costs for the first winter season are established as per the tender, while the contract project costs for the subsequent six winter seasons are subject to a consumer price adjusting index (CPI) which may increase or decrease the seasonal contract project costs.

The unadjusted seven-year contract project cost is estimated to be valued at \$96,781,683.60 (excl. HST).

The 2015 Preliminary Budget included an expected inflation increase of approximately \$0.7 million. When added to the approved 2014 budget of \$14.5 million, the total 2015 preliminary budget was \$16.2

million.

If the tender is awarded as recommended in this report, the estimated 2015 Winter Maintenance Cost is \$15,176,000 as shown in Appendix 3. This results in a \$971k reduction in the 2015 estimated original budget.

#### **Secondary Sidewalk Winter Maintenance Level of Service**

To add a new service level of Secondary Sidewalk Winter Maintenance an annual budget of \$3.0 million which equates to a 0.8% tax rate increase in 2015 is required. These costs would be required to fund contract costs associated with the works as well as additional staff to supervise and inspect the work.

As the new service level will begin in the Fall of 2014, the 2014 sidewalk winter maintenance budget will need to be increased by \$1.1 million and funded from the Reserve for Winter Maintenance. Two new full time positions would need to be hired in 2014 which would require Council approval.

The 2014 costs will need to be recovered from the Reserve for Winter Maintenance. The balance in this Reserve is \$8.3 million but this may change at year end due to over expenditures as a result of the severe winter weather.

#### **GPS/AVL Fleet Management System – Contract Renewal**

A monthly leasing unit price including a service plan and GPS/AVL hardware installation on all vehicles has been obtained. The unit leasing price also includes all desired reporting, public information services, winter light up and professional services.

Annual Lease of Hardware	Annual Lease of Services (SAAS)	Extended Annual Cost
\$72,735.04	\$224,573.88	\$297,308.92

### **Snow Storage Requirements**

In order to facilitate use of the 7300 West Credit Avenue site for snow storage purposes, the site will need to be upgraded. This will require the installation of an access road, earthworks, granular and asphalt, storm sewers and culvert installation, snow melt treatment structures and fencing for a total cost estimate of \$480,000. It is anticipated that a recovery cost share for the access road in the amount of \$24,000 can be obtained giving a net cost of \$456,000.

A new capital project (PN 14-192) for the West Credit Temporary Snow Storage Site will need to be created which will be funded from the Capital Reserve Fund (Account #33121).

### **CONCLUSION:**

#### **Winter Maintenance Tender**

The Transportation and Works Department recommends that a seven year contract be awarded to the vendors as outlined in Appendix 2 of this report. A seven year contract period as well as process improvements identified in the tender have resulted in very competitive bid prices.

The equipment levels recommended incorporate the Council approved enhanced level of service for priority sidewalk and bus stop winter maintenance as per the October 16, 2008 Corporate Report from the Commissioner of Transportation and Works.

The funding for the recommended bid award for the Winter Maintenance Tender is within budget for the proposed budget amount for 2015.

#### **Sidewalk Winter Maintenance Level of Service**

In non-priority areas the City has adopted the practice of regularly

requesting residents to cooperate with the City by clearing sidewalks adjoining their property through advertisements, flyers and staff visits in response to complaints on non-priority sidewalks. This practice has worked well on non-priority sidewalks.

Adding this new service of winter maintenance on non-priority sidewalks, which generally has lower pedestrian and vehicular roadway counts, would have a substantial impact on the winter maintenance budget and require an additional \$3.0 million annually in funding. Original estimates included land purchase costs in order to store the required winter equipment. This has now been included as a land lease and it is anticipated that land will be available for lease in the required areas. It is expected that resident complaints will increase significantly due to windrows left behind from sidewalk plows, damages to sod and other encroachments, effect of salt on pets and the general increase of salt impacts to our watercourses and natural areas.

#### **GPS/AVL Fleet Management System – Contract Renewal**

The current contract for GPS/AVL Fleet Management System expires in 2014 with Webtech Wireless Inc. The new contract renewal is proposed as a single source award for seven years to align with the timing and award of the new seven year Winter Maintenance Contract. A monthly leasing unit price arrangement has been obtained which includes service plan and GPS/AVL hardware installation on all vehicles.

#### **Snow Storage Requirements**

Utilizing the property located at 7300 West Credit Avenue will provide a temporary snow storage facility. This will alleviate the issues from the snow storage at Dunton Park by reducing snow storage requirements at that location. This will allow Parks Department to bring early spring programs online reducing concern for potential program start delays.

This temporary snow storage facility will provide temporary measures until such time as additional permanent snow storage sites becomes available through the development of the Loreland Works Yard, the proposed North-West and North Central sites as well as additional snow storage through a shared joint facility with the region of Peel which is currently under study.

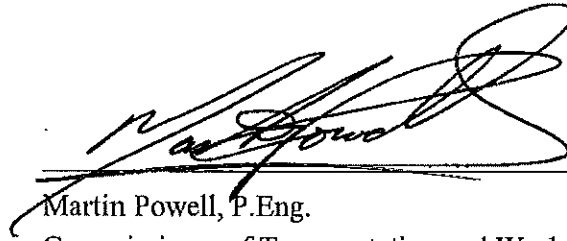


**ATTACHMENTS:**

Appendix 1: Winter Maintenance Tender Bids Received

Appendix 2: 2014/15 Costs

Appendix 3: Winter Contractor Costs



---

Martin Powell, P.Eng.

Commissioner of Transportation and Works

*Prepared By: Bob Levesque, P.Eng.**Manager, Works Maintenance and Operations*

## Appendix 1

**WINTER MAINTENANCE TENDER - PROCUREMENT FA.49.324-14****BIDS RECEIVED**

**ITEM 1: DUAL PURPOSE TANDEM AXLE SPREADER/PLOW TRUCK WITH OPERATOR  
C/W PLOW AND WING, SPREADER BOX, DUAL SIDE OR REAR SPINNERS,  
AND ELECTRONIC SPREADER CONTROL SYSTEM**

**Winter Season**

2014/2015 Winter Season

**Operational Amount per Unit (excl. HST)**

\$65.00 per hour x 200 hours = \$13,000.00

Order	Vendor	2014/2015 Bid Amount Per Unit (Excl. HST)	No. of Units Offered (Min. 15 Units)	Comments
1	PACIFIC PAVING 5845 Luke Road, Suite 204 Mississauga, ON L4W 2K5	\$59,835.00	19	19 units required
2	BONUM CONTRACTING INC. 11 Hugo Road Brampton, ON L6P 1W4	\$60,705.00	20	20 units required
3	MELROSE PAVING CO. LTD. 3540 Hawkestone Rd. Mississauga, ON L5C 2V2	\$67,238.70	25	10 of 25 units required
4	A & G THE ROAD CLEANERS LTD. 47 Simpson Road Bolton, ON L7E 2R6	\$67,375.00	21	Units not required
5	742731 ONTARIO INC. o/a HART LAKE INDUSTRIES 15276 Dixie Rd. Caledon, ON L7C 2M3	\$67,955.00	19	Units not required
6	RAFAT GENERAL CONTRACTOR INC. 8850 George Bolton PKWY Caledon, ON L7E 2Y4	\$71,000.00	19	Units not required
7	S&J GRERI TRUCKING LTD. 4111 Clevedon Drive Mississauga, ON L4Z 1J4	\$72,435.50	19	Units not required
8	STEED AND EVANS LIMITED 3000 Ament Line St. Jacobs, ON N0B 2N0	\$85,500.00	19	Units not required

Total Units Available: 142

Total Units Required: 49

**WINTER MAINTENANCE TENDER - PROCUREMENT FA.49.324-14****BIDS RECEIVED**

**ITEM 2: DUAL PURPOSE TANDEM AXLE SPREADER/PLOW TRUCK WITH OPERATOR  
C/W PLOW AND WING, SPREADER BOX, DUAL SIDE OR REAR SPINNERS,  
DIRECT LIQUID APPLICATION CAPABILITY AND ELECTRONIC SPREADER CONTROL SYSTEM**

Winter Season                      Standby Days Per Unit                      Operational Amount per Unit (excl. GST)  
2014/2015 Winter Season                      145 Days                      (\$65.00 per hour x 200 hours) = \$65.00 per hr x 35 hours) = \$15,275.00

Order	Vendor	2014/2015 Bid Amount Per Unit (Excl. HST)	No. of Units Offered (Min. 6 Units)	Comments
1	BONUM CONTRACTING INC. 11 Hugo Road Brampton, ON L6P 1W4	\$64,430.00	6	6 units required
2	A & G THE ROAD CLEANERS LTD. 47 Simpson Road Bolton, ON L7E 2R6	\$71,825.00	15	9 of 15 units required
3	RAFAT GENERAL CONTRACTOR INC. 8850 George Bolton PKWY Caledon, ON L7E 2Y4	\$75,418.67	6	Units not required
4	PAVE-TAR CONSTRUCTION LTD. 388 Watline Avenue Mississauga, ON L4Z 1X2	\$76,900.00	7	Units not required
5	2375072 OTARIO INC. 1230 Mid-way Blvd. Mississauga, ON L6T 2B8	\$77,190.00	10	Units not required
6	STEED AND EVANS LIMITED 3000 Ament Line St. Jacobs, ON N0B 2N0	\$88,355.00	6	Units not required

Total Units Available: 50

Total Units Required: 15

**WINTER MAINTENANCE TENDER - PROCUREMENT FA.49.324-14****BIDS RECEIVED**

**ITEM 3: DUAL PURPOSE SINGLE AXLE SPREADER/PLOW TRUCK WITH OPERATOR  
C/W PLOW AND WING, SPREADER BOX, DUAL SIDE OR REAR SPINNERS,  
AND ELECTRONIC SPREADER CONTROL SYSTEM**

<u>Winter Season</u>	<u>Standby Days Per Unit</u>	<u>Operational Amount per Unit (excl. GST)</u>
2014/2015 Winter Season	145 Days	\$60.00 per hour x 200 hours = \$12,000.00

Order	Vendor	2014/2015 Bid Amount Per Unit (Excl. HST)	No. of Units Offered (Min. 10 Units)	Comments
1	RAFAT GENERAL CONTRACTOR INC. 8850 George Bolton PKWY Caledon, ON L7E 2Y4	\$48,250.00	10	10 units required
2	PACIFIC PAVING 5845 Luke Road, Suite 204 Mississauga, ON L4W 2K6	\$58,110.00	10	10 units required
3	PAVE-TAR CONSTRUCTION LTD. 366 Watline Avenue Mississauga, ON L4Z 1X2	\$59,705.00	20	20 units required
4	742731 ONTARIO INC. o/a HART LAKE INDUSTRIES 15276 Dixie Rd. Caledon, ON L7C 2M3	\$62,460.00	10	3 of 10 units required
5	FERMAR PAVING LIMITED 1921 Albion Rd. Rexdale, ON M9W 6S8	\$65,625.25	20	Units not required
6	T. BOLTON SOD CO. LIMITED 9043 Country Road 1, R.R. #1 Palgrave, ON L0N 1P0	\$65,940.00	10	Units not required
7	STEED AND EVANS LIMITED 3000 Argent Line St. Jacobs, ON N0B 2N0	\$79,555.00	10	Units not required
8	DEFINA HAULAGE LTD. 42 Prince Adam Crt. King City, ON L7B 1M1	\$80,585.00	20	Units not required
9	ASHLAND PAVING LTD. 340 Bowes Rd. Concord, ON L4K 1K1	\$82,325.00	15	Units not required
10	2375072 OTARIO INC. 1230 Mid-way Blvd. Mississauga, ON L6T 2B8	\$83,920.00	10	Units not required
11	GAZZOLA PAVING LIMITED 529 Carlingview Drive Etobicoke, ON M9W 5H2	\$106,260.00	10	Units not required

Total Units Available: 135

Total Units Required: 43

**WINTER MAINTENANCE TENDER - PROCUREMENT FA.49.324-14****BIDS RECEIVED****ITEM 4: TANDEM AXLE TRUCK PLOW WITH OPERATOR C/W PLOW AND WING**

Winter Season                      Standby Days Per Unit                      Operational Amount per Unit (excl. GST)  
 2014/2015 Winter Season                      103 Days                      \$65.00 per hour x 50 hours = \$3,250.00

Order	Vendor	2014/2015 Bid Amount Per Unit (Excl. HST)	No. of Units Offered (Min. 5 Units)	Comments
1	RAFAT GENERAL CONTRACTOR INC. 8850 George Bolton PKWY Caledon, ON L7E 2Y4	\$34,150.00	6	6 units required
2	CLEANSITE DISPOSAL INC. 118 Bloomsbury Ave. Brampton, ON L6P 2X1	\$35,592.00	6	6 units required
3	A & G THE ROAD CLEANERS LTD. 47 Simpson Road Bolton, ON L7E 2R6	\$36,725.00	5	6 units required
4	2375072 OTARIO INC. 1230 Mid-way Blvd. Mississauga, ON L6T 2B8	\$43,214.00	4	3 of 4 units required
5	STEED AND EVANS LIMITED 3000 Ament Line St. Jacobs, ON N0B 2N0	\$48,158.00	4	Units not required
6	JOHN EEK & SON LTD. 190 Artesian Parkway P.O. Box 149 Bradford, ON L3Z 2A7	\$57,428.00	6	Units not required

Total Units Available: 31

Total Units Required: 20

**WINTER MAINTENANCE TENDER - PROCUREMENT FA.49.324-14****BIDS RECEIVED****ITEM 5: ARTICUATED LOADER PLOW WITH OPERATORC/W PLOW AND BUCKET**

**Winter Season**                      **Standby Days Per Unit**                      **Operational Amount per Unit (excl. GST)**  
 2014/2015 Winter Season                      103 Days                      \$65.00 per hour x 65 hours = \$4,225.00

Order	Vendor	2014/2015 Bid Amount Per Unit (Excl. GST)	No. of Units Offered (Min. 6 Units)	Comments
1	2415188 ONTARIO INC. o/a JEFFERY BULLOCK R.R. #1 Feversham, ON MoC 1C0	\$29,161.00	12	12 units required
2	ROBERT B. MEISNER CONSTRUCTION INC. 125 Orenda Road Brampton, ON L6W 1W3	\$29,973.97	20	9 of 20 units required
3	614128 ONTARIO LTD. o/a TRISAN CONSTRUCTION 17250 HWY. 27 Schomberg, ON L0G 1T0	\$32,653.00	10	Units not required
4	PACIFIC PAVING 6845 Luke Road, Suite 204 Mississauga, ON L4W 2K5	\$38,155.00	10	Units not required
5	ALTON CENTURY FARMS LTD. 85565 Lucknow Line, R.R. #2 Lucknow, ON N0G 2H0	\$38,970.00	10	Units not required
6	RAFAT GENERAL CONTRACTOR INC. 8850 George Bolton PKWY Caledon, ON L7E 2Y4	\$37,185.00	10	Units not required
7	LAKESIDE CONTRACTING COMPANY LIMITED 3513 Mavis Road Mississauga, ON L6C 1T7	\$40,276.00	10	Units not required
8	ISLINGTON NURSURIES LTD. 1000 Islington Avenue Toronto, ON M8Z 4P8	\$41,820.00	10	Units not required
9	VBN PAVING LIMITED 385 Enford Road, Unit 2 Richmond Hill, ON L4C 3G2	\$44,189.00	10	Units not required
10	SUPCO CONSTRUCTION LIMITED, Suite 361 19-13085 Yonge St. Richmond Hill, ON L4E 0K2	\$50,080.00	10	Units not required
11	MTM LANDSCAPING CONTRACTORS INC. 2034 Dixie Rd. Mississauga, ON L4Y 1Y8	\$210,225.00	10	Units not required

Total Units Available: 122

Total Units Required: 21

**WINTER MAINTENANCE TENDER - PROCUREMENT FA.49.324-14****BIDS RECEIVED****ITEM 6: TRACTOR PLOW WITH OPERATOR C/W PLOW AND BUCKET**

<u>Winter Season</u>	<u>Standby Days Per Unit</u>	<u>Operational Amount per Unit (excl. HST)</u>
2014/2016 Winter Season	103 Days	\$65.00 per hour x 85 hours = \$5,525.00

Order	Vendor	2014/2015 Bid Amount Per Unit (Excl. HST)	No. of Units Offered (Min. 10 Units)	Comments
1	614128 ONTARIO LTD. o/a TRISAN CONSTRUCTION 17250 HWY. 27 Schomberg, ON L0G 1T0	\$22,507.00	10	10 units required
2	ROBERT B. MEISNER CONSTRUCTION INC. 125 Orenda Road Brampton, ON L6W 1W3	\$29,730.00	10	Units not required
3	CEDAR SPRINGS LANDSCAPE GROUP LIMITED 1328 Butter Road West Ancaster, ON L9G 3L1	\$32,305.00	10	Units not required
4	ALTON CENTURY FARMS LTD. 85565 Lucknow Line, R.R. # 2 Lucknow, ON N0G 2H0	\$34,671.00	10	Units not required
5	1338668 ONTARIO INC. o/a WINSOM LANDSCAPING 11 Veneto Drive Vaughan, ON L4L 8X4	\$34,777.00	10	Units not required
6	DONALDSON CUSTOM FARMING INC. P.O. Box 209, 2360 Haskinbrook Rd. Blinbrook, ON L0R 1C0	\$34,880.00	10	Units not required
7	RAFAT GENERAL CONTRACTOR INC. 8860 George Bolton PKWY Caledon, ON L7E 2Y4	\$36,425.00	10	Units not required

Total Units Available: 70

Total Units Required: 10



**WINTER MAINTENANCE TENDER - PROCUREMENT FA.49.324-14****BIDS RECEIVED****ITEM 7: SNOW CLEARING LOADER BACKHOE WITH OPERATOR C/W BUCKET**

Winter Season                      Standby Days Per Unit                      Operational Amount per Unit (excl. HST)  
 2014/2015 Winter Season                      103 Days                      \$60.00 per hour x 50 hours = \$1,500.00

Order	Vendor	2014/2015 Bid Amount Per Unit (Excl. GST)	No. of Units Offered (Min. 2 Units)	Comments
1	MAVIS GARDEN SUPPLIES CO. LTD. 3539 Mavis Road Mississauga, ON L5C 1T7	\$13,197.00	2	2 units required
2	R-CON CONTRACTING INC. 112 Summitcrest Drive Richmond Hill, ON L4S 1A8	\$16,184.00	12	8 of 12 units required
3	EXTREME LANDSCAPING & CONTRACTING LTD. 60 Bristol Road East Mississauga, ON L4Z 3K8	\$16,287.00	2	Units not required
4	MUNICIPAL MAINTENANCE INC. 62 Proctor Road Schomberg, ON L0G 1T0	\$18,460.00	2	Units not required
4	SUPCO CONSTRUCTION LIMITED, Suite 361 19-13085 Yonge St. Richmond Hill, ON L4E 0K2	\$18,460.00	4	Units not required
6	DIAMOND EARTHWORKS CORPORATION 74 Mealey Rd. Bolton, ON L7E 5A7	\$19,401.00	2	Units not required
7	DI BROS INC. 23 Torkirk Dr. Toronto, ON M9L 1X9	\$21,952.00	6	Units not required
8	LAKESIDE CONTRACTING COMPANY LIMITED 3513 Mavis Road Mississauga, ON L6C 1T7	\$23,085.00	2	Units not required
9	MADILL FARMS R.R. #3 (Fire #076576) Markdale, ON M0C 1H0	\$23,210.77	13	Units not required
10	RAFAT GENERAL CONTRACTOR INC. 8860 George Bolton PKWY Caledon, ON L7E 2Y4	\$23,600.00	2	Units not required
11	614128 ONTARIO LTD. o/a TRISAN CONSTRUCTION 17260 HWY. 27 Schomberg, ON L0G 1T0	\$26,361.00	4	Units not required
12	DEFINA HAULAGE LTD. 42 Prince Adam Crt. King City, ON L7B 1M1	\$26,464.00	2	Units not required
13	1338568 ONTARIO INC. o/a WINSOM LANDSCAPING 11 Veneto Drive Vaughan, ON L4L 8X4	\$28,029.00	2	Units not required
14	IPAC PAVING LTD. 9251 Yonge Street, Suite B - 872 Richmond Hill, ON L4C 9T3	\$31,840.00	3	Units not required
15	2376072 OTARIO INC. 1230 Mid-way Blvd. Mississauga, ON L5T 2B8	\$33,282.00	2	Units not required

Total Units Available: 59

Total Units Required: 10



**WINTER MAINTENANCE TENDER - PROCUREMENT FA.49.324-14****BIDS RECEIVED****ITEM 8: SIDEWALK PLOW/SPREADER WITH OPERATOR  
C/W PLOW, BLOWER, SPREADER AND MATERIAL FEEDING**

Winter Season                      Standby Days Per Unit                      Operational Amount per Unit (excl. HST)  
 2014/2015 Winter Season                      145 Days                      \$70.00 per hour x 200 hours + \$75.00 per hr x 50 hrs = \$17,750.00

Order	Vendor	2014/2015 Bid Amount Per Unit (Excl. HST)	No. of Units Offered (Min. 12 Units)	Comments
1	J. DI IORIO CONSTRUCTION LTD. 11 Jutland Road Toronto, ON M8Z 2G6	\$30,085.00	14	14 units required
2	614128 ONTARIO LTD. o/a TRISAN CONSTRUCTION 17250 HWY. 27 Schomberg, ON L0G 1T0	\$32,550.00	36	36 units required
3	AQUATECH SOLUTIONS Box 276 Schomberg, ON L0G 1T0	\$33,710.00	24	22 of 24 units not required
4	MUNICIPAL MAINTENANCE INC. 52 Proctor Road Schomberg, ON L0G 1T0	\$35,450.00	12	Units not required
5	SALID INVESTMENTS LTD. 8314 Ninth Line Mississauga, ON L6N 0C1	\$35,491.67	12	Units not required
6	T. BOLTON SOD CO. LIMITED 9043 Country Road 1, R.R. #1 Palgrave, ON L0N 1P0	\$39,510.00	24	Units not required
7	1336568 ONTARIO INC. o/a WINSOM LANDSCAPING 11 Veneto Drive Vaughan, ON L4L 8X4	\$42,655.00	12	Units not required
8	LIMA'S GARDENS & CONSTRUCTION INC. 116 Toryork Drive Toronto, ON M9L 1X6	\$47,050.00	12	Units not required
9	MTM LANDSCAPING CONTRACTORS INC. 2034 Dixie Rd. Mississauga, ON L4Y 1Y8	\$53,575.00	24	Units not required

Total Units Available: 170

Total Units Required: 72

**WINTER MAINTENANCE TENDER - PROCUREMENT FA.49.324-14****BIDS RECEIVED****ITEM 9: SNOW CLEARING/SPREADING CREW FOR BUS STOPS AND CROSSINGS INCLUDING MATERIAL FEEDING & TRAFFIC PROTECTION C/W EQUIPMENT, OPERATORS AND LABOUR**Winter Season

2014/2015 Winter Season

Standby Days Per Unit

145 Days

Operational Amount per Crew (excl. HST)

(\$55.00 per hour x 120 hours) + (\$115.00 per hour x 60 hours) = \$13,500.00

Order	Vendor	2014/2015 Bid Amount Per Crew (Excl. HST)	No. of Crews Offered (Min. 15 Crews)	Comments
1	MUNICIPAL MAINTENANCE INC. 52 Proctor Road Schomberg, ON L0G 1T0	\$32,350.00	45	45 crews required
2	DIAMOND EARTHWORKS CORPORATION 74 Mealey Rd. Bolton, ON L7E 5A7	\$34,561.25	15	15 crews required
3	614128 ONTARIO LTD. o/a TRISAN CONSTRUCTION 17250 HWY. 27 Schomberg, ON L0G 1T0	\$34,670.00	45	17 of 45 crews required
4	R-CON CONTRACTING INC. 112 Summitcrest Drive Richmond Hill, ON L4S 1A8	\$34,960.00	25	Crews not required
5	BONUM CONTRACTING INC. 11 Hugo Road Brampton, ON L6P 1W4	\$35,105.00	25	Crews not required
6	AQUATECH SOLUTIONS Box 276 Schomberg, ON L0G 1T0	\$38,505.00	15	Crews not required
7	ROCKLAND CONTRACTING INC. 2415 Poplar Cres. Mississauga, ON L5J 4H2	\$38,585.00	15	Crews not required
8	2128087 ONTARIO INC. o/a DOBROCON 14396 Creditview Rd. Cheltenham, ON L7C 1N5	\$43,860.00	15	Crews not required
9	LIMA'S GARDENS & CONSTRUCTION INC. 116 Toryork Drive Toronto, ON M9L 1X6	\$50,185.00	15	Crews not required
10	CEDAR SPRINGS LANDSCAPE GROUP LIMITED 1328 Butler Road West Ancaster, ON L9G 3L1	\$54,100.00	15	Crews not required
11	VBN PAVING LIMITED 385 Enford Road, Unit 2 Richmond Hill, ON L4C 3G2	\$82,220.00	15	Crews not required

Total Crews Available: 245

Total Crews Required: 77

**WINTER MAINTENANCE TENDER - PROCUREMENT FA.49.324-14****BIDS RECEIVED****ITEM 10: SNOW BLOWER WITH OPERATOR (MINIMUM 1.8 M WIDTH)  
C/W FRONT MOUNTED DUAL STAGE BLOWER**

<u>Winter Season</u>	<u>Standby Days Per Unit</u>	<u>Operational Amount per Unit (excl. HST)</u>
2014/2015 Winter Season	103 Days	\$65.00 per hour x 30 hours = \$1,950.00

Order	Vendor	2014/2015 Bid Amount Per Unit (Excl. HST)	No. of Units Offered (Min. 4 Units)	Comments
1	MAVIS GARDEN SUPPLIES CO. LTD. 3539 Mavis Road Mississauga, ON L5C 1T7	\$22,035.00	4	4 units required
2	614128 ONTARIO LTD. o/a TRISAN CONSTRUCTION 17250 HWY. 27 Schomberg, ON L0G 1T0	\$23,580.00	4	1 of 4 units required
3	AQUATECH SOLUTIONS Box 276 Schomberg, ON L0G 1T0	\$24,713.00	4	Units not required
4	1338588 ONTARIO INC. o/a WINSOM LANDSCAPING 11 Veneto Drive Vaughan, ON L4L 8X4	\$29,142.00	6	Units not required
5	ALTON CENTURY FARMS LTD. 85565 Lucknow Line, R.R. # 2 Lucknow, ON N0G 2H0	\$31,099.00	6	Units not required
6	DONALDSON CUSTOM FARMING INC. P.O. Box 209, 2380 Haldibrook Rd. Blinbrook, ON L0R 1C0	\$58,800.00	4	Units not required

Total Units Available: 28

Total Units Required: 6

**WINTER MAINTENANCE TENDER - PROCUREMENT FA.49.324-14****BIDS RECEIVED****ITEM 11: SNOW REMOVAL SERVICES FOR THE TRELAUNY LANES AND TENTH LINE LANES  
C/W EQUIPMENT, OPERATORS AND LABOUR**

<u>Winter Season</u>	<u>Standby Days Per Unit</u>	<u>Operational Amount per Unit (excl. HST)</u>
2014/2015 Winter Season	103 Days	Varies per Snow Event

Order	Vendor	2014/2015 Bid Amount Per Unit (Excl. HST)	No. of Crews Offered (Min. 2 Crews)	Comments
1	614128 ONTARIO LTD. o/a TRISAN CONSTRUCTION 17250 HWY. 27 Schomberg, ON L0G 1T0	\$89,614.00	2	2 crews required
2	ROBERT B. MEISNER CONSTRUCTION INC. 125 Orenda Road Brampton, ON L6W 1W3	\$108,500.00	2	Crews not required
3	MACHINABILITY ROBOTICS 1515 Rebecca St. P.O. Box 80011 Oakville, ON L6L 6R4	\$115,850.00	2	Crews not required
4	MAVIS GARDEN SUPPLIES CO. LTD. 3539 Mavis Road Mississauga, ON L6C 1T7	\$128,235.00	2	Crews not required
5	WINTER WEATHER SPECIALISTS INC. P.O. Box 214 Oakville, ON L6K 0A4	\$213,944.60	2	Crews not required
6	LAKESIDE CONTRACTING COMPANY LIMITED 3513 Mavis Road Mississauga, ON L6C 1T7	\$275,018.00	2	Crews not required
7	792873 ONTARIO LIMITED o/a H&S EQUIPMENT 8171 Yonge St., Suite 303 Thornhill, ON L3T 2C6	\$535,000.00	2	Crews not required

Total Crews Available: 14

Total Crews Required: 2

**WINTER MAINTENANCE TENDER - PROCUREMENT FA.49.324-14****BIDS RECEIVED****ITEM 12: SNOW REMOVAL CREW FOR VARIOUS LOCATIONS CW EQUIPMENT, OPERATORS AND LABOUR**

Winter Season                      Standby Days Per Unit                      Operational Amount per Crew (excl. HST)  
 2014/2015 Winter Season                      103 Days                      Varies per Snow Event

Order	Vendor	2014/2015 Bid Amount Per Crew (Excl. HST)	No. of Crews Offered (Min. 1 Crew)	Comments
1	LAKESIDE CONTRACTING COMPANY LIMITED 3513 Mavis Road Mississauga, ON L5C 1T7	\$62,800.00	1	1 crew required
2	MAVIS GARDEN SUPPLIES CO. LTD. 3539 Mavis Road Mississauga, ON L5C 1T7	\$62,947.00	3	3 crews required
3	614128 ONTARIO LTD. o/a TRISAN CONSTRUCTION 17250 HWY. 27 Schomberg, ON L0G 1T0	\$79,494.00	5	3 of 5 crews required
4	SUPCO CONSTRUCTION LIMITED, Suite 361 19-13085 Yonge St. Richmond Hill, ON L4E 0K2	\$80,735.00	1	Crews not required
5	AQUATECH SOLUTIONS INC. Box 276 Schomberg, ON L0G 1T0	\$81,663.00	2	Crews not required
6	PAVE-TAR CONSTRUCTION LTD. 366 Watline Avenue Mississauga, ON L4Z 1X2	\$88,300.00	3	Crews not required
7	WINTER WEATHER SPECIALISTS INC. P.O. Box 214 Oakville, ON L6K 0A4	\$89,691.00	2	Crews not required
8	FUSILLO GROUP LTD. 3038 Franze Drive Mississauga, ON L6A 2R7	\$89,627.00	3	Crews not required
9	PACIFIC PAVING 5945 Luke Road, Suite 204 Mississauga, ON L4W 2K5	\$90,497.00	2	Crews not required
10	792873 ONTARIO LIMITED o/a H&S EQUIPMENT 8171 Yonge St., Suite 303 Thornhill, ON L3T 2C6	\$122,400.00	4	Crews not required
11	2376072 OTARIO INC. 1230 Mid-way Blvd. Mississauga, ON L5T 2B8	\$169,986.00	1	Crews not required

Total Crews Available: 27

Total Crews Required: 7

**WINTER MAINTENANCE TENDER - PROCUREMENT FA.49.324-14****BIDS RECEIVED****ITEM 13: DIRECT LIQUID APPLICATION VEHICLES C/W EQUIPMENT, OPERATORS**Winter Season

2014/2015 Winter Season

Standby Days Per Crew

Dates Vary, 93 Days

Operational Amount per Crew (excl. HST)

To Be Bid On

Order	Vendor	2014/2015 Bid Amount Per Unit (Excl. HST)	No. of Units Offered (Min. 2 Units)	Comments
1	A & G THE ROAD CLEANERS LTD. 47 Simpson Road Bolton, ON L7E 2R6	\$7,875.00	3	3 units required
2				
3				
4				

Total Crews Available: 3

Total Crews Required: 6

**WINTER MAINTENANCE TENDER - PROCUREMENT FA.49.324-14****BIDS RECEIVED**

**ITEM 14: PROVISIONAL ITEM**  
**SIDEWALK PLOW/SPREADER WITH OPERATOR**  
**C/W PLOW, BLOWER, SPREADER AND MATERIAL FEEDING**

Winter Season                      Standby Days Per Unit                      Operational Amount per Crew (excl. HST)  
 2014/2015 Winter Season                      145 Days                      \$70.00 per hour x 200 hours + \$75.00 per hr x 50 hrs = \$17,750.00

Order	Vendor	2014/2015 Bid Amount Per Crew (Excl. HST)	No. of Crews Offered (Min. 12 Crews)	Comments
1	614128 ONTARIO LTD. o/a TRISAN CONSTRUCTION 17250 HWY. 27 Schomberg, ON L0G 1T0	\$37,561.52	23	23 crews required
2	AQUATECH SOLUTIONS INC. Box 278 Schomberg, ON L0G 1T0	\$35,885.00	12	12 crews required
3	T. BOLTON SOD CO. LIMITED 9043 County Road 1, R.R. # 1 Palgrave, ON L0N 1P0	\$40,235.00	12	12 crews required
4	GMS SERVICE CONTRACTING LIMITED 42 Montcalm Place Brampton, ON L6S 2X6	\$40,670.00	12	3 of 12 crews required
5	MUNICIPAL MAINTENANCE INC. 52 Proctor Road Schomberg, ON L0G 1T0	\$41,260.00	12	Crews not required

Total Crews Available: 71

Total Crews Required: 50

## WINTER MAINTENANCE TENDER - PROCUREMENT FA 49.324-14

## 2014/2015 PROPOSED COSTS FOR NEW CONTRACT - Based on Actual Bid Costs

EQUIPMENT	NUMBER OF UNITS	2014/2015 STANDBY COSTS (Excl. Taxes)				2014/2015 STANDBY COSTS (Excl. Taxes)				TOTAL STANDBY AND OPERATIONAL COSTS (Excl. Taxes)
		DAYS PER UNIT	AVERAGE STANDBY RATE PER UNIT	AVERAGE STANDBY COST PER UNIT	STANDBY COST (Excl. Tax)	EST. HOURS PER UNIT	OPERATIONAL RATE PER UNIT	AVERAGE OPERATIONAL COST PER UNIT	OPERATIONAL COST (Excl. Tax)	
Dual Purpose Tandem Axle Spreader/Plows	49	145	\$342.00	\$49,590.00	\$2,429,910.00	200	\$65.00	\$13,000.00	\$637,000.00	\$3,066,910.00
Dual Purpose Tandem Axle Spreader/Plows With Dried Liquid Application	15	145 <i>(incl. annual)</i>	\$365.00	\$52,925.00	\$793,875.00	205	\$65.00	\$15,275.00	\$229,125.00	\$1,023,000.00
Single Axle Dual Purpose Spreader/Plow	43	145	\$313.00	\$45,385.00	\$1,951,553.00	200	\$60.00	\$12,000.00	\$516,000.00	\$2,467,553.00
Tandem Axle Truck Plows	20	103	\$322.00	\$33,186.00	\$663,320.00	35	\$65.00	\$2,275.00	\$45,500.00	\$708,820.00
Articulated Loader Plows	21	103	\$246.00	\$25,338.00	\$532,098.00	65	\$65.00	\$4,225.00	\$88,725.00	\$620,823.00
Tractor Plows	10	103	\$215.00	\$22,145.00	\$221,450.00	65	\$65.00	\$5,525.00	\$55,250.00	\$276,700.00
Snow Clearing Loader/Backhoes	10	103	\$114.00	\$11,742.00	\$117,420.00	50	\$60.00	\$3,000.00	\$30,000.00	\$147,420.00
Sidewalk Plow/Spreaders/Blower	72	145	\$112.00	\$16,240.00	\$1,169,280.00	210	\$73.00	\$15,330.00	\$1,103,760.00	\$2,273,040.00
Bus Stop/Crossing Snow Clearing Crews	77	145	\$142.00	\$20,690.00	\$1,585,430.00	150	\$77.00	\$11,550.00	\$989,300.00	\$2,474,780.00
1.8 m Wide Snow Blowers	5	103	\$203.00	\$20,609.00	\$104,545.00	30	\$65.00	\$1,950.00	\$9,750.00	\$114,295.00
Snow Removal at Trelawny & Tenth Line	2	103	\$334.00	\$34,402.00	\$68,804.00	8 <i>(Events)</i>	\$9,000.00	\$54,000.00	\$108,000.00	\$176,804.00
Snow Removal Crews	6	103	\$233.00	\$23,999.00	\$143,994.00	5,000 <i>(Curb-Metres)</i>	\$3.80	\$44,500.00	\$267,000.00	\$410,994.00
Direct Liquid Application Trucks	3	0	\$0.00	\$0.00	\$0.00	3.5	\$225.00	\$7,875.00	\$23,625.00	\$23,625.00
Sidewalk Plow/Spreaders/Blower	50	145	\$157.00	\$22,785.00	\$1,138,250.00	210	\$73.00	\$15,330.00	\$766,500.00	\$1,904,750.00
Total 2014/2015 Standby Amount (excl. Taxes):		13% HST:		\$10,919,801.00	Total 2014/2015 Operational Amount (excl. Taxes):		13% HST:		\$4,789,585.00	\$15,889,516.00
		Sub-Total:		\$12,339,522.03			Sub-Total:		\$5,309,631.05	\$17,729,153.08
		Less Tax Rebate (11.24%):		(\$1,227,400.24)			Less Tax Rebate (11.24%):		(\$536,101.35)	(\$1,763,501.60)
Total 2014/2015 Standby Cost:		\$11,112,121.79		Total 2014/2015 Operational Cost:		\$4,853,529.70				\$15,965,651.48
Total 2014/2015 Standby Cost Without additional sidewalk machines		\$9,810,908.66		Total 2014/2015 Operational Cost Without additional sidewalk machines		\$4,015,046.22				\$13,825,954.88



## Appendix 3

# Focus on Contractor Costs

## Estimated 2015 Costs

Description	Amount (\$000's)
AVL leasing	360
Contractor Costs	13,850
Secondary contracts	300
Winter Fencing	50
Weather Monitoring	16
Snow Melting Equipment Annual Allowance on demand	300
<b>Subtotal</b>	<b>14,876</b>
Contingency at 2%	300
<b>Total</b>	<b>15,176</b>

## 2015 Estimated Original Budget

Description	Amount (\$000's)
2014 Budget	15,470
Estimated 2015 Increase BAU	676.8
<b>Estimated 2015 Budget Total</b>	<b>16,147</b>

\$971K reduction



## Appendix 2

**Existing Council-approved Levels of Service for Winter Maintenance****Winter Maintenance Service Standards**

<b>Snowfall Accumulation of:</b>	<b>Less than 8 cm (3")</b>	<b>8 cm (3") to 15 cm (6")</b>	<b>15 cm to 30 cm (6"-12")</b>	<b>More than 30 cm (12") or Back to Back Storms</b>
Major/Priority Road	Salting Only	Plowing and salting Cleared within 12 hrs <b>after the end</b> of a snowfall	Plowing and salting Cleared within 24 hrs <b>after the end</b> of a snowfall	Plowing and salting More than 24 hrs after <b>the end of</b> a snowfall
Residential/Secondary Roads Priority Sidewalks Bus Stops Pedestrian Crossings	Salting Only	Plowing and salting Cleared within 24 hrs <b>after the end</b> of a snowfall	Plowing and salting Cleared within 36 hrs <b>after the end</b> of a snowfall	

## Appendix 3

<b>Actions of other Municipalities – Windrow Clearing Winter Maintenance Activities</b>	
Brampton, Ontario	City Council has authorized a Financial Assistance Program to help senior citizens and physically challenged homeowners with costs incurred from hiring a service provider to remove snow from their sidewalks and driveways. Qualifying applicants can receive a grant of up to \$200 for non-corner lot properties or up to \$300 for corner lot properties with sidewalks on two sides of the property and where both sidewalks are not cleared by City forces.
Burlington, Ontario	The City of Burlington offers a windrow clearing program for person with disabilities. Within 16 hours of the road being plowed, a contractor working on behalf of the city will plow the windrow at the bottom of driveway. Proof of disability must be shown at registration. A non-refundable fee of \$53.58 must be paid upon registration. The program is limited to the first 150 registrants and is only opened to residents living south of Dundas street and within the Alton community only.
Hamilton, Ontario	The City of Hamilton offers a support program called "Helping Hands" which provides home support to eligible low income seniors (65 and older) and the disabled. Snow shovelling is included in this program.
London, Ontario	Currently does not offer windrow program.
Markham, Ontario	The City of Markham provides windrow-clearing service for residents who meet the following criteria. Are 65 years of age or older, and or physically disabled. Crews will be dispatched to clear the centre portion of snow windrows (one car width only) on all roads following a 7.5 cm snow fall. Windrows will be cleared within 8 hours after crews plow the road. The City reserves the right to decide when snow windrow service will take place.
Mississauga, Ontario	<b>Current in-house program includes approximately 170 homes for eligible residents who are 65 years of age and older and for residents with disabilities which prevent them from performing the task.</b>
Newmarket, Ontario	Currently does not offer windrow program.
Niagara Falls, Ontario	Currently does not offer windrow program.
Oakville, Ontario	The Town of Oakville provides windrow-clearing service for residents who meet the following criteria. Are 65 years of age or older, and or physically disabled or have a medical condition. The service is provided after a snowfall exceeds 7.5cm and will only be complete after all roads have been plowed. It may take up to 36 hours for windrows to be cleared. The cost of this service is non-refundable \$102.
Ottawa, Ontario	Currently does not offer windrow program.
Richmond Hill, Ontario	Revised their program in 2019 to include a windrow clearing program for all residential driveways.
Toronto, Ontario	For Etobicoke, North York and Scarborough only, windrow clearing will commence on local roads at the same time as roadway ploughing only when a windrow height exceeds 25cms and is to be completed within 2 hours of roadway ploughing. Collector and arterial roads will commence at the final round of the roadway ploughing when windrow height exceeds 25 cm
Vaughan, Ontario	The City of Vaughan provides windrow-clearing service for all residential driveways. Windrow machines are designed to clear about 80 per cent of snow left by plows at the end of the driveway within four hours after the plow has passed. Due to the limited size and reach of the windrow clearing units, they can only clear a portion of the driveway entrance. The service does not clear windrows left by sidewalk plows, hardened snow, ice or the entire driveway.

City of Mississauga  
**Corporate Report**



Date: 2019/05/30

To: Chair and Members of General Committee

From: Geoff Wright, P. Eng., MBA, Commissioner of  
 Transportation and Works

Originator's files:

Meeting date:  
 2019/06/12

## Subject

**Review of a Sidewalk Snow Clearing By-law**

## Recommendation

That General Committee provide direction to staff on the options outlined in the report from the Commissioner of Transportation and Works, dated May 30, 2019 and entitled "Review of a Sidewalk Snow Clearing By-law".

### Report Highlights

- Staff were directed to bring back a report on a by-law requiring residents to clear the sidewalks bordering their property in the winter.
- A public survey was conducted and 59% of respondents supported the introduction of a sidewalk snow clearing by-law.
- Three options were developed and assessed against set evaluation criteria.
- It is assessed that no options will fully satisfy the set criteria and will therefore not fully address the issue of sidewalk snow clearing on non-priority sidewalks.
- The estimated annual operating budget required to administer and enforce a sidewalk snow clearing by-law is \$557,410.

General Committee	2019/05/30	2
-------------------	------------	---

---

## Background

At the February 13, 2019 General Committee meeting, staff were directed to bring back a report on a by-law requiring residents to clear the sidewalks bordering their property in the winter.

The city currently has 2,400 km (1,500 mi) of sidewalks, 1,700 km (1,100 mi) of which are included in the City's winter maintenance program. Maintained sidewalks are priority sidewalks that are located on major roads or bus routes, or provide access to hospitals, schools or long-term care homes. These sidewalks are plowed and salted when snowfall exceeds eight centimetres.

The remaining 700 km (435 mi) of sidewalks are not maintained by the City. The City asks residents to clear their sidewalks on residential streets for the safety of others. The City's 'Be a Good Neighbour, Clear Your Walk' campaign encourages residents to be good neighbours by shovelling the sidewalks in front of their home to help others, especially senior citizens or persons with disabilities.

## Present Status

There are currently no by-laws for sidewalk snow clearing maintenance in Mississauga. The service standard for bus stops and sidewalks on priority roads is that they are plowed within 24 hours after the end of a snowfall with accumulations of 8 to 15 cm (3" to 6") of snow and within 36 hours after the end of a snowfall with accumulations of more than 15 cm (6") of snow.

In 2018, the Citizen Contact Centre (3-1-1) responded to a total of 328 enquiries about sidewalks, pathways and walkways. 44% of these enquiries were for non-priority sidewalks. An additional 187 service requests were forwarded to Works Operations for priority sidewalk follow-up. A further 101 service requests were received for non-priority sidewalks. For these non-priority sidewalk requests, the City sent a brochure on snow removal to the resident who was the subject of the complaint (See Appendix 1 - Brochure sent to Subjects of Complaints).

The 'Winter Maintenance' pages on Mississauga.ca include clear information on the City's responsibilities and level of service with regards to snow removal.

## Comments

### By-law Overview

A snow clearing by-law, if enacted, is recommended to align with the City's service standards for snow removal. Under a proposed by-law, residents would be required to reduce accumulations on sidewalks bordering their property to a depth less than eight cm and to a width of one metre within 24 hours after the end of a snowfall. A sidewalk snow clearing by-law may improve sidewalk conditions in the winter and reduce the number of people injured as a result of snowy and icy sidewalks; however, the by-law will not be a defence to a lawsuit if claims are initiated against the City.

General Committee	2019/05/30	3
-------------------	------------	---

Property owners would have 24 hours to comply with Notices of Contravention and then be subject to the City clearing the sidewalk at their expense. Property owners would be charged for the administrative and contractor costs of the snow clearing through the addition of these costs to their tax roll. No additional administrative penalties or fines are recommended. The estimated total cost per residential clearing charged back to the property owner would be \$374.

The by-law would come into force and effect on November 1, 2019 with no specified periods of enforcement.

### **By-law Enforcement & Snow Clearing Process**

Enforcement of the by-law would be complaint driven; however, the investigating Officer would also proactively inspect properties within the immediate vicinity of the originating complaint. Officers would then take enforcement action for other observed violations of the by-law.

Once a complaint is received by the City, Officers would investigate within one to three days, depending on when the complaint is received and staff capacity. After the Notice of Contravention is issued, staff would then re-inspect the site within one to three days, and submit a work order with a private contractor. Based on a preliminary review of known service providers, it would take one to two days to complete the work order. Staff would be present while the contractor completed the work in order to supervise and address any resident concerns. The process would take a minimum of four and a maximum of nine days (See Appendix 2 - Sidewalk Snow Clearing Process Map).

<b>Sidewalk Snow Clearing Complaint Process</b>		
<b>Activity</b>	<b>Minimum Time to Resolve</b>	<b>Maximum Time to Resolve</b>
Wait 24 hours after end of snowfall		
Receive, log and dispatch service request	1	3
Investigate complaint	1	1
24 hours to comply	1	1
Follow up inspection & issue work order	Same day	2
Snow clearing	1	2
<b>TOTAL DAYS</b>	<b>4</b>	<b>9</b>

### **Service Request Projections**

Enforcement service requests will be created in two ways:

1. Receipt of a complaint; or
2. An observed violation of the by-law while investigating another complaint.

General Committee	2019/05/30	4
-------------------	------------	---

It is projected that the City would receive 2,000 complaints per season. During the investigation, it is projected that an additional 2,000 service requests would be generated, for a total of 4,000 service requests. Of those 4,000 total service requests, 200 service requests (5%) would be resolved through City contracted clearing services.

Service request projections were determined through a jurisdictional scan and an internal review of complaint volumes. The closest municipal comparators in terms of size and enforcement approach are Brampton, Hamilton and Kitchener. The table below shows the number of service requests generated over the 2018/19 winter period. A more detailed jurisdictional scan can be found at Appendix 3 – Jurisdictional Scan.

<b>Sidewalk Clearing Service Requests for Comparable Jurisdictions</b>			
	Brampton	Hamilton	Kitchener
Kilometers of sidewalk not maintained by the City	1,046 km	2,048 km	974 km
Total # of Service Requests - 2018/19	2,100	2,111	5,229
# of service requests resolved through City clearing services	160	Information not available	159

A comparable by-law within Mississauga is the Nuisance Weed and Tall Grass Control By-law, which generates seasonal service requests. In 2017, 1,068 service requests were generated and 151 of those were resolved through contractors. In 2018, the by-law was updated with a decrease in the length of grass. This resulted in a significant increase in service requests totalling 2,084, with 309 requests resolved through contractors.

### **By-law Challenges**

#### **By-law Challenges: Older Residents or Residents with Disabilities**

A sidewalk snow clearing by-law would present several challenges, most notably the impact it would have on senior citizens and residents with disabilities or health issues that would prevent them from being able to clear the sidewalks bordering their property. Many cities provide some form of assistance for residents who are unable to meet the by-law requirements. This assistance ranges from hiring students or using staff to clear sidewalks to offering subsidies or reimbursements (See Appendix 3 - Jurisdictional Scan).

The City currently has two programs to support seniors with outdoor maintenance tasks such as snow clearing. There is the city-wide Driveway Windrow Snow Clearing Program that provides assistance for seniors and people with physical disabilities. The program clears the windrows left at the end of driveways for residents who are 65 years or older or residents who have a physical disability. The cost of the program is \$200 but residents that meet financial assistance criteria may be eligible to participate free of charge. In 2018-19, 177 residents participated in the program.



General Committee	2019/05/30	5
-------------------	------------	---

---

As well, the Outdoor Maintenance Subsidy program provides eligible low-income seniors or persons with disabilities with a per-year, per-household subsidy of up to \$350 for to assist with the costs of outdoor maintenance, including lawn, plant and tree care and snow removal.

A sidewalk snow clearing by-law would require either an extension of existing programs or a new program to support residents in meeting their obligations under the by-law.

#### By-law Challenges: Enforcement

Enforcement of a snow clearing by-law would be challenging due to the unpredictable nature of complaints, which would vary depending on the time of year and the severity of weather. The majority of Enforcement staff coverage is during regular weekday business hours with limited evening and weekend staffing. Additional resources will improve the current staff coverage gaps; however, the four to nine day resolution time is unlikely to meet public complaint expectations.

#### Public Engagement

Between April 15 and May 10, 2019, Enforcement surveyed residents on the proposed by-law (See Appendix 4 - Survey Results). Of the 796 residents who responded to the survey, 66% said that they have sidewalks that border their property which are not cleared by the City. The remaining 34% of respondents stated that they do not have sidewalks that border their property that are not cleared by the City. This can be interpreted as either priority sidewalks or no bordering sidewalks.

Of the respondents who indicated that they have non-priority sidewalks, 40% strongly agreed and 15% agreed that they supported the introduction of a new Sidewalk Snow Clearing By-law. Among residents who indicated that they border priority or no sidewalks, 51% strongly and 17% agreed with the introduction of the by-law.

Among both groups of respondents there was consensus around how long residents should have to clear their sidewalks after a snowfall, with 43% of respondents with non-priority sidewalks and 52% of respondents with priority or no sidewalks suggesting 24 hours. 15% and 16% respectively suggested 36 hours and 19% and 13% respectively suggested 48 hours.

Respondents cited that sidewalks are the City's property, and expressed concerns about the impact the by-law would have on seniors, residents with disabilities and those who travel during the winter months.

#### Jurisdictional Scan

Staff conducted a jurisdictional scan of sidewalk snow clearing regulations in effect for Brampton, Hamilton, Kitchener, St. Catharines, Toronto, and Vaughan (Appendix 3 – Jurisdictional Scan). Each of these jurisdictions has a by-law that requires residents to clear the sidewalks bordering their property within a given period of time after the conclusion of a snowfall.

Of the jurisdictions examined, the sidewalk snow clearing regulation of Kitchener provides the most comprehensive approach to by-law enforcement. Kitchener's enforcement model includes additional staffing during the winter season, both proactive and reactive enforcement, and assistance programs to help residents comply with the by-law.

## Options

Based on the considerations above, three options have been developed to address the issue of sidewalk snow clearing on non-priority sidewalks. Options were assessed against the following evaluation criteria:

- Operational Feasibility: The ability of the City to effectively implement and/or enforce the option.
- Addresses the Core Issue: The ability to resolve the core issue of snow and ice accumulation on sidewalks in a timely manner in keeping with public expectations.
- Cost: The financial impact of implementing the option.
- Impact on Residents: The impact to all residents, including seniors and those with accessibility needs.
- Consistent Application: The ability of residents to easily comply with the option. Is the option equally applied across resident groups?

### **Option One: Maintain Status Quo**

Maintain status quo by not mandating that residents clear the sidewalks bordering their property after a snowfall. This option would include promoting the 'Be a Good Neighbour' public education campaign through the various free channels available to the city. These channels include: posters in city buildings such as libraries and recreation centres; a web banner on the City's website and screen savers at libraries; digital signage at City facilities; a media advisory; information items on the Inside Mississauga homepage and the City e-Newsletter, and social media posts.

Staff would continue to monitor and evaluate the need and public demand for a by-law, reporting back to Council on an 'as required' basis.

### **Evaluation**

- This option would not require the City to change any of its operational processes. The public education campaign could be done 'in house', using existing staff capacity.
- It would not address the core issue of snow and ice accumulation on sidewalks or lead to a timely resolution. Increased public education may improve resident understanding and voluntary compliance with clearing non-priority sidewalks.

General Committee	2019/05/30	7
-------------------	------------	---

- It would only require a minimal cost for the public education campaign and could be absorbed within existing budgets.
- This option would not require anything of residents, since clearing non-priority sidewalks would not be mandatory and would remain at the resident's discretion. It would be supported by 33% of survey respondents who are not in favour of a sidewalk snow clearing by-law.
- This option would be equally applied across the city, though some residents may be negatively impacted by walking on sidewalks that have not been cleared.

### **Option Two: Enhanced Public Education Campaign**

Conduct a high profile 'Be a Good Neighbour' campaign to inform residents of the importance of clearing sidewalks and urge them to keep the sidewalks that border their property clear. This education campaign would be multi-faceted and would engage residents through the channels mentioned in Option One as well as mail-outs to all households in Mississauga, paid advertising in local media publications and on Facebook and community outreach at local events.

#### **Evaluation**

- This option would not require the City to change any of its operational processes. The public education campaign could be done 'in house', using existing staff capacity.
- It may improve resident understanding and voluntary compliance with clearing non-priority sidewalks.
- Medium cost option: approximately \$20,000/year.
- This option would have a minimal impact on residents who are unable to clear their sidewalks, though it may encourage residents to apply for the Driveway Windrow Clearing and the Winter Maintenance Subsidy programs.
- This option would be equally applied across the city, though some residents may be negatively impacted by walking on sidewalks that have not been cleared.

### **Option Three: Introduction of a Sidewalk Snow Clearing By-law**

Enact a sidewalk snow clearing by-law that would require residents to clear the sidewalks bordering their property after a snowfall if those sidewalks are not cleared by the City. Conduct a high profile public education campaign to inform residents of their new responsibilities under the by-law. This campaign would be the same scale as Option Two.

#### **Evaluation**

- Mississauga would be aligned with neighbouring jurisdictions that have a sidewalk snow clearing by-law, including Toronto and Brampton.
- This option would require significant operational changes including an increased complement for Enforcement and additional assistance programs for residents who may not be able to comply with the by-law.
- It would address the issue of snow and ice accumulation on sidewalks, although the four to nine day resolution time would not resolve the issue in a timely manner. Enhanced public education may improve resident compliance.

- Highest cost option: \$557,410 annual operating budget.
- This option would have a significant negative impact on residents who are unable to clear their sidewalks. Unless residents living in areas with non-priority sidewalks are able to make arrangements for snow clearing, they may be charged for the cost of the City carrying out snow clearing as a result of non-compliance with the by-law, possibly multiple times per winter season, and would be invoiced for the costs associated with snow clearing.
- A snow clearing by-law would only impact residents who live in areas with non-priority sidewalks. It would create unequal service levels where many residents have the sidewalks bordering their property cleared by the City and other residents are responsible for doing so themselves and would face additional costs for non-compliance.

<b>Evaluation Summary</b>			
<b>Evaluation Factor</b>	<b>Option One: Maintain Status Quo</b>	<b>Option Two: Enhanced Public Education Campaign</b>	<b>Option Three: Introduction of a Sidewalk Snow Clearing By-law</b>
Operational Feasibility	✓	✓	X
Addresses the Core Issue	X	X	X
Low Cost	✓	✓	X
Impact on Residents	✓	✓	X
Consistent Application	✓	✓	X

#### Overall Assessment

It is assessed that no options will fully satisfy the established criteria and will therefore not fully address the issue of sidewalk snow clearing on non-priority sidewalks.

## **Financial Impact**

Three options have been developed to address the issue of sidewalk snow clearing on non-priority sidewalks. The staffing requirements and associated calculations are summarized in Appendix 5.

The financial impact of the options are summarized as follows:

Option One: Status quo with \$1,000 for Standard Public Education Campaign, (Cost estimate based on Works Operation Windrow Clearing Campaign).

Option Two: Status quo with \$20,000 for Enhanced Public Education Campaign, (cost estimate based on TNC advertising & promotions costs).

Option Three: New by-law enforcement resulting in the hiring of five MLEO full time staff including one Program Coordinator plus other operating expenses including \$20,000 for Enhanced Public Education Campaign (Table 1).

**Table 1**

<b>Expense Categories</b>	<b>Annualized Budget</b>	<b>2019 Operating Budget (Nov 1 - Dec 31)</b>
<b>Labour and Benefits</b>	<b>506,810</b>	<b>77,000</b>
Staff Training & Courses	1,500	300
Equipment costs (Operating)	3,000	500
Parking	3,000	500
Mileage Cost	23,100	3,900
Contractor costs for snow clearing	74,800	6,200
Promotional Education	20,000	3,300
<b>Other Operating Costs</b>	<b>632,210</b>	<b>91,700</b>
Recovery from residents	-74,800	-6,200
<b>Total Net Expenditure</b>	<b>557,410</b>	<b>85,500</b>

<b>One time Capital cost:</b>		
One time Equipment costs:	15,000	
One time Space Planning costs:	78,200	
<b>Total Capital Cost</b>	<b>93,200</b>	

Option Three requires a capital project for \$93,200 for space planning and equipment costs for new staff supporting sidewalk snow removal by-law.

The net incremental operating expenditures from Nov 1 to Dec 31, 2019 of \$85,500 (Annualized \$557,410) will require funding.

## Conclusion

Staff were directed to bring back a report on a by-law requiring residents to clear the sidewalks bordering their property in the winter. It is assessed that no options will fully satisfy the set criteria and will therefore not fully address the issue of sidewalk snow clearing on non-priority sidewalks.

## Attachments

Appendix 1: Brochure sent to Subjects of Complaints

Appendix 2: Sidewalk Snow Clearing Process Map

Appendix 3: Jurisdictional Scan

Appendix 4: Survey Results

Appendix 5: Staffing Requirement & Calculations



---

Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Prepared by: Sam Rogers, Director, Enforcement Division

# NOTICE

## ON-STREET PARKING RESTRICTIONS

**Please keep roads free  
of parked vehicles  
during snowfall.**

- Overnight parking restrictions are in effect from 2:00 am until 6:00 am. This restriction is enforced in accordance with the City's Traffic By-law 555-00.
- Temporary parking permits will not be issued and current ones will be suspended during snow clearing operations or due to weather conditions.

**To find out if your  
temporary parking permit  
has been suspended:**

- Dial 311 or 905-615-4311 if outside city limits
- Follow us:  @MississaugaSnow

[mississauga.ca/snow](https://mississauga.ca/snow)



MISSISSAUGA

# NOTICE

## CLEARING THE WAY THIS WINTER

### Please remember:

- ☐ Clear snow from your sidewalks as soon as possible after a snowfall to ensure safety of all residents.
- ☐ Remove your vehicle from the street during a snowfall.
- ☐ Placement of snow from private property onto the public right-of-way, that includes roads, sidewalks and boulevards, is prohibited (as per By-law 357-10).

### For the latest snow clearing information:

- Download the Mississauga Roads app
- Dial 311 or 905-615-4311 if outside city limits
- TTY: 905-896-5151
- Follow us:  @MississaugaSnow

[mississauga.ca/snow](https://mississauga.ca/snow)



MISSISSAUGA



# 8.4.1.12 Snow Removal Process Flow



## Sidewalk Snow Clearing Enforcement Practices

Item	Brampton	Hamilton	Kitchener	St. Catharines	Toronto	Vaughan
By-law date	1976	2003	2002	2008	1999	1993
By-law requirement for sidewalk snow clearing	Sidewalk must be cleared by 11am the day after a snowfall	Sidewalk must be cleared within 24 hours after a snowfall	Sidewalk must be cleared within 24 hours after a snowfall	Sidewalk must be cleared within 24 hours after snowfall	Sidewalk must be cleared within 12 hours after a snowfall	Sidewalk must be cleared within 24 hours after a snowfall
Staffing model for snow clearing enforcement	Current staff of 10-11 officers are also responsible for snow clearing enforcement	The City has a partnership with the local college where students assist with snow clearing enforcement in partnership with MLEOs	4 temporary staff (Nov-Apr) are hired for proactive enforcement  1 current staff member is assigned to reactive enforcement	No information provided	No information provided	Current staff of 11 officers are also responsible for snow clearing enforcement
Enforcement process	Once a complaint is received a by-law officer will investigate and may issue an Order to comply, which requires the property owner or tenant to clear the sidewalk within 8 hours  The officer will come to re-inspect and if the work is still not done, will arrange for a contractor to clear the side walk	Once a complaint is received a by-law officer will investigate and may issue and mail a one-time Order to comply, which requires the property owner or tenant to clear the sidewalk within 24 hours  The officer will come to re-inspect and if the work is still not done, will arrange for a contractor to clear the side walk	For both reactive and proactive enforcement if a sidewalk is not cleared, an officer will leave a one-time notice at the property and return within 24 hours  The officer will come to re-inspect and if the work is still not done, will arrange for a contractor to clear the side walk	No information provided	No information provided	Once a complaint is received a by-law officer will investigate and may issue a Notice, which requires the property owner or tenant to clear the sidewalk within 24 hours  The officer will come to re-inspect and if the work is still not done, will arrange for City staff to clear the side walk
Potential charges to a property	Potential penalty under the Provincial Offenses Act  Minimum	Potential penalty under the Administrative Penalty System	Potential penalty under the Provincial Offenses Act  Minimum	Potential penalty under the Provincial Offenses Act	Potential penalty under the Provincial Offenses Act	Potential penalty under the Provincial Offenses Act  The City

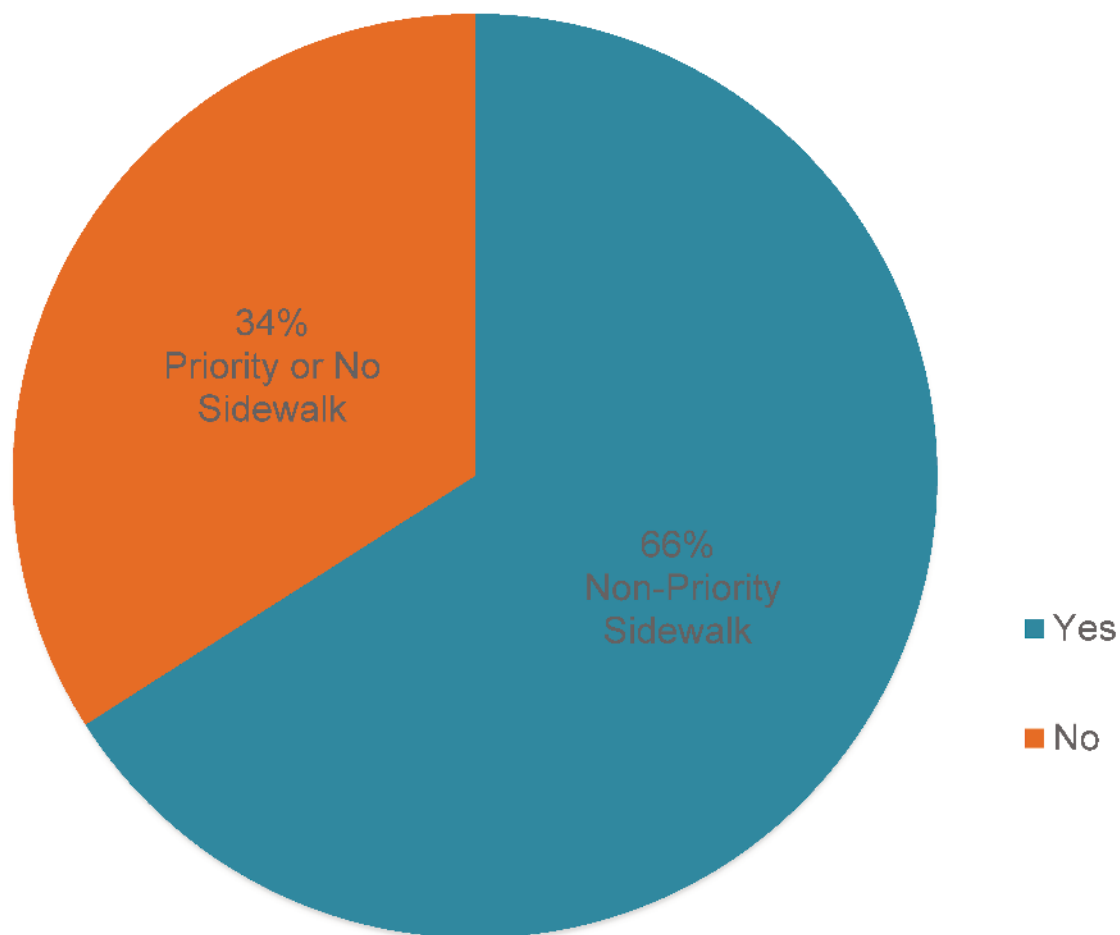
## Sidewalk Snow Clearing Enforcement Practices

Item	Brampton	Hamilton	Kitchener	St. Catharines	Toronto	Vaughan
	<p>charge added to a property owners taxes for non-compliance with an order, where work is performed is approximately \$437.00</p> <p>This includes the services provided by a contractor, and both a finance and enforcement administration fee</p>	<p>Minimum charge added to a property owners taxes for non-compliance with an order, where work is performed is approximately \$325.00 for an initial inspection</p> <p>Each inspection for an additional offense within 12 months is \$162.50</p>	<p>charge added to a property owners taxes for non-compliance with an order, where work is performed is approximately \$400.00</p>			<p>prefers to encourage voluntary compliance and makes an effort to educate and cooperate with property owners</p>
Assistance options available	<p>Snow Removal Financial Assistance Program:</p> <p>Qualifying applicants can receive a grant of up to \$300 to reimburse costs accrued from acquiring a snow removal service</p>	<p>Helping Hands:</p> <p>Provides various home support services to eligible low income seniors and the persons with a disability</p>	<p>Snow Removal Assistance: Agencies will provide snow removal to seniors or other individuals who are unable to clear snow</p> <p>Assisted sidewalk and windrow clearing: Pilot program, limited to 50 properties providing snow removal services</p> <p>Neighbourhood-shared snow blower program: provide grant funding for up</p>	<p>Snow Removal Program:</p> <p>Provides a snow removal service for seniors and persons with a disability</p>	<p>Free Snow Removal from City Sidewalk:</p> <p>Provides snow clearing service for seniors or persons with a disability</p>	<p>No assistance options available</p>

Sidewalk Snow Clearing Enforcement Practices						
Item	Brampton	Hamilton	Kitchener	St. Catharines	Toronto	Vaughan
			to 10 neighbourhoo d snow blowers			

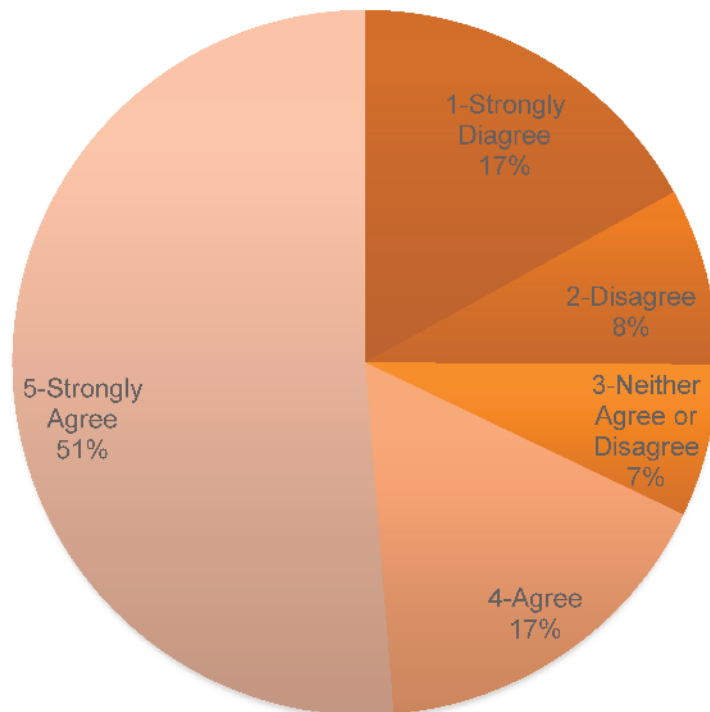
**Question 1: Do you have sidewalks that border your property that the City does not clear after a snowfall?**

**(Total Responses: 796)**

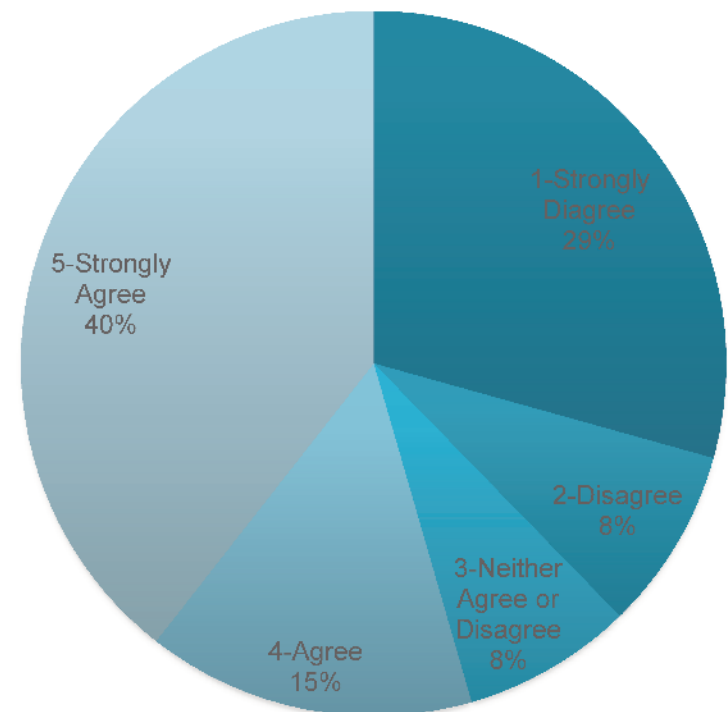


**Question 2: Please rate the following statement: I support the introduction of a new Sidewalk Clearing By-law that would require residents to clear the portion of the sidewalk that borders their property not currently cleared by the City.**  
**(Total Responses: 796)**

Priority or No Sidewalk  
(271 Responses)

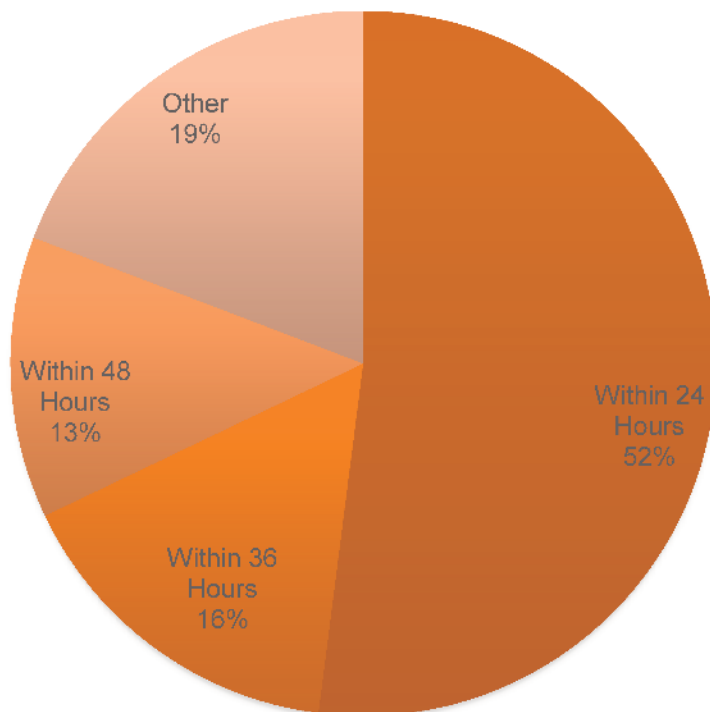


Non-Priority Sidewalks  
(525 Responses)

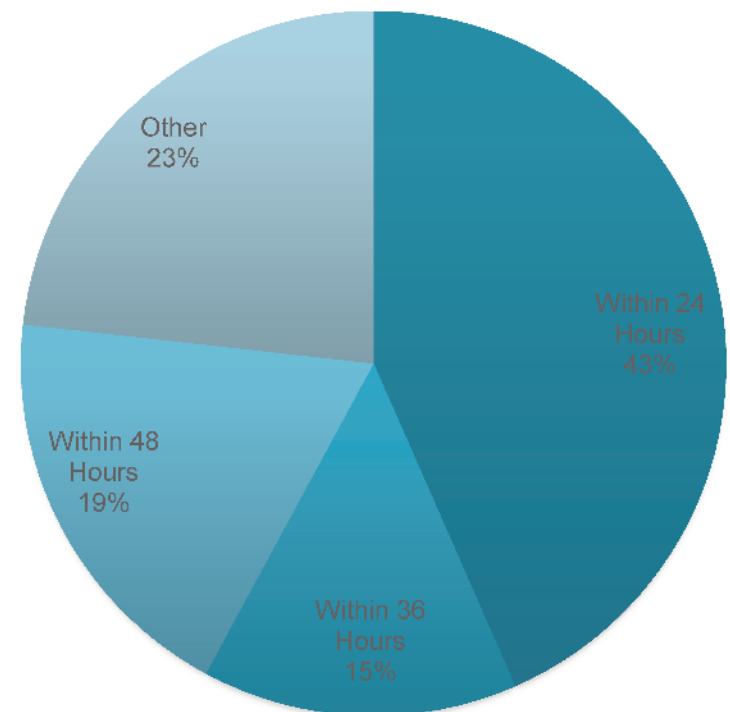


**Question 3: How soon after a snowfall should residents clear sidewalks that border their property?**  
(Total Responses: 796)

Priority or No Sidewalk  
(271 Responses)

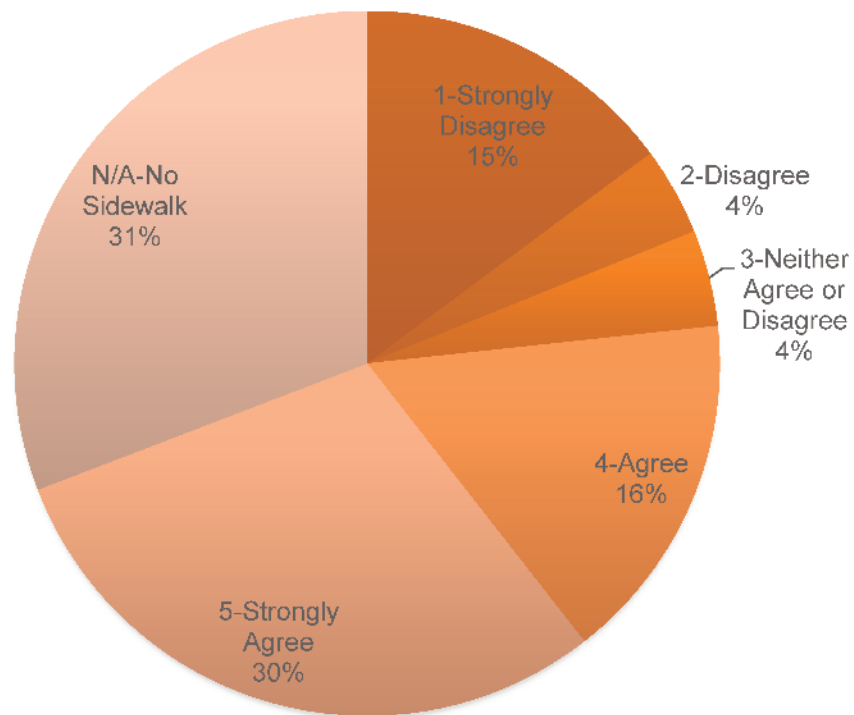


Non-Priority Sidewalks  
(525 Responses)

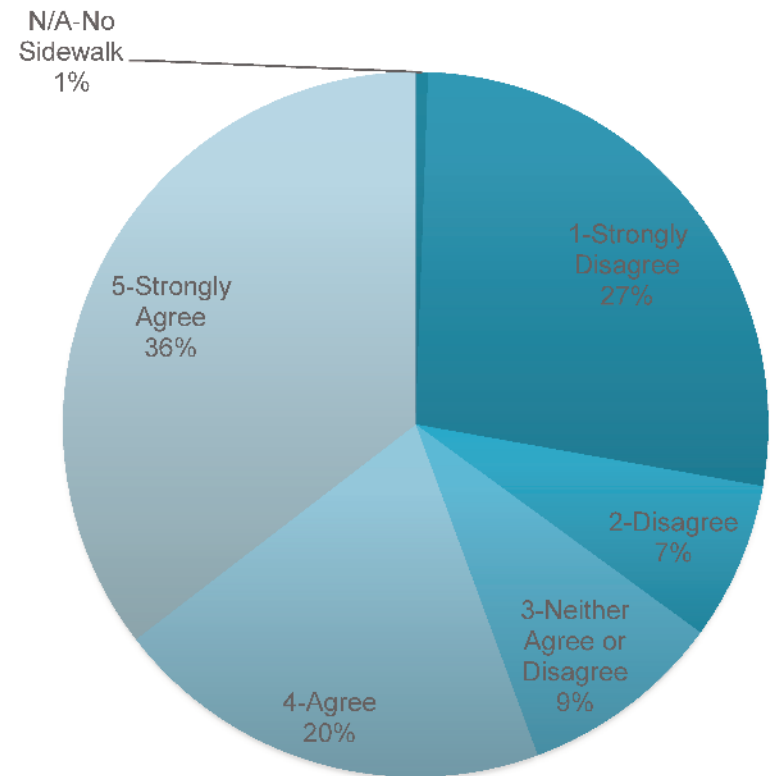


**Question 4: Please rate the following statement: Clearing the sidewalks that border my property is one of my responsibilities as a resident of Mississauga.**  
(Total Responses: 796)

Priority or No Sidewalk  
(271 Responses)



Non-Priority Sidewalks  
(525 Responses)





## Appendix 5

### **Staffing Requirement & Calculation**

#### **Inspection/Investigation:**

The Enforcement Division is estimating that they will receive 2,000 complaints from residents for sidewalk snow clearing, and while completing the first inspection, a proactive review will be done on adjacent properties. It is estimated that the initial 2,000 complaints will lead to 4,000 files being opened.

The initial investigations of 2,000 (2 hours per investigation) will results in 4,000 hours. Also, based on the 4,000 open files, the follow up investigation is 4,000 as well (1 hour per investigation).

#### **Compliance remediation:**

3 hours of remedial action for each non-compliance (includes administration, scheduling and onsite presence) results in extra 600 hours.

**Total hours** = 4,000 + 4,000 + 600 = 8,600 hours, translates to  $8,600/4 = 2,150$  hrs per month

#### **Part time Staffing Option:**

(2,150 hrs/ 140 hrs) per month = 15 FTEs for 4 months (MLEO Grade E).

#### **Permanent Staffing Option:**

8,600 total hrs /12 months = 717 hours per month or 5 full time permanent staff (MLEO Grade E).

**NOTE** – The staffing required for enforcement equates to 15 full time staff for 4 months. Staffing 15 officers for four months on an annual basis would be extremely inefficient and difficult to sustain. A more realistic option would be the hiring of 5 full time staff on a permanent basis. They will provide the program oversight and winter coverage as well as addressing the gaps in staff for evenings and weekends. The remaining workload will be covered with existing staff during peak winter hours and new winter staff will similarly assist with existing compliance requests to even the workload. It is assumed that all residents will pay the clearing costs and no costs will be waived. Low income seniors or persons with disabilities requireing financial assistance may apply for the Outdoor Maintenance Subsidy program. Special consideration may aslo be given during delivery of NOC for additional time to clear. All contractor costs will be recovered through tax roll of residents requiring clearing. The average cost for 40 foot sidewalk based on contractor estimates (including the \$54 administration fee per removal) is \$374.

# City of Mississauga Corporate Report



Date: 2019/05/08

To: Chair and Members of General Committee

From: Geoff Wright, P. Eng., MBA, Commissioner of  
Transportation and Works

Originator's files:

Meeting date:  
2019/06/12

## Subject

**Parking Master Plan and Implementation Strategy Final Report**

## Recommendation

That the Vision, Recommendations and Implementation Plan of the Parking Master Plan and Implementation Strategy, as attached as Appendix 1 to this report dated May 8, 2019, from the Commissioner of Transportation and Works, be endorsed.

## Report Highlights

- The Parking Master Plan and Implementation Strategy project has been underway since 2017 to review current parking practices across the City and provide recommendations for future direction and improvements.
- Extensive public consultation was held throughout the project schedule to obtain input and feedback as well as present directions for the future of parking. The general public and parking providers from across the City were included in the project's consultation.
- The Plan views parking as a part of the larger transportation network of Mississauga and recognizes its ability to be used as a catalyst for development and travel behaviour change.
- The Plan identifies short, medium and long term opportunities for the City to improve its current policies and practices for public and private parking.

## Background

Parking is a large component of Mississauga's transportation system and influences the way the City is built and the travel habits of those within it. To date, a number of parking studies have been conducted on a site or neighbourhood based scale but there has been no overarching master plan for parking across the City as a whole.

General Committee	2019/05/08	2
-------------------	------------	---

---

The Parking Master Plan and Implementation Strategy (PMPIS) project commenced in 2017 to examine how parking was being provided and managed across the city, review emerging trends in parking in other similar municipalities and develop recommendations to improve parking throughout Mississauga.

Mississauga is an evolving city that has varying land uses which lead to differing demand for parking across the City. The Parking Master Plan and Implementation Strategy conducted a detailed review of the City based on key characteristics that influence the need and demand for parking. The Plan looks to explain what effective parking management means and the impacts on the City. For example, parking can be used to unlock development potential and foster city building. Effective parking management and pricing can also influence people's travel behaviour and support alternative modes.

This study reinforces work done across the organization related to transportation and sustainability. The study timing allowed for coordination and alignment of goals with the recently completed Transportation Master Plan, Cycling Master Plan, TDM Strategy, and Smart Cities Plan.

## Comments

The Parking Master Plan and Implementation Strategy is intended to provide guidance on improvements to parking policies and practices. Due to the fragmented approach to parking to date in Mississauga, parking policies are out of date with current travel behaviours and the strategic goals of the City.

Mississauga has grown and evolved differently across the city with varying land uses and access to alternative modes of transportation. In some neighbourhoods the prospect of one or no car households is stronger than in others. For this reason, the PMPIS is not recommending that new policies and practices get applied evenly across the City and that all new parking decisions are made based on a precinct system that takes into considerations the area's transportation and parking characteristics.

Through the extensive public consultation that was held to inform this project, several key themes emerged from discussion with residents, employees, developers, land owners and decision makers. These themes aligned with the benchmarking and trends research that was conducted during the "discovery" phase of the project. The themes include Parking Regulations, Parking Facilities, Finance and Funding, Technology and Innovation, Governance of Parking, and Implementation and Monitoring.

The Master Plan discusses each theme based on the current status, a review of what common approaches have been implemented in other, similar municipalities and provides recommendations for Mississauga moving forward based on local context. The Plan's Implementation Strategy establishes a phased approach to implementing improvements, some

General Committee	2019/05/08	3
-------------------	------------	---

---

of which require future study and scoping. Below are a number of key recommendations based on the identified themes.

*Parking Regulations:*

- Determine parking regulations throughout the City that correspond with local neighbourhood characteristics. The Plan categorizes areas with similar characteristics as precincts based on a City wide analysis
- Adopt Parking Precincts through a Zoning By-law review and develop updated parking requirements based on the current and proposed availability of parking and transit within each precinct. Parking precincts with readily available public parking and enhanced transit service would receive lower parking standards for developments
- Develop parking maximums instead of parking minimums to act as a catalyst for development through a Zoning By-law review
- Develop a more resident-friendly process to allow lower driveway boulevard parking where appropriate, including the potential for allowing lower boulevard parking across the City without the need for a resident petition. This will reduce the need for driveway widenings through curb-cutting which could maintain on-street parking, maintain greenspace, snow storage and drainage, reduce workload of staff who oversee the petition process, and reduce driveway widening requests that are made to the Committee of Adjustment
- Undertake a study to coordinate all parking permissions, considerations and permits currently offered by the City into one permit system managed by one business unit.

*Parking Facilities:*

- Revise the City's shared parking policy to better utilize existing and planned public parking to accommodate parking requirements for private property new development in areas where centralized public parking is planned or existing public parking is underutilized
- Develop parking signage and wayfinding strategy particularly in-high demand parking areas of the City that will indicate availability of public parking which will reduce traffic congestion.

*Finance and Funding:*

- Develop a formal funding policy for Municipal Parking operations where work or positions that result in revenue generation are funded by parking revenues. Any work or positions that do not result in revenue generation are to be funded through the tax base as is currently done
- Establish one reserve account to offset the cost of future parking program enhancements and new capital projects
- Establish parameters for paid parking in different areas of the City based on capacity and usage (monitor high-demand areas based on proposed thresholds)

General Committee	2019/05/08	4
-------------------	------------	---

---

- Conduct a review of Payment in Lieu (PIL) charges to ensure that when offered to an applicant, the City is recuperating the appropriate cost for replacement.

*Technology and Innovation:*

- Streamline the existing permit program which is currently fragmented and offered by a number of different business units in the City
- New permit system to be offered through a digital platform to improve the customer experience and modernize the system
- Explore the feasibility and costs associated with emerging parking technology including pay-by-phone, digital signage and wayfinding
- Move from pay-and-display to pay-by-plate for paid parking operations and permits and license plate recognition enforcement for all parking permits, building on the license plate recognition work already being piloted by Parking Enforcement.

*Governance and Parking:*

A fundamental goal of this Parking Master Plan study was to conduct a detailed review of parking operations and governance models in similar municipalities to determine the best fit for Mississauga as the City's parking program matures. Organizational management models that were explored through a detailed benchmarking process included parking authority, horizontal operational model (currently used by the City), vertically integrated model, privatization of parking operations, and management of parking operations by the individual business districts. A vertically integrated organizational model, a Parking Division, will best serve the City's goals and objectives around parking and will accomplish the following:

- One point of contact for residents and staff that would be responsible for all parking related planning, policy, by-laws, operations, enforcement, and management
- Establish parking as a dedicated service area
- Utilize parking planning and operations as a strategic tool to support multi-modal transportation, city building, and improve coordination of products, services, and processes
- Maintains decision-making for parking policies, bylaws, and operations within the purview of City Council
- That a phased approach to implementing a Parking Division be utilized that supports the Parking Master Plan's implementation strategy.

Chapter 8 of the PMPIS, the Implementation and Monitoring chapter, compiles the Plan's recommendations and schedules them as short, medium or long term projects to be undertaken in the next 5+ years. It also recommends that the Plan be updated every 5 years to remain in line with new trends in parking and transportation technology. The table below is a summary of some of the recommended action items by time frame.

Short-Term(1-2 Years)	Medium-Term(3-5 Years)	Long-Term(5+ Years)
Update Mississauga Parking Requirements in the Zoning By-law	Improve public communication on parking projects and policies	Update the Parking Master Plan
Initiate Review of the City's PIL Program	Curbside Management Study	Lead Capital Project to Construct New Municipal Parking Facilities
Initiate and Implement new Parking Permit and Considerations Platform	Implement Digital Signage and Wayfinding	Conduct review of Precinct Boundaries
Developing New Funding Options	Develop Business Case and Implement Pay-by-Phone	Work with Private Sector to find Opportunities for Shared Parking
Update Shared Parking Standards	Municipal Parking to Review Parking Studies Submitted through Development Applications	
Review Road Occupancy Permits Where Parking is Impacted	Determine New Locations for Paid Parking	
	Full build out of a vertically integrated Parking Division within the City structure	

## Strategic Plan

The Parking Master Plan and Implementation Strategy aligns with three key priorities in the City's Strategic Plan: Move, Prosper, and Green.

**Move:** Parking is a key element to the City's overall transportation network. Any vehicle trip starts and ends in a parking space, whether that space has a fee for use or not. If planned for and priced appropriately, parking can also be a tool to influence travel choices and to help promote more sustainable travel choices within Mississauga, and to assist with meeting mode share targets.

**Prosper:** Parking can be a tool for City building and also for attracting the type of development and land use mix that Mississauga is looking for. Building and providing parking is expensive and can be a major barrier to a property's development potential.

**Green:** Parking, if planned for and priced correctly is a tool for encouraging alternative modes of transportation where possible. Sustainable transportation modes produce fewer greenhouse gas emissions than traveling by car and are less harsh on the environment.

## Financial Impact

The Parking Master Plan and Implementation Strategy is a fully funded project through the existing capital budget. Funds have been allocated through previous budget requests to fund the initial tasks identified as short-term implementation items. Any funds required for additional projects that are included in subsequent phases of the Implementation Strategy will be requested through the City's budget process.

## Conclusion

The City of Mississauga increasingly regards parking as an effective tool for influencing decisions related to land use planning and travel choices. With the increasing complexity of providing and managing parking, the Parking Master Plan and Implementation Strategy is needed to establish direction and consistency around parking throughout the City.

The PMPIS addresses topics identified by residents, employees, land owners, developers and decision makers. The recommendations within the Plan were developed to improve on the current status of parking provision and maintenance across the City and ultimately remove barriers to development caused by parking requirements.

## Attachments

Appendix 1: Mississauga Parking Master Plan and Implementation Strategy - Final Report

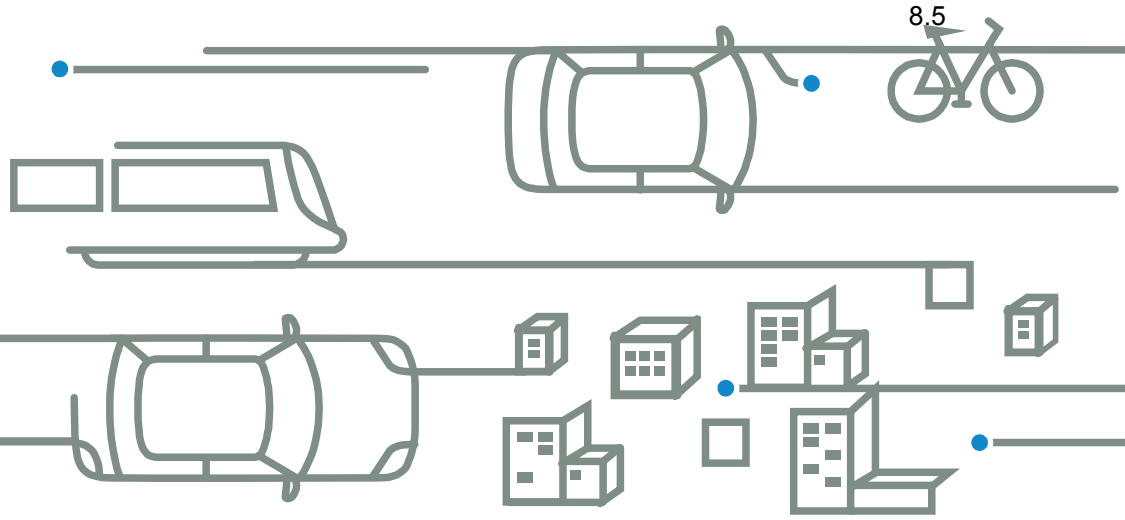
Appendix 2: Mississauga Parking Master Plan and Implementation Strategy - Final Appendices



---

Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Prepared by: Erica Warsh - Project Leader, Parking Master Plan



*PARKING MATTERS*



# PARKING MASTER PLAN AND IMPLEMENTATION STRATEGY

City of Mississauga

Final Report (May 2019)



## Table of Contents

EXECUTIVE SUMMARY .....	1
-------------------------	---

1	PARKING IN MISSISSAUGA .....	16
---	------------------------------	----

2	PARKING PRECINCTS IN MISSISSAUGA .....	22
---	--	----

2.4.2	Precinct One .....	34
2.4.3	Precinct Two .....	36
2.4.4	Precinct Three .....	38
2.4.5	Precinct Four .....	40
2.4.6	Special Purpose Areas .....	41
2.5	Summary of Mississauga Precinct Approach .....	41
2.5.1	Recommendations: Mississauga Parking Precincts .....	44
<b>3</b>	<b>PARKING REGULATIONS.....</b>	<b>45</b>
3.1	The Zoning By-law .....	45
3.1.1	Motor Vehicle Parking Standards Today .....	45
3.1.2	Motor Vehicle Parking Standards Future Considerations..	46
3.1.3	Accessible Parking Requirements .....	47
3.1.4	Shared Parking .....	48
3.2	Bicycle Parking .....	49
3.3	Mississauga's Payment-In-Lieu of Parking Program .....	49
3.3.1	Payment-In-Lieu of Parking Today .....	50
3.3.2	Payment-In-Lieu of Parking Updates .....	51
3.3.3	Recommendations: Payment-In-Lieu of Parking .....	51
<b>4</b>	<b>PARKING FACILITIES .....</b>	<b>52</b>
4.1	On-Street Parking .....	52
4.1.1	On-Street Parking Time Restrictions .....	52
4.1.2	Recommendation: On-Street Parking Time Restrictions ...	52
4.1.3	Resident Petition Program .....	53
4.1.4	Lower Driveway Boulevard Parking .....	53
4.1.5	Recommendations: Lower Driveway Boulevard Parking ....	56
4.1.6	On-Street Parking Permits .....	56
4.1.7	Recommendation: On-Street Parking Permits .....	57
4.1.8	On-Street Paid Parking .....	57
4.1.9	Recommendations: Paid On-Street Parking .....	59
4.1.10	Curbside Management .....	59
4.1.11	Recommendations: Curbside Management .....	60
4.2	Off-Street Parking Lots .....	60
4.2.1	Municipal Off-Street Paid Parking Lots .....	60
4.2.2	Municipal Off-Street UnPaid Parking Lots .....	62
4.2.3	New Opportunities for Off-Street Parking .....	65
4.2.4	Recommendations: Off-Street Parking Lots .....	67
4.2.5	Parking Lot Design .....	68
4.2.6	Recommendations: Parking Lot Design .....	68
<b>5</b>	<b>GOVERNANCE .....</b>	<b>69</b>
5.1	Existing Context .....	69
5.1.1	Review of Organizational Models .....	74
5.1.2	Recommendation: Organizational Structure .....	84
5.2	Mississauga's Parking Division .....	84
5.2.1	Rationale for Proposed Parking Division .....	85
5.2.2	Development of the New Parking Division .....	86
5.2.3	Recommendations: Parking Division .....	91
5.2.4	Private Sector Involvement .....	91
5.2.5	Recommendation: Private Sector Partnerships .....	91

5.2.6	Decision-Making .....	92
5.2.7	Recommendations: Committee of Adjustment .....	92
<b>6</b>	<b>FINANCE .....</b>	<b>93</b>
6.1.1	Current Sources of Parking Revenue .....	93
6.1.2	Future Funding Options .....	95
6.1.3	Future Pricing For Parking .....	95
6.1.4	Recommendations: Future Funding Options .....	97
6.1.5	Financial Evaluation of New Parking Structures .....	97
6.1.6	Recommendation: The Cost Of New Parking .....	100
6.1.7	GO Transit Parking .....	100
6.1.8	Recommendation: GO Parking .....	101
6.2	Special Considerations Impacting Revenue .....	101
6.2.1	Recommendation: Special Considerations .....	101
<b>7</b>	<b>TECHNOLOGY AND INNOVATION .....</b>	<b>102</b>
7.1	Current Payment Technology .....	102
7.1.1	Pay and Display Machines .....	102
7.1.2	Multi-Visit Payment Cards .....	103
7.1.3	Annual and Monthly Permits .....	103
7.2	New Payment Methods Available .....	103
7.2.1	Pay-by-License-Plate .....	104
7.2.2	Gated Pay-on-Foot .....	104
7.2.3	Pay-By-Phone .....	105
7.2.4	Pay-by-Online Permit .....	106
7.2.5	Recommendations: Payment Methods .....	106
7.3	Parking Enforcement Technology .....	107
7.4	Parking Data Collection and Management .....	108
7.4.1	Recommendations: Data Collection and Management ....	109
7.5	Digital Signage and Wayfinding .....	110
7.5.1	Recommendations: Digital Signage and Wayfinding .....	110
7.6	Peer-to-Peer Parking Sharing .....	110
7.6.1	Recommendations: Sharing of Private Parking .....	113
7.7	Connected Automated Vehicles .....	113
7.7.1	Recommendations: Connected Automated Vehicles .....	116
7.8	Smart Parking .....	116
7.8.1	Recommendations: Smart Parking .....	118
<b>8</b>	<b>IMPLEMENTATION AND MONITORING .....</b>	<b>119</b>
8.1	Implementation Plan .....	119
8.2	Monitoring Strategy .....	131

## LIST OF EXHIBITS

Exhibit E-1	Locations of Proposed Precinct Policy Areas for Parking	3
Exhibit E-2	Correct In-line and Parallel Parking in a Lower Boulevard .....	7
Exhibit E-3	Implementation Plan Summary .....	15
Exhibit 1-1	City Wide Parking Areas .....	17
Exhibit 1-2	Overview of Consultation & Engagement Tactics .....	20
Exhibit 2-1	Factors Affecting Parking Demand, Supply, and Management .....	23
Exhibit 2-2	Jurisdictions with Precinct/Policy Area Approach to Parking Policies .....	24
Exhibit 2-3	Number of Vehicles per Household - 2016.....	28
Exhibit 2-4	Travel Mode Share - 2011 to 2016.....	29
Exhibit 2-5	Transit Mode Share by Traffic Zones - 2016.....	30
Exhibit 2-6	Parking Precincts (based on MOP Schedules 9 and 2)	42
Exhibit 2-7	Locations of Proposed Precinct Policy Areas for Parking .....	43
Exhibit 3-1	Accessible Parking Spaces Requirements .....	47
Exhibit 3-2	Shared Parking Table, Zoning By-Law 0225-2007 .....	48
Exhibit 3-3	PIL Contribution Formula .....	50
Exhibit 4-1	Correct In-line and Parallel Parking in a Lower Boulevard .....	54
Exhibit 4-2	Advantages and Disadvantages of Three LDBP Options for Mississauga .....	55
Exhibit 4-3	Temporary Parking Permits.....	56
Exhibit 4-4	On-street Parking Fees in Port Credit .....	57
Exhibit 4-5	On-street Parking Fees in the Downtown .....	58
Exhibit 4-6	On-street Paid Parking in Streetsville, Clarkson, and Cooksville.....	58
Exhibit 4-7	Off-street Municipal Parking Lots .....	61
Exhibit 4-8	Free and Paid Parking in Port Credit .....	63
Exhibit 4-9	Paid Parking in Erindale Park Free and versus U of T Paid Parking .....	64
Exhibit 4-10	Port Credit Arena and Port Credit GO Station Parking	65
Exhibit 5-1	Mississauga Governance Today .....	70
Exhibit 5-2	Municipal Horizontally Integrated Parking Organization with 13 Functions .....	71
Exhibit 5-3	Typical Administrative Penalty Notice .....	73
Exhibit 5-4	Summary of Main Characteristics of Five Organizational Models for Parking .....	75
Exhibit 5-5	Municipal Vertically Integrated Parking Organization with 13 Functions (Proposed) .....	76
Exhibit 5-6	Characteristics of Parking Organizational Models adopted by 18 Canadian and American Cities .....	78
Exhibit 5-7	Evaluation Criteria for Organizational Models.....	82
Exhibit 5-8	Evaluation of Parking Organization Models .....	83
Exhibit 5-9	Organizational Structure of New Parking Division showing Four Sections.....	85
Exhibit 5-10	New Parking Division - Parking Operations Section....	87
Exhibit 5-11	New Parking Division - Parking Planning Section.....	88
Exhibit 5-12	New Parking Division - Parking Enforcement .....	89
Exhibit 5-13	New Parking Division - Business Development Section .....	90

Exhibit 6-1	Sources of Parking Revenue Today .....	93
Exhibit 6-2	Dynamic Pricing in San Francisco .....	96
Exhibit 6-3	Pre-engineered, Prefabricated- Centennial GO Station, Markham .....	98
Exhibit 6-4	Recast concrete- Clarkson GO Station, Mississauga ...	98
Exhibit 6-5	Parking Structure Investment Costs.....	99
Exhibit 6-6	Reserve Parking at GO Transit Parking Lot .....	100
Exhibit 7-1	Parkopedia Parking Information for Mississauga.....	109
Exhibit 7-2	Municipal Response to Commercial Driveway Parking	111
Exhibit 7-3	Automated Parking Garage Operation .....	115
Exhibit 7-4	Smart Parking System .....	117
Exhibit 8-1	Implementation Plan .....	120
Exhibit 8-2	Data Collection Framework - Parking Demand Rates.	131
Exhibit 8-3	Travel and Parking Trends Data .....	131
Exhibit 8-4	Precinct Policy Change Tracking .....	132

## LIST OF APPENDICES

- Appendix 1-1: Current Trends in Planning and Managing Parking
- Appendix 1-2: Policy Review
- Appendix 1-3: Parking Policy Framework
- Appendix 1-4: Best Practice Review
- Appendix 1-5: Consultation Reports
- Appendix 2-1: Jurisdictions with Precinct/Policy Area Approach to Parking Policies
- Appendix 2-2: The Case for Precincts in Mississauga
- Appendix 2-3: Parking Demand Management
- Appendix 3-1: Benchmarking Exercise: Comparing Parking Standards in Mississauga and other Municipalities
- Appendix 4-1: On-Street Parking Regulations Review Traffic By-Law
- Appendix 4-2: Review of Lower Driveway Parking in Ontario Municipalities
- Appendix 4-3: Current Streets with Paid Meter Parking
- Appendix 4-4: Safety Design Review for Parking Lots and Garages
- Appendix 5-1: Benchmarking of Parking in 15 Canadian Municipalities
- Appendix 5-2: Comparison of Mississauga's Organizational Structure with Organizational Structure of Four Canadian Cities
- Appendix 6-1: Parking Data Collection and Management Technical Memo

# EXECUTIVE SUMMARY

---

## Introduction

As Mississauga continues to grow, the way we move is expected to change. The goal of *Parking Matters* is twofold: to improve the efficiency and effectiveness of current and future resources dedicated to parking; and to use parking as a tool to realize the city building objectives set out in the City's planning documents.

Approximately 15% of the total land area is dedicated exclusively to off-street parking and related purposes, not including private driveways. Most existing parking supply is surface parking.

In 2011, approximately 85% of trips into, out of or around Mississauga were taken in a car. As of 2016, households in Mississauga owned an average of 1.6 cars per household. The number of cars per household varies significantly from neighbourhood to neighbourhood with some having less than 1 car per household and others having more than 3. Sizes of homes and driveways vary from neighbourhood to neighbourhood as well, resulting in very different types and levels of parking pressures in different parts of the city.

As Mississauga is mostly "built out," city builders need to look for innovative ways to use land more effectively to get the most out of each property and new development site and maintain affordability. It is important for the City to look at how existing resources dedicated to parking and transportation can be used more efficiently and effectively. Parking policy can no longer be a one-size fits all approach. The cost of providing "free" parking in the City needs to be recognized and reconsidered.

---

## PARKING VISION

The Parking Vision Statement was developed through extensive consultation with the public and relevant City divisions.

- The Vision for Parking in the City is that parking policies and practices should consider parking as a valuable resource that influences city building, transportation choices and economic development, and provides an important service for residents and businesses. The City should strive to ensure a balance between parking provision and management to maximize support for Mississauga as a multi-modal city. Finally, the City should strive to ensure a fair distribution of parking costs.

It is recommended that the City require all future parking policy and practices to be strategically consistent with the vision statement.

---

## DEVELOPING THE PARKING MASTER PLAN

The Parking Master Plan was undertaken in three phases:

- **Phase 1 Discovery:** Phase 1 involved significant public consultation and an exploration of parking best practices.
- **Phase 2 Develop and test Policies:** Phase 2 centered on presenting draft recommendations.
- **Phase 3 Define and Approve Policies:** Phase developed and refined the draft recommendations into the final Parking Master Plan.

## Consultation and Engagement

The Parking Master Plan was completed through a comprehensive process that gathered input and feedback from across the City. The stakeholders consisted of three groups, they were:

- **Decision-Makers:** Mayor and Members of Council, the City's Leadership Team, and the project Steering Committee.
- **Parking Providers:** Representatives responsible for and or who are interested in the provision and or management of public or private parking facilities in Mississauga. This group included anyone in the business of parking.
- **Parking Users:** Homeowners, tenants, business-owners or business representatives, community groups, visitors, and engaged collaborators. This group included anyone who uses, relies on, or has an interest in parking in Mississauga.

---

## Parking Precincts in Mississauga

A precinct approach to parking management in the City of Mississauga was considered by examining the following six criteria:

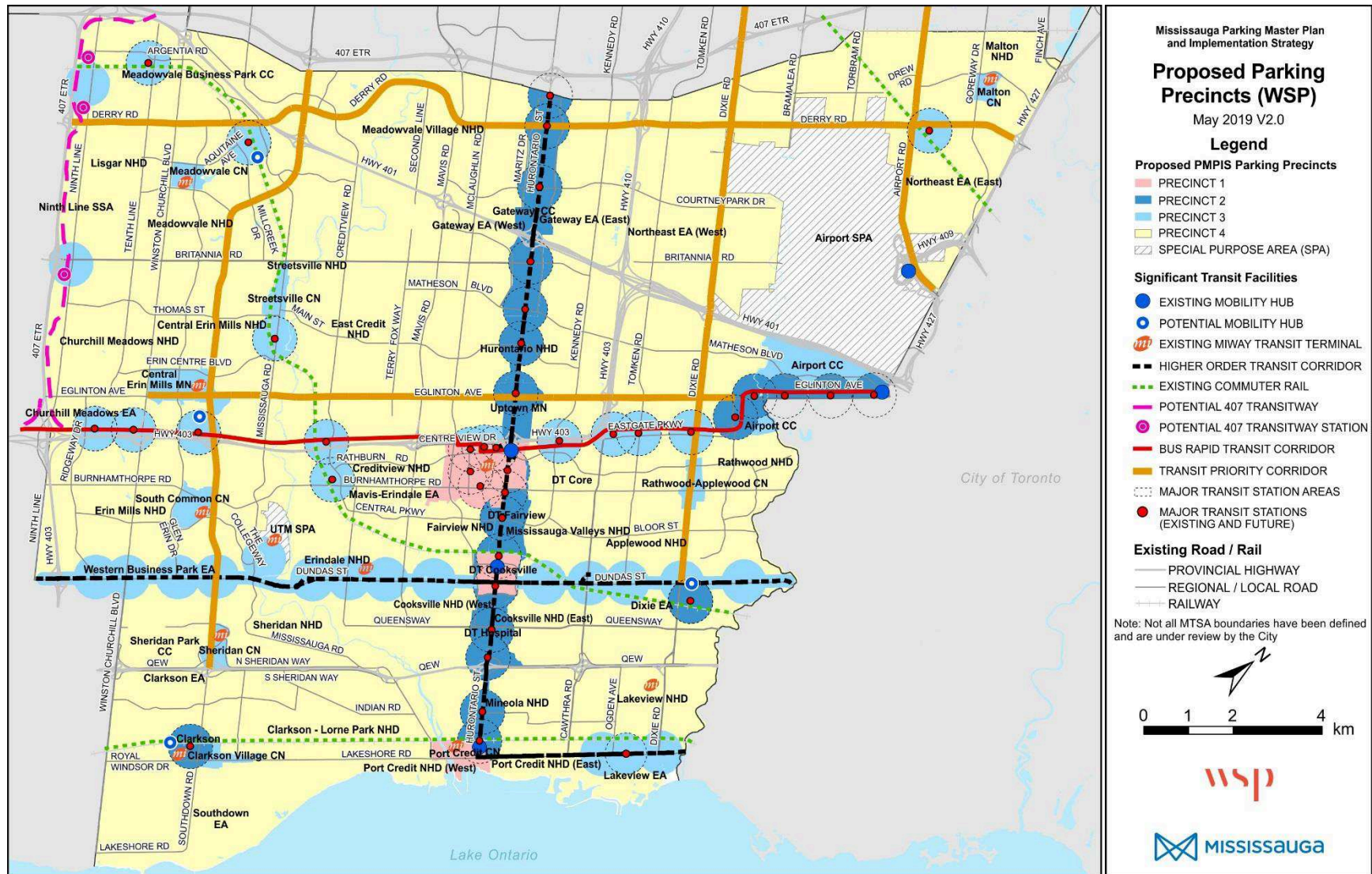
- Transit Accessibility and Service Frequency
- Vehicle Ownership
- Availability of Alternative Travel Modes: Active transportation network, shared vehicles, taxi services, carshare service
- Public Parking Facilities
- Land Use
- Walkability

The review shows a wide range of conditions that impact parking demand, supply, and management. A precinct approach for Mississauga was further considered through a review of local precedents in Toronto, Vaughan, Kitchener, Hamilton, Richmond Hill, Oakville, and Newmarket.

Four parking precinct areas are recommended for Mississauga. Exhibit E-1 shows the locations of the four parking precinct policy areas. It should be noted that the Precincts and their boundaries are preliminary, and subject to zoning by-law review. The delineations of Major Transit Station Areas (MTSAs) are subject to the MTSAs Study.



Exhibit E-1 Locations of Proposed Precinct Policy Areas for Parking



For parking management in the City, it is recommended that the City:

- Adopt a precinct based approach to parking provision and management, each precinct with its own approach.
- Adopt the following goals and parking management principles for each precinct:
  - Precinct One
    - Goal: Lowest parking requirements, highest level of parking management strategies, and consideration of parking maximums for most land uses.
    - Parking Management Principle: A Price Responsive approach that makes maximum use of pricing to build, own, operate, and supply municipal parking.
  - Precinct Two
    - Goal: Second lowest parking requirements, high level of parking management strategies and consideration of parking maximums for certain land uses.
    - Parking Management Principle: An Area Management approach that makes maximum use of area-based solutions such as pricing and shared parking.
  - Precinct Three
    - Goal: Appropriate minimum parking requirements that are higher than those for Precinct One and Precinct Two.
    - A phased approach for reducing parking requirements in proposed transit corridors based on committed funding
    - Parking Management Principle: A Site-Focused approach that optimizes parking at appropriate sites and within the City's parking goals.
  - Precinct Four
    - Goal: Appropriate minimum parking requirements (among the highest in the City.)
    - Parking Management Principle: A Site-Focused approach that optimizes parking at appropriate sites and within the City's parking goals.
- Review the City's current Zoning By-law to determine appropriate parking requirements for each precinct and ensure that the parking requirements align with this study's criteria for defining and establishing the precinct areas.
- Conduct regular reviews (not more than five years apart) to assess whether precinct boundaries are still appropriate or need to be changed.

---

## Parking Regulations

---

### ***THE ZONING BY-LAW***

#### ***Motor Vehicle Parking Standards***

The current Mississauga Zoning By-Law (225-2007) specifies parking supply requirements for 14 residential land use categories and 51 non-residential land and mixed-use developments.

To realize the City's strategic goal of a transit-oriented city, the City's existing minimum parking requirements should be reduced and replaced with a policy designed to manage parking demand more deliberately. Emerging transportation patterns and trends (electric and autonomous vehicles, carsharing, etc.) also needs careful consideration.

- The City should consider establishing maximum parking requirements in all Precincts as part of a future, detailed Zoning By-law review.
- The City should require any development proponent who wishes to exceed the maximum parking requirement to provide a justification report that considers at least the following questions:
  - Is the proposed development consistent with the City's overall parking and transportation planning objectives?
  - Has the applicant demonstrated a need for additional on-site parking beyond short-term or event driven levels?
  - Has the applicant considered and discussed with City staff the viability of providing the additional parking in a shared format such as a public parking lot?
  - Has the applicant considered a phasing plan to remove surplus parking in the future, for example, as part of a later development phase or because of regular monitoring?
  - Is the applicant able to implement a design (higher ceilings, wider separation joints, or pre-fab structure that can be dismantled) that would allow for the conversion or retrofit of the parking spaces in future, if necessary?
- When precincts are introduced:
  - Precinct One should have the lowest parking requirements and parking maximums should be considered for most Precinct One land uses.
  - Precinct Two could have the same or slightly higher parking requirements than Precinct One and parking maximums should be considered for some Precinct Two land uses.
  - Precinct Three's minimum parking requirements should be higher than those of Precinct One and Two, but should not be the highest in the City.
  - Precinct Four includes areas where parking demand could be particularly high due to limited transit service and inadequate Active Transportation infrastructure. This situation may continue for some time. Precinct Four's minimum parking requirements should be appropriate and may be the highest in the City.

### **Shared Parking**

The Zoning By-law provides a shared use parking formula that considers parking occupancy for each activity at different times of the day and week. It is recommended that:

- The City's future Zoning By-law review should examine current shared parking categories to determine whether additional land uses and land use categories should be added.
- The City should review current parking occupancy percentages to determine whether the percentages are appropriate.

---

### **PAYMENT-IN-LIEU OF PARKING PROGRAM**

Mississauga's payment-in-lieu of parking program (PIL) is applicable where municipal parking is provided. The City evaluates PIL applications based on the appropriateness of the proposed development and the adequacy of municipal parking to offset the proposed parking deficiency. Where municipal parking is unavailable, the City evaluates its interest in providing municipal parking in the future and the viability of interim parking solutions.

The recommendations for the City's PIL program are as follows:

- The City should conduct a review of the PIL program, led by the Planning and Building Department and in partnership with the Municipal Parking Group, and Corporate Services.
- The City should continue considering applications not meeting the Zoning By-law requirements to be candidates for a contribution to the PIL program.
- The City should review the PIL program to address the following:
  - Find an appropriate methodology to address land value in consultation with Corporate Services.
  - Incorporate current benchmark costs for surface, structure, and below ground parking facilities including concrete and pre-fab construction options and applied City wide.
- The City should conduct a review to determine the impact of expanding the PIL program to include residential uses, in coordination with other aspects of the parking system.
- The City's should conduct regular updates of parking fees to incorporate current construction costs and land costs.
- The City's PIL program should be is administered and managed by the Municipal Parking group in consultation with the Planning & Building Department.

## Parking Facilities

### ON-STREET PARKING

#### On-Street Parking Time Restrictions

Parking is allowed on City roads for a maximum of 5 hours unless otherwise posted. Parking on-street is not permitted overnight between 2 am and 6 am. Vehicles with accessible parking permits can park on-street for a maximum of 24 hours. In certain locations, 15-hour on-street parking is permitted including overnight hours. On Statutory Holidays, parking is allowed between 8:00am and midnight without time restriction.

The recommendations for on-street parking time restrictions are as follows:

- The City should continue to allow on-street parking between 8 am and midnight beyond the 5-hour limit on all Statutory Holidays.

#### Resident Petition Program

Residents can request changes to parking restrictions through a petition program. The program requires a petition showing support from at least 66 percent of affected homeowners, a technical review by the City, and approval by the Ward Councillor. Typical requests are to extend the 5-hour parking limit, to allow lower driveway boulevard parking, and to reduce local parking prohibitions.

#### Lower Driveway Boulevard Parking

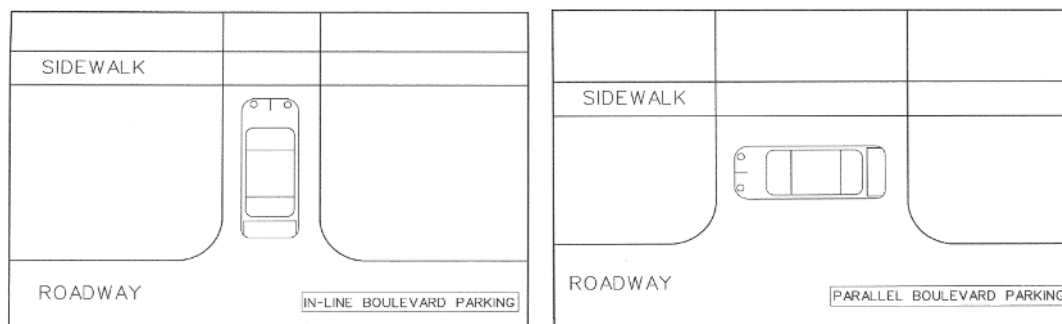
Traffic By-law 555-00 prohibits parking on the city boulevard (area between the property line or sidewalk and the road), and any obstruction of the sidewalk from pedestrian traffic. While lower driveway boulevard parking (LDBP) is permitted in some locations, there are many residents who park in the boulevard illegally.

Based on a review of best practices and safety requirements, the following is recommended:

- The City should continue to offer LDBP but without the need for a resident's petition. LDBP can help to alleviate the shortages of residential parking in some areas.
- The City should develop a communications campaign to explain LDBP and the expectations on residents to park properly.

Exhibit E-2 shows correct and safe in-line and parallel vehicle positions in a lower driveway boulevard.

#### Exhibit E-2 Correct In-line and Parallel Parking in a Lower Boulevard



Source: Resident Parking Petition, City of Mississauga



### ***On-Street Parking Permits***

There are currently five types of on-street parking permits offered by the City, including residential short-term temporary, residential long-term, commercial blanket, residential blanket, and carshare permits.

It is recommended that:

- The City should develop a digital on-street parking permit program (for processing, operating and enforcing the program).
- The City should replace the various parking permits currently available by implementing a comprehensive digital parking permit system for residents and businesses.

The City should undertake further study and review to specify the most appropriate types of permit to adopt.

- The City should implement an on-street overnight parking program in residential areas to work in alignment with the review of the Zoning By-law requirements and the potential reductions in certain precincts (e.g. parking requirement for Secondary Units could be waived in areas within the overnight permit parking program, or where boulevard parking is feasible).

### ***Paid On-Street Parking***

There are certain locations within the City where paid on-street parking is in force. The existing paid parking program is administered through pay-and-display machines installed along the curb.

It is recommended that:

- The City should continue to monitor on-street parking occupancy in Precincts One, Two and Three (specifically Port Credit, the Downtown, Streetsville, Clarkson, and Cooksville).
- To improve the management of parking demand and to encourage turnover in areas that charge for parking, the City should increase parking fees when parking occupancy exceeds 85% during peak hours in these areas. See Best Practices review for this study.
- To improve the management of parking demand and to encourage turnover in areas that do not charge for parking, the City should consider introducing a parking fees when parking occupancy exceeds 50% during peak hours.

## ***Curbside Management***

Competing for curb space with on-street parking are vehicles that are loading and unloading goods and deliveries as well as an increase in passenger pick-ups and drop-offs attributable to the popularity of ride-sharing in the City.

It is recommended that:

- The City should consider a Curbside Management Study to:
  - Frame the discussion regarding on-street parking.
  - Determine appropriate locations.
  - Determine curbside priorities for each proposed Precinct area.
- Where appropriate, and subject to coordination with other City Departments, the Municipal Parking Section should identify and or approve locations where on-street pick-up and drop-off areas are permitted.
- Loading regulation should be reviewed in conjunction with parking regulations as part of the zoning by-law review.

---

## ***OFF-STREET PARKING LOTS***

### ***Municipal Parking Lots***

Mississauga currently operates 3 below grade off-street paid garages and 4 paid off-street surface lots. The City also provides public parking at municipally owned recreational, institutional, and transit facilities. As the need for additional public parking increases the City will need to find options for providing additional parking capacity.

Some free City public parking facilities are located close to paid City public parking facilities. As the City begins the process of right-sizing, it will be increasingly important for the City to manage its parking supply consistently and logically.

It is recommended that:

- The City should develop a parking demand forecasting model that can be used on an ongoing basis for all of Precinct One and Precinct Two. The model should incorporate the following data:
  - Existing parking utilization
  - Development applications
  - Area Master Plans
  - Long-term population and employment forecasts
- The City should review the feasibility of removing overnight parking prohibitions at all its off-street parking facilities, and should determine the capital and or operational changes required to implement the change.
- The City's Municipal Parking unit should work with other City business units, such as Parks and Forestry and Mississauga Transitway, to align long-term plans for parking expansion and to find opportunities for shared public parking.
- The City should consider opportunities to partner with the private sector where appropriate and beneficial for providing parking or developing shared parking arrangements.
- The City's Zoning By-law review should consider the role and policies of the City's Downtown CIP and how the CIP will work with the City's PIL policy.

- The Zoning By-law Review should recommend any CIP or PIL modifications required to ensure that the CIP and PIL complement the Precinct approach.
- Where parking is needed in some areas the City should consider partnerships with the private sector to deliver a portion or all the parking spaces.
- The City should implement parking controls, including paid parking if necessary, at free City parking facilities when one or a combination of the following is true:
  - There is an existing market for paid parking in the area
  - Transit is available
  - Utilization during peak periods exceeds 85 percent

### **Parking Lot Design**

In line with the City's commitment to Vision Zero, safety is always a top priority. Slips, trips and falls in parking facilities have proven to be significant causes of injury. In addition, people often perceive parking garages as unsafe environments due to their lack of visibility and layouts.

It is recommended that:

- The City should develop safety standards and best practices for pedestrian and bicycle safety in parking facilities.

---

## **Governance**

Governance refers to how the City makes decisions related to parking. Decisions about parking and service delivery are currently made within a horizontally integrated organizational structure.

A well-designed governance structure will result in the alignment of policies, operations and financial objectives to meet the needs of the citizens the City serves. The current organizational structure served the City well in the past, but is no longer appropriate. Based on an evaluation of five parking organization models used in North America, benchmarking against comparable Canadian cities, consideration of parking governance principles:

- It is recommended that the City adopt a vertically integrated organizational model that includes a parking division.

---

### **MISSISSAUGA'S PARKING DIVISION**

- It is recommended that:
- The City approve and support the new governance model of establishing a new Parking Division over time within the Transportation & Works Department.
- The City creates a "Parking Service Area" which would have its own business plan.

The new parking division should have four groups: Parking Operations, Parking Planning, Parking Enforcement, and Business Development.

The Parking Operations Section would:

- Coordinate off-street municipal parking lots, on-street paid parking, winter maintenance for City provided parking, digital products, and policies for other City provided parking.
- Manage parking considerations, both short-term and long-term.



- Administer the Traffic By-law and on-street overnight permits.
- Maintain Electric Vehicle (EV) charging infrastructure

The Parking Planning Section would:

- Provide input into the Mississauga Official Plan (MOP) parking policies.
- Develop parking design guidelines.
- Provide parking comments for Zoning By-law Amendments and Committee of Adjustment applications. Review driveway widening applications.
- Provide input to Zoning By-law parking policies.
- Review parking studies and lead area specific parking strategies.
- Coordinate Payment-in-Lieu (PIL), Development Charges (DCs) and parking elements of Community Improvement Plans (CIPs).
- Assist with accessibility policies and standards.

Parking Enforcement would:

- Enforce parking and traffic by-laws.
- Administer the APS (Administrative Penalty System).
- Coordinate enforcement technology upgrades.

The Business Development Section would:

- Undertake business analysis.
- Handle data management and visualization.
- Be responsible for business planning.
- Support 311 municipal phone-in service with parking customer service.
- Be responsible for parking communications, marketing and outreach.
- Be responsible for finance in cooperation with the City's Finance division.

### ***Private Sector Partnerships***

It is recommended that the City continue to support joint ventures and partnerships with private sector companies to optimize the use of land and infrastructure and meet public needs for parking spaces in the most appropriate way.

### ***Decision-Making***

City Council will continue to be the final decision-making body on policy issues such as strategic goals, capital and operating budgets for existing and future expanded parking services and facilities, and parking fees. Important aspects of the reporting and decision-making process include Standing Committee of Council, Citizens-Business Advisory Committee and the Committee of Adjustment.

It is recommended that:

- The City Council and applicable standing committees of Council continue to be the decision-making body associated with parking policies including, for example, fee setting, expansion of parking facilities, joint ventures with the private sector, new technologies, and integrating TDM with parking and other policy issues.

## Finance

Finance refers to how current and future municipal parking operations are currently funded and financed. The City's main revenue streams for parking are on-street and off-street paid parking, parking fines, PIL, and development charges. The cost of providing "free" parking in the City should also be considered.

### *Future Funding Options*

It is recommended that:

- As the City's paid parking market matures, the City undertake an analysis of the benefits and costs of reducing the daily and monthly parking discount and that the City aligns its parking passes with surrounding commercial monthly parking fees.
- The City increase its parking fees at regular intervals to keep pace with inflation.
- Over the long-term, the City's fee-setting strategy evolve to meet specific parking utilization objectives. The strategy could include setting parking fees that vary by location, time of day, and special event type.
- The City support its April 2018 TDM Strategy pricing parking measure by setting monthly parking fees higher than the MiWay adult monthly transit pass fee.
- The City formalize the approach to financing and funding Municipal Parking operations. The policy should adhere to the following principles:
  - Revenue-generating parking activities should be funded through parking revenues (separate cost centre) as much as possible.
  - Non-revenue parking activities should be funded by the property tax base (separate cost centre).
- Municipal Parking fees should reflect market conditions (supply and demand).
- The City use annual parking ticket revenue to cover all costs of enforcement including parking ticket processing. Any surplus revenue should be placed into the reserve account to pay for new capital projects (For example, surface lots, parking garage structures and necessary equipment).
- The City undertake an analysis to determine the benefits and costs of implementing dynamic or escalating on-street pricing in each of the Precincts.
- The City undertake an analysis of the benefits and costs of reducing the daily and monthly parking discount to align the City's parking passes with surrounding commercial monthly parking fees.
- The existing six geographically-delineated parking reserve accounts are merged into one capital reserve account.

### *New Parking Structures*

It is recommended that a formalized process for determining the business case associated with any parking capital project be adopted.

### *GO Parking*

It is recommended that the City work with Metrolinx to develop a strategy to reduce all-day free parking at GO Transit rail and bus stations.

### Special Considerations

There are instances where exceptions to paid parking can lead to a loss of revenue. For example, the CarShare vehicle permits at \$65.00 per month and patio spaces in high traffic areas limit the potential parking revenues that can be generated from the same space.

It is recommended that:

- The City should develop a strategy to accurately account for lost revenue where special considerations are given in paid parking locations.

---

## Technology and Innovation

---

### PAYMENT METHODS

As technology continues to evolve related to parking, cities should monitor these new tools for parking management and apply them where they can be most effective. As new technologies have become available the City has updated its network to improve the user experience but also to be able to track parking usage more accurately. Currently, the City uses pay and display machines, multi-visit payment cards, and annual and monthly permits. New payment methods were considered, including pay-by-license-plate (PBLP), gated pay-on-foot (POF), pay-by-phone, and pay-by-online permit.

It is recommended that:

- The City should undertake a business case analysis to determine the feasibility and benefits of upgrading its Pay and Display machines and enforcement technology to a PBLP system.
- The City should consider a Pay-On-Foot (POF) system possibly combined with LPR technology at locations that require additional parking controls. Depending on circumstances, POF may offer a better solution than Pay and Display and or PBLP.
- The City should consider POF for any new parking structures planned for the Downtown Core.
- The City should consider converting the City Hall parking garage from Pay and Display machines to a POF system.
- When installing POF systems, the City should consider systems with the latest technologies available including access control for monthly parking permit holders and property management staff proximity cards, wireless transponders, and mobility phones.
- The City should offer the convenience of Pay-By-Phone at all the City's on-street and off-street parking facilities.
- The City should use a phased approach to introduce Pay-By-Phone.



## **PARKING ENFORCEMENT TECHNOLOGY**

Recent advances in parking enforcement technology have made new approaches economic even for smaller municipalities to use License Plate Recognition (LPR) for parking enforcement.

A pilot project is underway in the City's Parking Enforcement group to test License Plate Recognition technology and Digital Chalking equipment. This will eliminate the need for manual chalking, offers immediate recognition of vehicles plates and a review of existing permit data. Digital Chalking will allow officers to enforce the City's parking bylaws more efficiently and allowing for reliable, digital tracking during inclement weather conditions. In addition to efficiencies of a single pilot vehicle for Chalking duties is an anticipated 25 per cent improvement to process productivity.



## **PARKING DATA COLLECTION AND MANAGEMENT**

- Fundamental to any discussion of policy change is an understanding of existing conditions such that strengths can be built upon and weaknesses remediated or removed. A review of Mississauga's Municipal Parking's existing data collection and storage methods identified several gaps and opportunities for improvement.

It is recommended that:

- The City's Municipal Parking organization should develop an annual parking data collection program and create a comprehensive database of City-provided parking supply and utilization. The data collected should be openly available online. This work will begin the process of creating the back-end infrastructure required to provide parking and utilization information to the end-user.
- The City should consolidate existing data files regarding privately-owned parking and add information at key locations of interest across the municipality (For example at Intensification Areas). The data collected could be used to develop a more comprehensive understanding of existing parking supply for development and long-range planning purposes.
- Future data collection and storage methods for parking enforcement should link infraction and infraction location data, and the data should be mapped.

## **DIGITAL SIGNAGE AND WAYFINDING**

Parking guidance systems are useful in large areas where alternative parking locations are available close to destinations. They typically include a website and mobile app that provide real-time, map-based information on parking availability and pricing.

It is recommended that:

- The City should consider implementing a parking guidance system in locations such as Precinct 1 where there are large municipal parking facilities and large private parking facilities. The system should combine digital variable message signs and wayfinding signs to direct drivers to available parking.
- The signs should be placed at Precinct entry points, key decision-making points within the Precinct, and access points to each parking facility.

- Wayfinding signs should be provided for parking locations where real-time information is unavailable.
- All City parking guidance technology in all parking facilities should be compatible to ease integration into the City's information system.
- The parking guidance system should include a website with an associated app that makes parking availability and pricing data available to customers.
- The City should promote the use of the online tools, particularly during peak demand periods such as special events. The web-based tools may be developed by the City or through a private partnership.
- The City should regularly:
  - Review the geographical areas where a parking guidance system is implemented.
  - Assess the parking guidance technology available and consider advances in technology and best practices.



## Implementation Plan and Monitoring Strategy

To ensure the vision of the Parking Masterplan is achieved it is critical to develop a robust and comprehensive Implementation Plan and corresponding Monitoring Program to guide next steps – day to day work completed by staff, decision making by Council and input / support provided by stakeholders and partners.

To support implementation of the parking master plan a comprehensive implementation plan has been prepared. A summary of the implementation plan is provided in Exhibit E-3. The plan is documented in a summary table which is intended to be used by City staff to guide next steps.

### Exhibit E-3 Implementation Plan Summary

Short-Term	Medium-Term	Long-Term
Adopt a Precinct Approach to Parking requirements	PIL Program Review	Update the Parking Master Plan
Implementation of Lower Driveway Boulevard Parking City-wide	Improve public communication on parking projects and policies	Review the impacts of Autonomous Vehicles on parking
Develop new funding options and opportunities around parking provision and maintenance	Curbside Management Study	Full build out of a vertically integrated Parking Division within the City structure
Zoning By-Law Update	Develop Share-Your-Parking program	
Transformation of existing Parking Permits to Digital Platform	Develop business case and implement pay-by-phone	
	Implement digital signage and wayfinding	

# 1 PARKING IN MISSISSAUGA

---

## 1.1 THE CONTEXT

As Mississauga continues to grow, the way we move is expected to change. While walking, cycling and taking transit will become more prevalent, if the car will continue to be the mode of choice for many. Parking will therefore remain a key element of our transportation network. This Parking Master Plan and Implementation Strategy (PMPIS) examines the need for and management of parking in the City, for the future now and in the future, and explains why and how *Parking Matters*.

The goal of *Parking Matters* is twofold: to improve the efficiency and effectiveness of current and future resources dedicated to parking; and to use parking as a tool to realize the city building objectives set out in the City's planning documents.

---

### 1.1.1 THE CHANGING CITY

Mississauga has grown to be Canada's 6<sup>th</sup> largest city. It is home to more than three-quarters of a million people and almost half a million jobs. Parking is an important part of Mississauga's transportation system, but as the City continues to grow and evolve, community parking needs are changing.

As the City includes a wide range of neighbourhoods and communities and new development will take on other various forms, Mississauga's parking policy can no longer be a one-size fits all approach. The provision and management of parking across the City must reflect local characteristics and needs. An environment scan of current trends in planning and managing parking was completed and a review of how local characteristics within the City of Mississauga are changing both can be found in Appendix 1-1.

Affordable housing is also a priority across the City as housing becomes more and more expensive. Parking is a tool that can help shape the City by right-sizing parking requirements or not making parking mandatory for every unit, especially in rental or affordable housing projects. Through unbundling parking from unit sales or rentals, housing can become more affordable for an individual or family that chooses other modes to move around the City and can also significantly reduce the upfront construction costs for a development.

---

### 1.1.2 PARKING AND THE TRANSPORTATION SYSTEM TODAY

An analysis of Mississauga shows that approximately 15% of the total land area is dedicated exclusively to off-street parking and related purposes, not including private driveways. Most existing parking supply is surface parking. As Mississauga is mostly "built out," it is important for the City to find developable land and look at how existing resources dedicated to parking and transportation can be used more efficiently and effectively.

The City is currently responsible for a variety of different municipally owned/leased and managed parking. Today in Mississauga there are:

- 19 at-grade parking facilities;
- 4 below grade parking facilities;
- 169 on-street pay and display machines in 2 on-street parking districts; and
- 77 off-street pay and display machines.

Exhibit 1-1 shows several key parking locations throughout the City.





Municipal Parking staff track certain statistics about how the existing paid parking is being utilized through data gathered from installed Pay-and-Display machines as well as purchased monthly passes and permits.

The 2011 Transportation Tomorrow Survey (TTS) indicates that approximately 80% of trips in Mississauga occur by car. The survey also shows that each household owns an average of two vehicles. Private motor cars provide mobility but place a heavy cost burden on many households. This PMPIS is designed to provide proactive and evidence-based solutions to this important transportation and land use challenge both now and in the future.

It is a common public opinion that parking should be “free”. There is typically significant opposition to implementing paid parking which does not consider the costs associated with providing parking. The cost of parking spaces in new parking facilities includes land acquisition, design and construction, lighting, power, signage, access control, safety and security, fencing, landscaping, parking planning, and insurance. The cost of parking spaces in existing parking facilities includes the ongoing maintenance costs of snow and litter removal, power sweeping, resurfacing, landscaping, line painting, lighting, and insurance. Additional costs include marketing, promotion and enforcement. Free parking during certain time periods increases enforcement costs as additional patrols are required. These factors make it difficult for the City to continue to provide free parking.

Another consideration is that “free parking” is being subsidized by all tax payers and consumers of goods and services, whether they own a car or not.

Parking in Mississauga is discussed in several existing Mississauga policy documents. Some of those include the Mississauga Strategic Plan (2016), Mississauga Official Plan (MOP), the current Zoning By-law (225-2007), the Transportation Master Plan (TMP) (2019) and the Transportation Demand Management Strategy and Implementation Plan (TDMSI) (2018). There are many other City studies and documents that also provide direction on how the City should provide and manage parking. A detailed review of policies that influence parking can be found in Appendix 1-2.

---

## 1.2 PARKING VISION

The Parking Vision Statement, as determined through the creation of this document, states the City’s view of Mississauga in the future and defines the City’s beliefs about the overarching principles that parking policy and practices should adopt to achieve that view. The process and framework used to develop the City parking vision can be found in Appendix 1-3. The Vision Statement is aligned with the principles, goals and objectives of the City's Strategic Plan and MOP.

The Vision for the Parking Master Plan and Implementation Strategy was developed through extensive consultation with the public and relevant City divisions as follows:

- Parking policies and practices should consider parking as a valuable resource that influences city building, transportation choices, affordable housing and economic development, and provides an important service for residents and businesses. The City should strive to ensure a balance between parking provision and management to maximize support for Mississauga as a multi-modal city. Finally, the City should strive to ensure a fair distribution of parking costs.

It is recommended that the City require all future parking policy and practices to be strategically consistent with the vision statement.



---

## 1.3 DEVELOPING THE PARKING MASTER PLAN

---

### 1.3.1 DEVELOPMENT PROCESS

Parking Master Plan is an action plan designed to guide how the City will provide and manage parking in the future.

The Parking Master Plan was undertaken in three phases:

- Phase 1: Discovery
- Phase 2: Develop and Test Policies
- Phase 3: Define and Approve Policies

**Phase 1** involved significant public consultation to identify issues and opportunities associated with current parking practices. It also included an in-depth exploration of parking best practices in other jurisdictions. Phase 1 resulted in the development of the report entitled *Best Practices Review*. This report contains information about how Mississauga's parking compares to other similar municipalities in terms of parking zoning requirements, technology, organizational structure for the Parking department and other permissions. To review the contents of this document, please see Appendix 1-4. This report was also used to help inform Phases 2 and 3.

**Phase 2** centered on presenting draft recommendations developed in response to the Phase 1 feedback and comments received from the public.

**Phase 3** developed and refined the draft recommendations that flowed from Phases 1 and 2. Phase 3 included preparing a Draft Parking Master Plan Report for City staff. This Phase also included a final round of refinements based on feedback from City staff, parking providers, and the public.

---

### 1.3.2 CONSULTATION AND ENGAGEMENT

The Parking Master Plan was completed through a comprehensive process that gathered input and feedback from across the City. Staff representing a variety of divisions across the corporation have provided input on how parking currently operates in the City and how it could be improved in the future. Mississauga's Mayor and members of Council were also included in discussions throughout the course of the project to provide input and direction to staff. Finally, an extensive public consultation process was administered at different milestones of the project to make sure that the goals and objectives in this Plan were consistent with what Mississauga residents felt was needed.

The stakeholders consisted of three groups, they were:

- **Decision-Makers:** Mayor and Members of Council, the City's Leadership Team, and the project Steering Committee.
- **Parking Providers:** Representatives responsible for and or who are interested in the provision and or management of public or private parking facilities in Mississauga. This group included anyone in the business of parking.
- **Parking Users:** Homeowners, tenants, business-owners or business representatives, community groups, visitors, and engaged collaborators. This group included anyone who uses, relies on, or has an interest in parking in Mississauga.

The development of the Parking Master Plan was built upon significant input and consultation with staff and decision makers for the City. Staff provided input on how parking currently operates in the City and how it could be improved in the future. Mississauga's Mayor and members of Council engaged in discussions to provide input and direction to staff.

Consultation and engagement was used to inform each of the project phases. As such, a three-phase program was completed to inform the development of the Parking Master Plan. The following is an overview of the various activities that were undertaken:

#### Exhibit 1-2 Overview of Consultation & Engagement Tactics

PHASE 1	PHASE 2	PHASE 3
OBJECTIVE	OBJECTIVE	OBJECTIVE
Inform audiences about the project and gather input on issues and opportunities associated with parking	Provide audiences with an update on the project and present / gather input on the preliminary recommendations	Work with audiences towards an agreement on the proposed recommendations and finalize outcomes

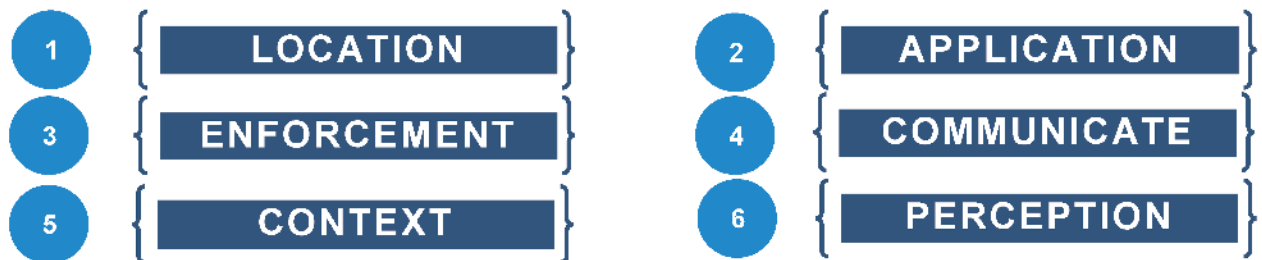
Key themes emerged from the consultation and engagement activities undertaken. The key themes were considered and incorporated into the master plan where possible to ensure that community and stakeholder values were reflected. The following is a summary of the key themes that emerged.

- **LOCATION:** The area where parking is provided, the surrounding land-use and desired vision for the space should have a strong influence on how parking is determined and managed.
- **APPLICATION:** The application of parking standards need to be considered or more clearly rationalized based on other City policies and strategies.
- **ENFORCEMENT:** Consistency and frequency of enforcement is needed depending on the by-law requirements and the various land-uses throughout the City. It should be considered more as a tool as opposed to a reaction.
- **COMMUNICATION:** There needs to be more communication between the City and its parking users regarding the current as well as emerging or changing standards for parking as well as meaningful communication with the parking providers regarding expectations for management and provision.
- **CONTEXT:** There are unique parking circumstances throughout the City which are driven by neighbourhoods, communities and land-uses. The context needs to be considered when determining parking requirements and supply.
- **PERCEPTION:** There are a considerable number of perceptions around parking both from the parking users regarding how it is planned, designed and enforced as well as from the providers as to how parking requirements are determined. There are preconceived notions about how much parking should cost in various areas throughout the City which may be more assumption-based as opposed to fact-based.

A more detailed overview of the process and outcomes of the consultation and engagement program are found in Appendix 1-5.

---

## 1.4 PARKING MASTER PLAN OVERVIEW



## 2 PARKING PRECINCTS IN MISSISSAUGA

Mississauga is a city made up of a variety of built forms. Some areas of the City are high density mixes of residential, commercial and employment with strong transit, walking and cycling connectivity, while other areas are comprised solely of single detached residential on winding local roads with limited access to other travel modes. That is why the PMPIS is not suggesting a one size fits all parking approach; rather it breaks the City up into sections based on those characteristics, known as Precincts.

This Chapter discusses the precinct approach first on a general level and presents other municipalities that have adopted this approach to providing and managing parking, and then delves deeper into why the precinct approach is being recommended for the City of Mississauga.

---

### 2.1 CRITERIA FOR DETERMINING PRECINCTS

When it comes to providing and managing municipal parking, it is important to analyze the overall built form of the City. Are there major differences in neighbourhoods across the city or can one approach be effective? Exhibit 2-1 provides a list of factors that typically affect parking needs, parking demand, and parking supply and most are commonly used in the development of appropriate parking management policies. Some are also used to group areas with similar characteristics and therefore a similar vision and need for a similar set of parking policies.

The most effective and most frequently used factors are:

- Transit Accessibility and Service Frequency
- Vehicle Ownership
- Availability of Alternative Travel Modes
- Active Transportation Network
- Shared Vehicles
- Taxi Service
- Carshare Service
- Public Parking Facilities
- Land Use
- Walking and other active transportation environment quality

### Exhibit 2-1 Factors Affecting Parking Demand, Supply, and Management

Factor
<b>Geographic Location:</b> Vehicle ownership and use rates in an area
<b>Residential Density:</b> Number of residents or housing units per acre/hectare
<b>Employment Density:</b> Number of employees per acre/hectare
<b>Land Use Mix:</b> Land use mix located within a convenient walking distance
<b>Transit Accessibility:</b> Nearby transit service frequency and quality
<b>Car Sharing:</b> Whether car-sharing services are located within or nearby a building
<b>Walkability and Bike-ability:</b> Walking environment quality
<b>Demographics:</b> Age and physical ability of residents or commuters
<b>Income:</b> Average income of residents or commuters
<b>Housing Tenure:</b> Whether housing is owned or rented
<b>Pricing:</b> Parking that is priced, unbundled, or cashed out
<b>Sharing/Overflow:</b> Ability to share parking facilities with other nearby land uses
<b>Management Programs:</b> Parking and mobility management programs implemented at a site
<b>Design Hour:</b> Number of allowable annual hours a parking facility may fill
<b>Contingency-Based Planning:</b> Use lower-bound requirements, and implement additional strategies if needed

Source: Parking Management Comprehensive Implementation Guide, Victoria Transport Policy Institute, 2018

## 2.2 OTHER CITIES WITH A PRECINCT APPROACH

As pointed out in the *Best Practice Review* (Appendix 1-4) prepared as part of the PMPIS, jurisdictions in many countries have adopted a precinct approach while others are exploring that direction through their on-going zoning by-law review. The availability of transit, public parking, and active transportation networks is important to the approach. Many jurisdictions also review their parking policies and update their Zoning By-laws when adopting a policy area approach. The policies that emerge differ with the different needs of different jurisdictions. Seven different local jurisdictions are reviewed: Toronto, Vaughan, Kitchener, Hamilton, Richmond Hill, Oakville, and Newmarket. A summary is provided in Exhibit 2-2 and additional detail with maps are provided in Appendix 2-1.

**Exhibit 2-2 Jurisdictions with Precinct/Policy Area Approach to Parking Policies**

City	Year	Precincts/Policy Areas	Summary
<b>City of Toronto</b>	2013	<ul style="list-style-type: none"> <li>Policy Area 1: Downtown and Central Waterfront.</li> <li>Policy Area 2: Yonge and Eglinton.</li> <li>Policy Area 3: Centres and Avenues on Subway.</li> <li>Policy Area 4: Other Avenues well served by Surface Transit.</li> <li>Policy Area 5: Rest of the City.</li> </ul>	<p>The City of Toronto conducted a series of reviews of its parking policies and standards to develop a new Zoning By-law 569-2013 in 2013. The new by-law reflects the parking needs of residents and businesses and incorporates policies in the city's Official Plan Urban Structure and higher-order transit corridors.</p> <p>The Zoning By-law includes specific parking policies for: Avenues, Centres, Employment Areas, and Downtown and Central Waterfront.</p>
<b>City of Vaughan</b>	2010	<ul style="list-style-type: none"> <li>Higher-order Transit Hubs</li> <li>Local Centres</li> <li>Primary Centres and Primary Intensification Corridors</li> <li>Base (Other Areas)</li> </ul>	<p>Vaughan adopted a parking policy area approach in 2010 based on the city's Official Plan's urban structure and linked to current and planned transit facilities.</p> <p>The review recommended parking standards for each separate area. These standards ranged from minimums in areas with limited transit to maximums in areas in Transit hubs or along higher-order transit facilities and Intensification Areas.</p>
<b>City of Kitchener</b>	2018	<ul style="list-style-type: none"> <li>Rapid Transit Stations</li> <li>Urban Growth Centres including City Centre</li> <li>Mixed Use Zones</li> <li>Other Areas</li> </ul>	<p>The parking requirements in the new by-law are lower for Planning Around Rapid Transit Stations, Urban Growth Centres (including City Centre) and for Mixed Use Zones than for other areas of the city.</p> <p>The by-law provides minimum and maximum parking requirements for multi-unit residential developments in these zones.</p>

<b>City of Hamilton</b>	2018	<ul style="list-style-type: none"> <li>• Downtown Commercial Zones</li> <li>• Mixed Use Zones</li> <li>• Transit Oriented Zones</li> <li>• Other Areas</li> </ul>	<p>If the gross floor area (total area contained within the building) meets a minimum requirement, some commercial developments in these zones are not required to provide parking.</p> <p>The city has minimum and maximum parking ratios for multi-unit residential developments in the Transit Oriented Zones.</p>
<b>Town of Oakville</b>	2014	<ul style="list-style-type: none"> <li>• Mixed-Use Zones</li> <li>• Growth Areas</li> <li>• Downtown</li> </ul>	<p>The Town has lower parking requirements in the Mixed-Use Zones and Growth Areas. Downtown commercial developments do not have to provide parking, but there is a minimum parking standard (no maximums) for residential uses in Downtown.</p>
<b>Town of Newmarket</b>	On-going	<ul style="list-style-type: none"> <li>• Urban Centres</li> <li>• Other Areas</li> </ul>	<p>The Town decided to develop an Area-Specific Zoning By-law for the Urban Centres Secondary Plan. As part of that exercise, the town commissioned a parking standard background study.</p> <p>As the study area is to be highly transit-oriented, the report recommended both minimum and maximum parking rates.</p>

---

## 2.3 THE CASE FOR PRECINCTS IN MISSISSAUGA

This Section assesses the applicability of a precinct approach to parking management in the City of Mississauga.

This Section uses the criteria for selecting and defining precincts, as discussed in Section 2.1 to assess the City to determine appropriate precinct areas. A more detail review of these criteria and how they apply to the City is provided in Appendix 2-2. Section 2.4 presents the four precinct types, the rationale behind the selection of the precincts, and the policy target for the precincts.

---

### 2.3.1 DEMOGRAPHICS

The City's population has increased by 1.5% annually since 2000. The 2017 population of about 766,000 is expected to grow to 930,000 in 2041. This projected rate of growth will drive the demand for mobility and will put great pressure on the City's transportation system.

The largest single age cohort is between the ages of 50 and 54 indicating that many people will retire in the next decade or two. This will lead to changes in housing choice and travel habits for this age cohort. Younger generations, particularly those aged 15 to 34, tend to be internet-savvy and highly connected. They are likely to respond easily to new parking technologies and to outreach campaigns that use online and social media platforms.

---

### 2.3.2 LAND USE, POPULATION, AND EMPLOYMENT

Mississauga is mostly built out, only a small amount of greenfield land is available for development and most new development, residential or non-residential, will be in infill and with higher densities than the traditional suburban greenfield development.

It is expected that the trend towards apartments and townhouses will continue and accelerate with the number of detached and semi-detached housing types expected to grow only by 2,338 units by 2041<sup>1</sup>. The density of future residential areas is likely to be higher than in older neighbourhoods. High density neighbourhoods will be well-suited to non-auto transportation modes such as transit, walking, and cycling. The anticipated shift to alternative modes will have implications for the City's parking needs.

Future development will occur mainly through intensification in existing urban areas. This means that existing parking stock will inevitably undergo some transformations. For example, existing parking may be displaced by new development, surface parking may be replaced by structured parking in denser areas, paid parking may become the norm in more areas of the City as land becomes more scarce and valuable. Exclusive parking for some specific land uses could be phased out in favour of more affordable and space-saving solutions such as off-site, shared public parking.

Employment in Mississauga has also grown steadily with more than 10,000 jobs were created between 2013 and 2017. During this period, the number of businesses also increased. Service-based sectors are driving employment and business growth in Mississauga, but manufacturing and wholesale trades are shrinking.

---

<sup>1</sup> Population, Demographics, and Housing Survey, City of Mississauga, 2016



Future employment is expected to grow by 23% to 552,000 in 2041, making employment in the downtown area and other existing office centres more concentrated. Amidst this growth, office-based jobs are expected to be the main driver, while population-related jobs such as retail, healthcare, and education will also support the trend.<sup>2</sup>

Mixed-use areas have the most potential for reducing the need for automobile travel and the related demand for parking. In a mixed-use area where citizens can live, work and play, travel needs can be met by walking or transit trips.

---

### **2.3.3 VEHICLE OWNERSHIP**

Vehicle ownership in Mississauga has been declining over the last five years however most households still have more than one vehicle. Vehicle ownership per household averaged 1.6 in 2016.

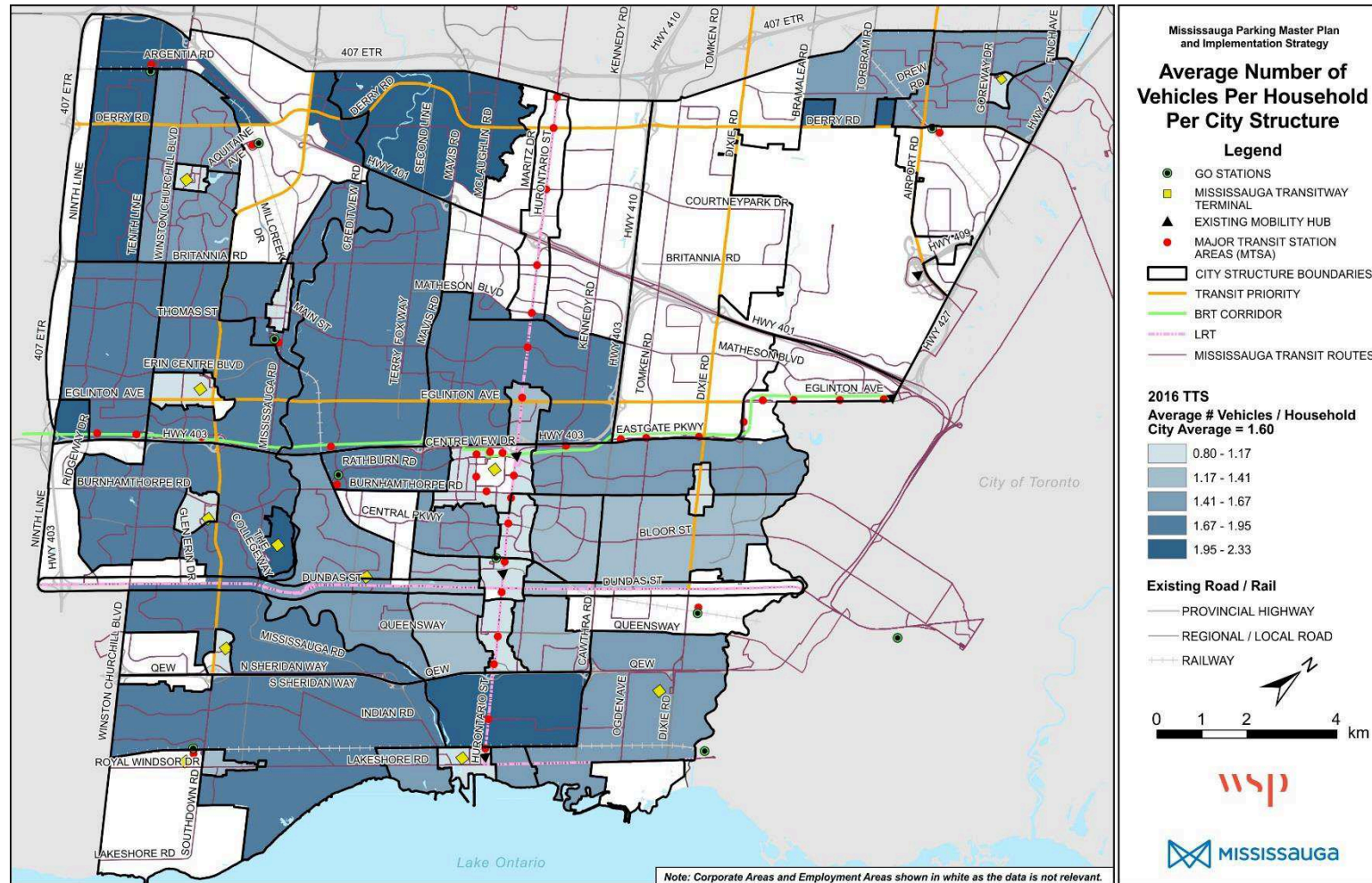
Exhibit 2-3 shows that vehicle ownership is low in the Downtown and the Community Nodes, the areas with the most frequent transit services. Such areas are likely to generate less demand for parking.

Areas farther from transit service or where transit service is less convenient have much higher vehicle ownership rates and consequently higher parking demand.

---

<sup>2</sup> Draft Transportation Master Plan for Mississauga, City of Mississauga, January 2019

Exhibit 2-3 Number of Vehicles per Household - 2016



Source: Transportation Tomorrow Survey, University of Toronto, 2016  
Note: Data not available for uncolored areas.

### 2.3.4 AVAILABILITY OF OTHER TRAVEL MODES

In recent years, the increased availability of non-personal vehicles has had an impact on the demand for parking spaces. With more people using these services, personal vehicle ownership is declining, especially among young people. Reduced vehicle ownership reduces the need for parking spaces both at the point of origin and destination.

The locations of carshare vehicles, car rental companies and taxi are scattered across the City with some clustering in the Downtown and at some Community Nodes. In March 2017, City of Mississauga staff estimated 60,000 Uber trips per week were occurring in the City. An estimated 25,000 individuals are registered with Uber as drivers and can conduct business in Mississauga.<sup>3</sup>

These services reduce the need for individual vehicle ownership and can reduce parking demand especially in the heavy destination areas such as the Downtown

### 2.3.5 TRANSIT

#### Existing Transit Usage

The transit mode share in Mississauga has increased in recent years, according to a review of Transportation Tomorrow Survey data (TTS) as well as Census data, as shown in Exhibit 2-4. According to data from the TTS, the City's transit mode share increased from 8% in 2011 to 14% in 2016. The Census, which is a relatively more reliable data source due to its larger sample size, reported an even higher transit mode share of 18% in 2016.

**Exhibit 2-4 Travel Mode Share - 2011 to 2016**

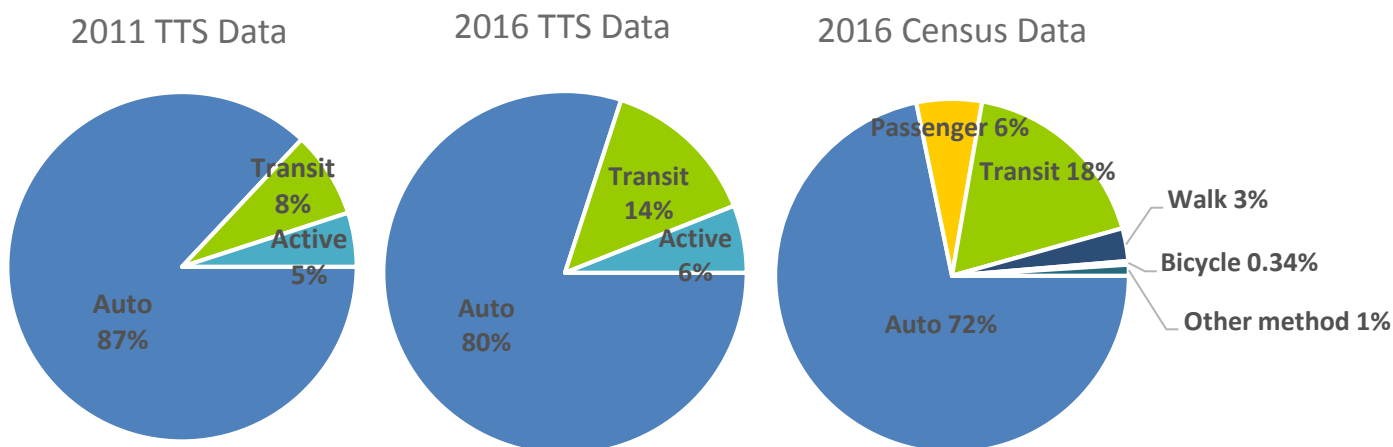


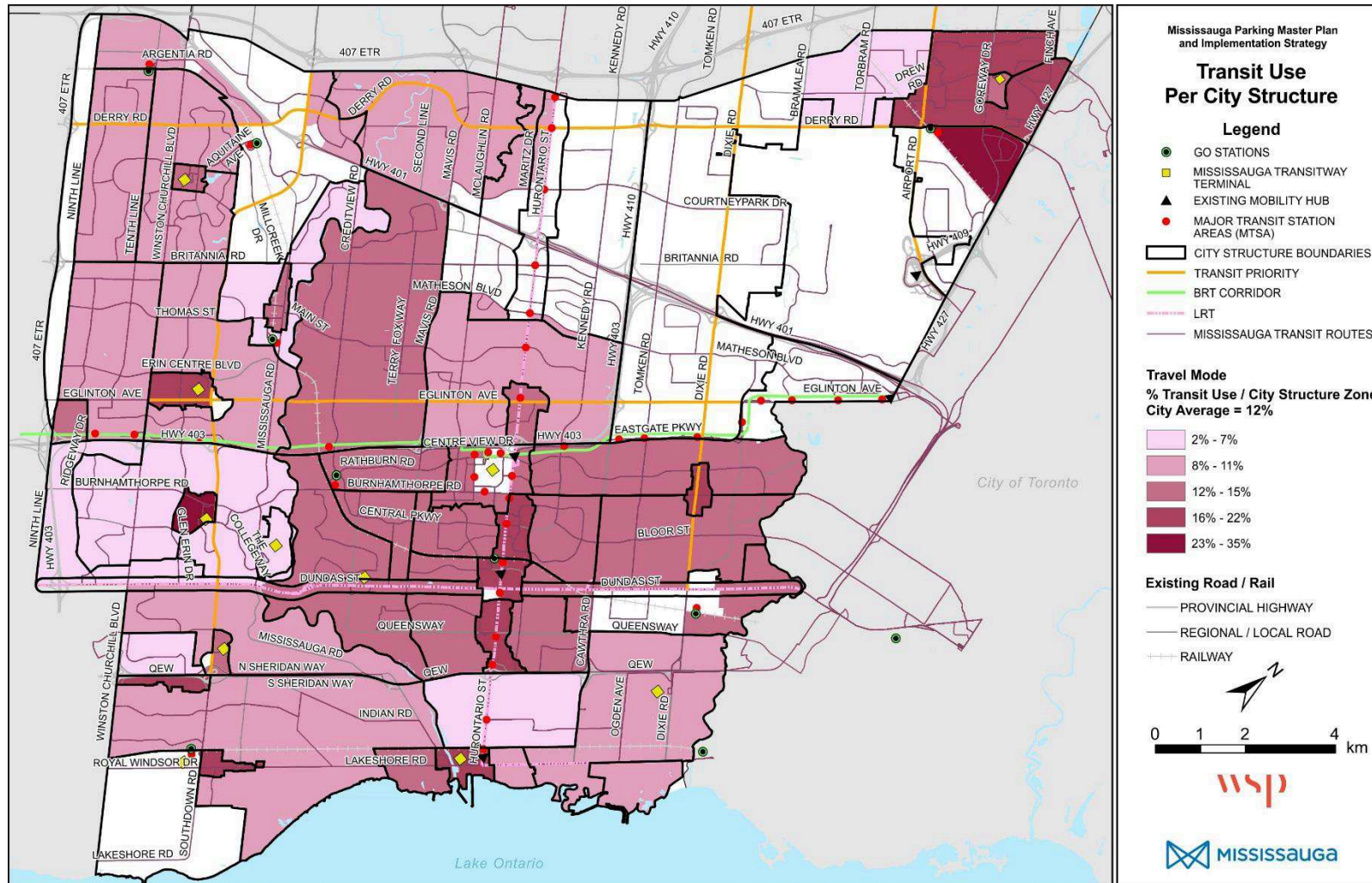
Exhibit 2-5 shows the transit percentage by traffic zone in 2016 based on TTS data.

From 2011 to 2016, MiWay ridership grew by more than 15%. Mississauga has the second highest local transit ridership per capita in the GTHA (after Toronto). Mississauga also generates the most GO Train ridership after Union Station, with 21,000 passengers per day.

<sup>3</sup> City to Propose Terms for Legalization of Uber in Mississauga, Rachael Williams, 2017



## Exhibit 2-5 Transit Mode Share by Traffic Zones - 2016



Source: Transportation Tomorrow Survey, University of Toronto, 2016

Note: TTS data is reported as-is and may vary from other sources.

The Square One GO Bus terminal is the busiest bus terminal in the GO Transit network, including Union Station.<sup>4</sup>

The Mississauga Transitway beside Highway 403 provides an east-west corridor across the City for bus service. Initial trends indicate the Transitway has been successful at increasing ridership, with MiWay needing to add capacity to accommodate the extra demand.<sup>5</sup>

Areas well served by transit are prime locations to implement lower parking requirements. The planned transit improvements will increase the convenience of transit use in these areas in the future and likely increase transit ridership.

### ***Future Transit Service***

The planned Long-Term Transit Service for Mississauga includes significant improvements in the number of transit routes, frequency, and reduced transit travel time.

Improvements will include:

- Hurontario Light Rapid Transit (Approved/Funded)
- Bus Rapid Transit along Highway 403 (most stations in service)
- GO Regional Express Rail (proposed by Metrolinx)
- Kitchener GO Line
- Lakeshore West GO Line
- Milton GO Line
- Higher-order transit on Dundas Street and Lakeshore Road East (Proposed/Unfunded)
- Miway 5 Strategy to improve transit service in the next 5 years
- Transit Priority Corridors on north-south and east-west arterial roads

The provision of higher order transit and improvement of regular transit service is important for mobility in the City. When transit as a mobility option becomes equally if not more attractive than driving in terms of cost, convenience, comfort, reliability, and connectiveness between key locations, shifts in car ownership and travel mode can be realistically achieved. The shift away from auto use has a direct impact of reduced parking needs in areas well served by transit.

---

<sup>4</sup> Draft Transportation Master Plan for Mississauga, 2019

<sup>5</sup> Draft Transportation Master Plan for Mississauga, 2019

---

### 2.3.6 WALKABILITY

Walkability considers the quality of pedestrian facilities, roadway conditions, land use patterns, community support, security, and general comfort of walking. At the level of a specific community, the relative location of common destinations and the quality of connections between them (land use accessibility) is very important.<sup>6</sup>

Mississauga was designated a Silver WALK Friendly Community in 2014.<sup>7</sup>

Walk Score, a private company that provides walkability services, currently ranks Mississauga the fourth most walkable large city in Canada with a Walk Score of 59. Walk Score is a walkability index based on the distance to amenities such as grocery stores, schools, parks, libraries, restaurants, and coffee shops.<sup>8</sup>

While some areas in the City are very walkable, there are extensive areas that are not conducive to walking or active transportation.

The ability to walk conveniently and safely in the City is critical because almost all modes of travel begin and end with a walking trip. If appropriate walking facilities are not present, residents and employees will be less likely to take transit. If residents cannot walk short distances to shops and school, they will drive. Both sets of circumstances are likely to affect the demand for parking spaces with the more walkable area requiring fewer parking spaces.

Many on-going city initiatives are designed to address current gaps in walkability in the City. The City has developed policies designed to improve walkability significantly for new developments and redevelopments. As result, improvements in walkability are anticipated for the City over the next five years.

---

### 2.3.7 PUBLIC PARKING FACILITIES

The location and size of public parking facilities can be an important factor when considering parking policies. The availability of public parking facilities can reduce the need for on-site parking as multiple users can share the same parking facilities at different times of the day. For example, an office complex located next to a municipal parking lot can have reduced on-site parking with spill-over demand being accommodated in the public lot during office hours. The same public lot can serve nearby retail or restaurant land uses that typically experience peak parking demand in the evening hours. The same principle can be applied to residential buildings. Visitor parking can be accommodated in public parking. Subject to certain conditions, additional resident parking can also be accommodated in public parking in a mixed-use environment.

Municipal public parking is currently offered in the following areas:

- Streetsville Community Node
- Downtown Core
- Downtown Cooksville
- Port Credit Community Node

The location of municipal parking lots could support reduced on-site parking in a mixed-use environment.

---

<sup>6</sup> Walkability Improvements, Victoria Transport Policy Institute, 2017

<sup>7</sup> Mississauga, Walk Friendly Ontario, 2014

<sup>8</sup> Walking the Walk, CEO for Cities, 2009

---

### 2.3.8 SUMMARY OF PRECINCT APPROACH

The review of precinct criteria shows a wide range of current and future transit, public parking, Transportation Demand Management (TDM) measures, environmental built form/land use, and walkability across the City. As the various elements discussed impact parking demand, supply, and management differently, recommendations for parking precinct areas must be based on careful consideration. Transportation Demand Management is discussed in detail in Appendix 2-3.

---

## 2.4 MISSISSAUGA PRECINCT BOUNDARIES AND POLICIES

This Section discusses how four parking precinct areas emerged from an analysis of the City's Character Areas. The four precincts are known as One, Two, Three, and Four. This Section discusses the precinct area boundaries, the rationale for each precinct, the parking policy targets for each precinct, and potential parking management strategies for each precinct.

The parking precincts were determined by examining the Character Areas' current and future:

- Land use, built form, walkability
- Built form
- Transit availability
- Availability of public parking
- TDM measures
- MOP's planning objectives

It should be noted that the Precincts and their boundaries are preliminary, and subject to zoning by-law review. The delineations of Major Transit Station Areas (MTSAs) are subject to the MTSAs Study, currently being undertaken by the City and Region of Peel.

The parking requirements within each Precinct will be determined by a future Zoning By-law requirements review conducted by the City.

---

### 2.4.1 RATIONALE

A parking policy framework is required for four main reasons:

- To adopt a unified overview of citywide parking provision and management in Mississauga.
- To consider the variety of different areas in the City especially the differences in transit and municipal parking availability.
- To align decisions about land use, transit, parking provision, and management strategies with the City's vision for a multimodal city.
- To regard city-managed parking facilities as a valuable resource that should be managed proactively.

## 2.4.2 PRECINCT ONE

### Location

Precinct One comprises:

- Downtown Core
- Downtown Cooksville
- Port Credit Community Node

### Rationale

#### A. TRANSIT

- Precinct One areas contain existing mobility hubs:
  - Mississauga City Centre – Mobility Anchor
  - **Cooksville GO** – Mobility Gateway
  - **Port Credit GO** – Mobility Gateway
- Precinct One areas have the highest current and future level of transit service with a confluence of Higher Order Transit Corridors and Commuter Rail:
  - **Downtown Core:** Hurontario LRT and Highway 403 BRT Corridor.
  - **Downtown Cooksville:** Hurontario LRT, Dundas BRT Corridor, and Commuter Rail Station.
  - **Port Credit Community Node:** Hurontario LRT and Commuter Rail Station. This node is also part of the potential Lakeshore transit service as identified in the Lakeshore Connecting Communities Master Plan study which recommended starting with conventional or enhanced bus service and progressing to LRT or streetcar over time as growth increases along the Lakeshore Corridor.
- An additional factor is the planned GO services improvement at the Port Credit GO Station. The Lakeshore West GO line will benefit from the Metrolinx RER Corridor Projects that will introduce a 15-minute, two-way service between Aldershot and Union Station.

#### B. PUBLIC PARKING

- Precinct One areas have the largest supply of publicly available parking facilities with:
  - Several municipal parking lots
  - Several privately operate parking facilities
  - Metered on-street parking spaces

#### C. MIXED LAND USE/BUILT FORM

- Precinct One areas contain the largest mix of complementary major land uses that foster the ability to live, work and play in the same area. The major land uses are:
  - Residential
  - Commercial
  - Office



#### **D. WALKABILITY**

- Precinct One areas have a significantly higher Walk Score than the City average. They are “very walkable” areas where most errands can be accomplished on foot.

#### **E. TRANSPORTATION DEMAND MANAGEMENT**

- Precinct One areas already have several TDM measures in place. These measures include:
  - Convenient and frequent transit service
  - Carshare locations
  - Taxi stands
  - Car rental locations
  - A mix of primary, secondary On-road, and off-road facilities
  - In the future, additional TDM measures will be added through City initiatives such as those recommended in the City’s TDM Strategy and Implementation Plan (2018). Such initiatives include bicycle parking regulations and standards, transit passes, and on-road active transportation infrastructure.

#### **F. VEHICLE OWNERSHIP**

- Precinct One areas currently have some of the lowest vehicle ownership rates per household in the City (typically lower than the City average of 1.6 vehicles per household). Precinct One areas also currently have the highest concentrations of high residential density in the form of multi-unit complexes (apartments).

### ***Policy Objectives***

Precinct One areas have the City’s highest combination of characteristics that result in the lowest parking demand. Precinct One areas are centered on transit, they have the largest supply of publicly available parking facilities, the most mixed-use areas, Walk Scores that are significantly higher than the City average, well established TDM measures, vehicle ownership rates that are lower than average, and the highest residential densities.

It is recommended that Precinct One areas should have the lowest parking requirements and the highest level of parking management strategies. It is recommended that parking maximums for most land uses should be considered in these areas. A variety of parking management measures including Price Responsive approach should be adopted.

## 2.4.3 PRECINCT TWO

### Location

Precinct Two comprises:

- Downtown Fairview
- Downtown Hospital
- Uptown Major Node
- Gateway Corporate Centre
- Major Transit Station Areas at:
  - Airport Corporate Centre
  - Clarkson (Potential Mobility Hub)
- Dixie Community Node (Potential Mobility Hub)
- Hurontario Intensification Corridor

### Rationale

#### A. TRANSIT

- Precinct Two locations have very good transit service. They are located on a higher-order transit corridor, BRT corridor and or commuter rail:
  - Downtown Fairview, Downtown Hospital, Uptown Major Node and Gateway Corporate Centre and Hurontario Intensification Corridor: Hurontario LRT.
  - Major Transit Station Areas at the Airport Corporate Centre: Highway 403, BRT.
- **Dixie Community Node:** to be served by planned Dundas BRT Corridor. Within five years, Metrolinx' s RER Corridor Projects will increase service to every 15 minutes or better between Milton and Toronto. The 30 percent increase in service will benefit all stops on the Milton line including Dixie Station.<sup>9</sup>
- The City's Official Plan Schedule 6 identifies Dixie Road north of Dundas Street as a Transit Priority Corridor indicating that transit improvements are planned for Dixie Road. The service improvements will serve Dixie Station.
- **Major Transit Station Areas Clarkson:** Like Port Credit Station (Precinct One), Clarkson Station is on the Lakeshore West GO line and will benefit from the planned 15-minute, two-way service between Hamilton and Downtown Toronto.
- A phased approach for the reduction of parking requirements should be considered in alignment with the timing of transit improvements and funding.

#### B. PUBLIC PARKING

- Precinct Two areas currently lack public parking.
- The Clarkson GO station supplies almost 3,500 parking spaces and the Dixie GO station has approximately 1,000 parking spaces. The spaces at both stations are for GO patrons only.
- The nearest municipal parking lot to Clarkson GO station is located on Clarkson Road North and provides approximately 135 parking spaces, but the lot is approximately 1.5 km from Clarkson GO station and outside the 500m radius area designated as a Major Transit Station Area.

<sup>9</sup> Milton GO Line, Metrolinx, 2017

### C. MIXED LAND USE/BUILT FORM

- Precinct Two areas include some mixed-use developments. The main examples in Precinct Two are Downtown Fairview, Downtown Hospital, and Uptown Major Node. All three are on the Hurontario Intensification Corridor.
- Areas inside the Major Transit Station Area at Airport Corporate Centre and at Clarkson also have a good mix of commercial and office uses with some industrial land uses nearby. These locations are expected to continue to offer a good mix of land uses as they grow and redevelop.
- Dixie Community Node: the Dundas Connect Master Plan recommends that this area (location and boundaries yet to be determined) be one of the seven Focus Areas along Dundas. Each Focus Area will be increasing its mix of land uses and will have the greatest increase in population and jobs along the corridor.

### D. WALKABILITY

- Precinct Two areas (like Precinct One areas) have a significantly higher Walk Score than the City average.
- Walk Score rates the **Hurontario corridor** as “very walkable.” The corridor has a much higher ranking than the City average.
- Areas within **Highway 403 Major Transit Stations at Airport Corporate Centre** (Tahoe, Etobicoke Creek, Spectrum, Orbitor, and Renforth) and the **Clarkson GO Station** all receive better than average scores for transit service, but rate lower on walkability than the City average. These areas are “car-dependent” and most errands require a car.<sup>10</sup>
- Areas included in **Dixie GO Station** have the highest Walk Scores for locations around Major Transit Stations. The areas are “somewhat walkable.” This Walk Score is consistent with the City average and indicates that some errands can be accomplished on foot. The Dundas Connect Master Plan has proposed significant improvements in pedestrian connectivity for areas around **Dixie GO Station**.

### E. TRANSPORTATION DEMAND MANAGEMENT

- Precinct Two areas have limited TDM measures, but City initiatives are likely to introduce additional measures.

### F. VEHICLE OWNERSHIP

- Precinct Two areas’ vehicle ownership rates are around the City average of 1.6 vehicles per household. Precinct Two areas do not have the highest residential density, but some areas are those the City’s second highest densities, and some areas have the potential to accommodate redevelopment and add significant population and employment growth (e.g., Dundas Corridor, Clarkson MTSA).

## Policy Objectives

Precinct Two areas have higher parking demand than in Precinct one, but lower than the City average. Precinct Two parking demand is reduced by access to good transit service, the availability of some public parking, the presence of some mixed-use development, a range of walkability scores, and some TDM strategies already in place. Precinct Two areas have average vehicle ownership rates and most have average residential density.

It is recommended that parking maximums be considered for certain land uses in Precinct Two. Similar to Precinct One a variety of parking management measures should be included but Area Management approach would best suit most areas.

<sup>10</sup> Living in Mississauga, Walk Score, 2018

## 2.4.4 PRECINCT THREE

### Location

Precinct Three comprises:

- Major Nodes:
  - Central Erin Mills
  - Lakeview
- Community Nodes:
  - Streetsville
  - Clarkson Village
  - Malton
  - Meadowvale
  - South Common
  - Sheridan
  - Rathwood-Applewood
- Airport Corporate Centre outside the Major Transit Stations
- Future BRT Stations along Dundas Street
- Other Major Transit Stations not included in Precinct One or Precinct Two. These include a possible Lakeshore Station on the Lakeshore corridor of Hurontario LRT between Hurontario Street and the Mississauga boundary.

### Rationale

Precinct Three areas all have or will have reasonably good transit service, but the areas lack some of the other supporting elements that reduce parking demand.

#### A. TRANSIT

- Precinct Three areas have or will have a reasonably good level of transit service on a higher-order transit corridor, BRT Corridor and or commuter rail. Transit infrastructures in Precinct Three are very similar to Precinct Two. The key additional infrastructure for will be the future Dundas Street BRT and the possible Lakeshore BRT or LRT.
- It should be noted that the Dundas Higher Order Transit (HOT) and Lakeshore HOT are only proposed, with no funding committed. Changes in parking standards for these areas should be phased based on funding.

#### B. PUBLIC PARKING

- Precinct Three areas have only limited public parking. Streetsville and Clarkson Village are exceptions.

### **C. MIXED LAND USE/BUILT FORM**

- Precinct Three includes varying levels of mixed-used development. Precinct Three areas with a high mix of land use include:
  - Dundas Corridor around Dixie Road
  - Central Erin Mills Major Node
  - Clarkson Village Community Node
  - Lakeshore east of Hurontario Street
  - Highway 403 corridor around Airport Corporate Centre
- As growth takes place, and future MTSA's are confirmed and studied, these areas will intensify and more mixed-use development will be encouraged.

### **D. WALKABILITY**

- Precinct Three areas have a range of Walk Scores. Locations like Streetsville, South Common and Malton are “very walkable,” areas like Meadowvale are “somewhat walkable” and areas like Lakeview remain “car-dependent.”

### **E. TRANSPORTATION DEMAND MANAGEMENT**

- Precinct Three areas have some TDM measures, but the measures are limited.

### **F. VEHICLE OWNERSHIP**

- Precinct Three areas typically have higher vehicle ownership rates than Precincts One and Two, but not the highest vehicle ownership rates in the City.

## ***Policy Objectives***

Precinct Three includes areas with good transit service, parking demand that may be higher than the City average or reduced by the good transit, “very walkable” or “somewhat walkable” Walk Scores, limited TDM measures, and higher than average vehicle ownership rates.

It is recommended that an appropriate level of minimum parking requirements should be set for Precinct Three areas. The minimum parking requirements should not be the highest in the City.

It is recommended that appropriate parking management strategies be adopted for Precinct Three but a site-focused approach will likely address most sites.

## 2.4.5 PRECINCT FOUR

### Location

Precinct Four includes all areas of the City not included in Precincts One, Two or Three. It also includes the Special Purpose Areas.

Precinct Four includes:

- All Neighbourhoods
- Corporate Centres:
  - Meadowvale
  - Sheridan Park
- Employment Areas:
  - Churchill Meadows
  - Western Business Park
  - Southdown
  - Mavis-Erindale
  - Lakeview
  - Dixie
  - Gateway (Outside the MTSAs)
  - Northeast
  - Clarkson

### Rationale

Precinct Four areas have limited transit service, the City's lowest transit ridership and Walk Scores, and the City's highest vehicle ownership. Significant improvements in transit infrastructure are not expected in the near future for Precinct Four areas. Built form is not expected to change enough to result in a measurable reduction in parking demand. Precinct Four areas are expected to remain largely car-dependent.

As the City grows, however, some locations may develop to the point that they become mixed-use areas where walking is a real alternative mode and parking demand is reducing. In such cases the City should endeavor to review the precinct areas.

### Policy Objectives

Precinct Four includes the areas where parking demand could be among the highest in the City, due to limited transit service and minimal walking and cycling infrastructure. Therefore, an appropriate level of minimum parking requirements is needed along with appropriate parking management strategies. It is recommended that appropriate parking management strategies be adopted for Precinct Four but a site-focused approach will likely address most locations.

---

### 2.4.6 SPECIAL PURPOSE AREAS

#### *Location*

MOP designates Toronto Lester B. Pearson International Airport and the UTM as Special Purpose Areas (See Chapter 3).

The City has no jurisdiction over the Special Purpose Areas, but works with the operators and key stakeholders to influence travel options and parking management at these locations. The areas are currently market responsive.

---

## 2.5 SUMMARY OF MISSISSAUGA PRECINCT APPROACH

This Section summarizes the parking policy framework and the proposal to establish four parking precincts, each precinct reflecting different circumstances and approaches to parking provision and management.

Exhibit 2-6 summarizes the main characteristics of the four proposed precinct areas.

Exhibit 2-7 shows the locations of the four parking precinct policy areas.

Exhibit 2-6 Parking Precincts (based on MOP Schedules 9 and 2)

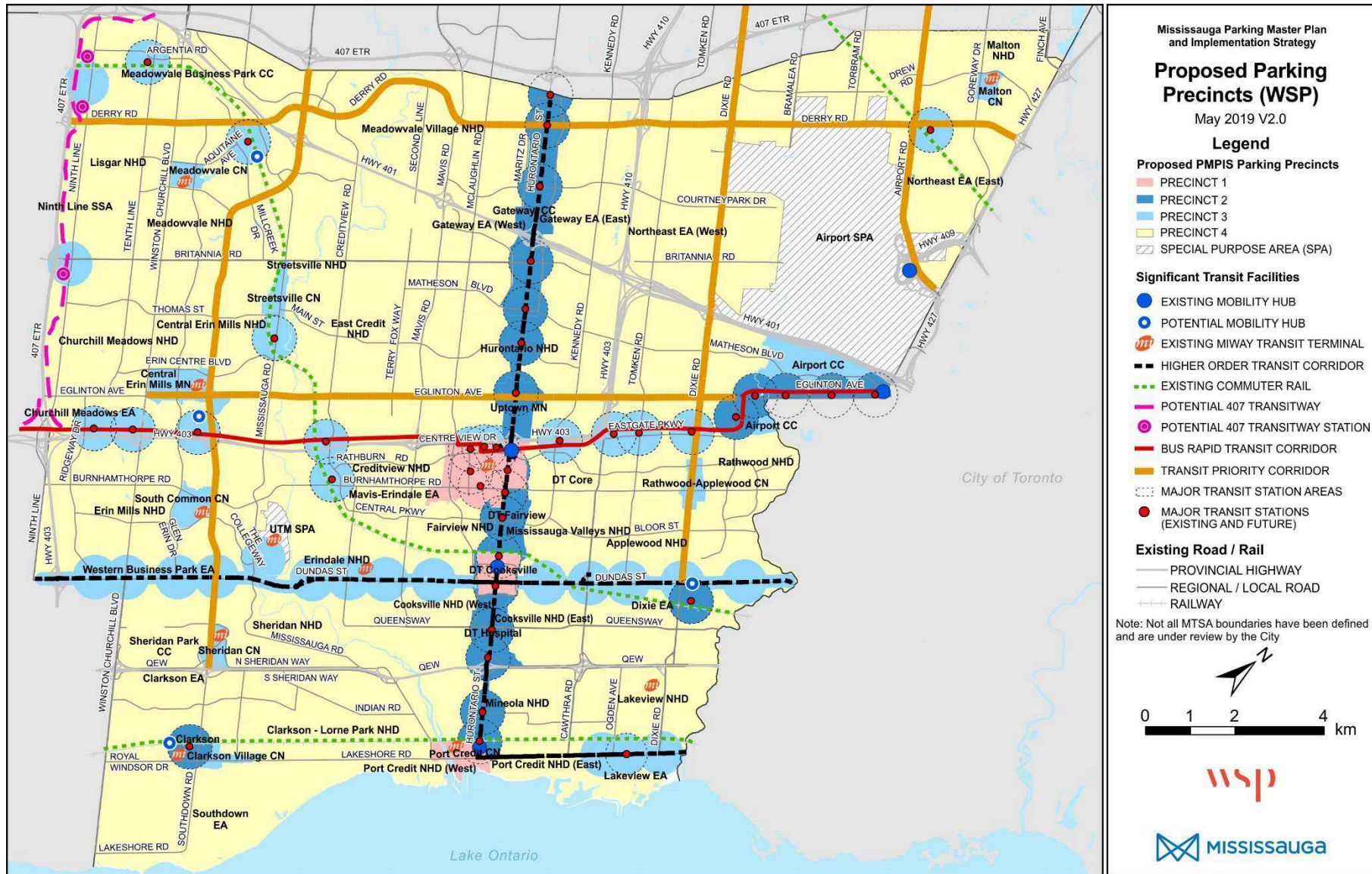
Precinct	Schedule 9							Schedule 2
	Downtown	Major Node	Community Node	Neighbourhood	Corporate Centre	Employment Area	Special Purpose Area (4)	Intensification Corridors and MTSA's (2)
One	DT Core DT Cooksville		Port Credit					
Two	DT Fairview DT Hospital	Uptown	Dixie		Gateway			MTSAs inside Airport Corporate Centre Hurontario Intensification Corridor (outside Precinct One) MTSA in Clarkson
Three		Erin Mills Lakeview (1)	Streetsville Clarkson Malton Meadowvale South Common Sheridan Rathwood- Applewood		Airport (Outside MTSAs)			Dundas Intensification Corridor (3) Other MTSAs, including Lakeshore (3)
Four				All	Meadowvale Sheridan Park	Churchill Meadows Western Business Park Southdown Mavis-Erindale Lakeview Dixie Gateway Northeast		
Special Purpose Area							University of Toronto Mississauga Airport	

## Notes:

1. Lakeview Major Node: Pending Council Approval. The proposed land use plan is expected to be approved by Council on July 4.
2. City has a Major Transit Station Area (MTSA) review underway; other areas may be identified.
3. Subject to other ongoing City studies (i.e.: Lakeshore Connecting Communities, MTSA review)
4. Special Purpose Areas: Locations where the City has very little influence and parking is already subject to market pricing



Exhibit 2-7 Locations of Proposed Precinct Policy Areas for Parking



### 2.5.1 RECOMMENDATIONS: MISSISSAUGA PARKING PRECINCTS

This Section summarizes the recommendations for parking management in the City of Mississauga, it is recommended that the City:

- Adopt a precinct based approach to parking provision and management, each precinct with its own approach.
- Adopt the following goals and parking management principles for each precinct:
  - Precinct One
    - Goal: Lowest parking requirements, highest level of parking management strategies, and consideration of parking maximums for most land uses.
    - Parking Management Principle: A Price Responsive approach that makes maximum use of pricing to build, own, operate, and supply municipal parking.
  - Precinct Two
    - Goal: Second lowest parking requirements, high level of parking management strategies and consideration of parking maximums for certain land uses.
    - Parking Management Principle: An Area Management approach that makes maximum use of area-based solutions such as pricing and shared parking.
  - Precinct Three
    - Goal: Appropriate minimum parking requirements that are higher than those for Precinct One and Precinct Two.
    - Parking Management Principle: A Site-Focused approach that optimizes parking at appropriate sites and within the City's parking goals.
  - Precinct Four
    - Goal: Appropriate minimum parking requirements (among the highest in the City.)
    - Parking Management Principle: A Site-Focused approach that optimizes parking at appropriate sites and within the City's parking goals.
- Review the City's current Zoning By-law to determine appropriate parking requirements for each precinct and ensure that the parking requirements align with this study's criteria for defining and establishing the precinct areas.
- Conduct regular reviews (not more than five years apart) to assess whether precinct boundaries are still appropriate or need to be changed.

## 3 PARKING REGULATIONS

Policies and regulations about the provision of new parking are an important aspect of the City's Parking Master Plan and the Plan's implications for future developments. As the city continues to grow and intensify, it is important that old policies that supported the supply of abundant parking are replaced by policies compatible with the City's current vision, goals for land use and transportation planning, and more balanced support for all travel modes.

This Chapter reviews the City's existing policy instruments for the provision of new parking supply (Source: By-law; how much: rate per use; how: design guideline) and highlights the modifications required if the proposed Precinct system is adopted.

---

### 3.1 THE ZONING BY-LAW

The current Mississauga Zoning By-Law (225-2007) provides detailed information about the City's expectations when it comes to providing parking. The current approach in Mississauga is to provide direction on a minimum number of parking spaces required based on land use and development size. When these policies were developed the intention was to ensure that parking spaces were available when the parking would be at maximum capacity. The main issue with this approach is that often, too much parking is built and sits unused most of the time. In addition, high parking requirements adds substantially to development costs, sometimes limit development potential, and do not help to support and promote sustainable ways of travelling when parking is abundant.

---

#### 3.1.1 MOTOR VEHICLE PARKING STANDARDS TODAY

The current Zoning By-law specifies parking supply requirements for 14 residential land use categories and 51 non-residential land and mixed-use developments (office, retail, service, restaurant, overnight accommodation, and or residential components). The Zoning By-law also provides a shared use parking formula for sites that can share parking between various activities on the same property, thus reducing the overall required parking supply. The shared use parking formula considers parking occupancy for each activity at different times of the day and week.

Parking rates may also be lowered as the result of an application to the Committee of Adjustment. This Committee has reduced parking requirements for numerous developments and a variety of land uses. More information on the Committee of Adjustment can be found in Section 5.2.6 Decision Making.

A comprehensive benchmarking exercise that compares the zoning by-law parking requirements in Mississauga, other Greater Toronto Hamilton Area (GTHA) municipalities, Ottawa, Vancouver and Victoria. The comparison includes downtown by-laws and citywide by-laws for office, retail, industrial, residential apartment (apartment), medical offices, and restaurants uses. The benchmarking review can be found in Appendix 3-1.

### **3.1.2 MOTOR VEHICLE PARKING STANDARDS FUTURE CONSIDERATIONS**

To realize the City's strategic goal of a transit-oriented city where residents can get around without an automobile, the City's existing minimum parking requirements should be reduced and replaced with a policy designed to manage parking demand more deliberately. The new policy should have sufficient regard for alternative modes of transportation and should focus on the City's long-term transportation goals.

Based on the benchmarking report (see Appendix 3-1) and a review of current practices around parking in Mississauga, it is clear that there is opportunity to lower the minimum number of required parking spaces in certain areas. Reductions have been implemented in the main street areas of Port Credit, Streetsville and Clarkson with land uses such as residential apartment, retail and restaurant. However, moving forward, there is a need for consistency in those reductions.

Emerging transportation patterns and trends in Mississauga and elsewhere also needs careful consideration. Possibilities include modern technologies such electric and autonomous vehicles. Carsharing may become a very popular alternative to personal vehicle ownership. Although the impact of these emerging trends is unclear, there is broad agreement that the impact on parking infrastructure and the parking industry could be significant. New policies and regulations will be required to deal with the changing circumstances.

#### ***Recommendations: Motor Vehicle Parking Standards***

- It is recommended the City hire a full-time contract position following the approval of the PMPIS (2020) for a period of approximately two years to undertake a review and update of the City's Parking Standards within the Zoning By-Law.
- It is recommended the City consider establishing maximum parking requirements in all Precincts as part of a future, detailed Zoning By-law review.
- It is recommended the City require any development proponent who wishes to exceed the maximum parking requirement to provide a justification report that considers at least the following questions:
  - Is the proposed development consistent with the City's overall parking and transportation planning objectives?
  - Has the applicant demonstrated a need for additional on-site parking beyond short-term or event driven levels?
  - Has the applicant considered and discussed with City staff the viability of providing the additional parking in a shared format such as a public parking lot?
  - Has the applicant considered a phasing plan to remove surplus parking in the future, for example, as part of a later development phase or because of regular monitoring?
  - Is the applicant able to implement a design (higher ceilings, wider separation joints, or pre-fab structure that can be dismantled) that would allow for the conversion or retrofit of the parking spaces in future, if necessary?



- When precincts are introduced:
  - Precinct One should have the lowest parking requirements and parking maximums should be considered for most Precinct One land uses.
  - Precinct Two could have the same or slightly higher parking requirements than Precinct One and parking maximums should be considered for some Precinct Two land uses.
  - Precinct Three's minimum parking requirements should be higher than those of Precinct One and Two, but should not be the highest in the City.
  - Precinct Four includes areas where parking demand could be particularly high due to limited transit service and inadequate Active Transportation infrastructure. This situation may continue for some time. Precinct Four's minimum parking requirements should be appropriate and may be the highest in the City.

### 3.1.3 ACCESSIBLE PARKING REQUIREMENTS

The current City of Mississauga Zoning By-law 0225-2007 sets out the number of accessible parking spaces required by land use and location. The By-law table is summarized in Exhibit 3-1. Exhibit 3-1 compares the City's requirements with the requirements of the Accessibility for Ontarians with Disabilities Act (AODA). As shown, there is no difference in the Table indicating the City's requirements matches the AODA requirements.

It is important to note that the AODA requirements are minimum standards, but additional accessible spaces are encouraged in developments where a higher than average number of accessible users is anticipated. Examples of such developments include seniors' housing, seniors' facilities and hospitals.

#### Exhibit 3-1 Accessible Parking Spaces Requirements

Total Number of Required Parking Spaces	Minimum Number of Accessible Parking Spaces (Mississauga)	Minimum Number of Accessible Parking Spaces (AODA)
12 or less	1	1
13 – 100	4% of the total <sup>1&amp;2</sup>	4% of the total <sup>1&amp;2</sup>
101 – 200	1 space plus 3% of the total <sup>2</sup>	1 space plus 3% of the total <sup>2</sup>
201 – 1000	2 spaces plus 2% of the total <sup>2</sup>	2 spaces plus 2% of the total <sup>2</sup>
More than 100	11 spaces plus 1% of the total <sup>2</sup>	11 spaces plus 1% of the total <sup>2</sup>

Source: Zoning By-law 0225-2007, City of Mississauga, 2007

Notes:

1. Where only 1 accessible parking space is required, a Type A accessible parking space shall be provided.
2. Where more than 1 accessible parking space is required:
  - If an even number of accessible parking spaces is required, an equal number of Type A and Type B accessible parking spaces must be provided.
  - If an odd number of accessible parking spaces is required, an equal number of Type A and Type B accessible parking spaces must be provided and the odd space may be a Type B accessible parking space.

It will be important for Staff to remain up to date on Provincial Accessibility Standards to ensure that Mississauga's standards are current and meet the needs of those who require accessibility accommodations.

### 3.1.4 SHARED PARKING

When a parking space is provided on a property with a variety of different uses that have different times of day where they experience most of their traffic, the City's Zoning By-law suggests that share parking may be an option. For example, land uses such as offices, restaurants, may be able to share the parking supply if the peak parking demand for the different land uses occurs at different times of the day. The parking requirements of office may peak between 9 a.m. and 5 p.m. Monday to Friday and the restaurants may peak in the evening and on weekends with a smaller increase at mid-day.

Exhibit 3-2 shows the City's current shared parking table from the Zoning By-law.

**Exhibit 3-2 Shared Parking Table, Zoning By-Law 0225-2007**

Column	A	B	C	D	E
Line 1.0	TYPE OF USE	PERCENTAGE OF PEAK PERIOD (WEEKDAY)			
		Morning	Noon	Afternoon	Evening
1.1	Office / Medical Office / Financial Institution	100 (10)	90 (10)	95 (10)	10 (10)
1.2	Retail Centre / Retail Store / Personal Service Establishment (0379 – 2009)	80 (80)	90 (100)	90 (100)	90 (70)
1.3	Restaurant / Convenience Restaurant / Take-out Restaurant	20 (20)	100 (100)	30 (50)	100 (100)
1.4	Overnight Accommodation	70 (70)	70 (70)	70 (70)	70 (100)
1.5	Residential – Resident Residential - Visitor	90 (90) 20 (20)	65 (65) 20 (20)	90 (90) 60 (60)	100 (100) 100 (100)

Source: Zoning By-law 0225-2007, City of Mississauga, 2007

Note: Percentages in brackets are shared parking percentages related to weekends

### Recommendations: Shared Parking

- It is recommended that the City's future Zoning By-law review examine current shared parking categories to determine whether additional land uses and land use categories should be added.
- It is recommended that the City review current parking occupancy percentages to determine whether the percentages are appropriate.

---

## 3.2 BICYCLE PARKING

Bicycle parking is a key element of infrastructure that makes it easier for residents to choose not to drive their cars and reduces the demand on existing vehicle parking. Mississauga currently has no enforceable bicycle parking requirements within the City's Zoning By-law that make it mandatory for an applicant to include it in their development.

However, as a part of the 2018 Cycling Master Plan and recently approved TDM Strategy and Implementation Plan updated bike parking rates and rationales were developed. These recommendations provide guidance for an applicant on the appropriate amount of bicycle parking they should consider incorporating into their sites.

### *Recommendation: Bicycle Parking*

- The current Zoning By-law should be updated to include bicycle parking requirements determined by the 2018 Cycling Master Plan and Mississauga TDM Strategy and Implementation Plan to ensure they are mandatory for all future development.
- 

## 3.3 MISSISSAUGA'S PAYMENT-IN-LIEU OF PARKING PROGRAM

Payment-in-lieu (PIL) of parking is a program where a developer can provide the City with a cash contribution for the right to build less than their required parking spaces. The funds received by the City are intended to support the development of a centralized public parking lot or garage, or possibly other transportation improvements within the area. PIL is common in many cities' downtown and other urban areas where opportunities for building off-street parking are limited.

Payment-in-lieu policy is designed to support intensification by promoting modes of transportation that are more environmentally sustainable than driving. The intention is to reduce the need for parking spaces by encouraging people to take transit, walk, cycle or use ride-share services instead of driving. The key principle underlying PIL is the transfer of the responsibility to provide parking from the property owner to the municipality.

A PIL program requires three elements to operate effectively:

- A PIL policy that outlines a consistent approach.
- A formal stipulation of the appropriate financial contribution expected by the City. An example might be a cost per parking space.
- A clear decision mechanism for the municipality's acceptance or rejection of each PIL application. The PIL application is usually part of either a rezoning or Committee of Adjustment application. On occasion a PIL application is made on its own.

### 3.3.1 PAYMENT-IN-LIEU OF PARKING TODAY

Mississauga has had a payment-in-lieu of parking program in place since 1984. A major revamp of the program was approved and implemented in 1997. Since then various updates and improvements have been implemented.

The PIL Program is applicable in all areas of the city where municipal (on and or off-street) parking is provided. The City uses two evaluations schemes for PIL applications:

- Under **Part A**, an application for PIL is evaluated using criteria that assess the appropriateness of the proposed development and the adequacy of the existing public parking supply to offset the proposed on-site parking deficiency.
- Under **Part B**, the City may request PIL where limited or no municipal parking facilities are available. In this case, the evaluation will have regard for the City's interest in providing municipal parking, the viability of the site and its surrounding area during the interim before municipal parking becomes available, and the timing and adequacy of the future municipal parking supply to address the public parking needs to be created by the application of PIL.

The Planning and Building Department and its Commissioner are responsible for processing PIL applications, preparing the terms and conditions of PIL approval, and executing agreements for PIL of ten parking spaces or less. Authority from Council is required for the execution of agreements for PIL of more than 10 parking spaces. For applications not supported by the Planning and Building Department, a report from the Commissioner is prepared for consideration by the Planning and Development Committee and Council.

Exhibit 3-3 shows the PIL contribution formula for three categories of development.

#### Exhibit 3-3 PIL Contribution Formula

Development Related to PIL Application		Developer/Proponent Contribution
Change in land use or conversion of an existing building/structure or part thereof.	Category 1: Up to 50 m <sup>2</sup> GFA	12.5% of the estimated cost of parking
	Category 2: Up to 200 m <sup>2</sup> GFA	25% of the estimated cost of parking
	Category 3: Over 200 m <sup>2</sup> GFA	50% of the estimated cost of parking
New development, redevelopment, and addition to existing building/structure		50% of the estimated cost of parking

Notes:

1. The estimated cost of parking is based on the Planning Act Processing Fees and Charges By-law, which are derived from the formula contained in Appendix A of the Corporate Policy.
2. GFA-Gross Floor Area

More details on the current costs associated with PIL for both new developments and changes to existing land uses as well as a review of PIL programs in other Canadian municipalities can be found in Appendix 3-1.



---

### **3.3.2 PAYMENT-IN-LIEU OF PARKING UPDATES**

The current PIL program for the City of Mississauga needs to be further researched to ensure that the funds being provided to the City by applicants appropriately covers the needs of the City to make up that space, whether by building the same parking space in a municipally provided lot or allocating the funds to implementing TDM strategies. Given the new precinct based approach to parking PIL applications can be assessed based on what area they application is in and what other parking options and opportunities exist or are planned for the future.

---

### **3.3.3 RECOMMENDATIONS: PAYMENT-IN-LIEU OF PARKING**

- It is recommended that the City conduct a review of the PIL program, led by the Planning and Building Department and in partnership with the Municipal Parking Group, and Corporate Services.
- It is recommended that the City continue considering applications not meeting the Zoning By-law requirements to be candidates for a contribution to the PIL program.
- It is recommended that the City review the PIL program to address the following:
  - Find an appropriate methodology to address land value in consultation with Corporate Services.
  - Incorporate current benchmark costs for surface, structure, and below ground parking facilities including concrete and pre-fab construction options and applied City wide.
- It is recommended that the City conduct a review to determine the impact of expanding the PIL program to include residential uses, in coordination with other aspects of the parking system
- It is recommended that the City conduct regular updates of parking fees to incorporate current construction costs and land costs
- It is recommended that the City's PIL program be administered and managed by the Municipal Parking group in consultation with the Planning & Building Department.

## 4 PARKING FACILITIES

---

### 4.1 ON-STREET PARKING

On-street parking refers to any location where vehicles are permitted to be parked along the curb or in a designated lay-by parking space. In the City of Mississauga there is both paid and free on-street parking opportunities. On-street parking is currently governed by the City's Traffic By-law (555-00) which contains all regulations related to where parking is permitted, time of day permissions, how long an individual vehicle can be parked as well as other restrictions. For a detailed review of the contents of the Traffic By-law (555-00) please see Appendix 4-1.

This Section will explore the City's current on-street parking practices and explore recommendations for future improvements.

---

#### 4.1.1 ON-STREET PARKING TIME RESTRICTIONS

##### *5 Hour Parking*

In Mississauga, anywhere that on-street parking is allowed and un-paid, the maximum amount of time a vehicle can be parked in a spot is 5 hours unless otherwise posted. The 5-hour limit is allowed on City roads between 6:00am and 2:00 am. Parking on-street is not permitted overnight between 2:00am and 6:00am. The one exception is for vehicles with accessible parking permits, which can be parked on-street in the same location for a maximum of 24 hours.

##### *15 Hour Parking*

There are certain locations within the City where 15-hour on-street parking is permitted which includes over-riding the overnight parking restriction. 15-hour parking provides some neighbourhoods where visitor parking or resident parking may be challenging to find an on-street spaces alternative for overnight storage. 15-hour parking does create some challenges for City staff as it can be very difficult to enforce, can impede snow removal, road maintenance or waste collection and tends to attract resident and visitors from other neighbouring streets that do not have the same permissions.

##### *Holiday Parking*

During the 11 Statutory Holidays on the annual calendar the timed parking restrictions on streets where parking is allowed is waived. Vehicles can park between 8:00am and midnight for as long as is necessary without receiving a parking infraction. Overnight parking is still not permitted unless otherwise posted.

---

#### 4.1.2 RECOMMENDATION: ON-STREET PARKING TIME RESTRICTIONS

- It is recommended that the City continue to allow on-street parking between 8 am and midnight beyond the 5-hour limit on all Statutory Holidays.

---

### 4.1.3 RESIDENT PETITION PROGRAM

Not all streets in Mississauga allow for on-street parking. Many of the City's roads restrict parking all the time, at certain times of the year or even certain times of the day, for example there are several no parking zones around schools specifically at drop-off and pick-up times to mitigate unsafe situations. If a resident or group of residents feels that there should be a change to the existing parking regulations on their street, there is a petition process set up for them to request the City explore their proposed changes.

To apply for a change in the existing by-law, a resident must obtain signatures of support from more than half of residents of the homes on the affected street. After receiving the petition and undertaking a detailed technical review of the request, the Transportation and Works Department advises the resident whether City staff support the request. The process includes a formal questionnaire mailed to the homeowners. If at least 66% of the homeowners support the change, and if the Ward Councilor also approves the change, the Transportation and Works Department submits a report recommending the change to City Council.<sup>11</sup>

Residents' requests typically include changes such as:

- Extending the 5-hour parking limit to 15 hours
- Allowing lower driveway boulevard parking
- Reducing local parking prohibitions

---

### 4.1.4 LOWER DRIVEWAY BOULEVARD PARKING

In addition to 15-hour parking allowances, another opportunity to increase parking capacity without changing infrastructure is with lower driveway boulevard parking (LDBP). The current Traffic By-law (555-00) states that no person may park a vehicle on the paved or grassed portion of the city boulevard, and no person may park a vehicle in a manner that obstructs the sidewalk from pedestrian traffic. (The boulevard is defined as the portion of the driveway between the property line or sidewalk and the road.)<sup>12</sup>

There are some locations across the City where LDBP has been permitted and there are many residents who park in the boulevard even if it is not permitted on their street. A lower driveway must generally be 1.8m (6 feet) by 4.0m (13 feet) to ensure that a parked vehicle does not overhang the sidewalk, grassed boulevard or road. Major collector and arterial roads are not eligible for the LDBP prohibition exception.

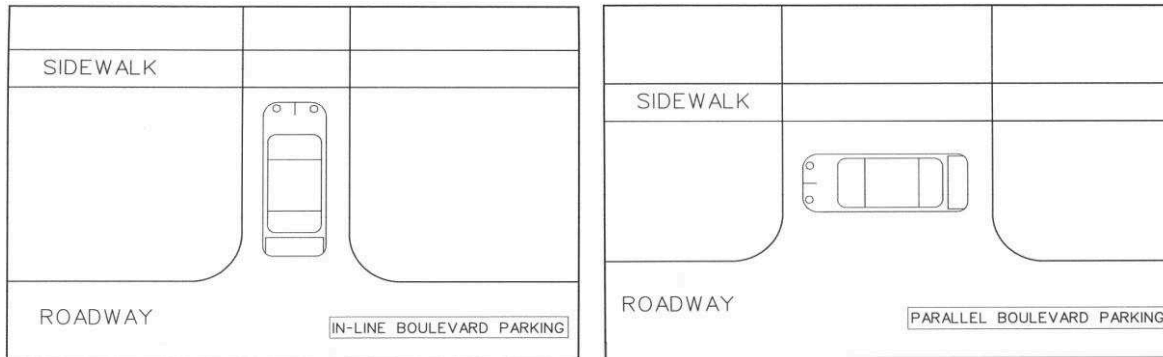
Exhibit 4-1 shows correct and safe in-line and parallel vehicle positions in a lower driveway boulevard.

---

<sup>11</sup> [https://www7.mississauga.ca/documents/tw/Parking\\_Petition\\_Information\\_Apr\\_2018.pdf](https://www7.mississauga.ca/documents/tw/Parking_Petition_Information_Apr_2018.pdf)

<sup>12</sup> [http://www7.mississauga.ca/documents/bylaws/traffic\\_definitions\\_2013.pdf](http://www7.mississauga.ca/documents/bylaws/traffic_definitions_2013.pdf) (Traffic By-law 555-00)

#### Exhibit 4-1 Correct In-line and Parallel Parking in a Lower Boulevard



Source: Resident Parking Petition, City of Mississauga

During the consultation process, many residents said that LDBP could be an important option when there was no room for an additional vehicle in a garage or driveway and where on-street parking is not available or limited. Other residents, however, said that LDBP should not be allowed because vehicles that overhang the boulevard area are safety concerns, because LDBP encourages multiple vehicle ownership, and because of aesthetics.

To get a better understand of how LDBP has and has not worked in other Ontario Municipalities, a detailed review can be found in Appendix 4-2.

For the City of Mississauga there are three options when it comes to managing LDBP and they are outlined in Exhibit 4-2 along with their anticipated advantages and disadvantages.

**Exhibit 4-2 Advantages and Disadvantages of Three LDBP Options for Mississauga**

OPTIONS	ADVANTAGES	DISADVANTAGES
<b>Maintain LDBP by Petition</b>	<p>City continues to enforce current LDBP plan on residential areas</p> <p>Councilors and neighbours continue to maintain control and determine whether specific boulevard parking spaces are permitted</p>	<p>Request process LDBP and enforcement consume City's time and resources</p> <p>Fewer options for residents to park their vehicles. As demand grows, residents may park their vehicles illegally on the boulevard or on-street</p>
<b>Allow LDBP without Petition</b>	<p>More off-street parking spaces would be available. No need for City permits or enforcement</p> <p>More on-street parking spaces available for short-term use by visitors as residents would have LDBP option</p> <p>Less strain on City resources to manage the petition process</p> <p>Decreased request for driveway widenings</p>	<p>Enforcement required for vehicles in violation of City requirements (safety, overhang, etc.)</p> <p>Some residents may not like or approve of LDBP.</p> <p>Unattractive aesthetically for some residents</p>
<b>Prohibit LDBP</b>	<p>Boulevards safer as more space for pedestrians/motorists and no overhanging vehicles</p> <p>Minimum enforcement costs</p>	<p>Illegal LDBP parking could increase</p> <p>Increases demand for permits for on-street short-term residential parking</p> <p>Possible shortage of parking if no on-street parking program implemented</p> <p>Increased requests for driveway widenings</p>

Based on the above evaluation as well as the detailed review of best practices in other Ontario municipalities the City should move forward with allowing LDBP without the petition process.

#### 4.1.5 RECOMMENDATIONS: LOWER DRIVEWAY BOULEVARD PARKING

- It is recommended that the City continue to offer LDBP but without the need for a resident's petition. LDBP can help to alleviate the shortages of residential parking in some areas.
- It is recommended that the City develop a communications campaign to explain LDBP and the expectations on residents to park properly.

#### 4.1.6 ON-STREET PARKING PERMITS

There are currently five types of on-street parking permits offered by the City of Mississauga, some are paid permits and others have no fee. The five permits are residential short-term temporary, residential long-term, commercial blanket, residential blanket, and carshare permits. Exhibit 4-3 provides a summary of the details associates with each type of permit.

**Exhibit 4-3 Temporary Parking Permits**

Type	Validity (from date of issue)	Number of Vehicles	Reasons	Approval time	Fee
<b>Short Term Temporary Residential*</b>	1 - 5 days	Maximum of 5	Overnight guests, driveway repairs, funerals, parties. License plate number of each vehicle required	Same day (where prohibited parking signs are not present)	No fee
<b>Long-Term Residential</b>	More than 5 days	Maximum of 5	Extended visitor stays, driveway repairs, renovations, etc. License plate number of each vehicle required	1-3 days depending on parking signs and whether an inspection of the proposed area is required	\$62.00 + HST
<b>Blanket Commercial</b>	Any	No maximum	Large commercial renovations, parking lot resurfacing, underground garage sweeping, parking lot resurfacing.	1-3 days Area is subject to inspection	\$124.00 + HST
<b>Blanket Residential*</b>	Greater than 5 days	No maximum	Large residential renovations, etc.	Within 2 weeks Area is subject to inspection	\$62.00 + HST
<b>Carshare Permit</b>	One month	One	Public use of car share	Within 2 weeks Staff approval required	\$65.00 + HST

Note: \*Maximum of 14 per calendar year for a municipal address

These five permits are strictly related to on-street parking. The City offers many parking permits for off-street parking as well. As the City works through the recommendations of this Plan, it is recommended that the process for obtaining these passes becomes more centralized and streamlined to the benefit of the City and the individual requesting the permit. Some options to streamline the permit process using technological advancements are explored in Section 7.3.

#### 4.1.7 RECOMMENDATION: ON-STREET PARKING PERMITS

- It is recommended that the City develop a digital on-street parking permit program (for processing, operating and enforcing the program).
- It is recommended that the City replace the various parking permits currently available by implementing a comprehensive digital parking permit system for residents and businesses.
- It is recommended that the City undertake further study and review to specify the most appropriate types of permit to adopt.
- It is recommended that the City implement an on-street overnight parking program in residential areas to work in alignment with the review of the Zoning By-law requirements and the potential reductions in certain precincts (e.g. parking requirement for Secondary Units could be waived in areas within the overnight permit parking program, or where boulevard parking is feasible).
- It is recommended that the City hire a full time permanent staff following the approval of the PMPIS (2020) to undertake a review of all existing permits and develop the new on-street and off-street permit program.

#### 4.1.8 ON-STREET PAID PARKING

There are certain locations within the City where paid on-street parking is in force. Port Credit, Downtown, Streetsville, Clarkson and Cooksville all have paid on-street parking. The existing paid parking program is administered through pay-and-display machines that have been installed along the curb. Drivers pay for time they believe they will require the space and receive a ticket from the machine. They are expected to place that ticket on their dashboard where it is clearly visible to enforcement officers.

Maps showing the current streets with paid meter parking can be found in Appendix 4-3. Exhibit 4-4 to Exhibit 4-6 show the current times and rates for paid parking in Port Credit, Downtown, Streetsville, Clarkson and Cooksville.

##### Exhibit 4-4 On-street Parking Fees in Port Credit

Timing	Fees	Daily Fee
<b>Monday to Saturday, 10am to 9pm</b>	\$1.50/hour for the first two hours \$2.00 for the third hour	\$18/day (Monday to Saturday)
<b>Sunday, 10am to 6pm</b>	(3-hour maximum)	\$13/day (Sunday)

**Exhibit 4-5 On-street Parking Fees in the Downtown**

Location	Timing	Fees	Daily Fee
<b>All locations except Brickstone Mews, Grand Park Drive, and Parkside Village Drive</b>	Monday to Friday, 8am to 6pm  Saturday and Sunday, 10am to 6pm	\$1.00 per hour (2-hour maximum)	\$15/day (Monday to Friday)  \$13/day (Saturday and Sunday)
<b>All locations</b>	Overnight on-street Sunday to Thursday from 6pm to 8am and Friday and Saturday 6pm to 10am	\$1.00 per hour (5.00 maximum)	
<b>Brickstone Mews, Grand Park Drive, Parkside Village Drive</b>	Monday to Friday, 8am to 6pm  Saturday and Sunday, 10am to 6pm	\$1.50/hour for the first two hours  \$2.00/hour for the third hour (3-hour maximum)	\$21.50/day (Monday to Friday)  \$18/day (Saturday and Sunday)
<b>Brickstone Mews, Grand Park Drive, Parkside Village Drive</b>	Monday to Friday, 8am to 6pm  Saturday and Sunday, 10 a.m. to 6 p.m.	\$1.50/hour (4-hour maximum)	\$21.50/day (Monday to Friday)  \$18/day (Saturday and Sunday)

**Exhibit 4-6 On-street Paid Parking in Streetsville, Clarkson, and Cooksville**

Location	Timing	Fees	Daily Fee
<b>Streetsville (Queen St.)</b>	Monday to Saturday, 10am to 9pm  Sunday, 12pm to 6pm	\$1.50/hour for the first 2 hours \$2.00/hour for the third hour (3-hour maximum)	\$18/Day (Monday to Saturday)  \$13/Day (Sunday)
<b>Clarkson (Lakeshore Rd.)</b>	Monday to Saturday, 10am to 5pm  Except for Holidays	\$1.00/hour (2-hour maximum)	\$7/Day
<b>Cooksville (Hurontario)</b>	Monday to Saturday, 10am to 5pm  Except for Holidays	\$1.00/hour (2-hour maximum)	\$7/Day
<b>Cooksville (Sherobee Rd.)</b>	Monday to Friday, 8am to 6pm  Saturday and Sunday, 10 am to 6pm	\$2.00/hour (No maximum)	\$20/Day (Monday to Friday)  \$16/Day (Saturday and Sunday)



Charging for parking encourages turnover by freeing up on-street spaces for other users. Charging also ensures that those wishing to park for longer periods or all day are relocated to off-street facilities which are more appropriate for longer-term parking.

As charging for on-street parking in the proposed Precinct One and Precinct Two areas (Port Credit, the Downtown, Streetsville, Clarkson, and Cooksville) is a demand management tool, the parking fees in these areas were typically introduced to create parking turnover at and near major destinations.

---

#### **4.1.9 RECOMMENDATIONS: PAID ON-STREET PARKING**

- It is recommended that the City continue to monitor on-street parking occupancy in Precincts One, Two and Three (specifically Port Credit, the Downtown, Streetsville, Clarkson, and Cooksville).
  - To improve the management of parking demand and to encourage turnover in areas that charge for parking, it is recommended that the City increase parking fees when parking occupancy exceeds 85% during peak hours in these areas. See Best Practices review for this study.
  - To improve the management of parking demand and to encourage turnover in areas that do not charge for parking, it is recommended that the City consider introducing a parking fees when parking occupancy exceeds 50% during peak hours.
- 

#### **4.1.10 CURBSIDE MANAGEMENT**

With many competing priorities, it can be difficult to allocate space along a street's curb for every use. As our transportation system evolves, that could become even more complicated. Curbside management refers to a City's ability to accommodate all users within the allotted space along a curb.

Competing for curb space with on-street parking are vehicles that are loading and unloading goods and deliveries as well as an increase in passenger pick-ups and drop-offs. While there has always been a demand for pick-up and drop-off spaces, the increase can be attributed to the popularity of ride-sharing companies now operating within the City.

On-street pick-up and drop-off areas where vehicles stop temporarily or park short-term to load and unload passengers can reduce the need for on-site parking. On-street pick-up and drop-off areas are typically found in school zones and at other land uses that require safe, convenient and accessible areas for passenger pick-ups and drop-offs.

To be effective, on-street pick-up and drop-off areas should be:

- Safe and accessible.
- Close to the front door or entry.
- Clear of the traffic lanes so vehicles do not block traffic or reverse into traffic.
- In compliance with the Highway Traffic Act.

If ride-sharing companies can operate long term in the City, they may help to reduce the need for on-site parking, but there will be a need for suitable pick-up and drop-off locations across the City. The experience of other jurisdictions suggests that the need for pick-up and drop-off locations will be especially important in locations such as the proposed Precincts 1 and 2.

---

#### **4.1.11 RECOMMENDATIONS: CURBSIDE MANAGEMENT**

- It is recommended that the City consider a Curbside Management Study to:
    - Frame the discussion regarding on-street parking.
    - Determine appropriate locations.
    - Determine curbside priorities for each proposed Precinct area.
  - Where appropriate, and subject to coordination with other City Departments, it is recommended that the Municipal Parking Section identify and or approve locations where on-street pick-up and drop-off areas are permitted.
  - Loading regulation should be reviewed in conjunction with parking regulations as part of the zoning by-law review.
- 

## **4.2 OFF-STREET PARKING LOTS**

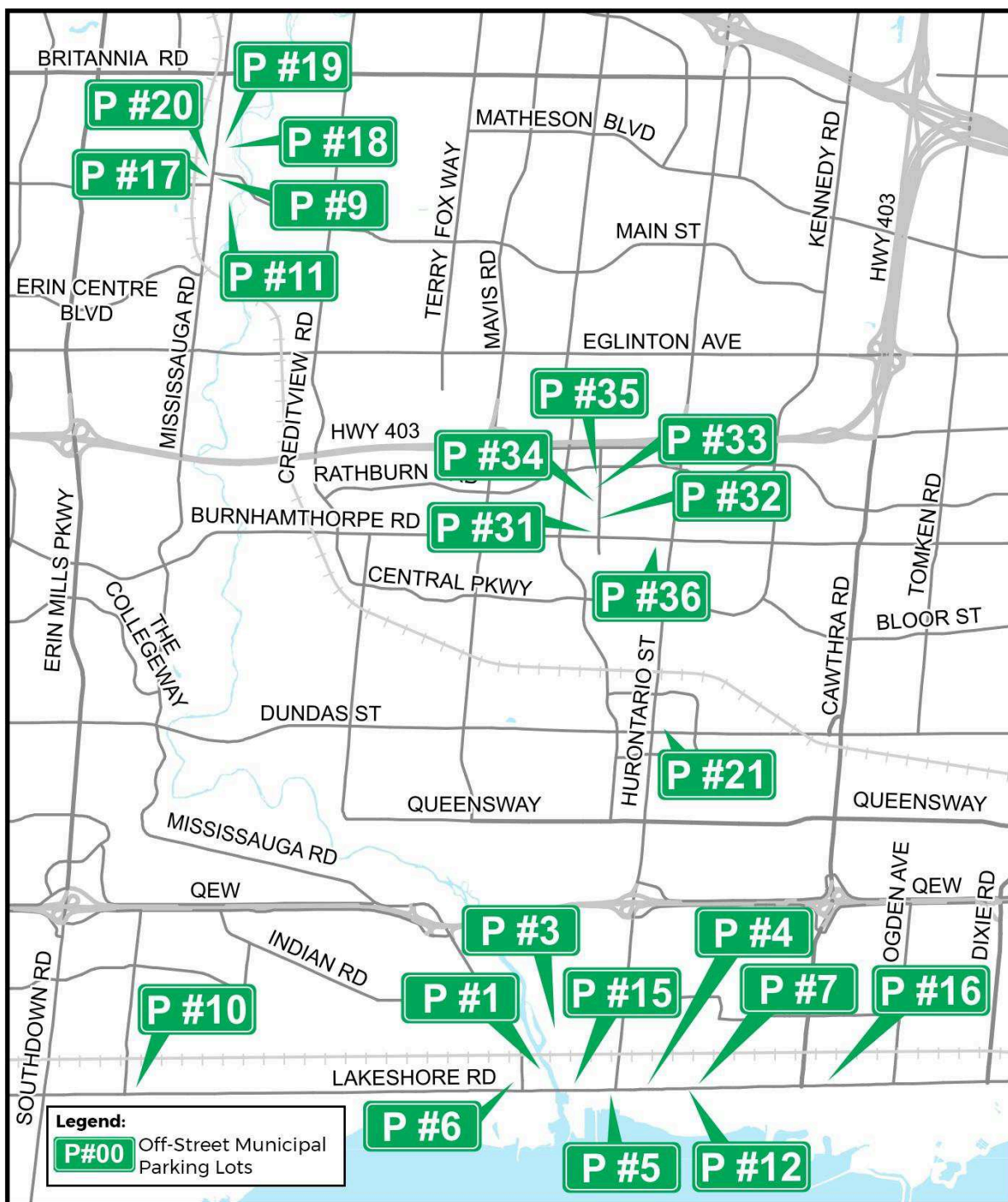
In addition to the on-street parking infrastructure discussed in Section 4.1, there are several off-street parking lots located across the City. Some are municipally operated lots with parking fees, others are free and some lots are privately owned and operated. Each lot provides a service to those looking to park their vehicles. This Section will identify the different off-street parking options in the City and discuss ways to expand the network of parking infrastructure.

---

### **4.2.1 MUNICIPAL OFF-STREET PAID PARKING LOTS**

Mississauga currently operates 3 below grade off-street paid garages and 4 paid off-street surface lots. There are 77 off-street pay and display machines split among the 7 paid lots. The 3 garages are in the Downtown and generally service City Hall, Central Library and the Living Arts Centre. Exhibit 4-7 shows the locations of all the different off-street parking lots.

Exhibit 4-7 Off-street Municipal Parking Lots



---

#### **4.2.2 MUNICIPAL OFF-STREET UNPAID PARKING LOTS**

The City also provides public parking at municipally owned facilities such as: parks and recreation areas; arts, culture and tourism centres; Mississauga Transitway lots; fire stations; and the City Courthouse. Operation and maintenance of the parking lots varies by facility.

#### ***Expansion of Parking Controls to Other City Parking Facilities***

Some free City public parking facilities are located close to paid City public parking facilities. As the City begins the process of right-sizing, it will be increasingly important for the City to manage its parking supply consistently and logically.

In Port Credit, for example, parking is free at the municipal facilities including the Library, Arena and Waterfront Parks although there is a market for privately owned paid parking in the immediate area. See Exhibit 4-8.



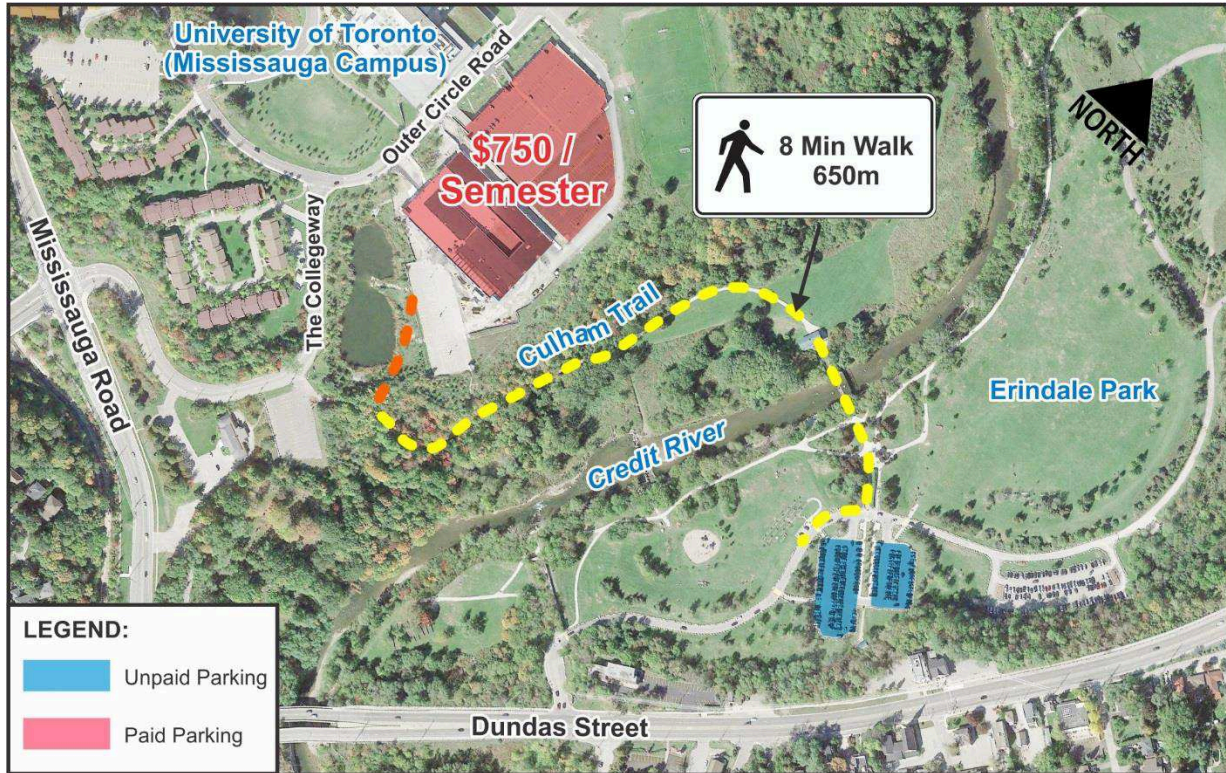
Exhibit 4-8 Free and Paid Parking in Port Credit





Erindale Park is another example. Parking on the University of Toronto (U of T) Mississauga Campus is expensive (ranges from \$725 to \$1,050 per semester per parking space)<sup>13</sup>, but free municipal parking is available an 8-minute walk away at the Erindale Park. See Exhibit 4-9.

**Exhibit 4-9 Paid Parking in Erindale Park Free and versus U of T Paid Parking**

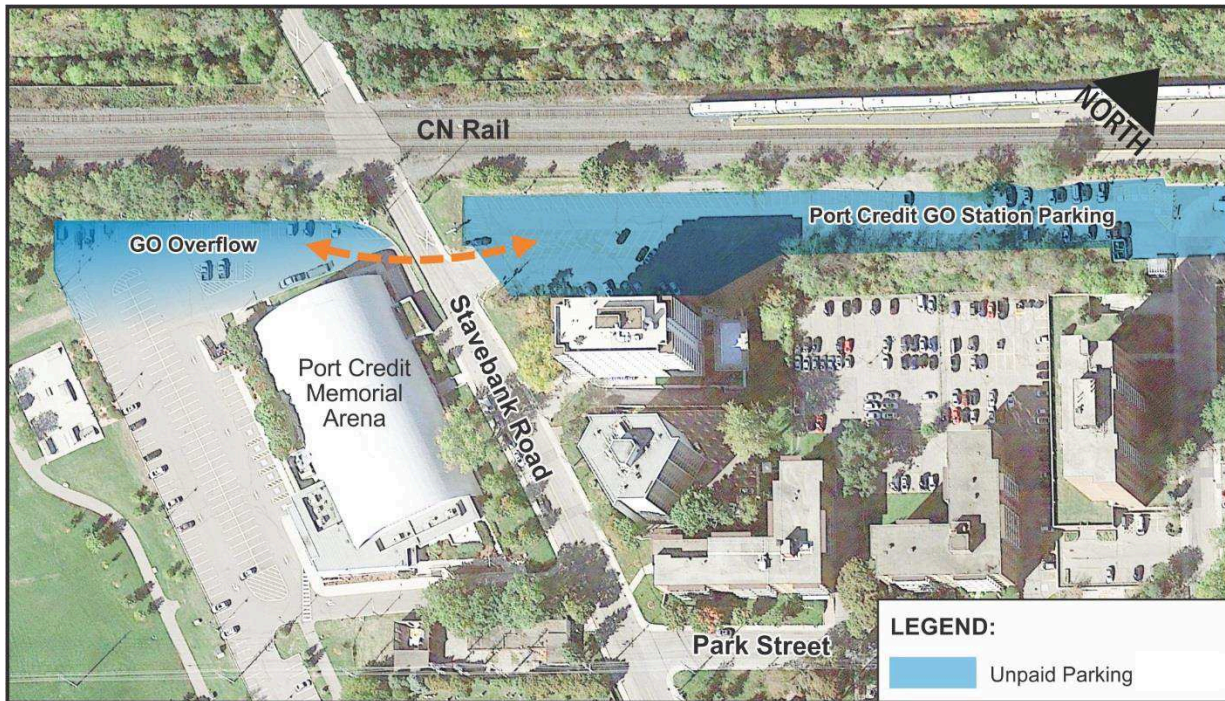


The City also needs to consider the problem of free parking provided, for example, at parks or library, becoming utilized by non-users of the facility and unavailable to those who wish to use the park or library. This problem occurs at the Port Credit GO Station where GO transit users who cannot find a parking space in the GO parking lot, park at the adjacent Port Credit Memorial Arena and walk across to the station. See Exhibit 4-10. During the public consultation process, residents said that GO transit users also routinely park on the adjacent roadways.

<sup>13</sup> <https://www.utm.utoronto.ca/parking/permits/2017-2018-parking-rates>



#### Exhibit 4-10 Port Credit Arena and Port Credit GO Station Parking



#### 4.2.3 NEW OPPORTUNITIES FOR OFF-STREET PARKING

As the need for additional public parking increases the City will need to find options for providing additional parking capacity. A few options to be considered for off-street parking expansion include:

- Physical and time expansion at existing off-street Municipal Parking lots
- Partnerships with other City business units
- Partnerships in new developments
- Community Improvement Plan (CIP)
- Land Acquisition

##### *Expansion of existing off-street lots*

The most obvious response to a greater parking demand is to build more parking. The City has identified an immediate need for two additional parking structures although their exact location has not yet been determined. The new parking structures will likely be used to accommodate development pressures in areas like the Downtown, Port Credit or along the Hurontario LRT corridor. To make these and any future decisions about where future structures are required the City should develop a parking demand forecasting model.

In addition to new parking construction, another method to expand parking capacity is to extend the times where parking is permitted. Overnight parking is only permitted in five municipal lots. The City should consider the implications of allowing overnight parking at other municipal lots.

### ***Time-of-Day Expansion at Existing Off-Street Lots***

Time-of-day expansion refers primarily to the removal of overnight parking prohibitions at public parking lots. Only five lots currently allow overnight parking. During the PMPIS consultation phases, many residents said that they would like to be able to park in City facilities overnight. These comments and the City's success with overnight parking at the Sheridan lots in the Downtown suggest that the City should consider offering overnight parking at other parking lots.

### ***Partnerships with other City Owned Parking Locations***

Municipal Parking is not responsible for many of the public parking facilities in Mississauga. Many facilities are owned, operated and maintained by other City business units.

In areas such as Precinct One where land is scarce, but additional public parking may be needed in the future, the City could consider partnering with Parks and other City business units to expand parking.

### ***Partnerships with New Developments***

As Mississauga continues to encourage higher densities and mixed-use developments, the potential for shared parking will increase. Shared parking can make the use of parking spaces more efficient, reduce the number of spaces required and free space for other uses.

Municipal Parking can consider partnering with developers to provide shared public parking. The Toronto Parking Authority, for example, has partnered with many condo developers and office developers to provide shared public parking in their developments. Every partnership arrangement would be subject to the terms and details negotiated, but shared parking should provide benefits to both developer and Municipal Parking.

### ***Community Improvement Plan***

The City's Community Improvement Plan is part of the City's efforts to attract new office developments to the Downtown Core (part of Precinct One), but the cost of constructing parking in downtown is a major barrier to office developers.

The Municipally Funded Parking Program is one of the CIP's incentives for new office development. The Program would allow the City to build and own a municipal parking facility as a standalone building or as part of a private office development. The City could decide to offer a below market rate for the rent or lease of the parking.

Public parking is a highly desirable alternative to private parking, especially in the Downtown Core. Public parking is a form of shared parking and can be used to make more efficient contribution to accommodating the overall parking demands in an area. If the Precinct approach is adopted by the City, public parking would also help in the implementation of a price-responsive approach to parking management in Precinct One.

Given the above considerations, the CIP's development incentives should prioritize public parking over private parking for new developments, and the Zoning By-law review should consider the use of parking as a development incentive. The review should also include parking incentives in the context of a price-responsive parking management approach for Precinct One and the City's PIL policy.



## Land Acquisition

Land in both Mississauga and the surrounding Greater Toronto and Hamilton Area (GTHA) is becoming prohibitively expensive and may make using land for parking hard to justify financially. When the City's long-term parking demand forecasting model is developed, the model can be used to conduct rigorous analyses of the impact of land prices on the provision of parking especially in areas where the City does not already own land. It may be possible for City departments and business units to find viable partnership opportunities in areas where they have similar long-term land requirements. Corporate services is responsible for the acquisition, disposal and leasing of property.

---

### 4.2.4 RECOMMENDATIONS: OFF-STREET PARKING LOTS

- It is recommended that the City develop a parking demand forecasting model that can be used on an ongoing basis for all of Precinct One and Precinct Two. The model should incorporate the following data:
  - Existing parking utilization
  - Development applications
  - Area Master Plans
  - Long-term population and employment forecasts
- It is recommended that the City review the feasibility of removing overnight parking prohibitions at all its off-street parking facilities, and should determine the capital and or operational changes required to implement the change.
- It is recommended that the City's Municipal Parking unit work with other City business units, such as Parks and Forestry and MiWay Transit, to align long-term plans for parking expansion and to find opportunities for shared public parking.
- It is recommended that the City consider opportunities to partner with the private sector where appropriate and beneficial for providing parking or developing shared parking arrangements.
- It is recommended that the City's Zoning By-law review consider the role and policies of the City's Downtown CIP and how the CIP will work with the City's PIL policy.
- It is recommended that the Zoning By-law Review recommend any CIP or PIL modifications required to ensure that the CIP and PIL complement the Precinct approach.
- Where parking is needed in some areas, it is recommended that the City consider partnerships with the private sector to deliver a portion or all the parking spaces.
- It is recommended that the City implement parking controls, including paid parking if necessary, at free City parking facilities when one or a combination of the following is true:
  - There is an existing market for paid parking in the area
  - Transit is available
  - Utilization during peak periods exceeds 85 percent

---

#### **4.2.5 PARKING LOT DESIGN**

Slips, trips and falls in parking facilities have proven to be significant causes of injury. An Institute of Transportation Engineers (ITE) report notes that research indicates that pedestrian injuries due to slips, trips and falls in parking facilities are far more common than injuries due to conflicts with moving vehicles. The design of pedestrian routes in parking facilities must clearly consider tripping hazards in addition to measures such as the separation of pedestrian and vehicular movements.

In addition, people often perceive parking garages as unsafe environments due to their lack of visibility and layouts. Based on this information there are many improvements and design elements that can be incorporated into parking lots to ensure pedestrian safety.

In line with the City's commitment to Vision Zero, safety is always a top priority. A detailed review of some best practices related to parking lot and garage design for pedestrians and cyclists can be found in Appendix 4-4.

---

#### **4.2.6 RECOMMENDATIONS: PARKING LOT DESIGN**

- It is recommended that the City develop safety standards and best practices for pedestrian and bicycle safety in parking facilities.

## 5 GOVERNANCE

The network of parking infrastructure and payment options requires coordination and structure in order to operate effectively and efficiently. There are different approaches that have pros and cons and levels of suitability for Mississauga. This Chapter will explore the current governing structure for Municipal Parking in Mississauga, evaluate the different types of structures typically used by municipalities and recommend an approach for the future of parking in Mississauga.

It is important to adopt the best type of parking organizational and service delivery structure to meet the City's overall strategic goals. A proper governance structure will result in the alignment of policies, operations and financial objectives to better meet the needs of the City and the citizens it serves. With the current organizational structure, parking is complex as planning, operations, finance, and enforcement are disconnected with no overarching voice for parking.

---

### 5.1 EXISTING CONTEXT

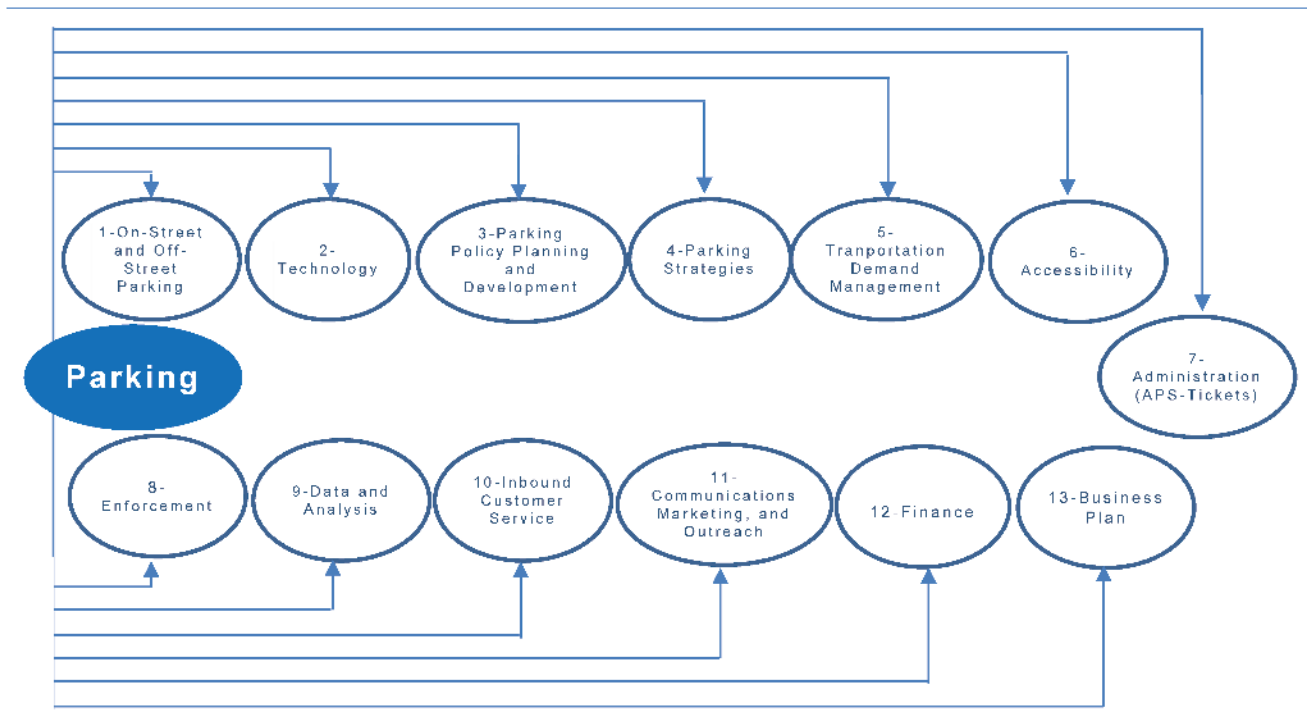
Parking in the City of Mississauga is currently managed on a case by case basis. There is no one central staff group within the City's organizational structure that oversees all parking related work. If a city owned parking lot is attached to a community centre that lot is the responsibility of Community Services Staff. If a new development is proposing a parking reduction, that is reviewed and decided on by the Planning and Building Department. Existing paid parking across the City is managed by Municipal Parking Staff in Transportation and Works.

Exhibit 5-1 shows the current high-level governance structure. Many "hands" are involved with parking: large departments such as Community Services, Corporate Services, and Planning and Building, and departments focused on very specific functions such as traffic management, technology, accessibility, parking enforcement and municipal parking (on-street and off-street parking operations).

Exhibit 5-1 Mississauga Governance Today



**Exhibit 5-2 Municipal Horizontally Integrated Parking Organization with 13 Functions**



### ***Municipal Parking***

## **Parking Enforcement**

The Parking Enforcement group in the Enforcement Division of the Transportation and Works Department is currently responsible for enforcing parking regulations. Parking Enforcement's role is to "promote public safety and the smooth flow of traffic through proactive fire route and accessible parking enforcement and through enforcement of the Traffic By-law" on both public and private property. There are officers on the road 24 hours a day, seven days a week.

Parking enforcement officers are accredited members of the Municipal Law Enforcement Officers Association and are certified First Aid and CPR (cardiopulmonary resuscitation) providers. The City of Mississauga parking enforcement objectives and budget is outlined in the "Regulatory Services, 2018-2021 Business Plan and 2018 Budget." The latter document shows for parking enforcement:

- 51.9 FTE (Full Time Equivalent staffing)
- Annual expenses of approximately \$6.2 million
- Issued 59,000 parking considerations in 2016 (these are temporary on street parking permits granted for overnight guests, or driveway repairs)
- Launched new mapping software on mobile technology
- Developing new field technology that will update current handheld ticketing devices and pursuing other technology initiatives 2018 to 2021.

In the 2018 operating budget, parking revenues are aggregated with the other municipal enforcement groups: animal services, compliance and licensing enforcement, enforcement licensing and mobile licensing. From 2015 data provided by the City for this study, total revenue from parking fines amounted to \$8.6 million, and therefore when applied to the \$6.2 in parking enforcement expenses, equates to \$2.4 million in surplus (profit). As a result, parking enforcement is self-funded.

In 2015, the City of Mississauga began using the Administrative Penalties System (APS) process for the enforcement of most of the City's parking by-law violations including accessible parking offenses and violations of animal, mobile and business licensing requirements. Parking Enforcement Officers, issue Administrative Penalty Notices rather than parking tickets. The new system is discussed in the next section.



## **Administrative Penalties System (APS)**

The Municipal Act, 2001 allows municipalities to use an Administrative Penalties System (APS) for by-law violations relating to parking and licensing. The APS is a more efficient way for municipalities to enforce parking and licensing by-laws.

The APS is an objective, fair and efficient process that issues manages and reviews penalty notices. Screening Officers' decisions regarding the APS can be reviewed by a Hearing Officer, an independent and impartial third party.

Exhibit 5-3 shows a typical Administrative Penalty Notice for parking by-law violations. The owner of the vehicle is responsible for paying the administrative penalty. The City may also charge additional fees such as fees for late payments and failure to appear for screening and hearings.

### Exhibit 5-3 Typical Administrative Penalty Notice

 <b>The Corporation of the City of Mississauga</b> <b>Parking Infraction Notice</b> <small>Ontario Court of Justice, Provincial Offences Office Provincial Offences Act, Province of Ontario</small>		 <b>The Corporation of the City of Mississauga</b> <b>Penalty Notice</b> <small>Municipal Act, 2001</small>	
<b>I, ETEC</b> believe from my personal knowledge and certify that: on the date and time noted, the owner (or operator) of the vehicle upon which was displayed the number plate described below did commit the parking infraction contrary to the by-law and section noted below.  <b>M50012103</b>  <b>Date: MAR 03, 2005 Time: 03:05 PM</b>  <b>Plate Number: 123456</b> <b>Province: ON Expiry: MAY 05</b> <b>Make: CHEV Model: 2 DOOR</b> <b>Infraction: PARKING VEHICLE LONGER THAN 3 HOURS PROVINCE OF ONTARIO</b>  <b>CONTRARY TO THE CITY OF MISSISSAUGA BY-LAW: 555-00 SECTION: 71(1)</b>  <b>At: NR 301 LAKESHORE</b>  <b>Within the City of Mississauga</b>  <b>Early Payment: \$20.00 Set Fine: \$25.00</b>  <b>Officer No: 000</b> <b>Signature of Issuing Provincial Offences Officer: ETEC</b>		<b>P1234567</b>  <b>I, Offences Officer</b> <b>Provincial Offences Officer No. 9999</b> believe from personal knowledge and certify that on the Penalty Date described below the owner (or operator) of the vehicle upon which was displayed either the Plate Number or Vehicle Identification Number described below committed the following contravention:  <b>Penalty Date/Time: May 15, 2014 05:17 am</b>  <b>Licence Plate: 999 LYH Province: ON</b> <b>Expiry Date: Jun 14</b> <b>Vehicle Make: Chev Style: 4Dr</b>  <b>Location: 123 Central Parkway</b> within the City of Mississauga, Ontario  <b>Contravention: Parking vehicle on private property without owner's consent</b> <b>By-law 555-00 Section 41(2)</b>  <b>Chalked at: Unit (or Remarks):</b>  <b>Administrative Penalty: \$30.00</b> <b>Payment Due Date: May 31, 2014</b>  <small><b>Important:</b> If you have not paid this Penalty Notice by the due date or have not requested a review of the Penalty, you will be deemed not to dispute the Penalty and you will be subject to additional administrative late payment fees. In addition, for Penalty Notices in respect of parking contraventions, a \$10.00 MTO Search Fee will be added and your Ontario Vehicle Permit application will be denied.</small>	

In order to take advantage of the Early Payment amount, payment must be received by the City of Mississauga within ten business days of the above date. After this time period, the set fine will be levied. You may within 15 days of the date noted above, choose one of the options on the back of this notice. If you do not exercise one of these options, or if you do not appear for trial, you will be deemed not to dispute this charge and a conviction may be entered against you. Upon conviction you will be required to pay the set fine plus court costs. An administrative fee is payable if the fine goes into default and the information may be provided to a credit bureau. See reverse side.

The administrative penalty and fees for parking contraventions are set out in City of Mississauga *By-laws 0282-2013* and *0135-2014*. *By-law 0282-2013* established a system of administrative penalties for vehicles contravening standing, stopping or parking regulations in the City. *By-law 0135-2014* set out the administrative penalty and fee for licensing contraventions.

### Other Functions

Other sections within the Transportation and Works Department are responsible for winter maintenance, transportation and infrastructure planning, administration of the traffic by-law, and parking lot maintenance and repair. Several City departments (Parks, Recreation, Library, Courthouse, Fire, and MiWay) manage other municipal parking lots. The Culture and Realty Services sections manage the Culture Node Patio program. Policy Planning and the Municipal Parking group work on area-specific strategies and municipal parking expansions. Several sections, including IT and the Digital Team, manage Website content and the Pingstreet.

---

### **5.1.1 REVIEW OF ORGANIZATIONAL MODELS**

Parking generates millions of dollars in revenue from paid parking and parking enforcement. Parking is also playing a greater role in city building by influencing travel behaviour towards more sustainable transportation modes. It is clearly important to consider a range of different organizational models before deciding which model will best meet the future needs of the City and its citizens.

This Section reviews different parking organizational models including comparing the City of Mississauga's organizational structure to the structure adopted by four other Canadian cities and examines future directions.

The review of parking organizational models is presented under the following seven headings:

- Overview of parking organizational models in North America
- Benchmarking
- Evaluation of organizational models
- Evaluation criteria
- Parking principles - Governance
- Why not a parking authority?
- Summary of review of parking organizational models.

#### ***Overview of Parking Organizational Models in North America***

Through a detailed review of parking organizational structure, a list of five different models were found to be most common in North American cities. Exhibit 5-4 summarizes the characteristics of those five different models. The five types range from full privatization of parking with a private governance board to a publicly governed and delivered service controlled by a municipal department.

Nearly all municipal parking services in Canada are publicly governed and delivered by a municipal Council or by a separate board with members appointed by the elected municipal Council. The variations listed in Exhibit 5-4 have been adopted mainly in the United States.



**Exhibit 5-4 Summary of Main Characteristics of Five Organizational Models for Parking**

<b>Organization Model</b>	<b>Purpose</b>	<b>Pros</b>	<b>Cons</b>
<b>Horizontally Integrated (Mississauga Existing)</b>	<ul style="list-style-type: none"> <li>•Balance service and city building</li> <li>•Minimize tax support</li> </ul>	<ul style="list-style-type: none"> <li>•Cost sharing and team building across many departments</li> <li>•Suitable for limited off-street parking growth</li> </ul>	<ul style="list-style-type: none"> <li>•Unclear accountability</li> <li>•Conflicting objectives especially service vs. revenue</li> <li>•Products/services not well coordinated</li> </ul>
<b>Vertically Integrated (Parking Division)</b>	<ul style="list-style-type: none"> <li>•Support parking service and city building objectives</li> <li>•Promote multiple transport modes</li> <li>•Minimize tax support</li> <li>•Improve the coordination of products/services</li> </ul>	<ul style="list-style-type: none"> <li>•Clear “one stop shop” for parking services and issues</li> <li>•Better coordination of parking products (on-street)</li> <li>•Council decision-making</li> <li>•Full accountability</li> <li>•Surplus promotes TDM</li> </ul>	<ul style="list-style-type: none"> <li>•Parking revenue may not be maximized due to service and city building objectives</li> <li>•Parking Division may compete with other City Divisions for funding, but revenue will help offset</li> </ul>
<b>Parking Authority</b>	<ul style="list-style-type: none"> <li>•Prioritize revenue generation</li> <li>•Contribute profits to capital reserves and City</li> </ul>	<ul style="list-style-type: none"> <li>•Quick decision-making by a Board, not Council</li> <li>•Suitable for a large expansion of parking facilities</li> <li>•100% non-tax supported</li> </ul>	<ul style="list-style-type: none"> <li>•Fees set by Board, not Council</li> <li>•Revenue higher priority than city building</li> <li>•Council responsible for revenue losses</li> </ul>
<b>Business District</b>	<ul style="list-style-type: none"> <li>•Generate revenue</li> <li>•Provide control to local businesses</li> </ul>	<ul style="list-style-type: none"> <li>•Commits businesses to successful parking services</li> <li>•Private sector partnerships</li> <li>•Financially self-supporting</li> </ul>	<ul style="list-style-type: none"> <li>•Fees set by Board, not Council</li> <li>•Revenue higher priority than city building</li> <li>•May have limited capital</li> <li>N/a in residential areas</li> </ul>
<b>Privatization</b>	<ul style="list-style-type: none"> <li>•Generate an upfront lump sum payment to City for 35+ year agreement</li> <li>•Address serious debt and cash problems</li> </ul>	<ul style="list-style-type: none"> <li>•Renewed investment in parking infrastructure and technology</li> <li>•Lump sum payment used for non-parking City services</li> </ul>	<ul style="list-style-type: none"> <li>•Private Board decision- making, not Council</li> <li>•Profit generation focus, not city building and or service</li> <li>•Long-term agreement</li> </ul>

**Exhibit 5-5 Municipal Vertically Integrated Parking Organization with 13 Functions (Proposed)**

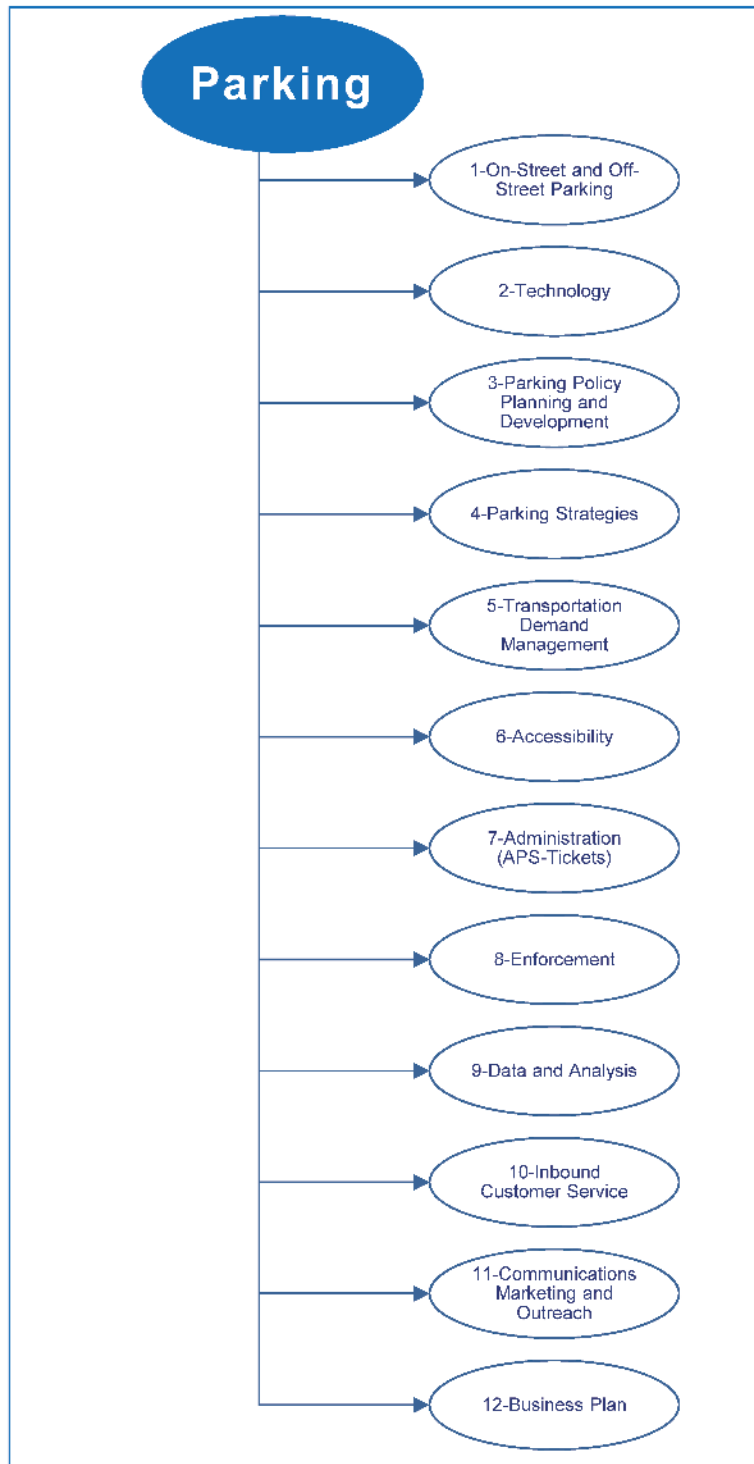


Exhibit 5-6 lists 18 cities (14 Canadian and four American) and provides information about each city's population, number of public pay parking spaces and approach to parking including the type of parking business model adopted and the primary contracted services.

The Canadian cities are almost evenly split among horizontally integrated, vertically integrated and parking authority business models. Montreal is different as it has a separate parking organization that operates as a Business District in the downtown. The organization is operated and governed by Montreal's Board of Trade.

Three of the American cities provide examples of parking privatization. More American municipalities are considering privatization to deal with severe financial issues and make public funds no longer spent on parking available to other municipal services.

Five of the Canadian cities (Calgary, Thunder Bay, Toronto, Vancouver, and Winnipeg) have a parking business model based on a parking authority. These cities (except for Thunder Bay) are larger and have a higher number of public pay parking spaces than the other cities.

Except for London, Ontario, the other Canadian cities organize their parking functions horizontally or vertically integrated within a department, division, or branch. London, Ontario has a standalone separate parking department operating within the upper tier level of Transportation Services and at the same level as public transit (London Transit Commission).

**Exhibit 5-6 Characteristics of Parking Organizational Models adopted by 18 Canadian and American Cities**

	Ref #	Cities	Population	Total Public Pay Parking Places	100% Non-tax Supported	Governance	Parking Business Model					Primary Contracted Services
							Public			Business District	Privatization (Monetization)	
							Horizontally Integrated (Section)	Vertically Integrated (Section)	Parking Authority	Separate Organization	Separate Organization	
Canadian Cities	1	Mississauga	766,000	2,328	Yes	Council	✓					<ul style="list-style-type: none"> <li>• Parking equipment, maintenance, repair, transaction processing</li> </ul>
	2	Burlington	178,000	1,519	Yes	Council	✓					<ul style="list-style-type: none"> <li>• Enforcement</li> </ul>
	3	Calgary	1,235,000	17,374	Yes	Board			✓			<ul style="list-style-type: none"> <li>• None</li> </ul>
	4	Edmonton	899,500	6,562	Yes	Council		✓				<ul style="list-style-type: none"> <li>• Enforcement</li> </ul>
	5	Hamilton	520,000	3,700	Yes	Council		✓				<ul style="list-style-type: none"> <li>• Enforcement</li> </ul>
	6	London	366,000	2,664	Yes	Council		✓				<ul style="list-style-type: none"> <li>• Enforcement</li> <li>• Some off-street</li> </ul>
	7	Montreal	1,649,500	22,214	Yes	Board of Trade				✓		<ul style="list-style-type: none"> <li>• None</li> <li>• Enforcement by Police (civilians)</li> </ul>
	8	Ottawa	883,400	6,737	Yes	Council	✓					<ul style="list-style-type: none"> <li>• On-street and off-street revenue and equipment</li> <li>• Ticket processing</li> </ul>
	9	Regina	195,000	1,250	Yes	Council		✓				<ul style="list-style-type: none"> <li>• Enforcement</li> </ul>
	10	Thunder Bay	109,000	3,178	Yes	Board			✓			<ul style="list-style-type: none"> <li>• Revenue collection</li> <li>• some off-street</li> </ul>
	11	Toronto	2,615,000	53,000	Yes	Board			✓			<ul style="list-style-type: none"> <li>• Revenue collection</li> </ul>
	12	Vancouver	605,000	20,930	Yes	Board			✓			<ul style="list-style-type: none"> <li>• None</li> </ul>
	13	Winnipeg	727,500	5,971	Yes	Board			✓			<ul style="list-style-type: none"> <li>• None</li> </ul>
	14	Windsor	216,500	4,355	Yes	Council	✓					<ul style="list-style-type: none"> <li>• Enforcement</li> </ul>

	Ref #	Cities	Population	Total Public Pay Parking Places	100% Non-tax Supported	Governance	Parking Business Model					Primary Contracted Services
							Public			Business District	Privatization (Monetization)	
							Horizontally Integrated (Section)	Vertically Integrated (Section)	Parking Authority	Separate Organization	Separate Organization	
US Cities	15	Chicago, Illinois	2,720,500	45,176	Yes	Private Board					✓	• All on-street and 4 large parking garages
	16	Indianapolis, Indiana	853,000	3,900	Yes	Private Board					✓	• All on-street
	17	Minneapolis, Minnesota	411,000	22,000	Yes	Council	✓					• Off-street facilities • On-street revenue collection
	18	Harrisburg, Pennsylvania	49,000	8,983	Yes	Private Board					✓	• All on-street and off-street

## ***Benchmarking***

For detailed comparison and benchmarking, the number of Canadian cities was reduced to four: London, Hamilton, Regina, and Windsor. The key metrics selected were population, number of paid parking spaces, and number of hierarchical layers in the city's parking organizational model. The benchmarking process also included the collection of additional data and information from additional Canadian municipalities.

To compare parking organizational structures, it is important to understand the key performance indicators used by different municipalities. Municipal Benchmarking Network Canada (MBN Canada, formerly known as OMBI) is a network of 15 Canadian municipalities in six provinces. The network's data can be used to improve the way municipalities deliver services to their communities. By examining the parking performance measure graphs in MBN Canada and comparing the data with Mississauga data, it was possible to compare Mississauga with larger cities, smaller cities and cities of a similar size. For a comprehensive review of this data see Appendix 5-1.

## ***Municipal Horizontally Integrated (Current Mississauga)***

Mississauga's parking organization is currently structured as a Horizontally Integrated model. Mississauga has 13 parking functions spread across many departments, divisions, and sections where each division or Chapter manages one or more parking functions and no one department or division has total responsibility, accountability and full understanding of all parking functions and interrelationships. For example, on and off-street parking functions are currently separated from Parking Enforcement although Parking Enforcement is an integral part of a municipal parking service, especially if the objective is to adopt a parking enforcement approach that is less punitive, more focused on compliance, and more customer friendly.

City Council is responsible for all policies and fee setting.

## ***Municipal Vertically Integrated***

A municipal vertically integrated organization consists of one division or Chapter led by a department head who is fully responsible for on-street and off-street parking, parking system planning, enforcement and other parking functions that may or may not be included within this organization structure. This type of organization is a "one-stop shop" for parking services with full accountability for operations and for coordination and interacting with other municipal departments and sections on land use and transportation planning, economic development, special events, Transportation Demand Management (TDM), and active transportation.

Council maintains full control of policies and fee setting.

## ***Parking Authority***

A Parking Authority is a municipal special purpose body which is publicly owned and managed, but separate from the municipality. Such a body has its own CEO and Board of Directors comprised of citizen appointees and Councillors. This type of organization structure focuses on all aspects of parking provision and operations, and has responsibility for parking facility planning, construction, maintenance, ownership, and setting fees and fines. Policies and fees are decided independently of the municipal Council. A parking authority's primary focus is on revenue generation. The authority is expected to be 100 percent self-funded and many parking authorities contribute a substantial surplus back to the municipality.

### ***Business District***

A business district parking organization refers to a downtown business district organization that operates and manages parking through an operating agreement developed with the City. The organization might be a business group, Chamber of Commerce, Board of Trade, or urban renewal agency. In Small cities, for example, where parking infrastructure may be lacking the business district parking organization can establish relationships with private sector landowners willing to work with the City to provide parking. A business district parking organization means that businesses are committed to making parking successful and ensuring the attractiveness of downtown and vitality of commercial streets for residents and tourists.

### ***Privatization or Asset Monetization***








A privatization organization model allows municipalities with serious financial debt and cash issues to operate, maintain, and plan by outsourcing on-street and off-street parking facilities to a private consortium of investors typically for at least 35 to 50 years in exchange for a large upfront cash payment from the private organization. Assets remain the property of the municipality, but operating risks (i.e. management and maintenance costs) and capital expenses are transferred to private organization for the duration of the agreement. The municipality obtains capital funding from the private investor for new parking facilities and technologies.

The primary challenge for a privatization organization model is the development and implementation of a long-term agreement that is fair to both the municipality and the private organization. Privatization of parking has occurred only in American cities and universities and only during the last 10 years.

### ***Evaluation Criteria***

The five organizational models were evaluated for the Mississauga context based on the criteria and scoring system shown in Exhibit 5-7. The criteria and scoring system are designed to assess how well parking meets the objective of city building and parking principles. The scores range from a high of +4 to a low of -4.

### Exhibit 5-7 Evaluation Criteria for Organizational Models

Score	Description	Symbol
-4	Worst: does not meet principal objectives	
-2	Poor: unlikely to meet principal objectives	
-1	Fair: May partially meet principal objectives	
0	Neutral: little or no adverse impact	
1	Fair: Minimal improvement to support City building and parking principles	
2	Good: improvement from existing condition and supports both City building and parking principles	
4	Best: significant improvement from existing condition and supports both City building and parking principles	

### Parking Principles - Governance

Each organizational model was evaluated against five parking principles relevant to governance in Mississauga:

- Create a business unit that takes a leadership role in influencing parking strategy, planning, supply, demand, and parking fees.
- Maintain decision-making with Council.
- Do not create an independent Board or Authority.
- Make parking self-sustainable through user-fees for revenue-generating parking activities, while continuing to fund non-revenue parking activities by the tax base.

Maintain a cooperative approach with other City departments and divisions in attaining the City's corporate goals and objectives. Exhibit 5-8 lists the organization models and summarizes each model's core purpose, advantages (pros) and disadvantages (cons). It is clear from this analysis that the City's vision and supporting strategic goal of using parking as a tool for city building indicate that the vertically integrated organizational model has the highest score (4) and offers the most significant improvement from the current organizational structure.

A comparison of Mississauga's current organizational structure for parking with four other Canadian cities is shown in Appendix 5-2.



**Exhibit 5-8 Evaluation of Parking Organization Models**

Organization Model	Purpose	Pros	Cons
Horizontally Integrated (Mississauga Existing) 	<ul style="list-style-type: none"> <li>•Balance service and city building</li> <li>•Minimize tax support</li> </ul>	<ul style="list-style-type: none"> <li>•Cost sharing and team building across many departments</li> <li>•Suitable for limited off-street parking growth</li> </ul>	<ul style="list-style-type: none"> <li>•Unclear accountability</li> <li>•Conflicting objectives especially service vs. revenue</li> <li>•Products/services not well coordinated</li> </ul>
			
Parking Authority 	<ul style="list-style-type: none"> <li>•Prioritize revenue generation</li> <li>•Contribute profits to capital reserves and City</li> </ul>	<ul style="list-style-type: none"> <li>•Quick decision-making by a Board, not Council</li> <li>•Suitable for a large expansion of parking facilities</li> <li>•100% non-tax supported</li> </ul>	<ul style="list-style-type: none"> <li>•Fees set by Board, not Council</li> <li>•Revenue higher priority than city building</li> <li>•Council responsible for revenue losses</li> </ul>
			
Privatization 	<ul style="list-style-type: none"> <li>•Generate an upfront lump sum payment to City for 35+ year agreement</li> <li>•Address serious debt and cash problems</li> </ul>	<ul style="list-style-type: none"> <li>•Renewed investment in parking infrastructure and technology</li> <li>•Lump sum payment used for non-parking City services</li> </ul>	<ul style="list-style-type: none"> <li>•Private Board decision-making, not Council</li> <li>•Profit generation focus, not city building and or service</li> <li>•Long-term agreement</li> </ul>

### ***Why Not a Public Parking Authority?***

While it is clear from Exhibit 5-8 that the vertically integrated organizational model emerges as the most appropriate model for the City of Mississauga, PMPIS's research, review of best practices and various meetings with the City found that City staff and members of Council have had many discussions that included the possibility of establishing a public parking authority.

Through this study it has been determined that a parking authority would not be the most effective organizational structure for Mississauga because Canadian parking authorities tend to be in cities with many public pay parking spaces (see Exhibit 5-8). Thunder Bay is an exception with only 3,178 pay parking spaces, but Mississauga has only 2,328. Mississauga has the lowest (311) number of paid parking spaces per 100,000 population. The other Canadian cities with parking authorities have from 5,971 (Winnipeg) to 53,000 (Toronto) pay parking spaces. Cities with a low number of pay parking spaces tend to organize their parking functions within a municipal division or department.

This study also determined that a vertically integrated organizational model within the City is preferable because with a parking authority:

- A separate Board makes decisions on day-to-day operations including parking fees. No approval from City Council is required.
- City building and the promotion of transit and active transportation may be given low priority as they may negatively impact parking revenue and cost efficiency.
- The parking authority's annual surplus contributed to the City may vary and may not meet the City's annual financial expectations.
- If financial losses occur, the operating agreement includes provisions that such losses would be covered by the municipality and not the parking authority.

Based on the above information this study does not recommend a Parking Authority as the appropriate organizational model for City of Mississauga.

---

### **5.1.2 RECOMMENDATION: ORGANIZATIONAL STRUCTURE**

It is recommended that the City adopt a vertically integrated organizational model that includes a parking division.

---

## **5.2 MISSISSAUGA'S PARKING DIVISION**

This Section outlines how reorganizing the many parking functions currently operating in different City departments and divisions into a single vertically integrated new division will result in improved responsiveness, accountability and coordination in the delivery of parking services in Mississauga.

### 5.2.1 RATIONALE FOR PROPOSED PARKING DIVISION

The rationale for the City to create a new Division with a vertically integrated organizational model is that the new Division:

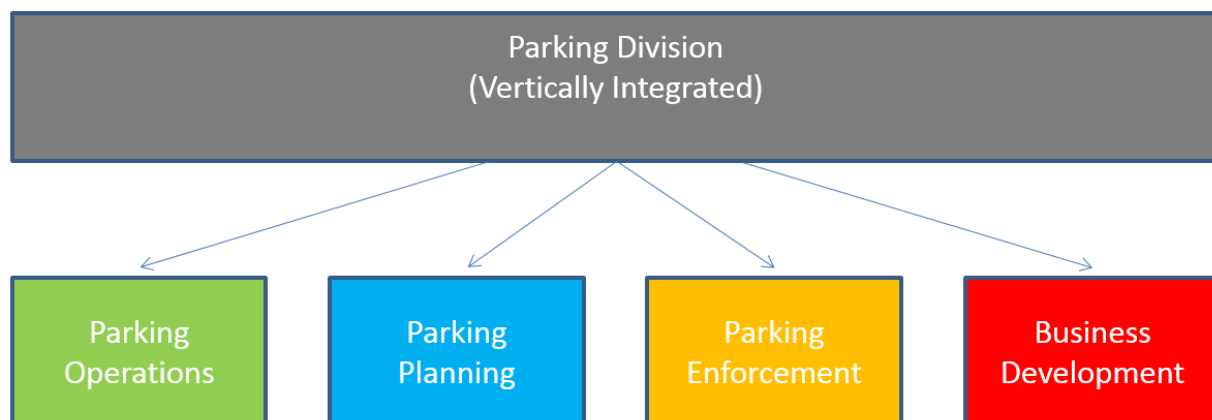
- Creates a "one-stop shop" for parking strategy, planning, services, products, and issues.
- Connects decision-making between and within:
  - Minimum parking requirements and related policy (Zoning By-law).
  - On-street parking by-laws and processes (permits and considerations).
  - Funding mechanisms (paid parking, Payment-in-Lieu, Development Charges, and APS notices [parking tickets]).
  - Other City-provided off-street parking (Transit, Community & Corporate Services).
  - Paid City-provided parking (Municipal Parking to be changed to a new Parking Service Area with its own Business Plan).
  - Enforcement
  - Transportation Demand Management (TDM).
- Achieves a balance between revenue-generation, providing parking as a service, and using parking as a tool for influencing city building.

The new Parking Division would be in the Transportation and Works Department and have a profile like the profiles of other divisions within Works Operations and Maintenance. These divisions include high-profile functions like Engineering & Construction, Transportation & Infrastructure Planning, and MiWay.

Based on a comprehensive review of work currently being undertaken for parking provision and maintenance in the City,

Exhibit 5-9 shows the proposed organizational structure of the new Parking Division. The new division should have four groups: Parking Operations, Parking Planning, Parking Enforcement, and Business Development.

**Exhibit 5-9 Organizational Structure of New Parking Division showing Four Sections**



## 5.2.2 DEVELOPMENT OF THE NEW PARKING DIVISION

The new Parking Division's proposed structure and functions involved the following:

- Identification of all parking functions across City's multiple departments and divisions. Process identified 37 functions and grouped them into 13 themes,
- Identification of roles currently performing the 37 parking functions
- Grouping of existing functions into four future groups:
  - Parking Operations
  - Parking Planning
  - Parking Enforcement
  - Business Development
- Working with the City's Human Resources department on a preliminary analysis of the staffing implications of the future organizational structure. Further detailed work will be required after the City's senior management Leadership Team's review of this report's recommendations.

The main proposed functions of the four sections within the proposed new parking division are described below.

### *Parking Operations*

The Parking Operations group within the new proposed Parking Division would be responsible for important day to day parking operations Exhibit 5-10 shows the group's main functions. The Parking Operations Section would:

- Coordinate off-street municipal parking lots, on-street paid parking, winter maintenance for City provided parking, digital products, and policies for other City provided parking.
- Manage parking considerations, both short-term and long-term.
- Administer the Traffic By-law and on-street overnight permits.
- Maintain Electric Vehicle (EV) charging infrastructure.

On-street parking services consist of the complete management of the City's metered parking spaces currently using pay and display machines. On-street services also include the implementation of parking programs and the administration of permitted and non-permitted parking uses on the public road allowance, including accessible parking, loading zones and time restricted parking locations.

Off-street parking services comprise City owned surface lots, the City Hall parking garage and any future leased parking facilities requiring contract negotiation and management of agreements for the public and City staff.

A significant function of Parking Operations is the execution of the City's policies regarding making the best use of public parking availability including the planning and coordination of safe and efficient traffic flow, on-street bike lanes, special event parking, and residential parking permit programs. Parking technology will enable the development of strategies for optimizing the finite supply of on-street curbside parking spaces to help achieve a balance between the parking needs of residents and businesses.

### Exhibit 5-10 New Parking Division - Parking Operations Section



### Parking Planning

Just as the City's public transit division (MiWay) includes transit planning, parking also requires short and long-term planning decisions. Exhibit 5-11 shows the planning functions. The Parking Planning Section would:

- Provide input into the Mississauga Official Plan (MOP) parking policies.
- Develop parking design guidelines.
- Review Parking Studies for development applications and provide parking comments for Zoning By-law Amendments and Committee of Adjustment applications.
- Review driveway widening applications.
- Provide input to Zoning By-law regulations.
- Review parking studies and lead area specific parking strategies.
- Coordinate Payment-in-Lieu (PIL), Development Charges (DCs) and parking elements of Community Improvement Plans (CIPs).
- Assist with accessibility policies and standards.
- Represent the Municipal Parking Division on other transportation projects across the City.

### Exhibit 5-11 New Parking Division - Parking Planning Section



Parking Planning's functions involve coordination and integration of tasks and projects with other City departments and divisions as well as taking the lead and undertaking research into new parking initiatives. Parking Planning examples include municipal parking expansion, determining the number and location of carshare and carpool spaces, reviewing and commenting on development applications, and developing area specific parking strategies.

### Parking Enforcement

Parking Enforcement is currently its own group within the Enforcement Division. They administer parking within the Transportation & Works Department.

The proposed organizational structure would bring the Parking Enforcement group into the new Parking Division and integrate enforcement into the objectives and functions of parking operations, parking planning, and business development to best serve the community. The overall goal of parking enforcement should be the creation of a communicative and consistent means of encouraging the community to abide by the City's parking by-laws to provide everyone with the maximum benefits available from improved accessibility to parking.

Exhibit 5-12 shows Parking Enforcement's main functions within the new Parking Division. Parking Enforcement would continue to:

- Enforce parking and traffic by-laws.
- Administer the APS (Administrative Penalty System).
- Coordinate enforcement technology upgrades.
- Reviewing parking studies submitted for rezoning and Committee of Adjustment applications

## Exhibit 5-12 New Parking Division - Parking Enforcement



Enforce parking and traffic Bylaws

Coordinate enforcement technology upgrades

APS Administration

The trend among Canadian and American municipalities is to shift their approach to parking enforcement from enforcement to compliance. The new approach aims to balance the management of parking spaces and the needs of parking customers. People who park vehicles are regarded as valued and appreciated customers rather than violators who need to be punished for parking infractions.

Parking tickets and towing away vehicles are deeply unpopular among the public and often seen as a municipal “tax grab.” Enforcement is, however, a very important part of managing a scarce resource (parking spaces) and customers need to comply with the parking by-laws on payment, time limits, location and accessibility.

Compliance contributes to efficient parking operations. Illegal parkers cause safety issues and inconvenience to other parkers who also require access to goods and services, their workplace, residence, place of worship, education, and many other activities. An example of a major positive impact made of parking enforcement is ensuring that accessible parking spaces are available to persons with disabilities.

The key objective of the “customer” approach becomes improving compliance rather than issuing more tickets. A parking ticket is just one of the tools. Municipalities such as Victoria, BC and Burlington, ON encourage their parking enforcement officers to act as “ambassadors” who provide directions, help motorists to use parking technologies, and direct drivers parked illegally (whether by mistake or intention) to a legal parking space.

Parking enforcement officers are using new and changing technologies such as mobile parking enforcement in Calgary where parking enforcement officers’ vehicles are equipped with Licence Plate Recognition technology that automatically scans parked vehicles’ licence plates in real time to determine whether vehicles have exceeded the posted time limit or paid parking period. If one of these is the case, the vehicle owner receives a parking ticket a few days later in the mail.

Positioning Parking Enforcement within a new Parking Division would help new and evolving technologies to be properly coordinated and integrated into the City’s overall delivery of parking services.



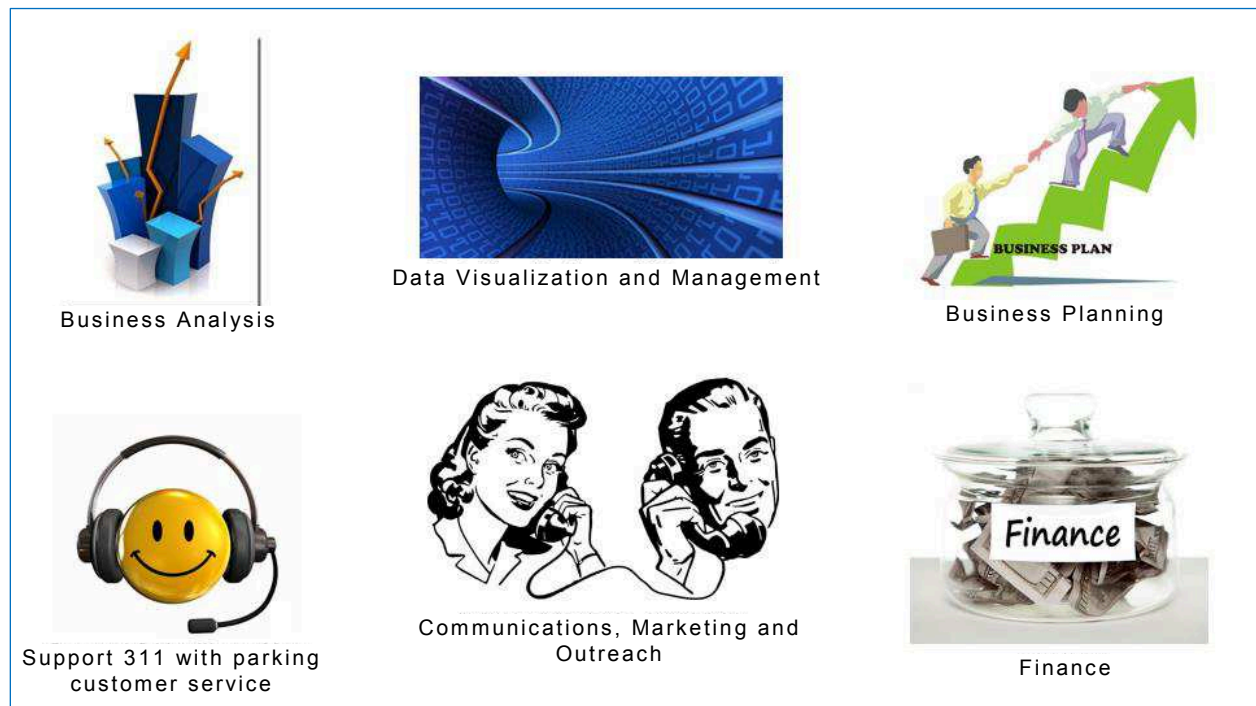
## Business Development

The Business Development group is the fourth within the new Parking Division. Business Development staff would manage “the business” side of parking. The group would examine parking services’ revenue, ongoing operating costs, and the capital costs required to support existing parking infrastructure and develop new parking facilities. It should be clarified that Corporate services is responsible for the acquisition, disposal and leasing of property.

Exhibit 5-13 shows the main business development functions. The Business Development Section would:

- Undertake business analysis.
- Handle data management and visualization.
- Be responsible for business planning.
- Support 311 municipal phone-in service with parking customer service.
- Be responsible for parking communications, marketing and outreach.
- Be responsible for finance in cooperation with the City’s Finance division.

### Exhibit 5-13 New Parking Division - Business Development Section



A major objective of the Business Development group is to support parking operations, parking planning and parking enforcement and promote ease of understanding and access to parking services for residents, visitors, employers and businesses. The group would develop common and consistent parking communications, branding and marketing.

The new Parking Division would, like other City divisions, prepare an annual Business Plan with operating and capital budgets for Council approval. The Business Planning staff would work closely with the City’s Finance Division in measuring, monitoring and reporting on parking revenues and operating costs and providing data analytics on on-street and off-street parking spaces utilization, parking enforcement, revenues, and costs.



The Business Development group would improve the community's experience of parking by promoting and marketing parking availability throughout the year.

Parking is rich in operational and financial data. The Business Development group would take a lead role in data management lead the coordination and distribution of data and other resources related to parking demand, supply, availability, planning, and special events.

---

### **5.2.3 RECOMMENDATIONS: PARKING DIVISION**

It is recommended that the City approve and support the new governance model of establishing a new Parking Division within the Transportation & Works Department with a phased approach over the next 5+ years.

The City creates a "Parking Service Area" which would have its own Business Plan.

---

### **5.2.4 PRIVATE SECTOR INVOLVEMENT**

As a supplement to the public facilities that are currently available and those planned for the future, there are many opportunities for the City to work with the private sector to provide and manage parking.

Currently the City is engaged in a contract for maintenance and repair of the City's pay and display machines. There is also opportunity to work with the private sector to develop partnerships for the construction and operation of new parking.

The private sector will continue to be involved in various aspects of parking provision in the City including;

- Maintenance and repair of the City's 120 on-street Pay and Display machines.
- Joint ventures in the provision of "shared" public parking on private property (includes examples of daytime office parking and evening/weekend entertainment and shopping parking).
- Lease of parking facilities through contracted management agreements.
- Partnerships with new evolving technologies and service providers (For example, electric vehicle charging stations, pay by smartphone services, and License Plate Recognition technologies).
- The private sector plays an important role in the City Core particularly in commercial office buildings where the private Chapter supplies parking for tenants and also works with the City to supply public parking. Examples of co-operation with the City include cost sharing for a new public garage, leasing spaces for a facility, and leasing privately built parking spaces for public parking.

---

### **5.2.5 RECOMMENDATION: PRIVATE SECTOR PARTNERSHIPS**

It is recommended that the City continue to support joint ventures and partnerships with private sector companies to optimize the use of land and infrastructure and meet public needs for parking spaces in the most appropriate way.

---

### **5.2.6 DECISION-MAKING**

The proposed organizational structure is not expected to change the City's current reporting and decision-making process on parking related matters. City Council will continue to be the final decision-making body on policy issues such as strategic goals, capital and operating budgets for existing and future expanded parking services and facilities, and parking fees.

An important aspect of the reporting and decision-making process includes the Committee of Adjustment. Their role is discussed below.

#### ***Committee of Adjustment***

As the City works towards its strategic goals, the Committee of Adjustment will continue to play an important role in addressing parking variance applications. Fundamental changes in parking requirements are expected as a result of intensification, infill and redevelopment, improved walkability, increased supply of affordable housing, the new Hurontario LRT, expanded TDM initiatives, and improved public transit services.

Although this study, the Transportation Master Plan, the TDM Master Plan, and the other related studies provide a basis for proactive parking policies and initiatives, no policy or initiative can anticipate and make provision for every circumstance and every parking need of each land use category specified in the Zoning By-law.

The City's Planning & Building Department and the new organizational parking structure should draft guidelines to help the Committee of Adjustment to ensure that there is supporting evidence to warrant parking variances.

It should be emphasized that a goal of the Zoning By-law review is to establish a precinct approach and set appropriate parking requirements for each. Once the Zoning By-law review is complete and new parking rates are in effect, the need for rezoning and minor variances should be significantly reduced.

---

### **5.2.7 RECOMMENDATIONS: COMMITTEE OF ADJUSTMENT**

It is recommended that the City Council and applicable standing committees of Council continue to be the decision-making body associated with parking policies including, for example, fee setting, expansion of parking facilities, joint ventures with the private sector, new technologies, and integrating TDM with parking and other policy issues.

## 6 FINANCE

This Section discusses how the City's Municipal Parking operations are financed and how the future operations would be funded. The Section is divided into two sub-sections: existing context and future directions.

It is important that the City formalizes its approach to funding and financing parking especially as ongoing parking operations, maintenance and future capital expansion all become increasingly expensive.

### *Why Finance Matters?*

The City of Mississauga faces a few key issues including:

- Parking is costly to provide, but drivers rarely pay.
- Land is increasingly costly. Surface parking is increasingly too costly to be feasible.
- Payment-in-Lieu of parking and DC revenues are insufficient for the construction of new public parking.
- Parking enforcement ticket revenues are not currently directed towards parking capital and operations.
- A comparison of parking revenue and expenditures shows that there is a cost associated with parking provision in the City.

---

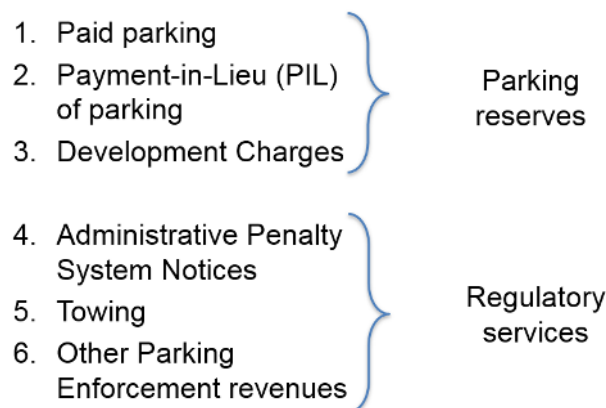
#### **6.1.1 CURRENT SOURCES OF PARKING REVENUE**

The City currently funds its Municipal Parking capital and operations from three main existing sources: parking revenues; Payment-in-Lieu of parking charges; and Development Charges. These are known as parking reserves.

Additional revenues are generated from parking tickets (APS Notices), towing, and other parking enforcement revenues. These are known as parking regulatory services.

Exhibit 6-1 shows the City's current sources of parking revenue.

#### **Exhibit 6-1 Sources of Parking Revenue Today**



## ***Parking Revenues***

Parking revenues are used to offset operating costs and any surplus is currently recognized as operating revenues. The City's parking services are also funded partly by the property tax base for such services as reviewing development applications, driveway widenings, administration of PIL, business planning, budgeting, and other activities.

Although Municipal Parking is a "Parking Service Area," this status has not been formalized. (In contrast, Parking Enforcement is a formalized "Regulatory Service Area.") The Parking Service Area consists of non-tax supported on and off-street parking spaces delivered to the public. Surpluses generated from parking revenue from these parking spaces are contributed either to the capital reserve funds for parking infrastructure improvements or expansion, or to an annual contribution to the City to offset property tax increases. Municipal Parking should become a formalized Parking Service Area which would then have its own Business Plan as do other Service Areas of the City.

The Regulatory Services Area's parking enforcement activities generated \$9 million in 2017 mainly from Administrative Penalty Notices (for example, parking tickets). This revenue is currently used to fund the Regulatory Services Area. The revenue does not contribute to Parking Services Area's capital or operations requirements. Parking enforcement officers' activities also generate revenue from:

- Towing fees
- Parking consideration fees
- Service charges
- Fines

The City's paid parking operations are in the Downtown, Port Credit, Clarkson, Cooksville, Lakeview, and Streetsville. Some or all revenue from these parking operations flows into six separate Reserve funds.

In 2017, the total balance in the six funds was \$6.8 million. The funds are used for new public parking facilities such as surface parking lots and parking structures.

In the case of the Downtown parking revenue, 50% of net operating expenses flows to the Downtown Parking Reserve and 50% flows to general revenue.

In the case of Port Credit, Clarkson, Cooksville, Lakeview, and Streetsville, 100 percent of net revenue after operating expenses is allocated to reserve accounts for use in these areas of the City.

The six geographically-delineated parking reserve accounts should be merged into one capital reserve. The City follows a principle that prioritizes its City-wide capital program on a need-basis. Merging the six capital reserves into one account would help the City to maintain this principle.

## ***Development Charges***

Development Charges are fees collected from developers at the time of building permit issuance. The fees help to pay for the cost of the infrastructure required to provide municipal services to new developments.

In 2009, under the City's DC By-law, the City began collecting funds for a parking structure. The funds are collected from City-wide new developments and can be used for a growth-related parking structure anywhere within the City's limits. At the end of 2017, the balance was \$2.9 million.

---

### 6.1.2 FUTURE FUNDING OPTIONS

The sources of parking funding outlined in Chapter 6.1.1 will be important for supporting the expanded role of parking as a tool for city building as well as a service that is financially self-supporting for ongoing operations, maintenance and future new infrastructure. In addition to the current sources of funding, it should be acknowledged that another funding option is the sale or lease of the City's property holdings.

The common public perception that parking should be “free” does not consider the costs associated with providing and maintaining the parking. The cost of parking spaces in new parking facilities includes land acquisition, design and construction, lighting, power, signage, access control, safety and security, fencing, landscaping, parking planning, and insurance. The cost of parking spaces in existing parking facilities includes the ongoing maintenance costs of snow and litter removal, power sweeping, resurfacing, landscaping, line painting, lighting, and insurance. Additional costs include marketing, promotion and enforcement. Free parking during certain time periods increases enforcement costs as additional patrols are required.

In some cities, parking enforcement revenue is used to support the entire parking program and operations including enforcement costs. When parking is “free,” the costs must be covered from sources such as taxes and it is not possible to build reserves to fund future capital projects.

Aligning parking revenue streams from on-street, off-street, PIL and development charges will provide clarity regarding how much of a parking service is self-funded and how much is being subsidized through the tax base.

As the parking service area becomes established, any potential impact on the operating budget will become known, and will be reported on during implementation. It is anticipated that as parking fees increase, more and more of the ongoing and capital expenses will be covered through parking fees. It is unlikely that all capital programs and new parking technologies will be funded fully through parking fees.

---

### 6.1.3 FUTURE PRICING FOR PARKING

Several matters related to parking finance at the City require formalization.

#### *Parking Fees*

Municipal Parking's current parking fees generally fall into one of three groups:

- Free parking
- \$1/hour or \$6/day, \$5/overnight
- \$1.50/hour for the first 2 hours and \$2/hour for the third hour (3-hour maximum)

Parking is mostly free in off-street lots where utilization levels are low or where there is no market for paid parking while on-street parking fees are designed to encourage turnover.

Hourly, daily maximum and monthly parking fees should be set at the level that best manages demand and supply. Technological advances in parking provide the tools to collect and analyze large amounts of data about parking utilization. Regular reporting on utilization throughout the day would allow the City to define clear policy goals and accurately adjust pricing to meet those goals. Better technology has already improved revenue management, provided users with more payment options, and improved enforcement while lowering associated costs.

## ***Dynamic Pricing***

A dynamic pricing strategy structures pricing to reflect estimated demand at that point in time. Exhibit 6-2 shows the dynamic pricing costs at a parking facility in San Francisco.

### **Exhibit 6-2 Dynamic Pricing in San Francisco**



Time Period	Price per Hour
Midnight - 9am	3.00
9am - Noon	4.00
Noon - 3pm	4.50
3pm - 6pm	3.50
6pm - Midnight	1.00

In the long-term, implementing dynamic pricing parking based on performance objectives for the street and transportation system would allow the City to better manage its parking supply. A parking occupancy of 80% to 90% (one or two parking spaces vacant) for on-street parking reduces or eliminates drivers circling to find a parking space. Lower parking occupancy can indicate that pricing may be too high.

Implementing a performance-based pricing program begins with accurate and up to date on-street and off-street parking data as a basis for developing an understanding of local parking patterns and establishing a balance between parking supply and demand.

## ***All-day and Monthly Discounts***

The City currently offers lower fees for all-day parking and or monthly parking permits. This practice encourages driving and discourages the use of transit and other modes in two ways:

- Monthly parkers must pay for parking whether they need it daily or not.
- The all-day commuter typically has the best transit service options so should not be given a discount for parking all day.

## ***Multi-visit and Monthly Permits***

The City should continue to offer multi-visit and monthly parking permits. To discourage daily driving to work, the City may wish to move towards reducing its discounts for multi-visit and monthly permits. This program is highly valued by staff but is also logistically a lot of work by Municipal Parking staff. Recommendations made about updating the technology used to process and distribute parking permits could improve the return on investment for this program.

---

#### **6.1.4 RECOMMENDATIONS: FUTURE FUNDING OPTIONS**

- It is recommended that as the City's paid parking market matures, the City undertake an analysis of the benefits and costs of reducing the daily and monthly parking discount and that the City aligns its parking passes with surrounding commercial monthly parking fees.
  - It is recommended that the City increases its parking fees at regular intervals to keep pace with inflation.
  - It is recommended that over the long-term, the City's fee-setting strategy should evolve to meet specific parking utilization objectives. The strategy could include setting parking fees that vary by location, time of day, and special event type.
  - It is recommended that the City supports its April 2018 TDM Strategy pricing parking measure by setting monthly parking fees higher than the MiWay adult monthly transit pass fee.
  - It is recommended that the City establish a formal Corporate Policy for financing and funding Municipal Parking operations. The policy should adhere to the following principles:
    - Revenue-generating parking activities should be funded through parking revenues (separate cost centre).
    - Non-revenue parking activities should be funded by the property tax base (separate cost centre).
  - Municipal Parking fees should reflect market conditions (supply and demand).
  - It is recommended that the annual parking ticket revenue should be used to cover all costs of enforcement including parking ticket processing. Any surplus revenue should be placed into the reserve account to pay for new capital projects (For example, surface lots, parking garage structures and necessary equipment).
  - It is recommended that the City undertakes an analysis to determine the benefits and costs of implementing dynamic or escalating on-street pricing in each precinct.
  - The existing six geographically-delineated parking reserve accounts are merged into one capital reserve account.
- 

#### **6.1.5 FINANCIAL EVALUATION OF NEW PARKING STRUCTURES**

Deciding whether to construct an above-ground or below-ground parking structure requires a financial evaluation to determine:

- The parking markets served (For example, retail customers, monthly employees and shared parking).
- The walking distances to and from surrounding land use.
- The best location for the parking structure.
- The type of parking structure (For example, above-ground precast concrete, prefabricated steel beam or underground).
- The parking fees. Fees should be charged based on market rates and should support a reasonable payback period, normally between 25 and 30 years.
- Forecasts of parking demand and supply.
- Non-financial considerations such as City's policy to encourage more environmentally sound modes of transportation.
- Potential partnerships with compatible land use interests.



Exhibit 6-3 shows an above ground pre-fabricated steel beam parking garage in Markham and Exhibit 6-4 shows an above ground precast concrete parking garage in Mississauga. Underground parking garages are constructed of concrete structures.

**Exhibit 6-3 Pre-engineered, Prefabricated- Centennial GO Station, Markham**



**Exhibit 6-4 Recast concrete- Clarkson GO Station, Mississauga**





The framework for the financial evaluation of a new parking facility requires an assessment of:

- Investment Costs
- Operating Assumptions
- Revenue Assumptions
- Operating Costs

Exhibit 6-5 provides a simple financial summary of a 1,000 parking space facility located on a one acre parcel of land. It should be noted that land costs are not included. Land costs would need to be added to the estimate of total costs, if land acquisition is required.

#### Exhibit 6-5 Parking Structure Investment Costs

1,000 Space Facility	Above-Ground Parking Facility (Concrete)	Above-Ground Parking Facility (Pre-Fab Steel)	Underground Parking Facility
<b>Estimated construction cost</b>	\$60M (\$44K/space + fixed costs)	\$33M (\$20K/space + fixed costs)	\$81M (\$62.5K/space + fixed costs)
<b>Estimated Annual Operating Costs</b>	\$2.7M	\$2.2M	\$3.2M
<b>Estimated annual profit (assuming \$5.7M revenue from utilization assumptions and future prices)</b>	\$2.9M	\$3.5M	\$2.5M
<b>Payback period once operational<sup>14</sup></b>	20.1 years	9.3 years	32.2 years

Note: Example for 1,000 Space Facility

Exhibit 6-5 shows that the capital costs of building parking structures are high. The cost per parking space ranges from \$20,000 (above-ground prefab structure) to \$62,500 (underground). The payback period ranges from 9.3 years (above-ground prefab structure) to 32.2 years (underground). The payback period is affected by the time required to build the garage. The above-ground concrete and pre-fab structures would be built faster than the underground garage so the payback period would start sooner.

It is clear that parking structures are expensive and require significant capital investment. The revenue stream from parking fees is important for contributing to capital and ongoing operating costs. Before deciding whether to build a parking garage, a full business case and detailed financial analysis are required. The up-front investment and associated borrowing costs and or loss of investment income and or opportunity costs must be weighed against future operating costs and revenue cash flows (i.e. the net present value of the investment must be considered).

<sup>14</sup> The payback period is affected by the time required to build the garage. The above-ground concrete and pre-fab structures would be built faster than the underground garage so the payback period would start sooner.

### 6.1.6 RECOMMENDATION: THE COST OF NEW PARKING

It is recommended that a formalized process for determining the business case associated with any parking capital project be adopted.

### 6.1.7 GO TRANSIT PARKING

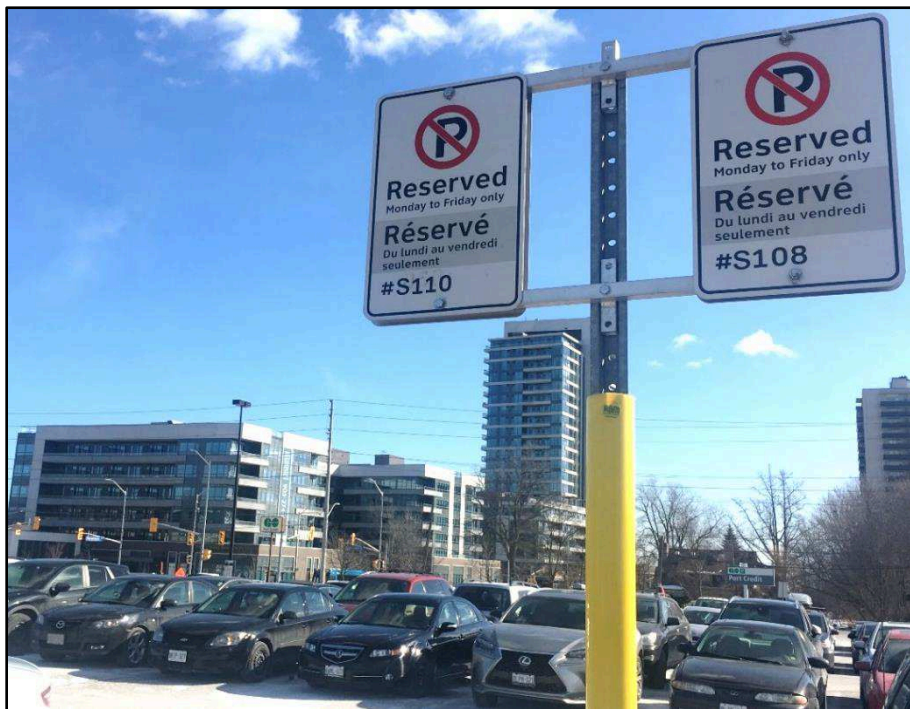
All GO Transit rail and bus stations in Mississauga have customer parking. Wherever the City offers paid parking, but GO Transit offers a free parking facility in the same area, GO Transit is in effect in competition with the City.

GO Transit's current policy for most of its spaces is free parking on a first-come, first served basis. Customers can park in any space for a maximum of 48 hours.

GO Transit also offers reserved parking at all its Mississauga parking lots. A reserved parking space for the minimum term of six months is \$98 per month (including all taxes).

Exhibit 6-6 shows an example of reserved parking at a GO Transit parking lot.

**Exhibit 6-6 Reserve Parking at GO Transit Parking Lot**



GO Transit's parent agency, Metrolinx, understands that the practice of providing free parking at all GO stations is unsustainable in the long-term. The Metrolinx 2041 Regional Transportation Plan (RTP), adopted in March 2018, notes that:

“New rapid transit projects across the GTHA will bring quality transit services closer to many more people and jobs. Maximizing the use of these new services will require a renewed emphasis on providing multimodal options for the first- and last-mile of every passenger trip. It is not sustainable to rely primarily on rapid transit users driving to stations and parking for free. New solutions are needed.”

The 2016 GO Rail Station Access Plan set targets for reducing the growth in parking requirements at GO stations. The Plan advocates improving multi-modal connections at GO Transit stations. Improvements would include quality station access amenities and a range of travel options (such as conventional and micro-transit, carpooling, walking, and cycling).

Although GO Transit understands the need for greater incentives to discourage commuters from parking at the station, it may be challenging to influence behaviour in any meaningful way while the vast majority of parking spaces at GO stations remain free.

---

### **6.1.8 RECOMMENDATION: GO PARKING**

It is recommended that the City work with Metrolinx to develop a strategy to reduce all-day free parking at GO Transit rail and bus stations.

---

## **6.2 SPECIAL CONSIDERATIONS IMPACTING REVENUE**

There are a number of instances in Mississauga where exceptions are made in an area that would otherwise have paid parking that can lead to a loss of revenue. For example, the CarShare vehicle permits that cost the carshare company \$65.00 per month is limiting the amount of revenue the City can acquire from that designated space. (There are currently five types of on-street parking permits offered by the City of Mississauga, some are paid permits and others have no fee. The five permits are residential short-term temporary, residential long-term, commercial blanket, residential blanket, and carshare permits.)

Another on-going culture building project involves allowing businesses to set up patio spaces in existing on street parking in neighbourhoods where there is high traffic. While these programs help to improve the City's culture and foster businesses it limits the revenues from parking in the same space.

The City should gain an accurate understanding of the value of a specific parking space that is being requested to be used for other purposes and ensure that accommodations are made for the lost revenue where necessary, potentially at the cost of those requesting the special consideration.

---

### **6.2.1 RECOMMENDATION: SPECIAL CONSIDERATIONS**

It is recommended that the City develop a strategy to accurately account for lost revenue where special considerations are given in paid parking locations.

## 7 TECHNOLOGY AND INNOVATION

As technology continues to evolve related to parking, cities should monitor these new tools for parking management and apply them where they can be most effective. This Chapter provides a review of existing and new trends in parking technology and provides recommendations on how they could improve the customer experience and parking management.

In the past, paid parking involved simply dropping coins into a meter that would track how much time remained for a vehicle to be parked in that spot. As new technologies have become available the City has updated its network to improve the user experience but also to be able to track parking usage more accurately. This Chapter will discuss the current forms of technology being used for parking in the City. Then an analysis of some other, emerging technologies will be presented and some recommendations about how they can be used to continue to improve the City's paid parking network.

### 7.1 CURRENT PAYMENT TECHNOLOGY

#### 7.1.1 PAY AND DISPLAY MACHINES

Pay and Display units have been used in Mississauga for nearly 10 years in the Downtown parking garages, on-street in the Downtown Core, Port Credit and Streetsville. The units are sited at on and off-street parking facilities. Pay and Display is Canada's most widely used parking payment technology. On arrival, drivers walk to the Pay and Display unit, pay for parking, received a printed receipt and then return to the vehicle to display the receipt on the dashboard for inspection by parking enforcement officers.

The system accepts coins, credit cards and pre-programmed cards such as monthly permits and multi-visit cards. The machines are connected to a cellular network where credit card transactions are processed in real time and statistical/financial information recorded on a cloud server through a contract with the City's parking supplier, Precise Parklink. The units are solar-powered which minimizes the infrastructure work required for installation.



The City has made substantial investment in the current Pay and Display system and has a long-term relationship and contract with Precise Parklink for supply and maintenance.

---

### 7.1.2 MULTI-VISIT PAYMENT CARDS

For individuals who frequent the Downtown, the City currently offers a multi-visit payment card. This allows individuals to buy parking visits in bulk at a discounted rate rather than paying the daily maximum. These cards are compatible with the current Pay and Display machines in the parking garages. An individual received a printed receipt from the Pay and Display machine that they place on their dashboard for inspection by parking enforcement officers. The card is a pre-paid, reloadable card for up to 250 daily parking visits.

To reload a Multi-Visit card, a customer must complete an application form, take the form to the City's cashier desk in the Civic Centre and pay in-person. This program currently requires a significant amount of administrative work to operate as there is no online option for reloading. Further complicating this process is the fact that the City offers different rates depending on the applicant and their individual circumstances. Opportunities to update this program with new technology are explored in Section 7.2.3 .

---

### 7.1.3 ANNUAL AND MONTHLY PERMITS

In addition to the Multi-Visit Payment Cards discussed above, the City also offers Annual and Monthly permits for City staff, members of the public and Sheridan College students and staff. The permit is given to the driver in the form of a hangtag which is hung from the driver's rear-view mirror for inspection by parking enforcement officers. These passes are strictly offered in the municipally owned and operated lots in the Downtown.

This process is equally challenging to administer as there is no digital process and all paperwork and permits are coordinated by staff in Municipal Parking. There are also a number of different passes including, annual, monthly, and part-time staff rates that add further complexity to the program. Opportunities to update this program with new technology are explored in Section 7.2.4.

---

## 7.2 NEW PAYMENT METHODS AVAILABLE

Section 7.1 discussed the current payment methods being employed by the City to facilitate the existing paid parking program. It also identified areas where there is room to improve and streamline the payment process to improve the customer experience as well as limit the amount of staff time required to process all applications.

This Section will explore new technologies available within the parking industry that can be used to improve Mississauga's current paid parking program. It is important to note that while these technologies may improve the customer experience and the City's ability to monitor parking, many of these technologies may not result in an increase in revenue for the City and may be expensive to implement and maintain.

Should the City transition to any of the new technologies discussed in this section, it will need to be completed as a part of a coordinated effort to update the City's enforcement processes and technologies. Those requirements will be reviewed in further detail in Section 7.3.



### 7.2.1 PAY-BY-LICENSE-PLATE

Some cities are now considering Pay-By-License-Plate (PBLP) payment stations rather than Pay and Display machines.

Customers park their vehicles and make their payment transaction at a PBLP terminal. The system records license plate information (entered by the customer) and collects payment for the parking transaction using coins or credit cards. The customer's license plate number acts as a "permit" eliminating the need to return to their vehicle to display a receipt.



PBLP uses solar power and a cellular network. The system processes credit card transactions in real-time and stores the statistical/financial information recorded on a cloud server.

Parking payment is enforced by existing by-law enforcement officers using handheld computers or by a License Plate Recognition (LPR) system. LPR requires a monitoring vehicle mounted with specialized cameras and software that scan the license plates of all parked cars to detect vehicles for expired transactions and vehicles that have not paid. PBLP increases customer convenience and improves enforcement.

### 7.2.2 GATED PAY-ON-FOOT

Pay on Foot parking stations are unmanned payment stations used in a gated revenue control system. The terminals dispense tickets or read pre-programmed cards allowing people to pay for parking 24 hours a day. Customers press the button on the terminal to obtain a ticket or present their access card. Some systems allow customers to enter a pin code. Pay on Foot stations can also accept bills, coins, and credit cards in addition to giving out change. Barrier gates and terminals are installed on each entry or exit lane. Most entry points now detect the presence of a vehicle via a loop detection system.

Gated Pay-On-Foot (POF) systems provide very effective revenue control. The systems are used mainly for large surface parking lots and for above and below ground parking garages. The technology is not usable for on-street parking.

There are two primary benefits of gated systems: the operator can leave the lot unattended, and the system is self-enforcing (the customer has to complete a transaction before leaving the lot or garage). The primary drawback is possible revenue loss if equipment such as the gate arms malfunction. With mobile payment, transactions in the queue to exit can still be processed. Remote connections can also be used to restore system operability.

Entry ticket and access card information is transmitted in real time to a central server which processes payments, validates parking tickets, and applies "anti-passback" rules.

In most systems, the customer pays on exit (by credit card), but the system may include a central pay station. This pay station is connected to the server and can retrieve and process transactions in real time.

A very important component of a POF system is access control for monthly parking permit holders and property management staff. The latest technologies include proximity cards, wireless transponders, and mobility phones.



Most POF systems involve human interaction, but new technologies require no action from customers upon entry or exit. For example, a (2017) pilot program in the Los Angeles Metro LA transit parking lots automatically linked the automobile license plate to a valid TAP card through LPR technology. Monthly parkers pre-register their vehicles and payments. The license plate acts as the permit identifier that is validated by the LPR allowing for smooth uninterrupted flow into and out of parking lots.



LPR offers tremendous flexibility for various applications depending on site specific needs.

### 7.2.3 PAY-BY-PHONE

Payment through an app is increasing in popularity as people are relying more on their smartphones. Apps are available for a number of medium and large municipalities including Toronto, Ottawa, Vancouver, Montreal, Burlington, Guelph, and Whitby. Where apps are available, their use ranges from 2% to 40% of total parking payments. Private commercial parking lots are also adopting payment by smartphone app. The use of smartphone apps is expected to rise significantly in the next few years.

The main advantages of paying by a smartphone are convenience for customers and no physical changes are needed to existing parking infrastructure. Some shortfalls of a pay-by-phone system include:

- Alternative payment methods must be available to customers without smartphones (76% of Canadians owned smartphones in 2016 according to Statistics Canada).
- Some customers are reluctant to register online with app providers because they are concerned about privacy and sharing personal information (although service providers guarantee that the personal information is not shared).
- The customer pays a convenience fee in addition to the parking fee. The convenience fee typically ranges \$0.25 to \$0.40 per transaction. Some municipalities absorb the convenience fees.
- An anticipated loss in revenue from lack of overspending by customers who no longer over-estimate the length of their visit.
- Reduced vehicle turnover because drivers can add more time to their parking meter without the need to return to the car.



Customers must download the smartphone app from a service provider's website, register for an account and give permission for parking fees to be paid from their credit card. The parking operator posts phone and code numbers throughout the parking lots on highly visible signs. The customer enters the code of the parking location and the time period required into the app. The app sends a warning text message about 15 minutes before the time period expires and allows the customer to add more time from the customer's location. Customers can go online at any time to check their list of transactions, add, or amend vehicle details, and update payment or security settings.

### 7.2.4 PAY-BY-ONLINE PERMIT

Pay-By-Online Permit are available on the internet. Customers can buy daily, monthly, and annual parking permits before arriving at the on-street parking zone of special events such as sports events, concerts, and festivals.

The customer purchases a daily, weekly, or monthly permit by logging on to a parking permit application (offered by several parking vendors) using a credit card. The customer then prints a copy of the barcoded permit on regular paper or retains the 3D barcode on a smart phone. Parking is controlled by on-site event parking personnel.

Motorists arrive at the pay parking zone, park, and display the permit on the dashboard for inspection and barcode scanning by patrolling enforcement officers. The system is a very convenient and low-cost way for customers to pay for parking.

Drawbacks include confusion among motorists who are not familiar with the parking zone or who dislike paying online. Existing Pay and Display machines provide an alternative for such customers.



Similar systems allow customers to conveniently replenish monthly or multi-visit permits online instead of having to go to an office in person to acquire a permit.

### 7.2.5 RECOMMENDATIONS: PAYMENT METHODS

- It is recommended that the City undertake a business case analysis to determine the feasibility and benefits of upgrading its Pay and Display machines and enforcement technology to a PBLP system.
- It is recommended that the City consider a Pay-On-Foot (POF) system possibly combined with License Plate Recognition (LPR) technology at locations that require additional parking controls. Depending on circumstances, POF may offer a better solution than Pay and Display and or PBLP.
- It is recommended that the City consider POF for any new parking structures planned for the Downtown Core.
- It is recommended that the City consider converting the City Hall parking garage from Pay and Display machines to a POF system.
- When installing POF systems, it is recommended that the City consider systems with the latest technologies available including access control for monthly parking permit holders and property management staff proximity cards, wireless transponders, and mobility phones.
- It is recommended that the City offer the convenience of Pay-By-Phone at all the City's on-street and off-street parking facilities.
- It is recommended that the City use a phased approach to introduce Pay-By-Phone.



## 7.3 PARKING ENFORCEMENT TECHNOLOGY

Recent advances in parking enforcement technology have made new approaches economic even for smaller municipalities to use License Plate Recognition (LPR) for parking enforcement.

LPR for parking enforcement uses a normal vehicle equipped with two cameras on the roof just above the windshield to scan the license plates of cars parked on a street. A second set of cameras at the back of the vehicle scans the position of the tire valves to determine whether a vehicle has moved and re-parked in the same location.

A computer logs the plate number, the GPS location of the vehicle, the date, and the time. The system can use the internet to link with PBLP and mobility payment (pay by cell) systems and check the validity of monthly parking permits (as license plates act as parking permits).



The system can be used for on-street and off-street surface lots and within parking garages. Within parking garages, stationary cameras create a virtual gate. The system alerts enforcement officers to vehicles with expired parking.

For areas where parking is free at certain times of day and prohibited at other times, the parking enforcement officer can drive at the posted speed limit past vehicles parked in the free period and scan the details. The officer then returns when the free parking period has expired and issues a parking ticket to vehicles that remain.

All the data is stored on a secure server. The system follows the recommendations provided by the Information and Privacy Commissioner of Ontario about the handling of data.

Efficient and streamlined enforcement is a major benefit of mobile LPR. In Calgary, for example, 10 mobile enforcement officers can do the same amount of work as 16 officers who simply walk and issue tickets. The number of disputed tickets has decreased by 60 percent because of the strength of photo evidence. The number of court challenges and the cost of staff administration and court time costs also has been reduced.

A pilot project is underway in the City's Parking Enforcement group to test License Plate Recognition technology and Digital Chalking equipment. This will eliminate the need for manual chalking, offers immediate recognition of vehicles plates and a review of existing permit data. Digital Chalking will allow officers to enforce the City's parking bylaws more efficiently and within the safety of their vehicle. In addition to efficiencies of a single pilot vehicle for Chalking duties is an expected 25 per cent improvement to process productivity.

## 7.4 PARKING DATA COLLECTION AND MANAGEMENT

Fundamental to any discussion of policy change is an understanding of existing conditions such that strengths can be built upon and weaknesses remediated or removed. A review of Mississauga's Municipal Parking's existing data collection and storage methods identified the following gaps:

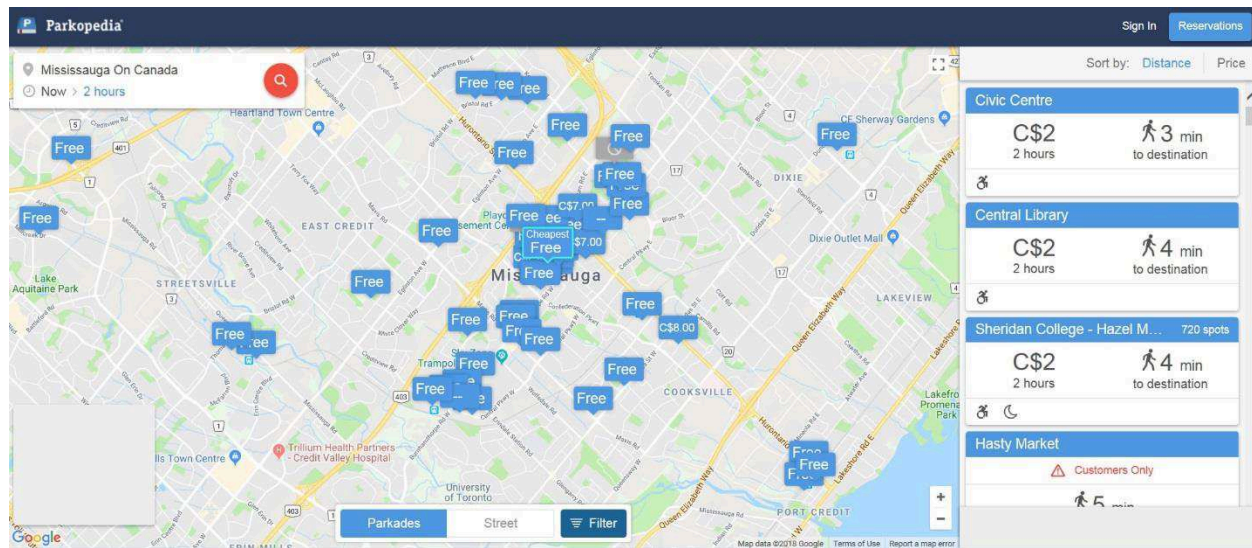
- Information such as machine number, address, tariff, and installation date on parking machines at off-street garages and lots is not standardized.
- On-street parking machines have a database that includes machine number, location, fee, and installation dates, but the database lacks basic supply information. Data from monthly utilization surveys would be a useful addition to the database.
- Data for City-owned parking, parks, recreational centres, and the Transitway need to be standardized, linked, and consolidated. In the case of MiWay Station lots, for example, information on locations, operating hours and supply was readily available, but there was no information on fees at each lot and there were no utilization surveys. Fees should be updated, and regular surveys should be conducted. Fee data can also be extracted from parking machines that are not part of the Precise Parklink Inc. data warehouse.
- The City has some data on privately-owned parking lots. The information is spatial (referenced to a specific location). Information on the quantity and form of parking is limited.
- Information on parking enforcement violations is available in spreadsheet format. This information includes the types of infraction, but does not include geo-spatial data for the location of the infractions. By comparison, the City of Toronto, however, links parking enforcement activities to locational data and can display the information in layers on a map.

Information about parking machines on-street and at off-street garages and lots should be saved and consolidated into an operational database. If parking machines are electronic, information such as utilization should be extracted and added to the database. The information would help to identify lots and garages that are at capacity or under-utilized. Information on utilization could be collected once a month and used to track parking trends.

Private providers such as Parkopedia are already crowdsourcing similar data for Mississauga, see Exhibit 7-1. Registered customers can supply Parkopedia with fee data via their phones. The data is uploaded to Parkopedia's site and can be searched by price and or time of day. Partnerships with, for example, Google Maps will allow the data to be displayed in real-time data via apps and the web.

Please refer to Appendix 6-1 for further details.

### Exhibit 7-1 Parkopedia Parking Information for Mississauga



Source: <https://en.parkopedia.ca/parking/mississauga>

#### 7.4.1 RECOMMENDATIONS: DATA COLLECTION AND MANAGEMENT

- It is recommended that the City's Municipal Parking organization develop an annual parking data collection program and create a comprehensive database of City-provided parking supply and utilization. The data collected should be openly available online. This work will begin the process of creating the back-end infrastructure required to provide parking and utilization information to the end-user.
- It is recommended that the City consolidate existing data files regarding privately-owned parking and add information at key locations of interest across the municipality (For example at Intensification Areas). The data collected could be used to develop a more comprehensive understanding of existing parking supply for development and long-range planning purposes.
- It is recommended that future data collection and storage methods for parking enforcement link infraction and infraction location data, and the data should be mapped.

## 7.5 DIGITAL SIGNAGE AND WAYFINDING

Parking guidance systems are useful in large areas where alternative parking locations are available close to destinations.

A combination of digital variable message signs and wayfinding signs direct drivers to the parking available. Signs are placed at entry points to the area covered, key decision-making points within the area, and the access points to each parking facility. Wayfinding signs provide information for parking locations where real-time information is unavailable.

Parking guidance systems typically include a website and mobile app that provide real-time, map-based information on parking availability and pricing.



### 7.5.1 RECOMMENDATIONS: DIGITAL SIGNAGE AND WAYFINDING

- It is recommended that the City consider implementing a parking guidance system in locations such as Precinct 1 where there are large municipal parking facilities and large private parking facilities. The system should combine digital variable message signs and wayfinding signs to direct drivers to available parking.
- It is recommended that the signs be placed at Precinct entry points, key decision-making points within the Precinct, and access points to each parking facility.
- It is recommended that the wayfinding signs be provided for parking locations where real-time information is unavailable.
- It is recommended that the all City parking guidance technology in all parking facilities be compatible to ease integration into the City's information system.
- It is recommended that the parking guidance system include a website with an associated app that makes parking availability and pricing data available to customers.
- It is recommended that the City promote the use of the online tools, particularly during peak demand periods such as special events. The web-based tools may be developed by the City or through a private partnership.
- It is recommended that the City regularly:
  - Review the geographical areas where a parking guidance system is implemented.
  - Assess the parking guidance technology available and consider advances in technology and best practices.

## 7.6 PEER-TO-PEER PARKING SHARING

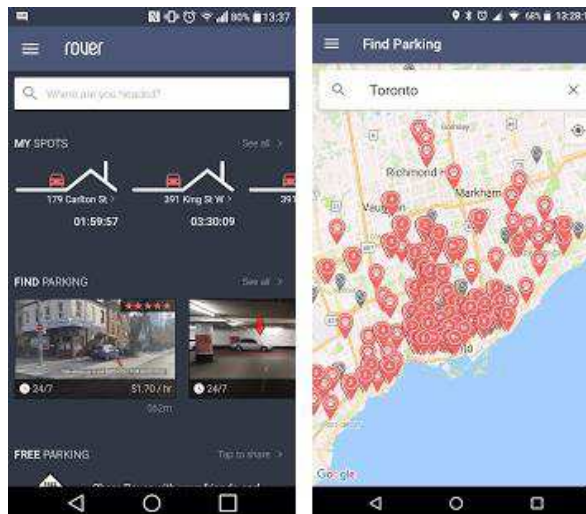
Peer-to-Peer parking is an example of the sharing economy. In the case of parking, private parking space owners are linked to drivers seeking a space (see *Existing Policy and Best Practices Review*). A sharing economy approach would allow the flexible use of surplus residential parking spaces.

This chapter discusses two approaches of interest to the City: Driveway Parking and digital platforms for renting parking.

## Rented Driveway Parking

A more common form of sharing economy on parking is driveway parking, which is observed in Canada, UK, and Australia. For instance, mobile applications exist to allow property owners to rent parking spaces on private property by the hour. Examples of apps available in Toronto include Rover Parking and HonkMobile. In Rover Parking, the property owner sets the price. The upper limit is \$2 an hour to ensure that the spaces are competitive when compared with traditional parking spaces.

City of Toronto by-law officials generally accept renting out unused garage space, but regard renting out driveway spaces to multiple drivers as illegal. The renting out of driveway spaces is considered illegal because officials wish to discourage additional traffic in local neighbourhoods, and because the presence of unknown drivers and passengers may result in nuisance complaints and risks to neighbourhood safety.



The Sharing Economy Public Design project is a collaboration between MaRS Solutions Lab, the Province of Ontario, and the City of Toronto. The project conducted a comprehensive review of sharing economy issues to improve understanding the role that government should play. The study recognized that Toronto has a city-wide shortage of parking spaces whereas condo buildings often have empty parking spots. A sharing economy approach to surplus condo parking spaces would require Toronto to make appropriate changes to by-laws for zoning, building and condo boards. The response to the sharing of driveways has been mixed.

Exhibit 7-2 provides examples where sharing is accepted (the Borough of Rosemont-La-Petite-Patrie (Montreal), Sydney (Australia), and Melbourne (Australia) examples where sharing is not accepted (Ottawa and Perth).

### Exhibit 7-2 Municipal Response to Commercial Driveway Parking

Municipalities	Response
<b>Accepted Practice</b>	
Borough of Rosemont-La-Petite-Patrie (Montreal)	Allows residents to rent out their off-street parking facilities including driveways and garages
City of Sydney	Allows residents to lease parking spaces on their property using any online resource, but the permit given to the property owners is not transferable Planning conditions and strata by-laws prevent spaces in some apartment buildings from being leased out to non-residents. The conditions and by-laws ensure a) that private buildings cannot be used as public car parks, and b) that security of apartment residents is not compromised.
City of Melbourne	Allows residents to rent out their driveways, but the permit cannot be transferred or sold Leasing private parking lots or spaces are not regulated by Council.



Prohibited Practice	
City of Ottawa	City's Zoning By-law requires parking spaces to be reserved for persons residing in or visiting that property.
City of Perth	City retains the legal right to prevent the sale or transfer of resident parking permits.

Source: Existing Policy and Best Practices Review, City of Mississauga, 2017

### ***Parking Rental Platforms***

There are digital apps that distribute information about parking spaces.

Users of the app can auction the privately-owned parking spaces to the highest bidder. Users can also use the app to profit from prepaid parking permits in public city-owned parking spaces.

San Francisco officials claim that MonkeyParking violates the City's Police Code which prohibits individuals or companies from buying, selling, or leasing public on-street parking. MonkeyParking and the associated practice of profiting from renting out public parking have been made illegal by the City of Los Angeles.

---

### 7.6.1 RECOMMENDATIONS: SHARING OF PRIVATE PARKING

- It is recommended that the City initiate a “Share Your Parking” program to encourage shared parking opportunities between private parties. The program could:
    - Facilitate private lease arrangements for shared off-site parking in existing and future parking facilities.
    - Coordinate between public and private parking providers, places of worship, BIAs, businesses, and the City to prepare agreements among parties to better use existing parking facilities.
    - Remove or minimize administrative barriers (For example, Property Title changes) to allow off-site shared parking.
    - Identify a simple one-page set of criteria and conditions for permitting shared parking arrangements. If an application meets the conditions, the application should not be required to go to the Committee of Adjustment.
    - Add elements to the City’s Urban Design Guidelines to facilitate shared parking including shared access between or among sites.
  - It is recommended that the City prohibit the practice of profiting from renting out public parking.
- 

## 7.7 CONNECTED AUTOMATED VEHICLES

Connected automated vehicles (CAVs) are an emerging technology that could profoundly change transportation systems. This Section describes the possible impact of CAVs on parking in the future.

As CAV technology has not yet been perfected, the timeline for widespread uptake of CAV is uncertain. However, experts speculate that the impact on parking could include:

- Parking density
- Parking location and distribution
- Reduced demand due to changes to vehicle ownership

### *Parking Density*

The first and most immediate impact is already appearing with the self-parking car. When drivers can leave their vehicles before parking, it is possible to increase parking density by reducing the dimensions of parking bays and aisles. Over time, parking deck design will change as decks accessed and used exclusively by self-parking vehicles will require less headroom, ventilation, signing, and lighting.

### *Parking Location and Distribution*

With vehicles able to locate their parking without a driver or passengers, parking location and distribution could change. Cars could park in lower value areas peripheral to city centres freeing higher value areas for other uses.

### ***Reduced Demand Due to Changes to Vehicle Ownership***

CAVs could reduce vehicle ownership as shared use of CAVs becomes increasingly attractive. Shared use of vehicles reduces the demand for parking.

Fagnant, Kockelman and Bansal developed a model for central Austin, Texas and suggested that a single shared AV could replace as many as 9 conventional vehicles.<sup>15</sup> The Fagnant et al. study also found that the vehicle miles travelled (VMT) would increase by up to 8 percent.

In contrast, empirical work based on a diary of mileage covered and the trips conveyed by a single Uber vehicle indicated that a shared AV model could result in VMT increasing by nearly 80 percent.<sup>16</sup> This increase is a result of some unoccupied/empty-vehicle travel, but mainly due to induced demand for travel and trips changing from walking, cycling, and transit to Uber vehicles.

A study that modelled the complete adoption of shared AVs showed that 95% of the space required for public parking could be eliminated by only using 3% of the size of today's fleet.<sup>17</sup>

At this point the implications of CAVs and the timeline for adoption are unclear.

### ***Automated Vehicles and Municipal Parking Facilities***

If automated vehicles can park themselves after dropping off driver and passengers, significant changes and savings may occur in parking design.

Possible design changes could include:

- Smaller parking spaces. CAVs can park close together as there is no need to open doors. See Exhibit 7-3.
- Reduced turning radii on drive aisles.
- Reduced area required for access.
- Reduced need for human scale and human-oriented amenities such as lighting and elevators.
- Only limited access required for maintenance crews (For example, stairways).

These changes can significantly increase the number of parking spaces on a parcel of land leading to more parking supply for the public and or lower cost for the City.

<sup>15</sup> Operations of a Shared Autonomous Vehicle Fleet for the Austin, Texas Market, Fagnant, Kockelman, and Bansal, 2015

<sup>16</sup> Impacts of Ridesourcing – Lyft and Uber – On Transportation, Henao, 2017

<sup>17</sup> Shared Mobility – Innovation for Liveable Cities, International Transport Forum, 2016



### Exhibit 7-3 Automated Parking Garage Operation



---

### 7.7.1 RECOMMENDATIONS: CONNECTED AUTOMATED VEHICLES

The Recommendations are:

- It is recommended that the City note the uncertain implications of CAVs and the uncertain timeline for CAV adoption.
  - It is recommended that the City:
    - As part of the Transportation Master Plan process, consider the potential role of CAVs in relation to the City's long-term transportation objectives.
    - Outline the potential contribution of CAVs to long-term City goals.
    - Keep up to date with CAV developments.
    - Develop plans and policies that are flexible and easily updated to be compatible with emerging CAV technologies.
    - Encourage open data sharing to improve decision-making.
    - Through the site plan approvals process, consider future demand for Drop-off and Pick-up facilities for CAVs and potential changes in on-site parking needs.
    - Conduct annual reviews to ensure that the City's policies are in line with evolving trends in CAV technology and applications.
  - It is recommended that the City consider the possible implications of CAVs for future parking facilities and should design new parking facilities to take possible future changes in technology into account.
- 

## 7.8 SMART PARKING

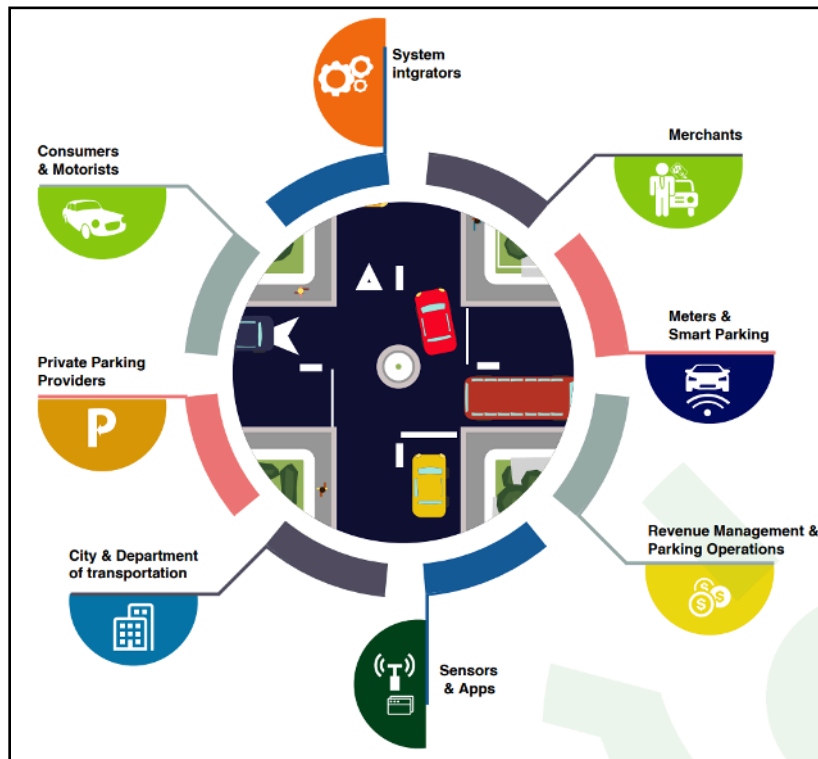
Smart Parking systems use low-cost sensors to obtain and process real-time information about parking spaces available in a particular geographic area. The system uses the information to allocate vehicles to the spaces available. Mobile-phone-enabled automated payment systems allow people to reserve parking in advance (or very accurately predict where they will likely find a space).

Smart Parking has two major benefits. Firstly, the system reduces car emissions in urban centres by reducing the need for people to circle city blocks searching for parking. Drivers circling while searching for a parking space is a significant problem and cause of congestion. Secondly, the system allows cities to manage their parking supply and control illegal parking.

Exhibit 7-4 shows Smart Parking services and stakeholders.

The *Existing Policy and Best Practices Review* report in 2017 provided details on the various measures and elements the City can deploy to initiate and build on their current system to create a fully functional Smart Parking system.

### Exhibit 7-4 Smart Parking System



Source: Smart Parking, Happiest Minds, 2014

An integrated Smart Parking System has a number of important benefits. The system can:

- Accurately predict and sense spot/vehicle occupancy in real-time.
- Guide residents and visitors to available parking.
- Optimize parking space usage.
- Help traffic in the city flow more freely leveraging Internet of Things (IoT) technology.
- Play a major role in creating a better urban environment by reducing the emission of CO<sub>2</sub> and other pollutants.
- Simplify the parking experience and add value for drivers, merchants, and other parking stakeholders.
- Enable intelligent decision using data, including real-time status applications and historical analytics reports.
- Allow better monitoring and managing of available parking space using real-time monitoring and managing leading to significant revenue generation.
- Provide tools to optimize workforce management.

Internet of Things (IoT), as explained in a 2014 Forbes article, “is the concept of connecting any device with an on and off switch to the Internet and or to each other. This includes everything from cellphones, coffee makers, washing machines, headphones, lamps, wearable devices and almost anything else you can think of.”<sup>18</sup>

<sup>18</sup> A Simple Explanation Of 'The Internet of Things', Forbes, 2014

---

### **7.8.1 RECOMMENDATIONS: SMART PARKING**

The Recommendations are:

- When selecting and implementing Smart Parking technology and equipment, it is recommended that the City consider and prioritize:
  - Flexibility to ensure that new technologies can be incorporated
  - Integration of parking data into a centralized system that can provide:
    - information to parking customers
    - information to decision makers and parking managers
- It is recommended that the City continue to work and partner with key private and public-sector stakeholders (developers, parking providers, transit operators, businesses, etc.).

## 8 IMPLEMENTATION AND MONITORING

To ensure the vision of the Parking Masterplan is achieved it is critical to develop a robust and comprehensive Implementation Plan and corresponding Monitoring Program to guide next steps – day to day work completed by staff, decision making by Council and input / support provided by stakeholders and partners. The following sections provide an overview of the proposed implementation plan and monitoring program for the City of Mississauga Parking Master Plan.

### 8.1 Implementation Plan

A typical implementation plan includes discussion around the proposed timelines i.e. phasing for implementation. For the purpose of the Mississauga Parking Master Plan we have not identified a strict set of timelines to guide implementation. Implementation of the master plan recommendations will be determined by City staff based on available resources – staff and budget, Council priorities, community interest and support as well as internal processes related to policy revisions and updates.

To support implementation of the parking master plan a comprehensive implementation plan has been prepared. The plan is documented in a summary table which is intended to be used by City staff to guide next steps. The information contained within the “plan” includes:

- The recommendation and page number where it can be found in the report;
- Identification of the lead agency or individual as well as support staff or stakeholders to the lead;
- A preliminary proposed timeline i.e. short, medium and long-term – to be confirmed based on a review and update of the master plan;
- A preliminary budget range to facilitate the implementation of the recommendation which includes both staff time as well as start-up and maintenance costs;
- Identification of policy or process changes that will be required to ensure that the recommendation can be realized; and
- An overview of next steps.

Exhibit 8-1 contains the proposed Parking Implementation Plan for Mississauga. Recommendations identified throughout the Master Plan Report pertaining to parking precincts, parking regulations, parking facilities, technology and innovation, governance and finance have been summarized and implementation consideration have been detailed for each. The Implementation Plan is based on the City’s current organization structure, which is subject to change.

## Exhibit 8-1 Implementation Plan

Section	Recommendation	Lead	Support	Timeline			Policy Changes		Process Changes		Actions/Next Steps
				S (<2yrs)	M (2-5 yrs)	L (+5yrs)	Yes	No	Yes	No	
Chapter 2   Parking Precincts in Mississauga											
2.1	Adopt a precinct based approach to parking provision, each precinct with its own approach	Planning & Building Department*	Transportation & Works; Community Services and Corporate Services	▪			▪		▪		1. Report to Council for endorsement 2. Planning Department to initiate OP Amendment process or include in next round of OP Review.
2.2	Adopt the goals and parking management principles for each precinct as outlined in the parking strategy	Planning & Building Department*	Transportation & Works; Community Services and Corporate Services	▪			▪		▪		3. Report to Council for endorsement 4. Planning Department to initiate OP Amendment process or include in next round of OP Review.
2.3	Review the City’s current Zoning By-law to determine appropriate parking requirements for each precinct and ensure that the parking requirements align with this study’s criteria for defining and establishing the precinct areas	Planning & Building Department*	Transportation & Works; Community Services and Corporate Services	▪				▪		▪	5. Planning Department to initiate Zoning By-Law review process and exercise 6. Determine if parking rate adjustment are required and where and what should the new rates be. 7. Include public and stakeholders input
2.4	Conduct regular reviews (not more than five years apart) to assess whether precinct boundaries are still appropriate or need to be changed	Planning & Building Department*	Transportation & Works		▪		▪		▪		8. Conduct a review exercise of changes within each Precincts
	*Transportation & Works to assume the lead for this recommendation should the Parking Planning function be transferred from Planning and Building										
Chapter 3   Parking Regulations											
	Motor Vehicle Parking Standards Recommendations										
3.1	The City should consider establishing maximum parking requirements in all Precincts as part of a future, detailed Zoning By-law review	Planning & Building Department*	Transportation & Works		▪		▪		▪		1. The Zoning By-Law review determine if maximums are appropriate and which Precincts and what would be the maximums.
3.2	It is recommended that the City require any development proponent who wishes to exceed the maximum parking requirement to provide a justification report that considers the five key questions outlined in the parking strategy	Planning & Building Department	Transportation & Works		▪		▪		▪		2. Include in development review process and document such request.
	Shared Parking Recommendations										
3.3	The City’s future Zoning By-law review should examine current shared parking categories to determine whether additional land uses and land use categories should be added	Transportation & Works	Planning & Building Department		▪		▪			▪	1. Review the shared parking formula as part of Zoning By-law review and update where necessary.
3.4	It is recommended that the City review current parking occupancy percentages to determine whether the shared parking percentages are appropriate	Transportation & Works	Planning & Building Department		▪						2. Maintain inventory of parking occupancy rates conducted through regular surveys and conduct analysis.
	*Transportation & Works to assume the lead for this recommendation should the Parking Planning function be transferred from Planning and Building										

Exhibit 8-1 Implementation Plan (Continued)

Section	Recommendation	Lead	Support	Timeline			Policy Changes		Process Changes		Actions/Next Steps
				S (<2yrs)	M (2-5 yrs)	L (+5yrs)	Yes	No	Yes	No	
	Bicycle Parking Recommendations										
3.5	The current Zoning By-law should be updated to include bicycle parking requirements determined by the 2018 Cycling Master Plan and Mississauga TDM Strategy and Implementation Plan to ensure they are mandatory for all future development.	Transportation & Works	Planning & Building Department		▪						1. Coordinate the recommendations of the TDM study with the Zoning By-Law review to set appropriate bicycle parking rates.
	Payment-in-Lieu of Parking Recommendations										
3.6	It is recommended that the City conduct a review of the PIL program	Planning & Building Department*	Municipal Parking Group, Corporate Services (Realty Services)	▪	▪						1. Complete a PIL Policy Review and Report to Council
3.7	It is recommended that the City continue considering applications not meeting the Zoning By-law requirements to be candidates for a contribution to the PIL program	Planning & Building Department	Transportation & Works; Community Services and Corporate Services	▪	▪						2. Complete a PIL Policy Review and Report to Council
3.8	It is recommended that the City review the PIL program to address the following: a. Find an appropriate methodology to address land value in consultation with Corporate Services  Incorporate current benchmark costs for surface, structure, and below ground parking facilities including concrete and pre-fab construction options and applied City wide.	Planning & Building Department*	Transportation & Works and Corporate Services (Realty Services)		▪		▪			▪	3. Complete a PIL Policy Review and Report to Council
3.9	It is recommended that the City conduct a review to determine the impact of expanding the PIL program to include residential uses, in coordination with other aspects of the parking system.	Transportation & Works	Planning & Building Department		▪		▪			▪	4. Complete a PIL Policy Review and Report to Council
3.10	The City's should conduct regular updates of parking fees to incorporate current construction costs and land costs.	Transportation & Works	Corporate Services (Realty Services)	▪	▪		▪			▪	5. City staff should review PIL fees in less than five-year periods.
3.11	The City's PIL program should be is administered and managed by the Municipal Parking group in consultation with the Planning & Building Department	Transportation & Works	Planning & Building Department		▪		▪			▪	6. The administration of the PIL Program should be specified during the reorganization of the Parking Unit.
	*Transportation & Works to assume the lead for this recommendation should the Parking Planning function be transferred from Planning and Building										



## Exhibit 8-1 Implementation Plan (Continued)

Section	Recommendation	Lead	Support	Timeline			Policy Changes		Process Changes		Actions/Next Steps
				S (<2yrs)	M (2-5 yrs)	L (+5yrs)	Yes	No	Yes	No	
Chapter 4   Parking Facilities											
	On-Street Parking Time Restriction Recommendations										
4.1	It is recommended that the City continue to allow on-street parking between 8 am and midnight beyond the 5-hour limit on all Statutory Holidays	Transportation & Works		▪				▪		▪	1. City Parking should clearly outline On-street parking regulations within the City and this should be communicated to residents and business.  2. Where necessary update relevant on-street parking regulations.
	Lower Driveway Boulevard Parking Recommendations										
4.2	It is recommended that the City continue to offer LDBP but without the need for a resident’s petition. LDBP can help to alleviate the shortages of residential parking in some areas	Transportation & Works		▪			▪		▪		1. Council decision is required on proposed changes to LDBP policy  2. Communicated to residents any change in the City’s current LDBP policy
4.3	It is recommended that the City develop a communications campaign to explain LDBP and the expectations on residents to park properly	Transportation & Works	Planning & Building Department and Corporate Services	▪				▪		▪	3. City conduct a communication campaign to educate residents on LDBP and other On-Street parking policies, regulations especially changes to current policy.  4. The communication should be multi-lingual and include numerous forums.
	On-Street Parking Permits Recommendations										
4.4	It is recommended that the City develop a digital on-street parking permit program (for processing, operating and enforcing the program)	Transportation & Works	Planning & Building Department		▪		▪		▪		1. Council decision is required on proposed Replacement of all City issued parking permits with a comprehensive digital permit system  2. City to initiate a study to determine the various parking permits to be offered for on-street parking. The study should also determine candidate streets and if fee should be charged for on-street parking and if so how much  3. The study should also determine how the parking permit program should be administered
4.5	It is recommended that the City replace the various parking permits currently available by implementing a comprehensive digital parking permit system for residents and businesses	Transportation & Works	Planning & Building Department		▪		▪		▪		
4.6	It is recommended that the City undertake further study and review to specify the most appropriate types of permit to adopt	Transportation & Works	Planning & Building Department		▪		▪		▪		
4.7	It is recommended that the City implement an on-street overnight parking program in residential areas to work in alignment with the review of the Zoning By-law requirements and the potential reductions in certain precincts.	Transportation & Works	Planning & Building Department		▪		▪		▪		



Exhibit 8-1 Implementation Plan (Continued)

Section	Recommendation	Lead	Support	Timeline			Policy Changes		Process Changes		Actions/Next Steps
				S (<2yrs)	M (2-5 yrs)	L (+5yrs)	Yes	No	Yes	No	
	Paid On-Street Parking Recommendations										
4.8	It is recommended that the City continue to monitor on-street parking occupancy in Precincts One, Two and Three (specifically Port Credit, the Downtown, Streetsville, Clarkson, and Cooksville)	Transportation & Works			▪		▪		▪		1. Maintain inventory of parking occupancy rates conducted through regular surveys and conduct analysis to determine trend and changes in the various Precincts.  2. Using the trend data adjust parking fees within each Precinct to achieve desired/optimum parking demand and turnover per parking space.  3. Communicate change in parking fees to the public in a variety of forum and indicate why the change
4.9	To improve the management of parking demand and to encourage turnover in areas that charge for parking, the City should increase parking fees when parking occupancy exceeds 85% during peak hours in these areas. See Best Practices review for this study	Transportation & Works			▪		▪		▪		
4.10	To improve the management of parking demand and to encourage turnover in areas that do not charge for parking, the City should consider introduce a parking fees when parking occupancy exceeds 50%during peak hours	Transportation & Works			▪		▪		▪		
	Curbside Management Recommendations										
4.11	It is recommended that the City consider a Curbside Management Study to: a. Frame the discussion regarding on-street parking. b. Determine appropriate locations. c. Determine curbside priorities for each proposed	Transportation & Works	Planning & Building Department		▪						1. The City to initiate a curbside management study after key policy decisions are made about Precinct approach to parking, on-street parking and LDBP.
4.12	Where appropriate, and subject to coordination with other City Departments, the Municipal Parking Section should identify and or approve locations where on-street pick-up and drop-off areas are permitted	Transportation & Works Planning & Building Department			▪		▪		▪		
4.13	Loading regulation should be reviewed in conjunction with parking regulations as part of the zoning by-law review.	Planning & Building Department	Transportation & Works Corporate Services		▪			▪		▪	

## Exhibit 8-1 Implementation Plan (Continued)

Section	Recommendation	Lead	Support	Timeline			Policy Changes		Process Changes		Actions/Next Steps
				S (<2yrs)	M (2-5 yrs)	L (+5yrs)	Yes	No	Yes	No	
	Off-Street Parking Lots Recommendations										
4.14	It is recommended that the City develop a parking demand forecasting model that can be used on an ongoing basis for all of Precinct One and Precinct Two. The model should incorporate the following data: a. Existing parking utilization b. Development applications c. Area Master Plans d. Long-term population and employment forecasts	Transportation & Works			▪		▪		▪		1. The City initiate a study to develop a parking demand model to assist in forecasting parking needs (demand and supply) for each Precincts, but Precincts one and Two should be the priority.  2. The data used in the model should be updated on a frequent basis and should reflect proposed, planned and approved developments.  3. The model should be updated and frequently (not more than 2 years).  4. The results should be reviewed with policy directions, utilization rates, parking rates and decisions make about parking supply, public versus private parking supply, land purchase, and partnership agreements.
4.15	It is recommended that the City review the feasibility of removing overnight parking prohibitions at all its off-street parking facilities, and should determine the capital and or operational changes required to implement the change.	Transportation & Works	Planning & Building Department		▪		▪		▪		5. City initiated On-street Parking permit study should also review overnight parking at City owned/operated off-street parking facilities,  6. The review should address the advantages and disadvantages and how any change to On-street parking permits my alter the need or demand for off-street overnight parking facilities.
4.16	The City’s Municipal Parking unit should work with other City business units, such as Parks and Forestry and MiWay Transitway, to align long-term plans for parking expansion and to find opportunities for shared public parking.	Transportation & Works; and Community Services	Planning & Building Department Corporate Services		▪		▪		▪		7. City staff develop criteria and conditions in which the shared parking arrangements can be achieved with various municipal partners.
4.17	It is recommended that the City consider opportunities to partner with the private sector where appropriate and beneficial for providing parking for developing shared parking arrangements	Transportation & Works			▪			▪		▪	8. City staff develop criteria and conditions in which the City will consider partners with the private sector to provide parking.  9. A cost-benefit and risk assessment should be conducted to determine the merit of each potential partnership.
4.18	The City’s Zoning By-law review should consider the role and policies of the City’s Downtown CIP and how the CIP will work with the City’s PIL policy	Planning & Building Department*	Transportation & Works Corporate Services		▪			▪		▪	10. The Zoning By-law study should review current policies and practices related to the CIP program and determine if changes are required, pending Council’s decision on the Proposed Parking Precincts approach and any changes to current parking standards resulting from the Zoning By-law review.
4.19	The Zoning By-law Review should recommend any CIP or PIL modifications required to ensure that the CIP and PIL complement the Precinct approach.	Planning & Building Department*	Transportation & Works		▪		▪		▪		

Exhibit 8-1 Implementation Plan (Continued)

Section	Recommendation	Lead	Support	Timeline			Policy Changes		Process Changes		Actions/Next Steps
				S (<2yrs)	M (2-5 yrs)	L (+5yrs)	Yes	No	Yes	No	
	Parking Lot Design Recommendations										
4.20	It is recommended that the City develop safety standards and best practices for pedestrian and bicycle safety in parking facilities	Municipal Parking, Transportation & Works	Planning & Building Department		▪		▪			▪	1. It is recommended that the City prepare Design Guidelines or Standard for the construction of new Parking facilities (surface, above ground, below ground).
	Chapter 5   Governance										
	Parking Division Recommendations										
5.1	It is recommended that the City adopt a vertically integrated organizational model that includes a Parking Division.	Transportation & Works	Human Resources	▪			▪		▪		1. Obtain approval from Leadership Team (LT).
5.2	It is recommended that the City approve and support the new governance model of establishing a new Parking Division within the Transportation & Works Department	Transportation & Works	Human Resources	▪			▪		▪		2. Obtain approval from Leadership Team (LT).
	Private Sector Recommendations										
5.3	It is recommended that the City continue to support joint ventures and partnerships with private sector companies to optimize the use of land and infrastructure and meet public needs for parking spaces in the most appropriate way	Transportation & Works	Planning & Building Department	▪				▪		▪	1. When opportunities arise for joint ventures and partnerships, City should be proactive in pursuing them.
	Committee of Adjustment Recommendations										
5.4	It is recommended that the City Council and applicable standing committees of Council continue to be the decision-making body associated with parking policies including, for example, fee setting, expansion of parking facilities, joint ventures with the private sector, new technologies, and integrating TDM with parking and other policy issues	Transportation & Works	Planning & Building Department	▪			▪		▪		1. No further action.

## Exhibit 8-1 Implementation Plan (Continued)

Section	Recommendation	Lead	Support	Timeline			Policy Changes		Process Changes		Actions/Next Steps
				S (<2yrs)	M (2-5 yrs)	L (+5yrs)	Yes	No	Yes	No	
	Chapter 6   Finance										
	Future Funding Options Recommendations										
6.1	It is recommended that as the City’s paid parking market matures, the City undertake an analysis of the benefits and costs of reducing the daily and monthly parking discount and align its parking passes with surrounding commercial monthly parking fees	Transportation & Works	Finance		▪		▪			▪	1. Set geographically priority areas for monthly parking fees.
6.2	It is recommended that the City increases its parking fees at regular intervals to keep pace with inflation	Transportation & Works	Finance	▪				▪		▪	2. Review parking fees annually, as done currently.
6.3	It is recommended that over the long-term, the City’s fee-setting strategy should evolve to meet specific parking utilization objectives. The strategy could include setting parking fees that vary by location, time of day, and special event type	Transportation & Works	Finance		▪		▪		▪		3. Perform in conjunction with annual parking data collection and planning process.
6.4	It is recommended that the City supports its April 2018 TDM Strategy pricing parking measure by setting monthly parking fees higher than the MiWay adult monthly transit pass fee	Transportation & Works	Finance	▪			▪		▪		4. Perform in conjunction with review of parking fees annually.
6.5	It is recommended that the City establish a formal Corporate Policy for financing and funding Municipal Parking operations. The policy should adhere to the following: a. Revenue-generating parking activities should be funded through parking revenues (separate cost centre) b. Non-revenue parking activities should be funded by the property tax base (separate cost centre) Municipal Parking fees should reflect market conditions (supply and demand)	Finance	Transportation & Works	▪			▪		▪		5. Begin once the new Parking Division is approved and form a small working group of Finance and T&W staff.
6.6	It is recommended that the City’s annual parking ticket revenue should be used to cover all costs of enforcement including parking ticket processing. Any surplus revenue should be placed into the reserve account to pay for new capital projects	Finance	Transportation & Works	▪			▪		▪		6. Commence once the new Parking Division is approved and staffed.
6.7	It is recommended that the City undertake an analysis to determine the benefits and costs of implementing dynamic or escalating on-street pricing in each precinct	Transportation & Works	Finance		▪		▪		▪		7. This may require a City “project charter” as there will be a significant amount of research and financial modelling required.
6.8	The existing six geographically-delineated parking reserve accounts are merged into one capital reserve account	Finance	Transportation & Works	▪			▪		▪		8. Finance should undertake this task in parallel with the other tasks associated with the new Parking Division.

## Exhibit 8-1 Implementation Plan (Continued)

Section	Recommendation	Lead	Support	Timeline			Policy Changes		Process Changes		Actions/Next Steps
				S (<2yrs)	M (2-5 yrs)	L (+5yrs)	Yes	No	Yes	No	
	Cost of New Parking Recommendation										
6.9	It is recommended that a formalized process for determining the business case associated with any parking capital project be adopted	Transportation & Works	Finance	▪				▪	▪		<div>1. This will be triggered when it's determined that new parking facilities are required.</div> <div>2. The new Business Development section within the new Parking Division should develop guidelines and a process for undertaking business case analysis.</div>
	GO Parking Recommendation										
6.10	It is recommended that the City work with Metrolinx to develop a strategy to reduce all-day free parking at GO Transit rail and bus stations	Transportation & Works	Planning & Building Department	▪			▪		▪		<div>1. Commence immediately after new Parking Division staffed as high parking demand and low supply at GO Stations is a current and growing problem.</div> <div>2. Develop a discussion paper on clearly defining the problems and alternative solutions before approaching Metrolinx.</div>
	Special Considerations Recommendations										
6.11	It is recommended that the City develop a strategy to accurately account for lost revenue where special considerations are given in paid parking locations	Transportation & Works	Finance, Culture		▪		▪		▪		<div>1. Determine best method of tracking and criteria for assessing considerations and their financial impact.</div>
	Chapter 7   Technology & Innovation /										
	Payment Methods Recommendations										
7.1	It is recommended that the City undertake a business case analysis to determine the feasibility and benefits of upgrading its Pay and Display machines and enforcement technology to a PBLP system	Transportation & Works			▪			▪		▪	<div>1. City Staff should prepare a phasing plan to address changes in parking payment methods. Appropriate funds should be allocated to the changes subject the findings of the business case analysis. The Plan should be reviewed and updated annually.</div> <div>2. Obtain 3 price quotations from reputable vendors on POF for City Hall parking garage as a starting point</div> <div>3. Include all parking equipment and wayfinding signage as part of the capital cost of any new parking facility planned.</div> <div>4. Develop functional specifications for POF functional specifications are what the system should perform, NOT telling manufacturers how to build the system.</div> <div>5. Part of the functional specifications noted above.</div>
7.2	It is recommended that the City consider a Pay-On-Foot system possibly combined with LPR technology at locations that require additional parking controls. Depending on circumstances, POF may offer a better solution than Pay and Display and or PBLP	Transportation & Works			▪			▪		▪	
7.3	It is recommended that the City consider POF for any new parking structures planned for the Downtown Core	Transportation & Works			▪			▪		▪	
7.4	It is recommended that the City consider converting the City Hall parking garage from Pay and Display machines to a POF system	Transportation & Works			▪			▪		▪	
7.5	When installing POF systems, the City should consider systems with the latest technologies available including access control for monthly parking permit holders and property management staff proximity cards, wireless transponders, and mobility phones	Transportation & Works			▪			▪		▪	

## Exhibit 8-1 Implementation Plan (Continued)

Section	Recommendation	Lead	Support	Timeline			Policy Changes		Process Changes		Actions/Next Steps
				S (<2yrs)	M (2-5 yrs)	L (+5yrs)	Yes	No	Yes	No	
7.6	It is recommended that the City offer the convenience of Pay-By-Phone at all the City's on-street and off-street parking facilities	Transportation & Works			▪			▪		▪	6. The business case would include research and site visits to actual LPR installations and the development of functional specifications.
7.7	It is recommended that the City use a phased approach to introduce Pay-By-Phone	Transportation & Works			▪			▪	▪		7. Develop specifications for inclusion in an RFP to acquire and implement Pay-By-Phone. Examine the benefits and costs of absorbing the convenience fee. 8. Same as above and part of next recommendation for using smartphone for monthly permit payment. 9. This would be the 2nd phase of implementing Pay-by-Phone. 10. Develop the process and specifications for implementing Pay-by-Online permit.
<b>Data Collection &amp; Management Recommendations</b>											
7.8	The City's Municipal Parking organization should develop an annual parking data collection program and create a comprehensive database of City-provided parking supply and utilization. The data collected should be openly available online.	Transportation & Works		▪	▪		▪			▪	1. Implement a comprehensive data collection system that is frequently updated and analyze for trends and changes in parking demand, utilization, violations
7.9	It is recommended that the City consolidate existing data files regarding privately-owned parking and add information at key locations of interest across the municipality (For example at Intensification Areas).	Transportation & Works		▪			▪			▪	2. It is recommended that the City conduct regular customer satisfaction surveys (annual or bi-annual) to understand and address customers' experience and possible issues with parking facilities and services. The surveys should be short and user-friendly and should be advertised at parking facilities and other key City locations where customers could obtain survey cards and be directed to the City's and social media
7.10	Future data collection and storage methods for parking enforcement should link infraction and infraction location data, and the data should be mapped.	Transportation & Works			▪		▪		▪		3. The survey results should be summarized and posted on the City's website. The website should include information about action taken to address issues and trends identified



Exhibit 8-1 Implementation Plan (Continued)

Section	Recommendation	Lead	Support	Timeline			Policy Changes		Process Changes		Actions/Next Steps
				S (<2yrs)	M (2-5 yrs)	L (+5yrs)	Yes	No	Yes	No	
	Digital Signage and Wayfinding Recommendations										
7.11	It is recommended that the City consider implementing a parking guidance system in locations such as Precinct 1 where there are large municipal parking facilities and large private parking facilities. The system should combine digital variable message signs and wayfinding signs to direct drivers to available parking	Transportation & Works	Planning & Building Department Corporate Services		▪		▪		▪		<div>1. City staff should prepare a business case analysis for implementing a parking guidance system.</div> <div>2. City Staff should prepare a phasing plan to implement the guidance system subject to the business plan and appropriate funds should be allocated annually.</div> <div>3. The Plan should be reviewed and updated annually.</div> <div>4. It is recommended that the City regularly:<div><div>a. Review the geographical areas where a parking guidance system is implemented</div><div>b. Assess the parking guidance technology available and consider advances in technology and best practices</div></div></div>
7.12	The signs should be placed at Precinct entry points, key decision-making points within the Precinct, and access points to each parking facility	Transportation & Works	Planning & Building Department		▪		▪		▪		
7.13	Wayfinding signs should be provided for parking locations where real-time information is unavailable	Transportation & Works	Planning & Building Department Corporate Services		▪		▪			▪	
7.14	All City parking guidance technology in all parking facilities should be compatible to ease integration into the City's information system	Transportation & Works	Planning & Building Department Corporate Services		▪		▪		▪		
7.15	The parking guidance system should include a website with an associated app that makes parking availability and pricing data available to customers	Transportation & Works	Planning & Building Department Corporate Services		▪		▪		▪		
7.16	It is recommended that the City promote the use of the online tools, particularly during peak demand periods such as special events. The web-based tools may be developed by the City or through a private partnership	Transportation & Works	Planning & Building Department		▪			▪		▪	
	Peer-To-Peer Parking Sharing Recommendations										
7.17	It is recommended that the City initiate a “Share Your Parking” program to encourage shared parking opportunities between private parties.	Transportation & Works	Planning & Building Department Corporate Services		▪		▪		▪		<div>The program could:</div> <div>1. Facilitate private lease arrangements for shared off-site parking in existing and future parking facilities.</div> <div>2. Coordinate between public and private parking providers, places of worship, BIAs, businesses, and the City to prepare agreements among parties to better use existing parking facilities.</div> <div>3. Remove or minimize administrative barriers to allow off-site shared parking.</div> <div>4. Identify a simple one-page set of criteria and conditions for permitting shared parking arrangements. If an application meets the conditions, the application should not be required to go to the Committee of Adjustment.</div> <div>5. Add elements to the City's Urban Design Guidelines to facilitate shared parking including shared access between or among sites.</div>
7.18	It is recommended that the City prohibit the practice of profiting from renting out public parking.	Transportation & Works			▪		▪				

## Exhibit 8-1 Implementation Plan (Continued)

Section	Recommendation	Lead	Support	Timeline			Policy Changes		Process Changes		Actions/Next Steps
				S (<2yrs)	M (2-5 yrs)	L (+5yrs)	Yes	No	Yes	No	
	Connected Automated Vehicles Recommendations										
7.19	It is recommended that the City note the uncertain implications of CAVs and the uncertain timeline for CAV adoption	Planning & Building Department Transportation & Works	Corporate Services		▪	▪	▪		▪		1. City staff to monitor advances in technology and changes in industry stand, Provincial and Federal change in policies that would impact parking or parking related requirements.
7.20	It is recommended that the City consider the possible implications of CAVs for future parking facilities and should design new parking facilities to take possible future changes in technology into account.	Planning & Building Department Transportation & Works			▪	▪	▪		▪		2. It is recommended that the City: a. As part of the Transportation Master Plan process, consider the potential role of CAVs in relation to the City’s long-term transportation objectives. b. Outline the potential contribution of CAVs to long-term City goals. c. Keep up to date with CAV developments. d. Develop plans and policies that are flexible and easily updated to be compatible with emerging CAV technologies. e. Encourage open data sharing to improve decision-making. f. Through the site plan approvals process, consider future demand for Drop-off and Pick-up facilities for CAVs and potential changes in on-site parking needs. g. Conduct annual reviews to ensure that the City’s policies are in line with evolving trends in CAV technology and applications.
	Smart Parking Recommendations										
7.21	When selecting and implementing Smart Parking technology and equipment, the City should consider and prioritize: – Flexibility to ensure that new technologies can be incorporated – Integration of parking data into a centralized system that can provide: o information to parking customers o information to decision makers and parking managers	Transportation & Works		▪	▪		▪			▪	1. It is recommended that the City continue to work and partner with key private and public-sector stakeholders (developers, parking providers, transit operators, businesses, etc).
	Implementation Plan and Monitoring Strategies Recommendations										
7.22	To support implementation of the Parking Master Plan the comprehensive implementation plan that has been prepared should be monitored using a Monitoring Strategy.	Transportation & Works	Planning & Building Corporate Services	▪	▪		▪		▪		1. As the City proceeds with the implementation of the Parking Master Plan, detailed monitoring Strategies or Plan can be developed for each of the six areas of recommendation



## 8.2 Monitoring Strategy

It is critical to understand the progress and status of the implementation plan in a meaningful way. It is also important to establish a greater understanding of how the parking within the City of Mississauga is being managed and is functioning.

Monitoring and managing the function of parking in Mississauga can be achieved by asking the following questions among others:

- Is the desired outcome been achieved?
- Are the objectives of the Master Plan been met?
- Should alternate actions be taken?

To facilitate the tracking of progress, a Monitoring Program should be prepared for the City of Mississauga. The program identifies various tools and strategies the City can use to assist in the effective and efficient implementation of the plan.

As the City proceeds with the implementation of the Parking Master Plan, detailed monitoring Strategies or Plan can be developed for each of the six areas of recommendation. Each plan could include potential performance indicators, measures, targets, data collection, frequency, responsibility, and budget. Exhibit 8-2, Exhibit 8-3, and Exhibit 8-4 shows specific examples of individual Monitoring Plans that can be developed.

**Exhibit 8-2 Data Collection Framework - Parking Demand Rates**

Item	Parking Requirement
Performance Measure	Residential Parking Demand
Baseline Measure	1.00/Unit
Performance Target	0.80
Data Collection	Parking Utilization Surveys
Responsibility	Parking Division-Coordinator
Frequency	Annually
Precinct	1

**Exhibit 8-3 Travel and Parking Trends Data**

Indicators	Performance Measure	Baseline Measurement	Source
Local Transit Mode Split	Mode share of trips during peak periods	Base year ridership data (2016)	MiWay TTS Census data
Walking and Cycling	Mode share of trips during peak periods	Base year Walking/Cycle data (2016)	TTS Census data
Area Parking Utilization Rate	Occupied number of parking spaces	Base year Survey data (2016)	City surveys
Vehicle Ownership	Number of cars per household	Base year Vehicle Ownership (2016)	TTS Census data

**Exhibit 8-4 Precinct Policy Change Tracking**

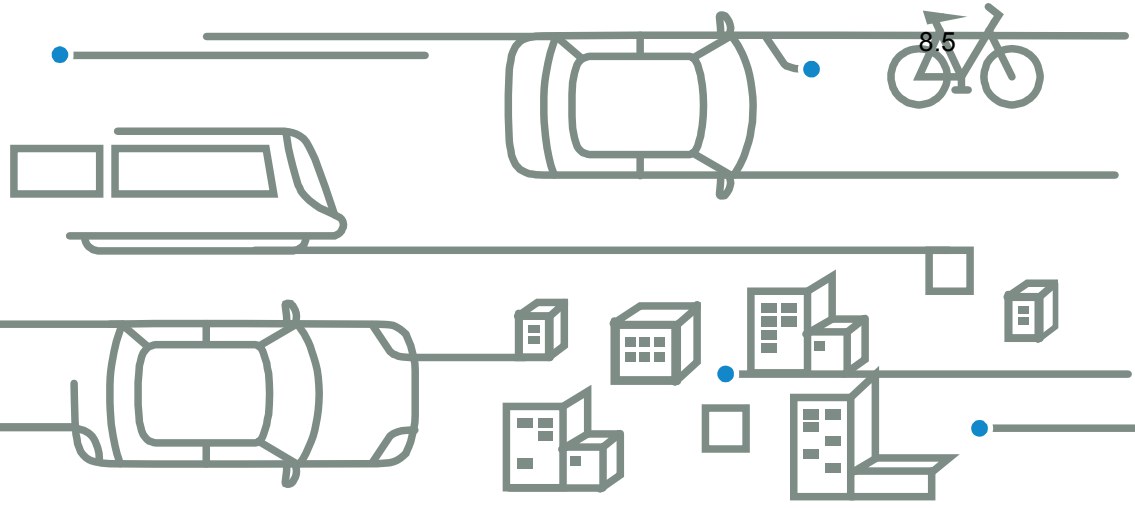
<b>Policy Change</b>	<b>Policy Documents to be changed</b>	<b>Target Date</b>	<b>Required Process</b>	<b>Responsibility</b>	<b>Status</b>
<b>Parking Vision</b>					
<b>Precinct Creation</b>					
<b>Precinct Boundary Areas</b>					
<b>Parking Management Principles</b>					

The monitoring plan can be used to track the implementation of the parking master plan by tracking trends in parking behaviours, parking demand and supply for each Precinct area on an annual or bi-annual basis.

A progress and status review of the master plan should be completed on an annual basis. The City's parking coordinator should be responsible for the monitoring and tracking of the parking master plan and will provide an update to senior management and or Council on an annual basis to document work completed and to identify potential revisions or amendments.

# List of Appendices

- Appendix 1-1: Current Trends in Planning and Managing Parking
- Appendix 1-2: Policy Review
- Appendix 1-3: Parking Policy Framework
- Appendix 1-4: Best Practice Review
- Appendix 1-5: Consultation Reports
- Appendix 2-1: Jurisdictions with Precinct/Policy Area Approach to Parking Policies
- Appendix 2-2: The Case for Precincts in Mississauga
- Appendix 2-3: Parking Demand Management
- Appendix 3-1: Benchmarking Exercise: Comparing Parking Standards in Mississauga and other Municipalities
- Appendix 4-1: On-Street Parking Regulations Review Traffic By-Law
- Appendix 4-2: Review of Lower Driveway Parking in Ontario Municipalities
- Appendix 4-3: Current Streets with Paid Meter Parking
- Appendix 4-4: Safety Design Review for Parking Lots and Garages
- Appendix 5-1: Benchmarking of Parking in 15 Canadian Municipalities
- Appendix 5-2: Comparison of Mississauga's Organizational Structure with Organizational Structure of Four Canadian Cities
- Appendix 6-1: Parking Data Collection and Management Technical Memo



*PARKING MATTERS*



# APPENDIX 1-1 CURRENT TRENDS IN PLANNING AND MANAGING PARKING

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

# 1 CURRENT TRENDS IN PLANNING AND MANAGING PARKING

Parking plays an important supporting role in every modern transportation system. Planning for parking requires an understanding of people, goods movements, and coordination with other transportation elements to provide a multi-modal system that can accommodate the City's many demands for transportation.

An examination of current trends in parking research and management provides context for the development of this Parking Master Plan. It addresses questions such as: What socio-cultural trends are influencing the City's need for transportation and parking? What emerging technologies can the City's parking system consider incorporating now and in the future? How can the delivery and management of parking contribute to environmental sustainability?

An understanding of the local context is equally important to ensure that the parking policies and timelines implementation applied in the various locations are appropriate.

This Section explores emerging trends in the parking industry and provides an overview of Mississauga's demographic and transportation trends in recent years.

---

## 1.1 EMERGING TRENDS IN PARKING

Section 1.1.1 highlights some recent societal changes and trends relevant to parking policy. Sections 1.1.2 to 1.1.7 then highlight some of the technological advances that have dramatically changed how transportation professionals and parking providers plan and deliver parking. The following technological advances are discussed: emerging trends in parking, sustainable parking solutions, parking and transit, Transportation Demand Management (TDM), parking technologies, and autonomous vehicles (AVs). Section 1.3 provides a summary of how parking policy is evolving in response to the City's growth, land use, density changes, and changing transportation needs and focus.

---

### 1.1.1 SOCIETAL FACTORS INFLUENCING PARKING

Parking has evolved far beyond providing adequate supply to meet demand. Parking policy discussion now includes sustainability, alternative modes of transportation, demographics, and lifestyle.

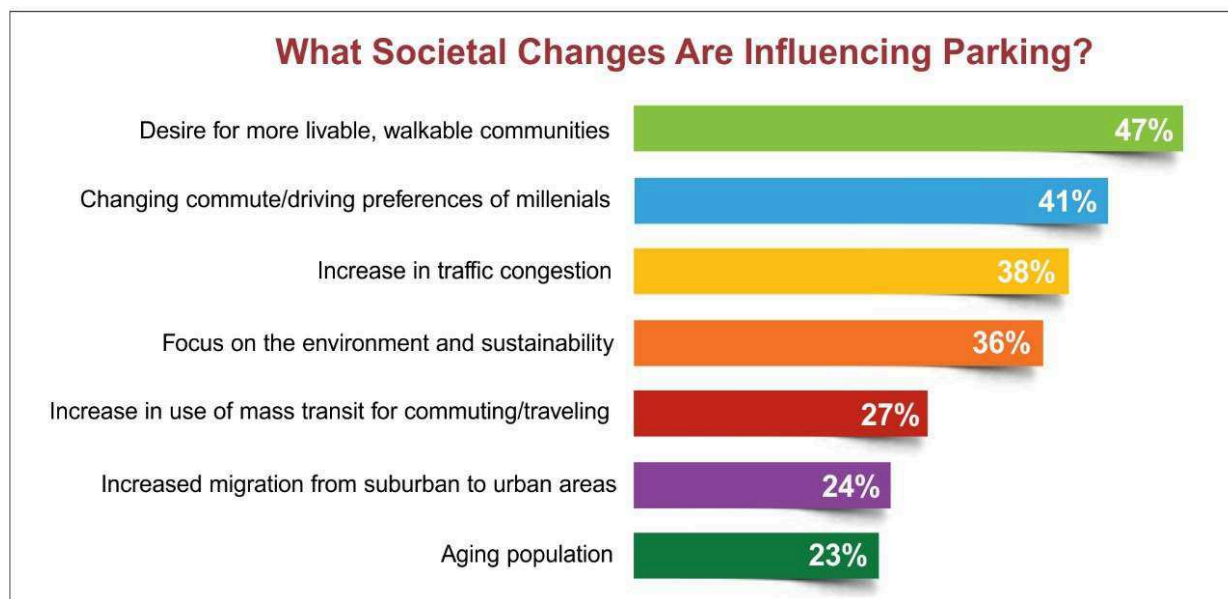
The 2015 International Parking Institute (IPI) conducted a survey among IPI members, where a clear majority of respondents were managers, consultants, owners, and operators involved in the design, management, and operations of parking infrastructure. The survey identifies and ranks the most significant societal changes affecting the parking industry.<sup>1</sup>

---

<sup>1</sup> Emerging Trends in Parking, International Parking Institute, 2015

Exhibit 1-1 shows the top seven societal changes that influence parking. The top two changes were the “desire for more livable, walkable communities” and “the changing commute/driving preferences of millennials.”

#### Exhibit 1-1 – What Societal Changes are Influencing Parking?



Source: *Emerging Trends in Parking Survey, International Parking Institute, 2015*

### 1.1.2 EMERGING TRENDS IN PARKING

Exhibit 1-2 shows the top 10 emerging trends in parking.<sup>1</sup> The application of technology to improve parking user experience and parking management emerged as very clear trends. For example, the top two trends were the “move toward innovative technologies to improve access control and payment automation” and the “prevalence of mobile applications.” As technologies become more available and affordable, Mississauga should update its policies and technologies to help achieve the City’s overall planning aspirations.

“Collaboration among parking, transportation, and decision-makers” was also an important trend. This is evident in the way that parking related discussions are now commonly linked to TDM, active transportation, transit, and last-mile solutions.

## Exhibit 1-2 – Top 10 Emerging Trends in Parking

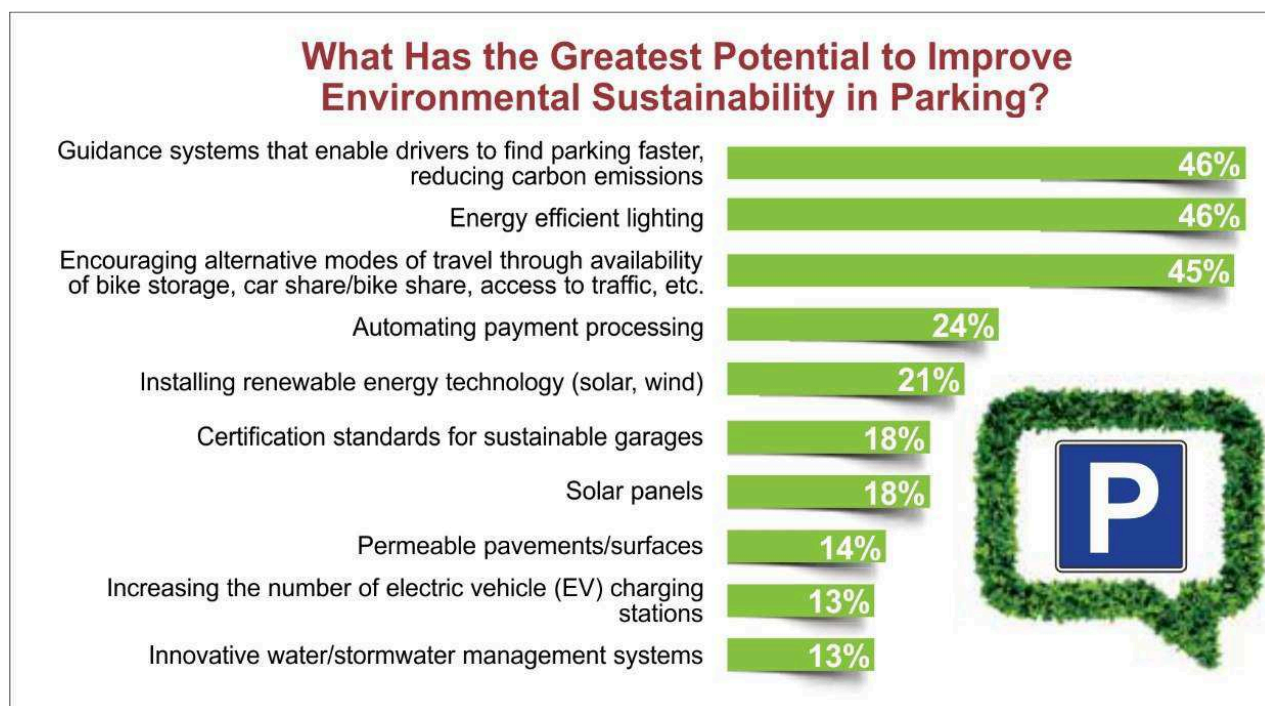


Source: *Emerging Trends in Parking Survey, International Parking Institute, 2015*

### 1.1.3 SUSTAINABLE PARKING SOLUTIONS

Environmental sustainability is among the top considerations in planning discussions at the municipal, regional, and provincial levels. Exhibit 1-3 shows the top 10 sustainability solutions in parking according to IPI's 2015 survey. The survey ranked the top three parking solutions with the greatest potential for improving environmental sustainability as: "guidance systems that enable drivers to find parking faster, reducing carbon emissions," "energy efficient lighting," and "encouraging alternative modes of travel through availability of bicycle storage, car or/bicycle share, access to traffic, etcetera."<sup>1</sup> These solutions can be considered for implementation in the City. The City should also consider installing highly visible signage in locations such as downtown and university campuses to increase promotion and awareness of sustainable parking trends.

### Exhibit 1-3 – What Has the Greatest Potential to Improve Environmental Sustainability in Parking?



Source: *Emerging Trends in Parking Survey*, International Parking Institute, 2015

#### 1.1.4 PARKING AND TRANSIT

Many cities are now large enough to consider an increase in the use of transit. For example, areas previously classified as suburban are becoming more urbanized. These areas are now characterized by commercial clustering and land value changes. The increased congestion and increased parking problems may justify the cost of introducing improved transit.

A review of the literature on parking and transit is instructive. Todd Litman, in his paper *Evaluating Public Transit Benefits and Costs*, notes that high quality transit (transit that is relatively fast, convenient, comfortable, and integrated) can attract discretionary travelers who would otherwise drive. This reduces traffic problems including congestion, parking costs, accidents, and pollution emissions.<sup>2</sup>

<sup>2</sup> Evaluating Public Transit Benefits and Costs, Victoria Transport Policy Institute, 2018



According to Litman, shifts from automobile to transit travel create a chain of benefit. For example, reduced vehicle ownership reduces residential parking demand (including on-street parking demand in residential areas) and reduces non-residential parking demand such as commercial parking requirements. These benefits can manifest themselves in various ways: user cost savings where the cost of a transit trip is less than the fee for parking, reduced competition for parking in high-demand locations, and reductions in the need for businesses and governments to provide and subsidize parking facilities. Indirect benefits of reduced parking include reducing the land area needed for parking facilities and helping more clustered development and infill development to occur. Transit can also help achieve various land use planning objectives. Increased use of transit reduces the land area required for roads and parking facilities and provides a catalyst for more compact urban redevelopment. Calgary provides an example of a city that eliminated much of the need for parking in the downtown area. The City's downtown plan, implemented a transit corridor as an alternative to driving and parking for the downtown area.

Parking management can be an effective way to increase transit use. Parking management in relation to transit includes “parking cash out” programs (employees who receive free parking have the option of choosing cash or a transit subsidy instead), “unbundling” (renters of buildings pay only for the parking they want), and more flexible parking regulatory requirements to allow developers to supply less parking where appropriate. Parking pricing is one of the most effective ways of reducing the number of automobile trips and increases transit ridership. Cost-based parking pricing (parking fees set to recover parking facility costs) typically increases transit ridership by 10 to 30 percent, depending on the previous level of transit ridership and the range of travel options available.

---

### **1.1.5 PARKING AND TRAVEL DEMAND MANAGEMENT**

TDM balances people-focused and infrastructure-focused approaches to managing or reducing problems like traffic congestion, infrastructure costs, parking challenges, and environmental impact. Strategically, TDM functions at two major levels: the surface level and the deeper level.

At the surface level, TDM aims to provide information, incentives, resources, and support to people who want to make the best possible use of available transportation options. This part of TDM includes parking policies, public transit, carpooling, vanpooling, ridesharing, walking, and cycling. Some conceptual models also include telecommuting as a TDM topic.

At a deeper level, TDM is also concerned with urban design and municipal planning. For example, TDM strategies can be used to encourage residents to engage with transportation alternatives such as walking and cycling and to use these alternatives more often. At this level, key concepts include walkability indices, “complete streets,” sustainability, urban livability, and the integrated management of key transportation corridors.<sup>3</sup>

---

<sup>3</sup> What is Transportation Demand Management? RideAmigos, n.d.

Two common misconceptions are associated with the reduction or removal of parking spaces. The first is that there will be fewer people to support local businesses; the second is that businesses will not support a move to removing parking spaces. Developers, residents, and business owners often view the reduction or removal of parking spaces as detrimental to their business opportunities and quality of life, but municipalities that have implemented sound parking policies that reduce or remove parking in favour of active or sustainable transportation modes have experienced the exact opposite effect as documented by many including Litman and Donald Shoup. In many cases, managing parking effectively can increase property values, enhance business opportunities, mitigate developer impacts, provide opportunities for active and sustainable transportation, and improve traffic circulation.

According to Donald Shoup, a professor of urban planning at UCLA and an expert on parking economics and policies, conventional parking policies that encourage ample free parking or municipal requirements for a certain level of parking can lead to a self-perpetuating cycle in which increased supply of parking leads to increased demand. Plentiful parking encourages people to buy more cars and more cars lead cities to require even more parking spaces.

Building and maintaining parking is expensive. Municipalities that proactively reduce the number of parking spaces in favour of TDM measures, can reduce these costs and gain additional benefits. For example, some communities are replacing existing parking spaces with bicycle racks. The racks increase choice for commuters and recreational cyclists and can potentially reduce the number of cars on the road.

There are many other benefits to reducing or eliminating parking spaces in favour of active transportation and TDM. Municipalities can make better use of land, especially in downtown areas or town centres where space is at a premium. Developers benefit from being able to use land assigned as parking spaces for other building uses, which can lower construction and maintenance costs.

Increased pedestrian and cyclist activity can enhance economic opportunities for businesses. Reducing the paved area can have environmental benefits such as reducing storm water runoff and the urban heat island effect.

Reducing the number of parking spaces can encourage more active transportation, such as walking and cycling. This, in turn, can make roads safer, reduce greenhouse gas emissions and ease traffic congestion.

A survey conducted by the Clean Air Partnership of over 500 people along Bloor Street in Toronto's Annex neighbourhood found that pedestrians and cyclists spend more time and money in the neighbourhood than drivers. In addition, when merchants along Bloor Street were asked whether they thought that their businesses would be affected if the city removed one lane of parking in favour of a bicycle lane, 75 percent believed that their business would either improve or stay the same.<sup>4</sup>

---

<sup>4</sup> Bike Lanes, On-Street Parking & Business, Clean Air Partnership, 2016

### 1.1.6 SMART PARKING AND PARKING TECHNOLOGIES

Smart Parking refers to the use of sensing devices to determine occupancy at the space or lot/structure level. The many types of sensing device include cameras positioned on counting equipment like gates at lot entrances and sensors embedded in the pavement of individual parking spaces.

Robust sensing systems can determine the state of a parking space (occupied or vacant) and can analyze and transmit the information to various channels such as mobile applications, web applications, and dynamic signage.<sup>5</sup>

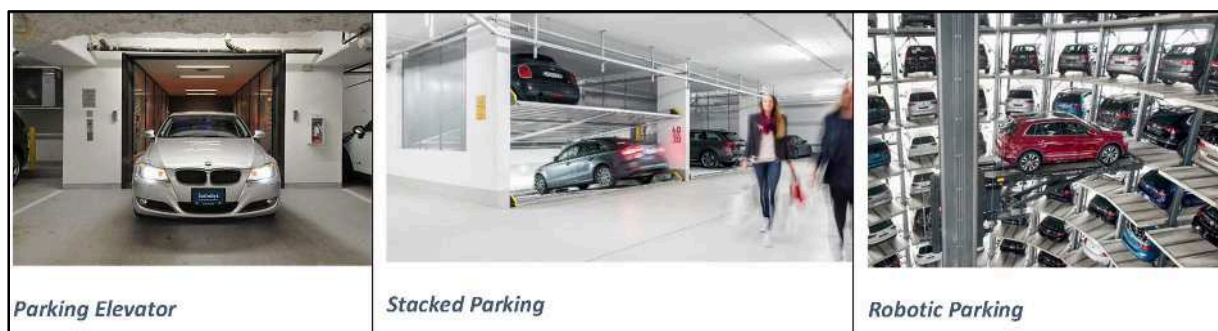
One or more parking apps for both on-street and off-street parking are increasingly common in large Canadian cities such as Toronto, Vancouver, Calgary, and Edmonton. Drivers can get real-time parking information through their smartphones, directions to the nearest parking facility, and pricing information. The payment of on-street and off-street parking by phone with a credit card is available in several Canadian cities via paybyphone.com.

Various additional examples of the application of parking technology are of interest. Calgary has just started its digital Residential Parking Permit (RPP) Program. Under the new program, residents do not need to affix a permit to a vehicle's windshield as the license plate number of vehicles with RPP is confirmed by photo enforcement.

Cities are installing electric charging stations for on-street parking. Toronto, for example, started a pilot program to install on-street charging stations. Cities are also requiring developers to install electric vehicle charging stations in their developments. Vancouver, for example, requires that all the parking spaces in residential multiunit development must have electric outlets for electric vehicle charging.

Parking elevators, stacked or mechanical parking, and automated or robotic parking are becoming popular in urban areas where parking is at a premium. Exhibit 1-4 shows examples of some of these parking technologies. Some multi-unit residential buildings in Vancouver, Calgary, and Toronto provide parking elevators in their central areas. Some multi-unit residential buildings in Vancouver and Toronto have implemented mechanical parking. In 2012, Vancouver introduced a 240-space robotic parking garage, the largest of its kind in North America and the first in Canada. It is located at 838 West Hastings Street, a mixed-use 38 storey building.

#### Exhibit 1-4 – Parking Technologies



Source: *Global Robotic Parking Systems Market 2018, Gulf Feed, 2018*

<sup>5</sup> Smart Parking: What Is It? How Can Your Facility Benefit? Realcomm, 2014

In New York City, updated parking requirements offer increased support for buildings opting for automated parking solutions. As discussed in *Future Thinking*, an article by IPI, New York City is making changes to deal with the increase in the number of people in the city and the related increased demand for parking.<sup>6</sup> Exhibit 1-5 shows that automated parking allows for much denser storage of cars, and frees valuable space for other uses such as additional housing units or common-element amenities. Automated parking also greatly reduces the distance driven indoors and the associated indoor vehicle exhaust emissions and accidents caused by human error, increasing wellness and safety for tenants. A drawback of automated parking technology is the problem of emergency response in the case of power outages involving flooding and other extreme weather events.

#### Exhibit 1-5 – Automated Parking Frees Space for Valuable Alternative Uses



Source: *Future Thinking*, International Parking Institute, 2016

<sup>6</sup> Future Thinking, International Parking Institute, 2016

---

### 1.1.7 PARKING AND AUTONOMOUS VEHICLES

There are two possible models for AV ownership: private and shared. A study done by the University of Toronto titled *Driving the Future* suggests that if shared ownership becomes prevalent, AV's could be hailed whenever needed possibly resulting in a reduced demand for parking. Passengers could simply be dropped off and picked up at a curb and the vehicle could then return home or proceed to the next trip.

AVs may affect private developers as many municipalities currently have mandatory parking space requirements. Developers will wish to avoid investing in parking spaces that could be unused if a building's residents no longer own personal vehicles.

Reductions in parking demand may well have fiscal implications for municipalities due to the loss of a significant portion of parking enforcement revenue.

Much on-street parking no longer required can be reconfigured to improve road capacity or prioritize other modes such as cycling and walking. Reducing or eliminating the need for street parking spaces might lead to larger sidewalks and more public or retail space. A carefully planned deployment of shared and self-driving vehicles can increase the developable area by up to 20 percent, allowing innovation to redesign space that previously needed to be reserved for parking.<sup>7</sup>

Large parking lots have many potential alternative uses. According to a WSP study large parking lots could be redeveloped as parks or garden spaces.<sup>7</sup> The lots could have a new life as urban gardens and could help cities to be more resilient. AVs offer cities an opportunity to transform paved surfaces into green spaces that can naturally absorb excess water and have a direct impact on the long-term capacity of municipal drainage systems.

---

## 1.2 LOCAL CONTEXT

This section reviews of several of the characteristics within the City of Mississauga that will provide an understanding of how the City can incorporate the most appropriate parking trends and changes discussed in Section 1.1.

Section 1.2.1 presents the City's demographics, Section 1.2.2 discusses land use in relation to population and employment, Section 1.2.3 presents vehicle ownership information, and Section 1.2.4 summarizes travel mode data.

---

### 1.2.1 DEMOGRAPHICS

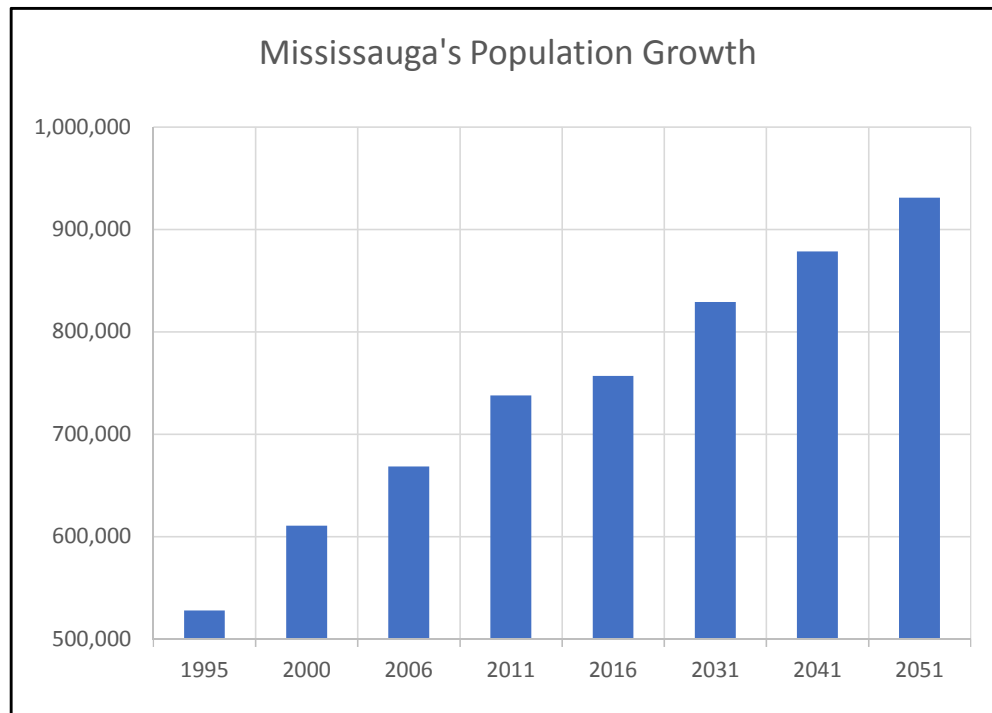
The City of Mississauga is one of the fastest growing municipalities in the Greater Golden Horseshoe Area. The City's population has increased by 1.5 percent annually since 2000. The 2017 population of about 766,000 is expected to grow to 930,000 in 2041. This projected rate of growth will drive the demand for mobility and will put great pressure on the City's transportation system.

---

<sup>7</sup> Self-Driving in the City of Tomorrow, WSP, n.d.

Exhibit 1-6 shows the City's historical and projected population growth.

**Exhibit 1-6 – Mississauga Population Growth**

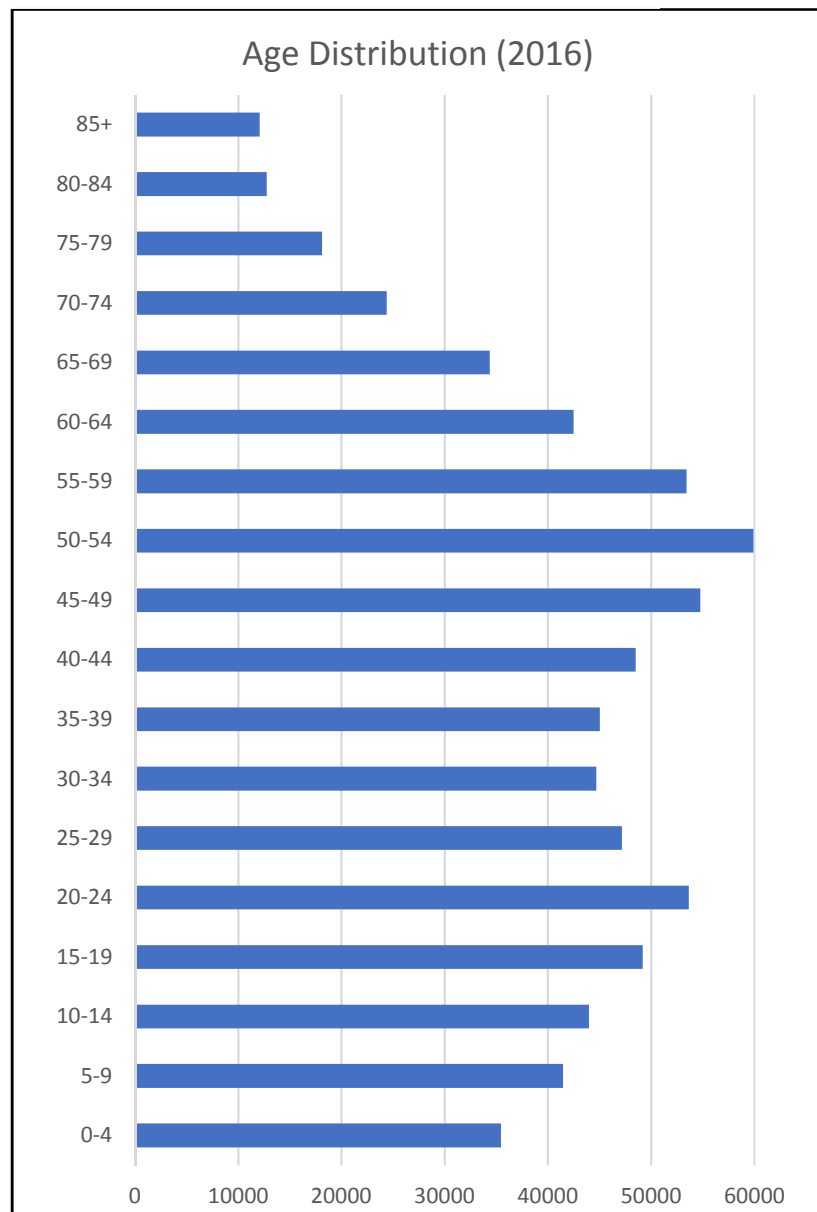


*Source: Population, Demographics, and Housing Survey, City of Mississauga, 2016*

Exhibit 1-8 shows Mississauga's population by age group and presents an interesting picture of the future. The largest single age cohort is between the ages of 50 and 54 indicating that many people will retire in the next decade or two. This will lead to changes in housing choice and travel habits for this age cohort.

Despite the aging population, Mississauga is clearly a family-oriented community. About 69 percent of the City's population is of working age (aged 15 to 64, according to Statistics Canada). Commuting and other home-based trips obviously have a great impact on the transportation system including parking. The millennial population (age 15 to 34, according to Statistics Canada), which is Internet-savvy and highly connected, is likely to respond easily to new parking technologies through outreach campaigns that use online and social media platforms.

**Exhibit 1-7 – Age Distribution (2016)**



*Source: Population, Demographics, and Housing Survey, City of Mississauga, 2016*



### 1.2.2 LAND USE, POPULATION, AND EMPLOYMENT

From 2011 to 2017, 327 hectares of vacant land were reallocated in part, for open space and greenlands, commercial (retail and office) and mixed-use, industrial and residential developments. During the same period, residential land increased by 39 hectares (0.4 percent) while the City's population grew by 2.6 percent. This indicates a shift towards higher-density forms of housing such as apartments and townhouses.

Mississauga expects the trend towards apartments and townhouses to continue and accelerate with the number of detached and semi-detached housing types expected to grow only by 2,338 units by 2041<sup>8</sup>. The density of future residential areas is likely to be higher than the density of older neighbourhoods. If the density reaches a critical mass, the denser neighbourhoods will be well-suited to non-auto transportation modes such as transit, walking, and cycling as a critical mass is needed for transit to become viable and for walking and cycling to have a significant impact. The anticipated shift to alternative modes has implications for the City's parking needs, particularly in the denser neighbourhoods and corridors.

Future development will occur mainly through intensification in existing urban areas.<sup>9</sup> This means that existing parking stock will inevitably undergo some transformations. For example, existing parking may be displaced by new development, surface parking may be replaced by structured parking in denser areas, paid parking may become the norm in more areas of the City as land becomes more scarce and valuable, and exclusive parking for some specific land uses could be phased out in favour of more affordable and space-saving solutions such as off-site, shared public parking.

Future population growth will be largely concentrated in downtown. Significant growth is also expected to occur in areas along Hurontario, the waterfront, and in the Central Erin Mills Major Node located in the west of the City, as shown in deep green in Exhibit 1-10.

Exhibit 1-9 shows population density in Mississauga in 2011.

Exhibit 1-10 shows change in population density from 2011 to 2041.

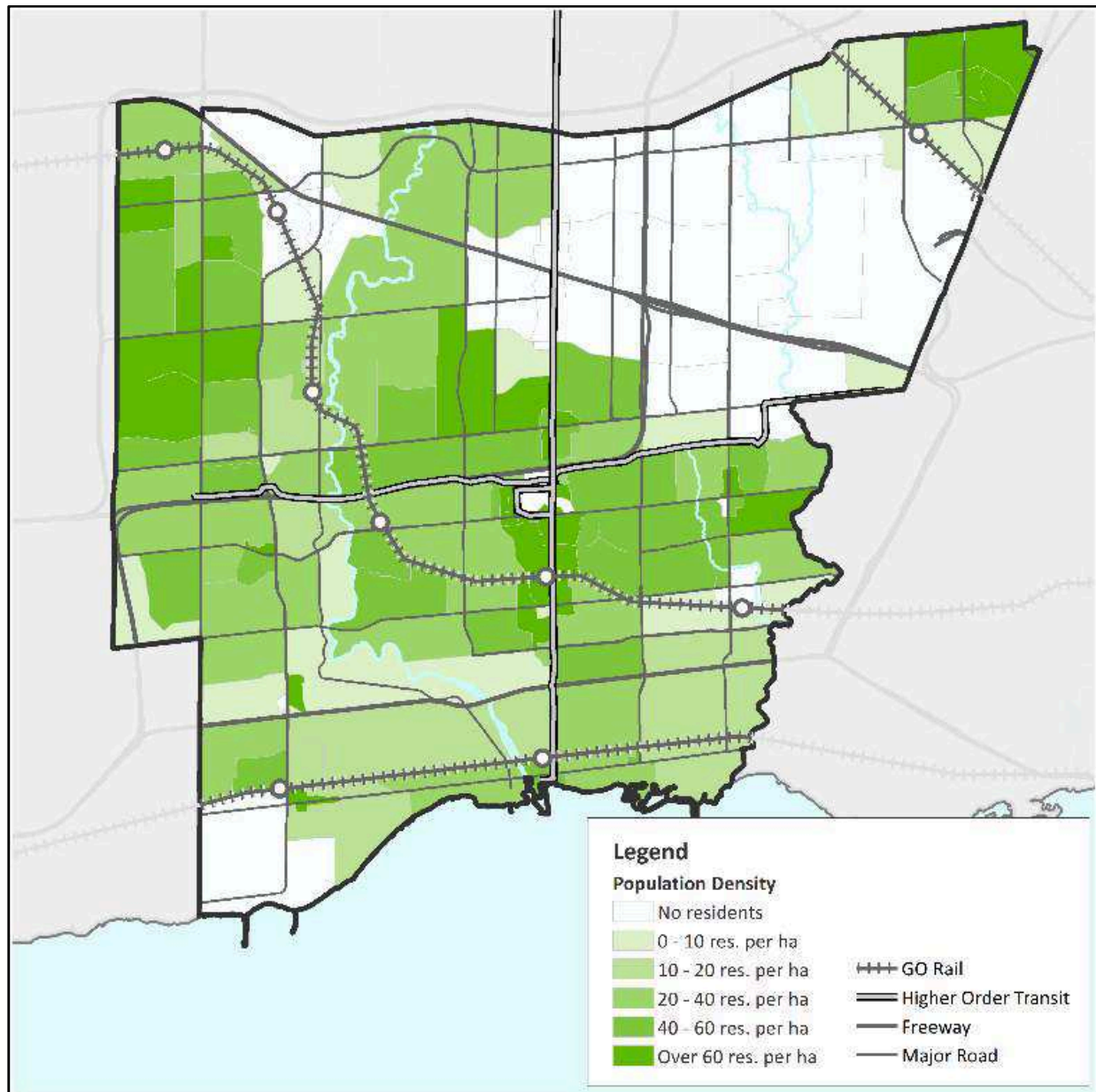
Exhibit 1-11 shows the expected change in population from 2011 to 2041 by land use designation.

<sup>8</sup> Population, Demographics, and Housing Survey, City of Mississauga, 2016

<sup>9</sup> Working files associated with the development of Transportation Master Plan, Steer Davies Gleave, 2017



### Exhibit 1-9 – Population Density in Mississauga



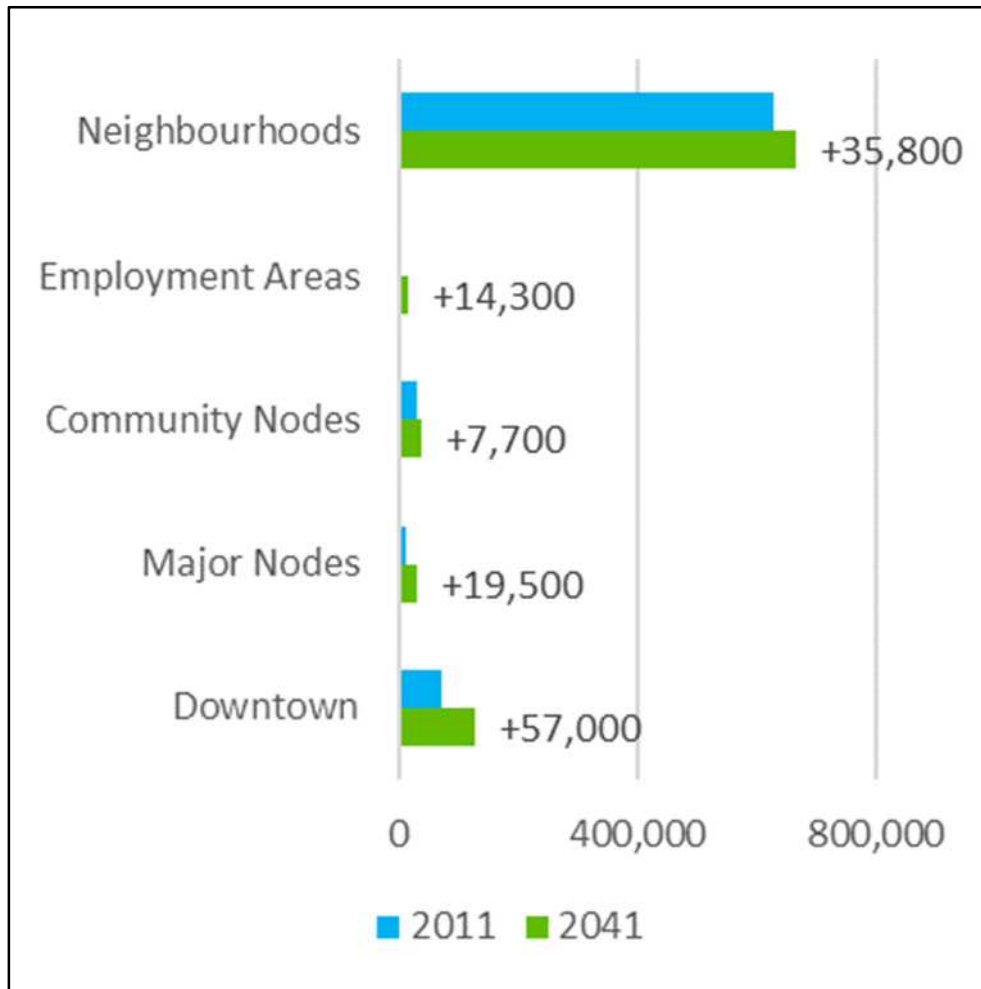
Source: Working files associated with the development of Transportation Master Plan, Steer Davies Gleave, 2017

### Exhibit 1-10 – Change in Population Density - 2011 to 2041



Source: Working files associated with the development of Transportation Master Plan, Steer Davies Gleave, 2017

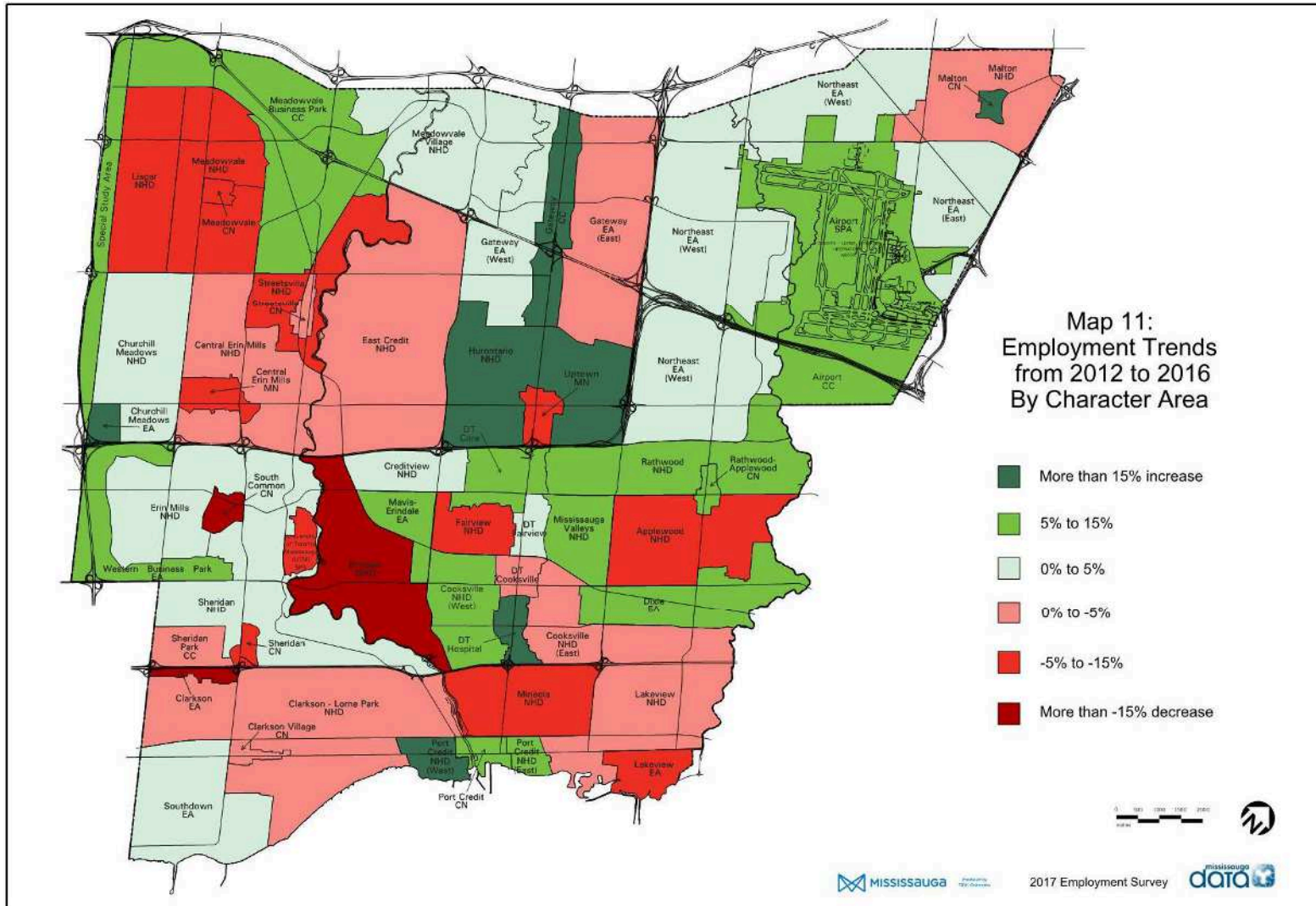
**Exhibit 1-11 – Population Change by Land Use Designation - 2011 to 2041**



*Source: Working files associated with the development of Transportation Master Plan, Steer Davies Gleave, 2017*

Like population, employment in Mississauga has grown steadily. More than 10,000 jobs were created between 2013 and 2017. During this period, the number of businesses also increased. Exhibit 1-12 shows changes in employment from 2012 to 2016 by Character Area (previously known as Planning District).

### Exhibit 1-12 – Employment Trends by Character Area - 2012 to 2016

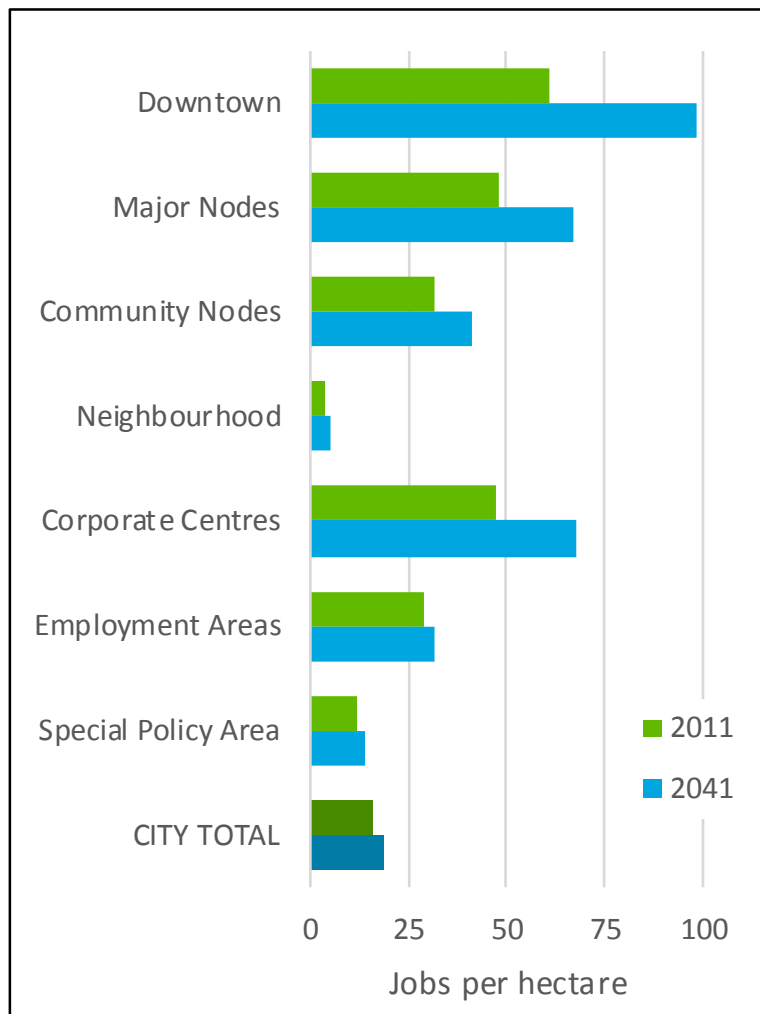


Source: Mississauga Employment Survey, City of Mississauga, 2017

Future employment is expected to grow by around 95,000 jobs from 2011 to 2041. Office development is expected to become the main driver: 60 percent of the employment growth (around 62,000 jobs) is expected to be in the major office development sector. Most of the remaining growth (around 33,000 jobs) is expected to be retail, healthcare, and education.<sup>9</sup> Like residential growth, employment growth will be focused in the downtown.

Exhibit 1-13 shows the expected change in jobs/hectare from 2011 to 2041 by land use designation.

**Exhibit 1-13 – Change in Jobs per Hectare by Land Use Designation - 2011 to 2041**



Source: Working files associated with the development of Transportation Master Plan, Steer Davies Gleave, 2017



The concentration of future employment growth in the form of office developments downtown and in Corporate Centres and Major Nodes creates opportunities for TDM strategies aimed at commuter. Strategies might include, for example, preferential parking for carpool vehicles. Centralized shared parking serving multiple sites may also be appropriate in some locations. Considering millennials' openness to alternative modes and the use of new technology, the City may consider app-based trip planning programs that add information about parking location and fees to information about transit and ridesharing alternatives.

---

### 1.2.3 VEHICLE OWNERSHIP

Vehicle ownership in the City has declined slightly over time. According to TTS data, the average vehicle ownership rate in the City has declined from 1.77 vehicles per household in 2011 to 1.6 vehicles per household in 2016. The trends toward apartment-style living, increased walkability particularly in intensification areas, environmental consciousness, and different travel preferences among the younger generation suggest that the trend toward lower vehicle ownership is likely to continue. Declining vehicle ownership has direct implications for residential parking demand and triggers the need to reconsider the City's existing minimum parking requirements.

Although overall vehicle ownership rate is declining, reconsideration of the City's parking requirements will require a closer examination of vehicle ownership patterns in different areas of the City and for different housing types.

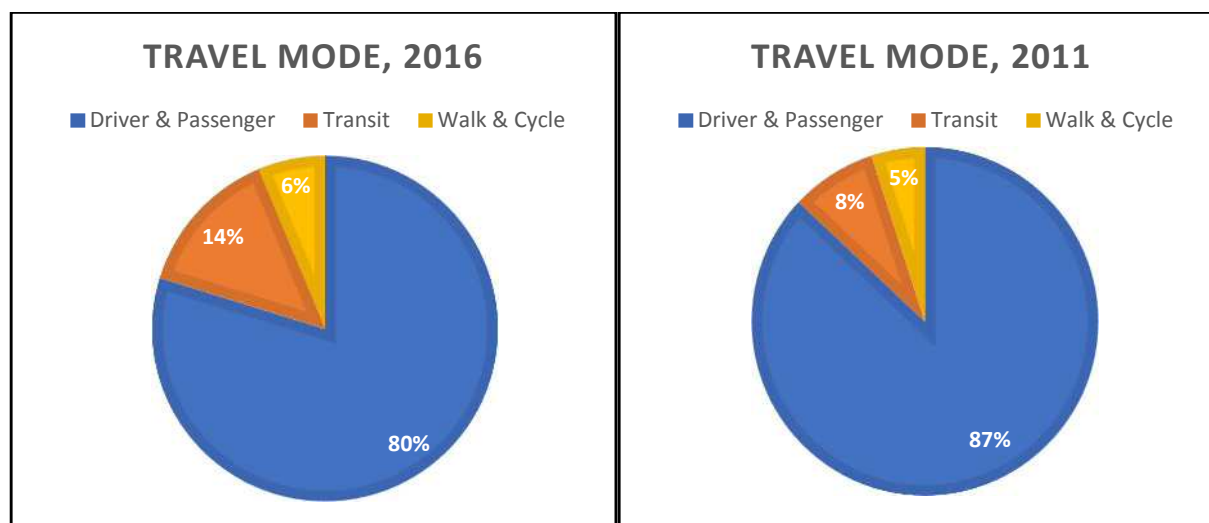
---

### 1.2.4 TRAVEL MODE

Approximately three million trips start or end in Mississauga every day.<sup>9</sup> As Mississauga is a car-oriented City, most of these trips are currently made by auto. Transit use has, however, increased in recent years.

Exhibit 1-14 is based on TTS data for 2011 and 2016. The Exhibit shows that auto decreased from 87 percent to 80 percent, transit increased from 8 percent to 14 percent, and active transportation (walking and cycling) increased from 5 percent to 6 percent. Current and planned investments in regional rail, bus rapid transit (BRT), and light rail transit (LRT) are intended to support growing transit ridership.

As part of the push toward sustainable modes, parking in the City can be managed in a way that supports auto travel without encouraging increased auto use to the detriment of transit, active transportation, and TDM. It is the intention of this study to develop such parking policies that contribute to a multimodal city.

**Exhibit 1-14 – Travel Mode - 2011 to 2016**

Source: *Transportation Tomorrow Survey, University of Toronto, 2011 and 2016*

## 1.3 FUNDAMENTAL CHANGES IN PARKING POLICY

Parking policy is evolving as cities grow and as land use, density and transportation needs and possibilities change. For example, parking policy is responding to the trends toward multi-modal cities, sustainability and use of new technology.

Exhibit 1-15 shows Litman's summary of the old and new parking policy paradigms. The old paradigm focused heavily on parking supply whereas the new paradigm emphasizes parking management as a fully integrated and important element of transportation planning. The new paradigm recognizes that parking policy plays an important role in the transportation system, affects travel behaviour, and should evolve to accommodate changing demographics, land use, and travel behaviours.

### Exhibit 1-15 – Comparison of Old and New Parking Policy Paradigms

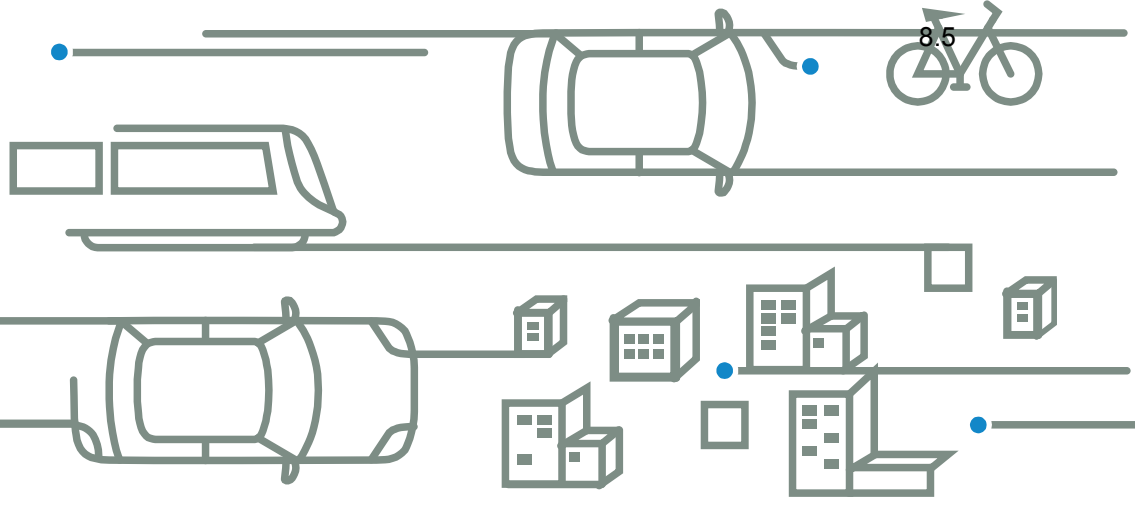
Old Paradigm	New Paradigm
Parking problem means inadequate parking supply.	There can be many types of parking problems, including inadequate or excessive supply, too low or high prices, inadequate user information, and inefficient management.
Transportation parking supply is always desirable.	Travelers may use various modes. Not everybody drives.
Abundant parking supply is always desirable.	Too much supply is as harmful as too little.
All parking demand should be satisfied on-site. Motorists should not be forced to walk to their cars.	Parking can often be provided off-site, allowing sharing of parking facilities among various destinations.
Parking should generally be provided free, funded indirectly, through rents and taxes.	As much as possible, users should pay directly for parking facilities.
Parking should be available on a first-come basis.	Parking should be regulated to favour higher priority uses and encourage efficiency.
Parking requirements should be applied rigidly, without exception or variation.	Parking requirements should reflect each particular situation, and should be applied flexibly.
Innovation faces a high burden of proof and should only be applied if proven and widely accepted.	Innovations should be encouraged, since even unsuccessful experiments can provide useful information.
Parking management is a last resort, to be applied only if increasing supply is infeasible.	Parking management programs should be widely applied to prevent parking problems.
Land use dispersion (sprawl) is acceptable or even desirable.	Dispersed, automobile-dependent development can be harmful.

Source: *Evaluating Public Transit Benefits and Costs*, Victoria Transport Policy Institute, 2018

Due to different needs and planning goals in different parts of the City, parking policies and their application may differ for the various locations, and the implementation of parking policies may be phased over time as local conditions trigger the need for change. For example, intensification areas such as downtown and locations along transit corridors may be suitable for TDM and corresponding parking policies, but more traditional policies may continue to be appropriate for traditional suburban areas where existing travel habits are likely to persist.

The Section that follow discuss planning and parking policies and develop a parking policy framework that considers the emerging societal, environmental, and technological trends influencing the provision and management of parking in the City of Mississauga. The framework supports the City's overall parking vision which will be defined in the next Section and provides the flexibility necessary to accommodate the needs of different areas.





***PARKING MATTERS***



# **APPENDIX 1-2**

# **POLICY REVIEW**

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

# Table of Contents

1	INTRODUCTION .....	3
2	PROVINCIAL POLICY REVIEW .....	4
2.1	<b>Growth Plan for the Greater Golden Horseshoe 2017.....</b>	<b>4</b>
2.2	<b>OMAH Land Use Planning Provincial Policy 2014.....</b>	<b>5</b>
2.3	<b>Metrolinx: 2041 Regional Transportation Plan .....</b>	<b>6</b>
2.4	<b>Metrolinx Mobility HUB Guidelines .....</b>	<b>7</b>
2.5	<b>Ontario's Climate Change Action Plan and Environment Plan.....</b>	<b>7</b>
3	CITY OF MISSISSAUGA EXISTING PARKING POLICY AND FRAMEWORK .....	9
3.1	<b>Official Plan and Local Plans .....</b>	<b>9</b>
3.2	<b>Strategic Plan .....</b>	<b>35</b>
3.3	<b>Major Transit Projects.....</b>	<b>37</b>
3.4	<b>DOWNTOWN CORE .....</b>	<b>43</b>
3.5	<b>TRAFFIC BY-LAW .....</b>	<b>49</b>
3.6	<b>PORT CREDIT AND LAKEVIEW PARKING STRATEGY .....</b>	<b>50</b>
3.7	<b>2018 Cycling Master Plan Update .....</b>	<b>52</b>

3.8	Transportation Demand Management Strategy .....	54
3.9	Zoning By-law 225-2007.....	54
3.10	Parking Design Standards .....	55
3.11	Cash-in-Lieu of Parking.....	56
3.12	On-street Parking .....	58
3.13	PARKING PERMITS.....	60
3.14	Waterfront Parks Strategy .....	63
3.15	Recent and Ongoing Studies .....	64
4	OPPORTUNITIES AND GAPS IN CURRENT POLICIES .....	69
4.1	Opportunities .....	69
4.2	Gaps .....	70
5	MOVING FORWARD.....	71

# 1 INTRODUCTION

## 2 PROVINCIAL POLICY REVIEW

---

### 2.1 GROWTH PLAN FOR THE GREATER GOLDEN HORSESHOE 2017

- Section 3.2.2 (Transportation General):
  - ‘The transportation system within the GGH will be planned and managed to [...] offer a balance of transportation choices that reduces reliance upon any single mode and promotes transit, cycling and walking’.
  - ‘Municipalities will develop and implement transportation demand management policies in official plans or other planning documents or programs to [...] increase the modal share of alternatives to the automobile, which may include setting modal share targets; prioritize active transportation, transit, and goods movement over single-occupant automobiles’.

---

## 2.2 OMAH LAND USE PLANNING PROVINCIAL POLICY 2014

In 2014, the Ontario Ministry of Municipal Affairs and Ministry of Housing issued the *Provincial Policy Statement 2014* under Section 3 of the Planning Act (1990). The Statement sets out policies pertaining to the government’s long-term land-use vision.

The Provincial Policy Statement is required to contain general policy directions on matters of provincial interest related to land use planning and development. The “shall be consistent with” rule means that a council is obliged to ensure that policies under the Provincial Policy Statement are applied as an essential part of the land use planning decision-making process. It is expected that the council will implement the Provincial Policy Statement in the context of other planning objectives and local circumstances. *Parking facilities* (in *Section 6: Definitions*) are considered as part of the overall transportation system which facilitates the movement of people and goods.

The Statement includes the following relevant objectives:

- Transportation systems which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs.
- Efficient use of existing and planned infrastructure, including through the use of transportation demand management strategies, where feasible.
- A land use pattern, density and mix of uses that minimizes the length and number of vehicle trips and supports current and future use of transit and active transportation.
- Transportation and land use considerations that are integrated at all stages of the planning process.
- A multimodal transportation system, where connectivity within and among transportation systems and modes are maintained and, where possible, improved including connections which cross jurisdictional boundaries.

## 2.3 METROLINX: 2041 REGIONAL TRANSPORTATION PLAN

In 2018, Metrolinx released the *2041 Regional Transportation Plan*, a Regional Travel Plan (RTP) that included a series of policy statements on the future transportation challenges in the GTHA.

Building on the vision of an “integrated, multi-modal regional transportation system” from the previous RTP, the key strategies in the new Plan focus on improving traveler needs. The RTP includes the following relevant objectives:

- Strategy #3 *Optimize the transportation system*:
  - ‘Recover the cost of providing parking at GO stations to help shift trips to modes that do not require parking’.
  - ‘Continue to explore how mobility pricing (e.g., parking, road pricing, HOT lanes and off-peak fares) could be used to shift travel behaviour.’
  - ‘Coordinate the planning and operation of transit, roads and on-street parking within each municipality, across municipal boundaries, and where municipal, regional and provincial roads meet.’
- Strategy #4 *Integrate transportation and land use*:
  - ‘Coordinate the development of a region-wide policy that [...] *provides guidelines and encourages best practices in parking management; identifies common goals for on- and off-street parking management, especially near transit stations; [and] includes public education and demonstrates the benefit of new parking practices.*
  - ‘Coordinate station area parking requirements with the expansion of transit infrastructure and services. Zoning standards should be reviewed, with the expectation that minimum parking requirements will be reduced, particularly in transit-supportive neighbourhoods.’
  - ‘Adopt a region-wide approach to parking management for the arrival of shared mobility and autonomous vehicles.’
  - ‘Research and regularly publish existing parking-related data and emerging trends to improve parking planning and management.’

---

## 2.4 METROLINX MOBILITY HUB GUIDELINES

In early 2011, Metrolinx released the *Mobility Hub Guidelines*. The goal of the Guidelines is to define, organize and provide guidance to the scale, intensity and type of development surrounding future mobility hubs as the region's transit system expands. A number of these exist in Mississauga: Mississauga City Centre, Cooksville GO, Port Credit GO, Renforth Gateway and Pearson Airport.

The Guidelines define a mobility hub as being the 800-metre radius surrounding the station or junction at the intersection of two higher order levels of transit lines. Mobility hubs are classified according to their location, size and projected usage. These range from "Central Toronto" to such as "Suburban Transit Node".

Metrolinx also provides a guide to transit supportive densities within mobility hub boundaries. For instance, it is intended that the Mississauga City Centre (MCC) will be predominantly serviced by LRT and BRT, an area that requires at least 300 residents and jobs per hectare.

In the *Seamless Mobility* category of measures outlined in the guide, Metrolinx has nominated *Strategic Parking Management* as a desirable policy objective (Chapter 4). The three themes that Metrolinx has nominated to achieve this are as follows:

- 'Right-sizing commuter parking'
- 'An Area-Based Approach to parking management and reduction'
- 'Parking designed to high standards'

Each theme contains two to three measures that are designed to achieve the strategic parking management objective.

---

## 2.5 ONTARIO'S CLIMATE CHANGE ACTION PLAN AND ENVIRONMENT PLAN

Under the previous provincial government, the Climate Change Action Plan 2016-2020 is the most recent provincial plan of specific legislative actions and programs designed to address climate. It includes a cap-and-trade scheme, select direct investments in public infrastructure and technologies as well as initiatives to reform existing land use regulations.

Relevant objectives include:

- More publicly accessible bike parking at transit stations to support more multi-modal travel, including cycling and walking.
- Eliminating minimum parking requirements in municipal zoning bylaws, especially in transit corridors and other high-density, highly walkable communities through reforms to the Municipal Act.
- Requiring electric vehicle charging services in surface lots (Action Start 2017/18).



### Relevance to Mississauga

The Province has a number of plans in place that seek to reform land use planning and introduce and improve parking management for those transportation corridors and lands over which the Province has either control or influence. Given the significant impact of parking on land use and transportation, it is unsurprising that most plans identify parking as a major area of reform.

At present, the extent to which the province is willing to intervene and regulate parking is not yet clear. The PMPIS is an opportunity for the City to make its own determination as to which of the Province's initiatives are considered significant for future transportation performance in Mississauga and also to determine those areas in which attention should be focussed as part of the Master Plan.

## 3 CITY OF MISSISSAUGA EXISTING PARKING POLICY AND FRAMEWORK

---

### 3.1 OFFICIAL PLAN AND LOCAL PLANS

- Allow for the consolidation of pre-existing surface lots to encourage intensification.
- Make efficient use of publicly owned land.
- Integrate commercial uses into the ground level façade for above grade structures.
- Allow for integration of community infrastructure.
- Provide for convenient pedestrian linkages to, from, and through the parking structure to connect with surrounding development.
- Consider temporary surface parking lots to secure strategic locations for future public parking structures.
- Consideration for “allowing the use of municipal parking facilities to meet or reduce the parking requirements for cultural facilities where it does not impair the functioning of other uses or the economic viability of the area” (8.4.10).
- “Development within and adjacent to neighbourhoods will mitigate parking impacts on the residential use” (8.4.12).
- Discouraging “parking in neighbourhoods on local streets for non-residential purposes” (8.4.13).
- Create a Desirable Urban Form (Section 9) through, for example:
  - Consideration of bicycle parking and destination amenities as part of site development (9.4.1.3).
  - Consideration of design objectives for parking, servicing, and loading (9.5.5) and location of parking with respect to buildings (9.5.5.1).
  - Development of appropriate above grade design principles (9.5.5.2).
  - Development of appropriate surface parking design principles (9.5.5.3).
  - Support for shared parking (9.5.5.4).
  - Support for secure bicycle parking (9.5.5.5).

Many existing policy statements seek to address undesirable aspects of parking by attempting to regulate parking for, but important aspects that concern the quantity or scale of parking provision are often left to other regulations such as the Zoning By-law.

Section 3.1.1 discusses the City Structure document with reference to parking policy issues relating to seven different land uses. Parking policy issues in intensification corridors and at major transit stations areas are discussed in Section 3.1.3 and 3.1.4 respectively. Section 3.1.5 considers parking policy related to the long-term transit network, and Section 3.1.6 examines mobility hubs.

---

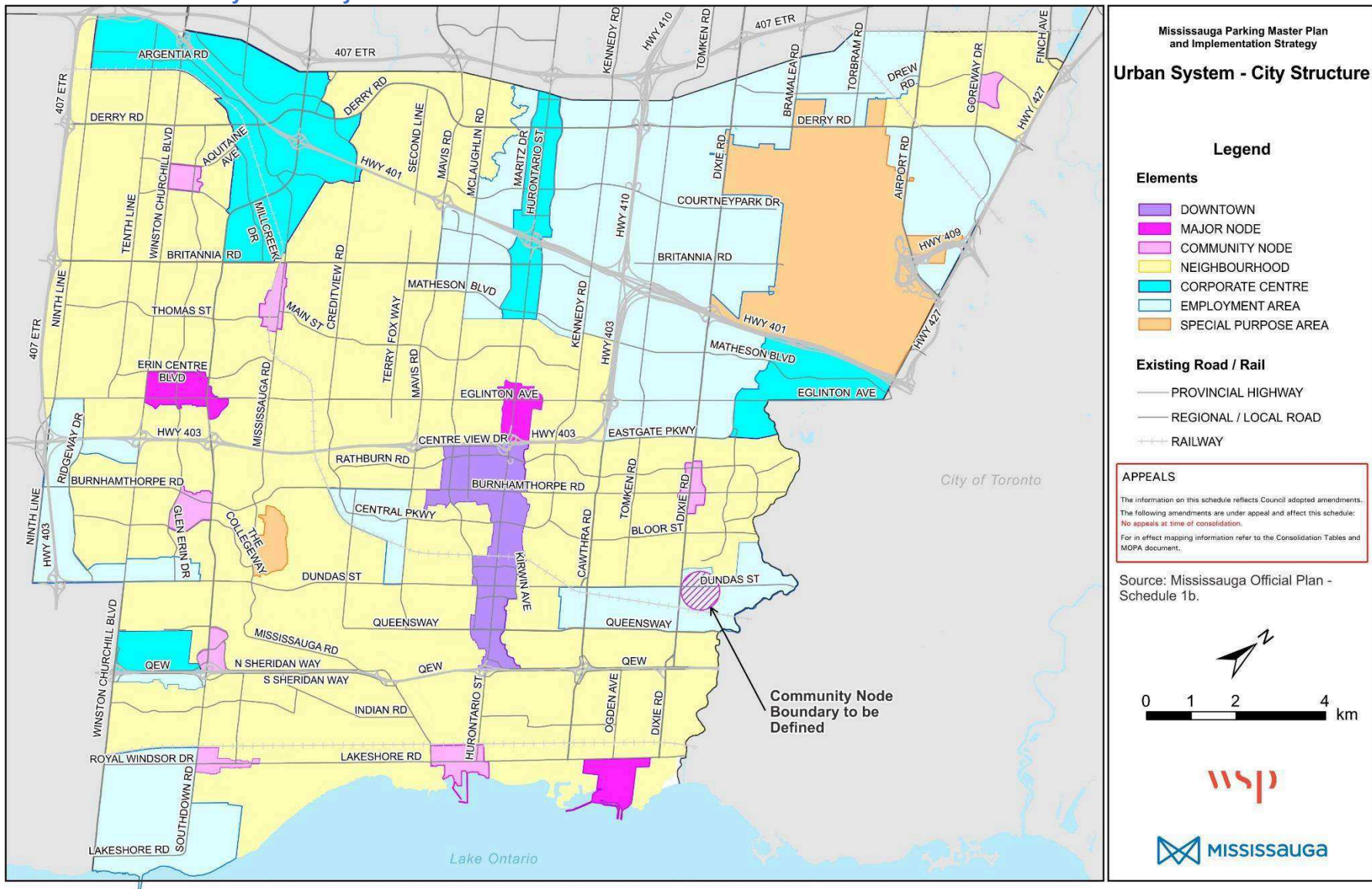
### 3.1.1 CITY STRUCTURE

The MOP defines a City Structure in Schedule 1B of the plan. Exhibit 3-1 shows the structure. The structure identifies seven policy areas called “elements.” Each element reflects a distinct urban character and land use pattern. It was agreed early in the project that the City’s parking policies should be sensitive to the city building goals in each area.

The following Sections focus on the parking issues related to each of the seven land use elements:

- Downtown
- Major Node
- Community Node
- Neighbourhood
- Corporate Centre
- Employment Area
- Special Purpose Area

### Exhibit 3-1 Urban System City Structure



### *Downtown*

The City expects much of the new population and employment growth to be in its Downtown. The City intends Downtown to be a place where people live, work, shop, and come for entertainment. Infrastructure improvements will provide a mixed-use environment that is suitable for such uses and that create an inviting overall public realm.

Section 5 of the MOP defines four Character Areas within the Downtown:

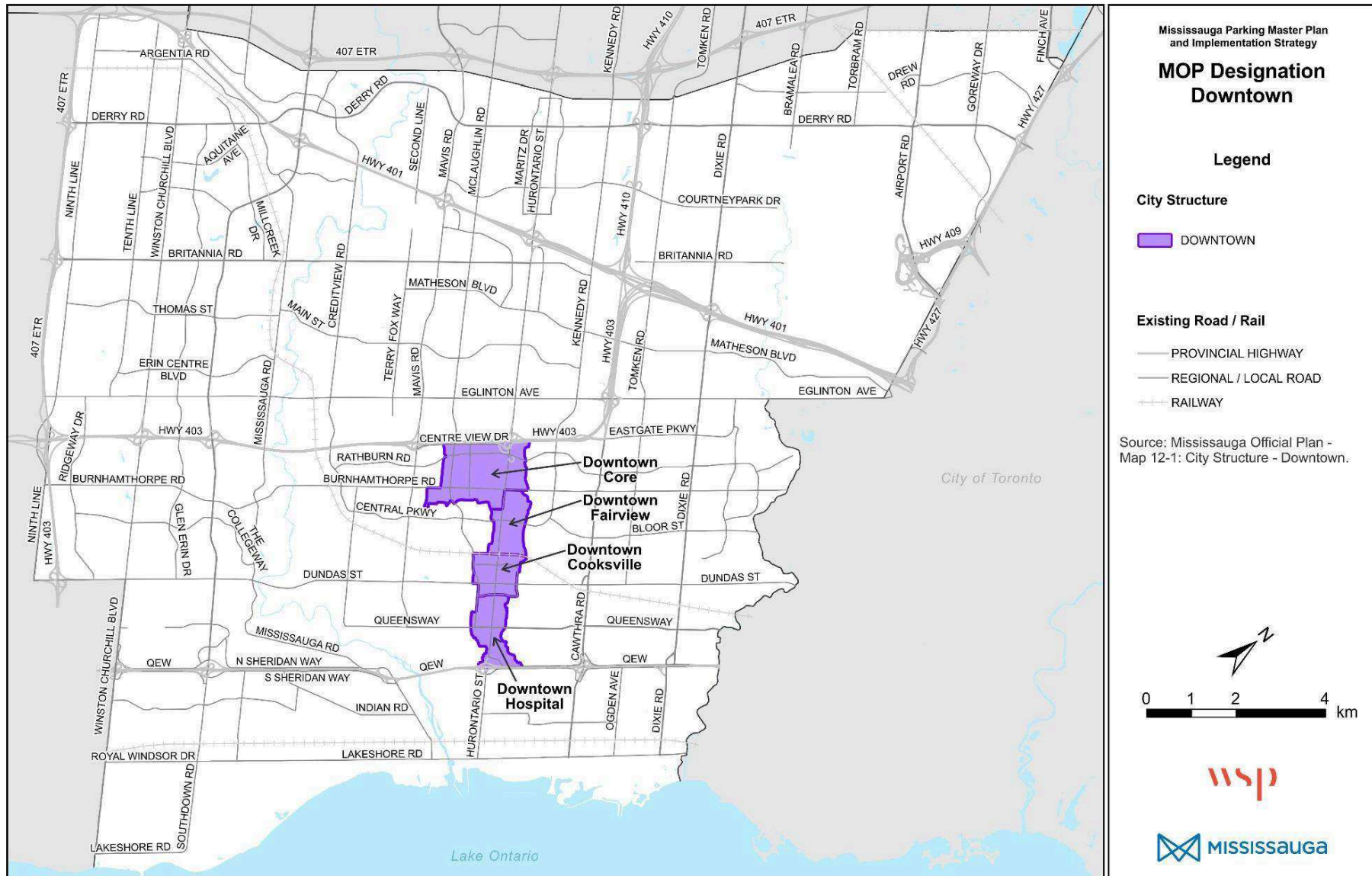
- Downtown Core
- Downtown Fairview
- Downtown Cooksville
- Downtown Hospital

The Downtown and its four Character Areas are shown in Exhibit 3-2.

The parking policies related to the Downtown are discussed in Section 12 of the MOP. The discussion mainly concentrates on broad parking policies for these areas. The policies include urban design objectives that focus on location and form rather than the amount and type of parking provided. There are some special site policies that include specific parking provisions for certain locations.



## Exhibit 3-2 MOP Downtown



### *Major Nodes*

The development of the City's Major Nodes is to create and foster important centres of mixed-use activities that will provide:

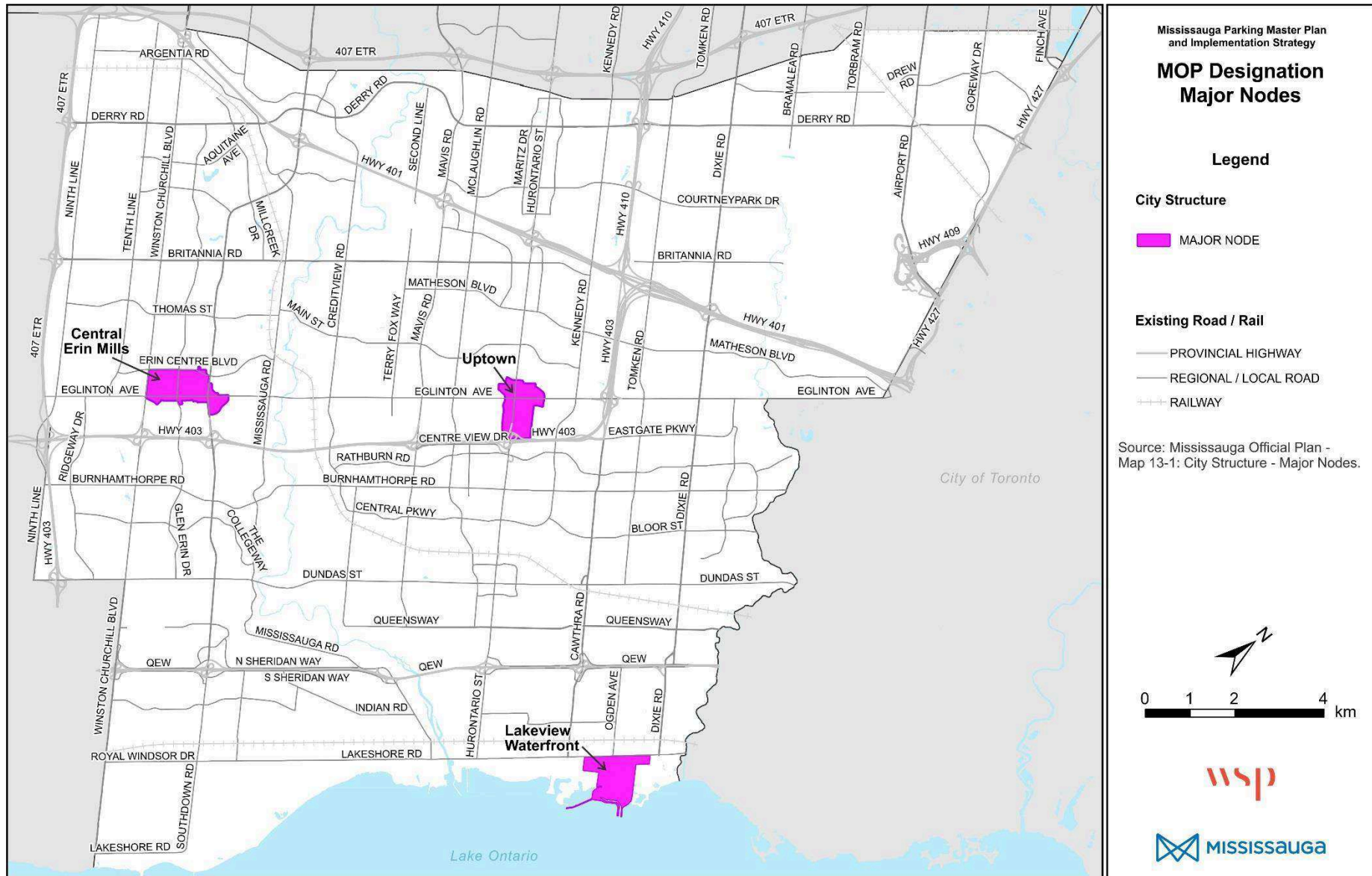
- Regional shopping services and employment opportunities that attract people adjacent neighbourhoods and from more distant surrounding areas.
- Higher-density housing which will accommodate people from a wide range of demographics and income levels. A Major Node should be able to accommodate residents through the different phases of their lives.

Mississauga currently has three Major Nodes: Uptown, Central Erin Mills, and Lakeview, as shown in Exhibit 3-3.

The Uptown Major Node is located directly on the proposed higher-order transit facility on the Hurontario Street Corridor, and the Central Erin Mills Major Node is adjacent to the Mississauga Transitway corridor.



### Exhibit 3-3 MOP Major Nodes



### *Community Nodes*

Community Nodes are intended to provide diverse housing stock and easy access to schools, parks, local shops, community facilities, etc. The aim is compact, mixed-use developments with walkable streets and a strong sense of place and community identity.

Exhibit 3-4 shows the City's nine Community Nodes:

- Clarkson Village
- Dixie-Dundas
- Malton
- Meadowvale
- Port Credit
- Rathwood-Applewood
- Sheridan
- South Common
- Streetsville

Section 14 of the MOP outlines parking policies for some of the abovementioned Community Nodes. The parking related policies for Clarkson Village, Malton, Meadowvale, Rathwood-Applewood, and Streetsville place parking at the rear of buildings or underground out of sight. The policies also stipulate that no parking should be placed between buildings and the street line in Malton and Meadowvale. Parking policies for the other Community Nodes are not discussed in the MOP.

### Exhibit 3-4 MOP Community Nodes



### *Neighbourhoods*

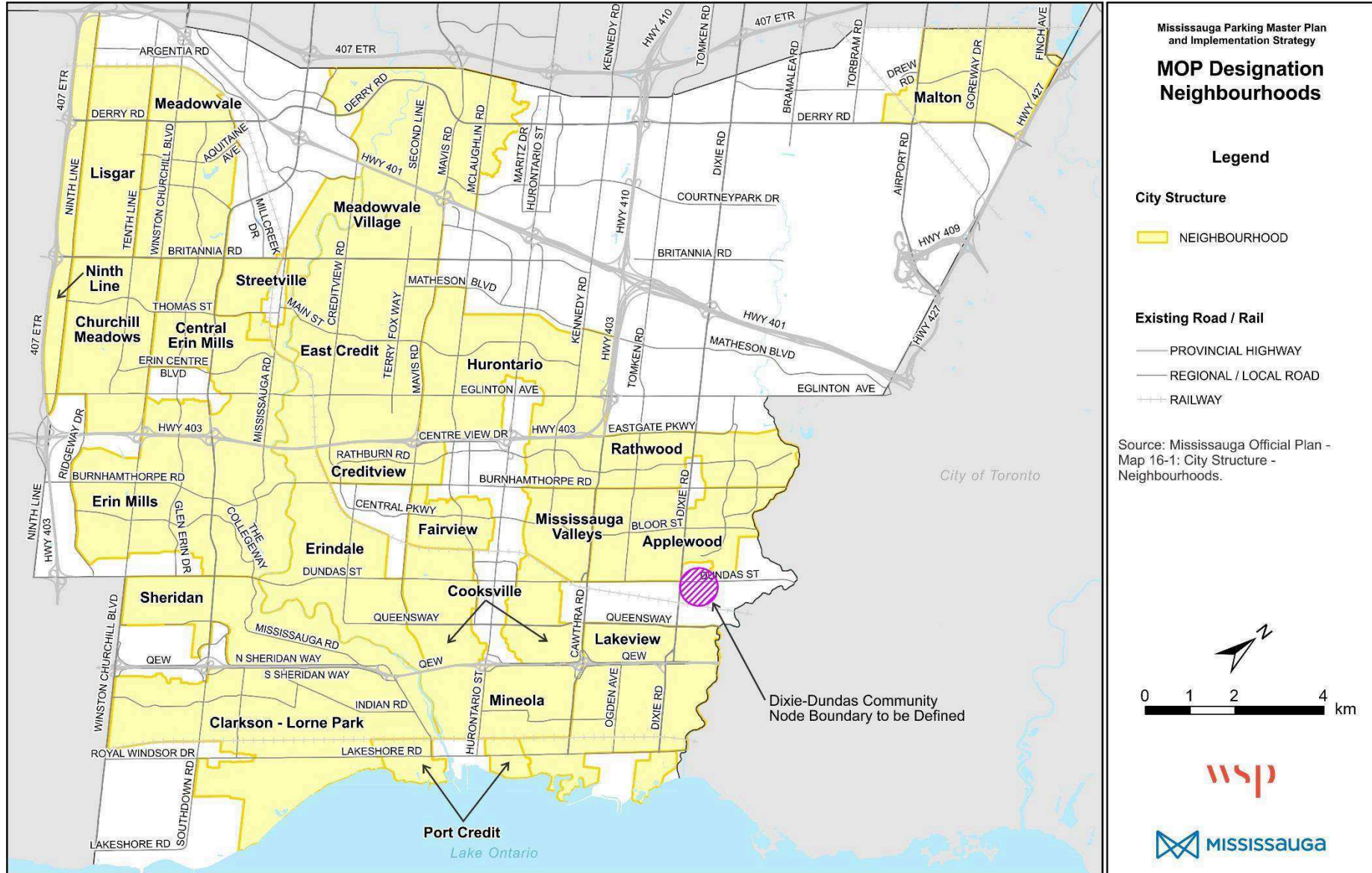
Neighbourhoods are not identified as intensification areas. The 22 Neighbourhoods are discussed in Section 16 of the MOP. The discussion mainly concentrates on broad parking policies for these areas. The policies include urban design objectives that focus on location and form rather than the amount and type of parking provided. There are some special site policies that include specific parking provisions for certain locations.

Exhibit 3-5 shows the 22 Neighbourhoods:

- Applewood
- Central Erin Mills
- Churchill Meadows
- Clarkson-Lorne Park
- Cooksville
- Creditview
- East Credit
- Erindale
- Erin Mills
- Fairview
- Hurontario
- Lakeview
- Lisgar
- Malton
- Meadowvale
- Meadowvale Village
- Mineola
- Mississauga Valleys
- Port Credit
- Rathwood
- Sheridan
- Streetsville



## Exhibit 3-5 MOP Neighbourhoods



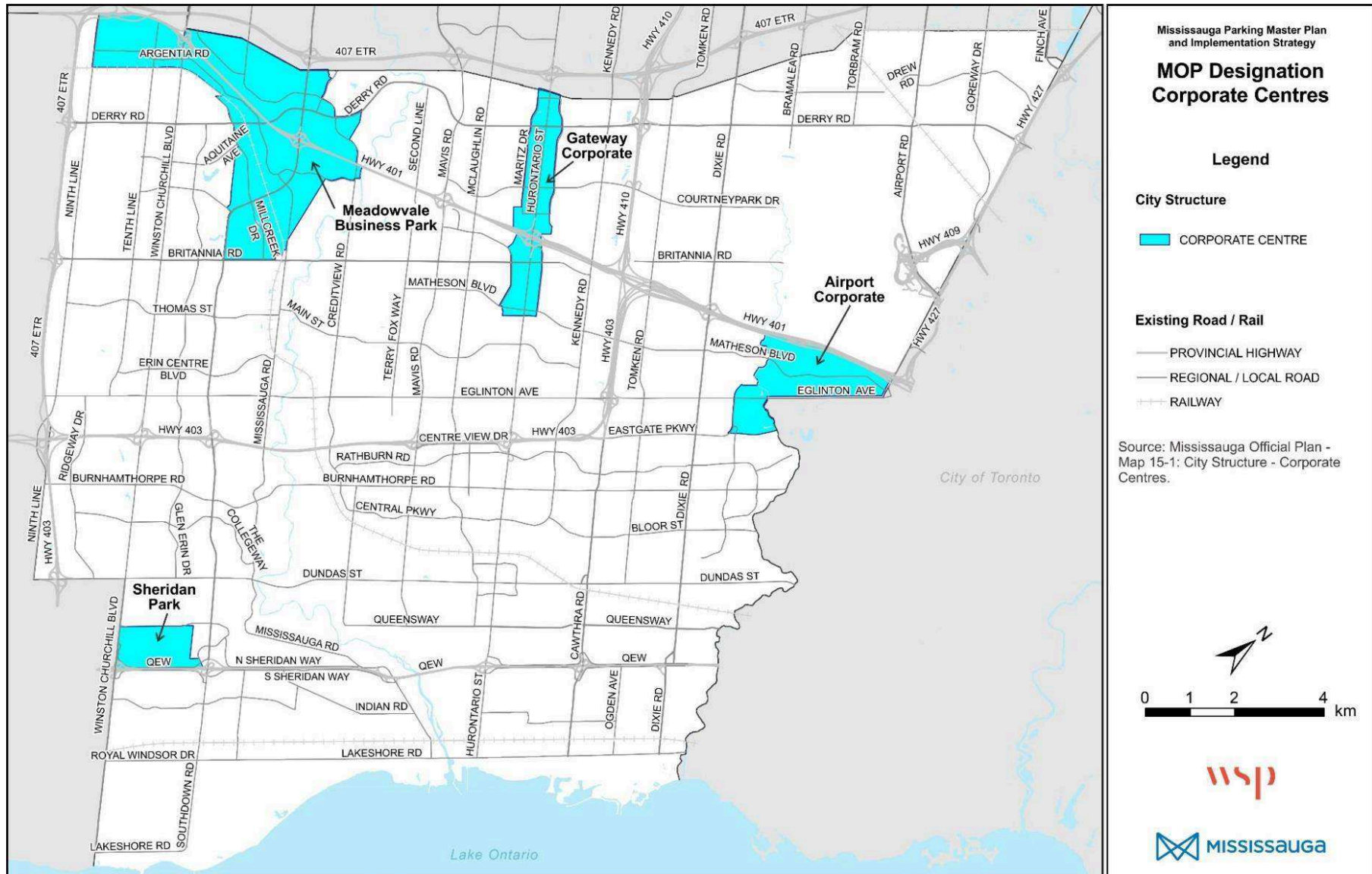
### *Corporate Centres*

The City's four Corporate Centres are areas with high concentrations of employment. The emphasis is on office development and high employment densities. Exhibit 3-6 Exhibit 3-6 shows Mississauga's four Corporate Centres:

- Airport Corporate
- Gateway Corporate
- Meadowvale Business Park
- Sheridan Park

The MOP's existing parking policies for the four Corporate Centres vary substantially. Some seek to ensure sufficient parking as part of any planned expansion, some encourage shared parking, some require bicycle parking, some stipulate a site specific TDM strategy as part of any development, some prescribe design features, and some prohibit parking in potential BRT corridors. Some of the policies are part of a broader urban design framework, and some included a generic requirement such as "a generous landscape buffer and or an upper limit on parking between the building and the street."

### Exhibit 3-6 MOP Corporate Centres



### *Employment Areas*

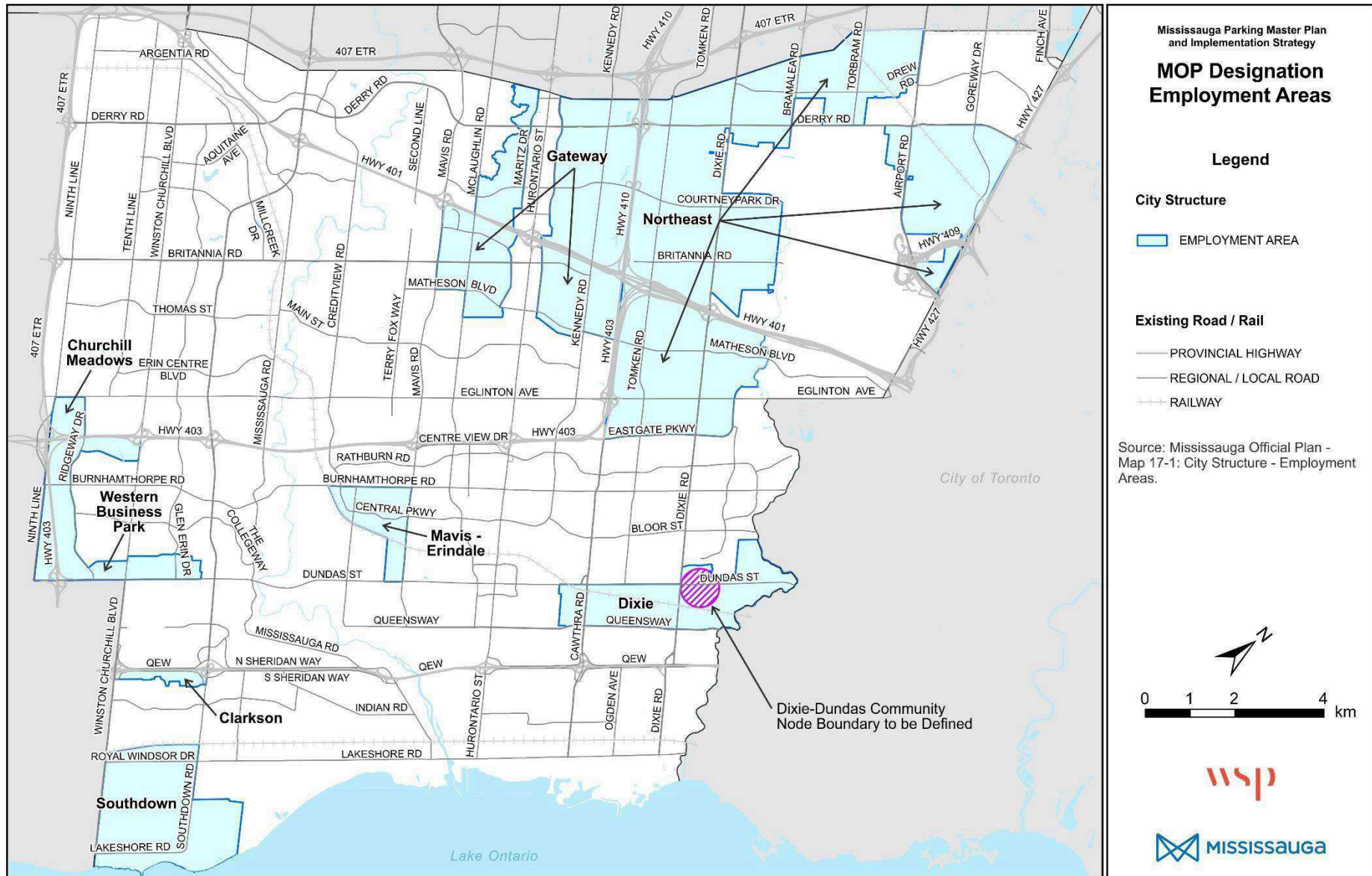
Like Neighbourhoods, Employment Areas are not identified as intensification areas. Exhibit 3-6 shows the City's eight Employment Areas:

- Churchill Meadows
- Clarkson
- Dixie
- Gateway
- Mavis-Erindale
- Northeast
- Southdown
- Western Business Park

At present, only Churchill Meadows, Dixie and Western Business Park have parking policies. The policies refer high level urban design in relation to parking.



### Exhibit 3-7 MOP Employment Areas

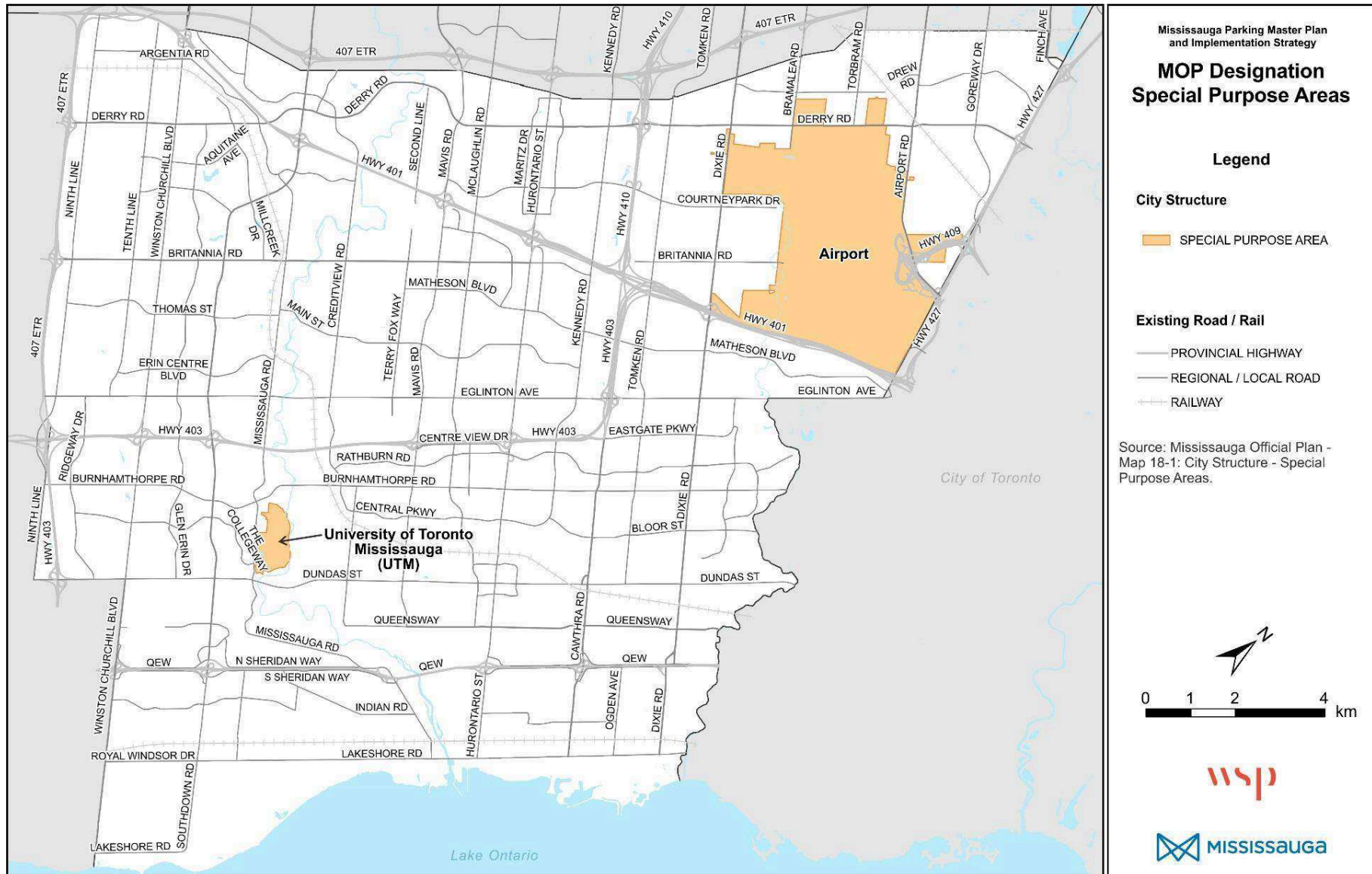


*Special Purpose Areas*

The MOP identifies two Special Purpose Areas in the City: Toronto Lester B. Pearson International Airport, and the University of Toronto Mississauga (UTM). See Exhibit 3-8.

These areas “will develop as unique destinations of city and regional significance.” The City’s influence on parking policy in the two areas is expected to be limited to an indirect role, but the City will work with all stakeholders to improve the planning of parking in these locations.

### Exhibit 3-8 MOP Special Purpose Areas



### 3.1.2 RELEVANT MOP PARKING POLICIES

MOP Parking Policies are generally characterized by an intention to move towards facilitating high quality urban outcomes by implementing more deliberate parking management. MOP acknowledges that careful consideration of parking is part of a wider accessibility challenge and that there is a need to address unwanted aspects of parking, but still maintain sufficient servicing and loading needs. A combination of general and specific policies appear throughout MOP. The following represents a short, non-conclusive summary:

- *Create a Multi Modal City* (Chapter 8), including Municipal Parking Objectives and Policies (Chapter 8.4), such as:
  - New development that encourages inclusive off-street parking facilities (8.4.1)
  - Encouragement of shared and off-site parking (8.4.2)
  - Reduced off-street parking requirements to support greater use of alternative modes (8.4.3)
  - Cash-in-lieu policy objectives (8.4.4) and criteria for cash-in-lieu considerations (8.4.5)
  - On-street parking design objectives (8.4.6)
  - Broad policy objectives for Intensification Areas (8.4.7)
  - Support for developing municipal parking facilities to support shared parking, transit, and encourage development (8.4.8)
  - Support for ‘tak[ing] an active role in providing off-street parking’, including public investment in parking projects that are directed towards nine specific objectives (8.4.9)
  - Consideration for ‘*allowing the use of municipal parking facilities to meet or reduce the parking requirements for cultural facilities where it does not impair the functioning of other uses or the economic viability of the area*’ (8.4.10)
  - ‘*Development within and adjacent to neighbourhoods will mitigate parking impacts on the residential use*’ (8.4.11)
  - Discouraging ‘*parking in neighbourhoods on local streets for non-residential purposes*’ (8.4.12)
- *Build a Desirable Urban Form* (Chapter 9)
  - Bicycle Parking and destination amenities considerations as part of Site Development (9.4.1.3)
  - Design Objectives for Parking, Servicing and Loading (9.5.5) including
    - Location of parking with respect to buildings (9.5.5.1)
    - Above grade design principles (9.5.5.2)
    - Surface parking design principles (9.5.5.3)
    - Support for Shared Parking (9.5.5.4)
    - Secure bike parking (9.5.5.5)

Other elements of MOP contain **more area specific policies** which are intended to address character and need of each area e.g. intensification areas, character areas, and local area plans.

---

### 3.1.3 INTENSIFICATION AREAS AND CORRIDORS

Intensification Areas are expected to accommodate more than 75% of the city's growth in population and employment between now to 2031. As shown in Exhibit 3-9, these areas are designated to be mixed use areas with a sufficiently high density to support frequent transit service and a variety of amenities and services. To accommodate much of this growth, existing single storey buildings and surface parking lots within these areas are expected to be redeveloped into multi-storey developments and structured parking facilities. Low density developments will also be discouraged within Intensification Areas.

Section 8.4.7 contains a wide range of parking policies that apply exclusively to Intensification Areas such as: reduced minimum parking requirements to reflect transit service levels, establishment of maximum parking standards to support transit investments, limiting surface parking and requiring structured parking facilities to be underground.

Corridors generally refer to the roadway right-of-way and the lands on each side of the road. Intensification Corridors provide connection between the various elements of the City. Generally, they will be developed to allow for growth and accommodation of multi-modal transportation.

According to Schedule 2 of the MOP, the City has two notable intensification corridors: Hurontario Street and Dundas Street. No specific parking policies currently relate to intensification corridors.

---

### 3.1.4 MAJOR TRANSIT STATION AREAS

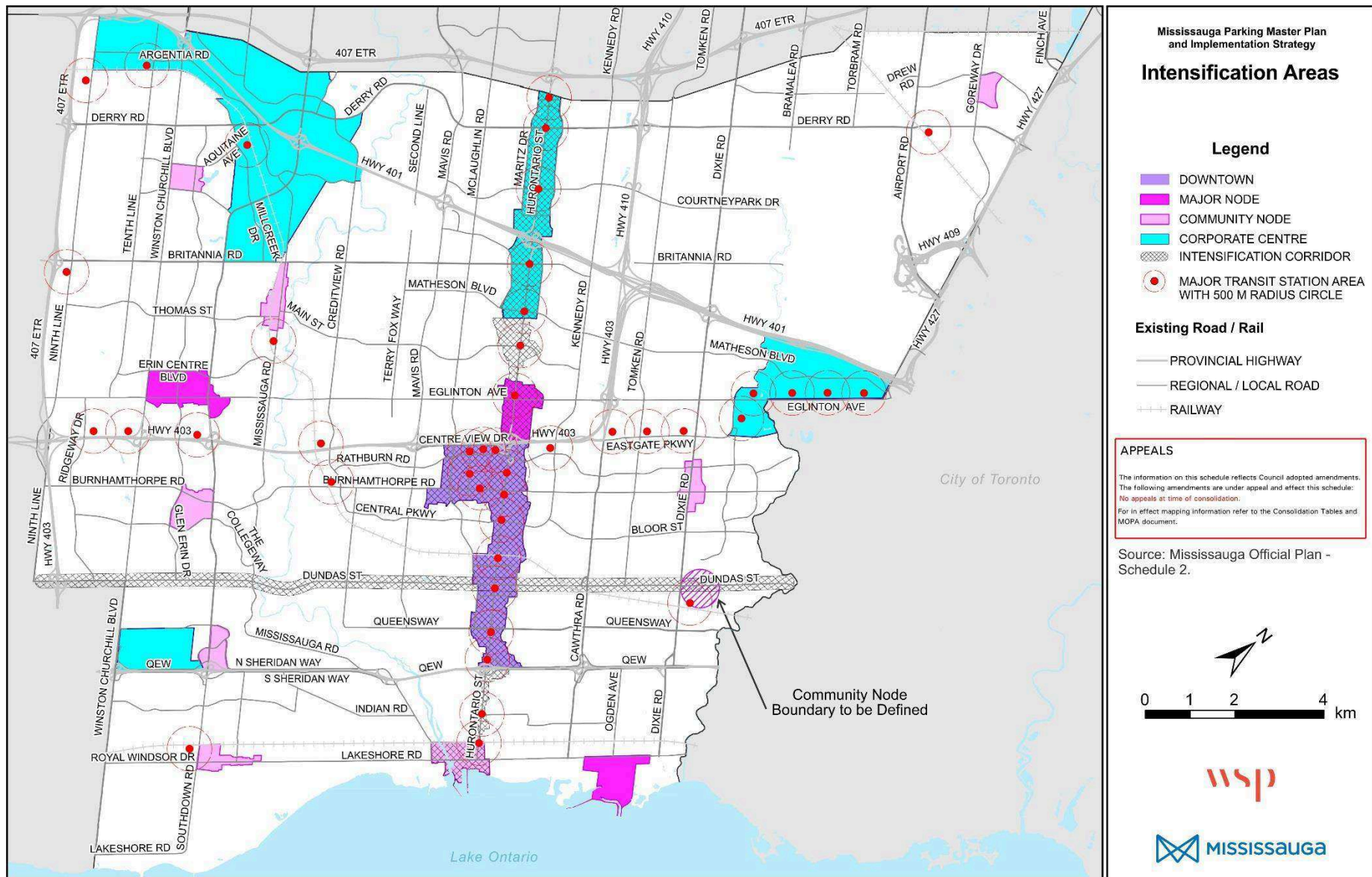
The MOP defines a Major Transit Station Area as the location of an existing or planned higher-order transit station. A Major Transit Station Area generally consists of the area within a 500-metre radius of the higher-order transit station (i.e. the area within an approximately 10-minute walk). Major Transit Station Areas will be developed to provide connections to various modes of transportation and will include components such as bicycle parking and commuter pick up/drop-off areas.

Exhibit 3-9 shows the Major Transit Station Areas. Most of these areas are in the Downtown or on an intensification corridor, with the exception of select GO stations.

The MOP includes no specific parking policies for Major Transit Station Areas.



### Exhibit 3-9 MOP Intensification Areas



---

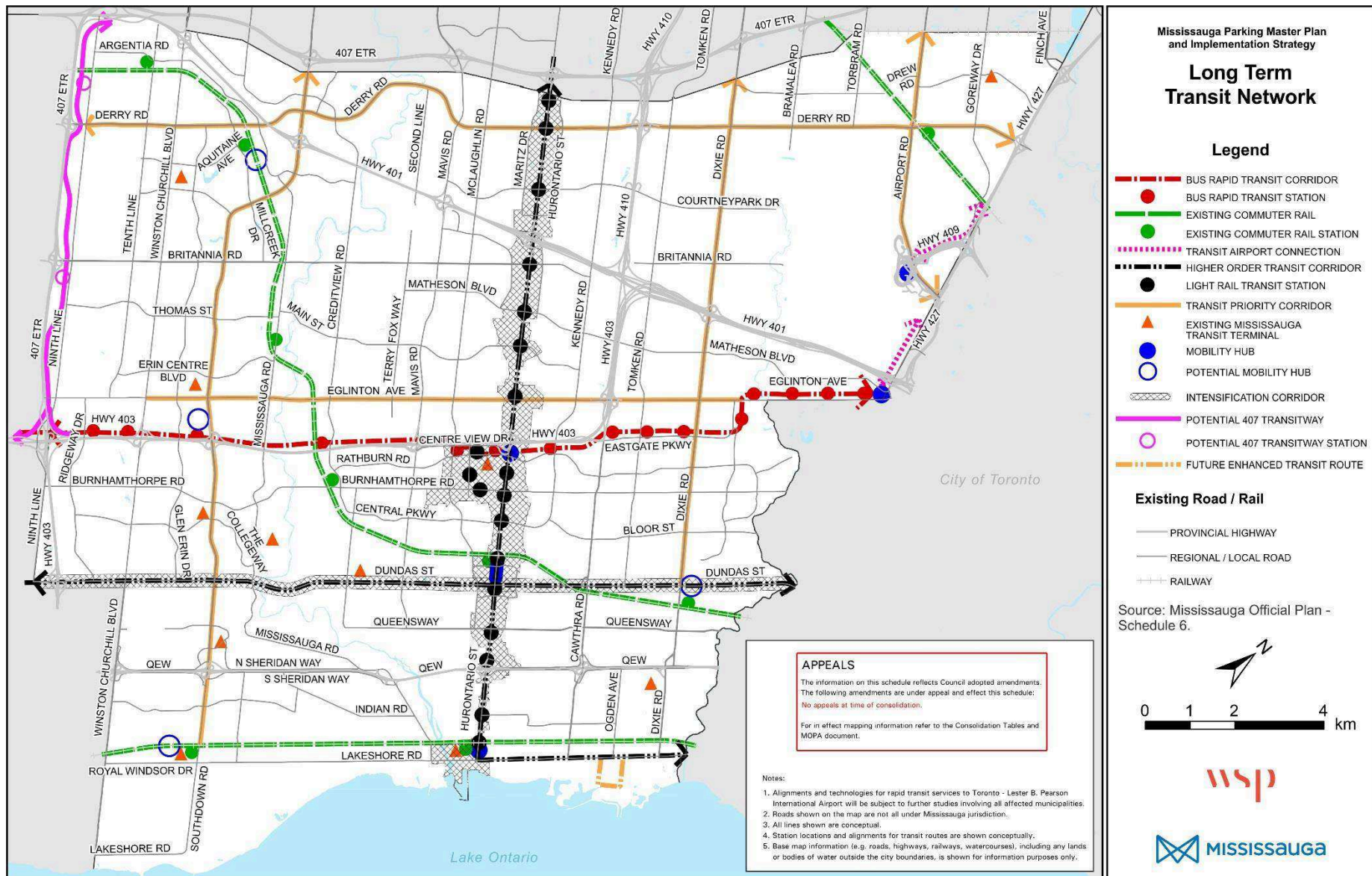
### **3.1.5 LONG-TERM TRANSIT NETWORK**

In the long term, a higher-order transit network will serve the Downtown Core, provide connections to other parts of Mississauga, and provide connections to other municipalities.

The existing transit terminal will be modified to connect to the BRT facility and to handle the City's growth. The transit terminal will be located near Rathburn Road West and City Centre Drive.

Exhibit 3-10 shows the long-term transit network including the LRT along Hurontario Street.

Exhibit 3-10 MOP Long Term Transit Network





---

### 3.1.6 MOBILITY HUBS

Mobility hubs are concentrated around Major Transit Station Areas. The City of Mississauga currently has six mobility hubs, shown in Exhibit 3-11. Two are anchor hubs and four are gateway hubs. Anchor hubs are major transit station areas associated with an urban growth centre as well as Pearson Airport and Union Station. Gateway hubs are major transit station areas that are located at the interchange of two or more current or planned regional rapid transit lines with high anticipated levels of ridership. Exhibit 3-11 provides some key information about the six hubs.

The hubs include employment, shopping, housing, and recreational uses interconnected by various transportation modes including walking, cycling and transit. Future hub design and infrastructure will promote alternative modes of transportation through pedestrian facilities, cycling facilities, and linkages to commuter parking lots and commuter pickup/drop-off areas.

Locations for four additional potential mobility hubs have been identified:

- Dundas Street East and Dixie Road area.
- Lakeshore Road West and Southdown Road area.
- Erin Mills Parkway and Highway 403 area.
- St Lawrence and Hudson Railway between Derry Road West and Erin Mills Parkway.

### Exhibit 3-11 Key Information for Mississauga's Current Mobility Hubs

Name	Type of Hub	Planning Status	Parking Area (ha)	Type	Area Used for Parking	Notes
<b>Mississauga City Centre</b>	Anchor		31	Surface	15%	Plans to link with Hurontario LRT.
<b>Renforth Gateway</b>	Gateway		23	Surface	14%	Plans to integrate Rapid Transit and local bus services.
<b>Cooksville GO</b>	Gateway	Urban Design Framework Official Plan Policies Zoning	20	Surface	11%	Mobility Hub Master Plan (2011) Mobility Hub Plan Implementation Business Case and Implementation Plan
<b>Port Credit GO</b>	Gateway	Port Credit Mobility Hub Study (2011)	10	Surface	6%	Plans to intensify lands around the future Port Credit GO station are coming to a head, with the City's planning staff finalizing details regarding parking, land use and building heights. An 800-space parking structure is being proposed.
<b>Pearson Airport</b>	Anchor		22	Surface	11%	
<b>Hurontario-Steeles</b>	Gateway		21	Surface	11%	Located at the border of City of Mississauga and City of Brampton. Includes Brampton Gateway Bus Terminal. Plans to integrate Rapid Transit and local bus service.

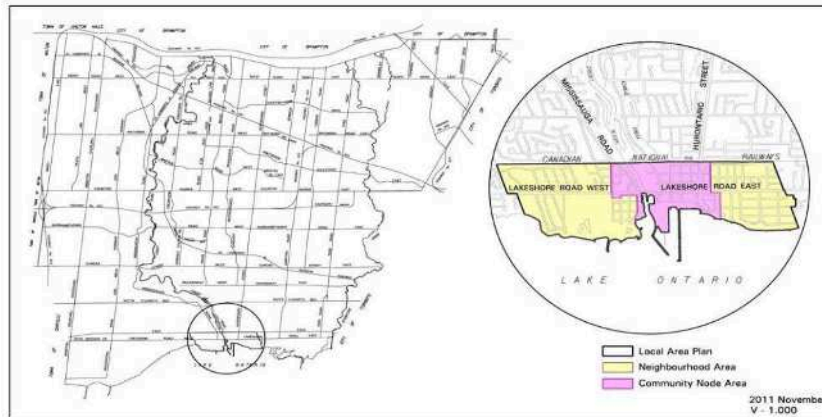
Source: Mobility Hub Profiles, Metrolinx, 2015

### 3.1.7 LOCAL AREA PLANS

The Municipality has area-specific plans that are designed to guide development for their respective Local Areas. Each area has different land-uses and activities. Therefore area-specific plans will help to pay attention to each local area's individual issues. As shown in Exhibit 3-12, in cases where the Official Plan does not touch on area-specific issues, the local area plan will go beyond and address them.

## Exhibit 3-12 Local Area Plans

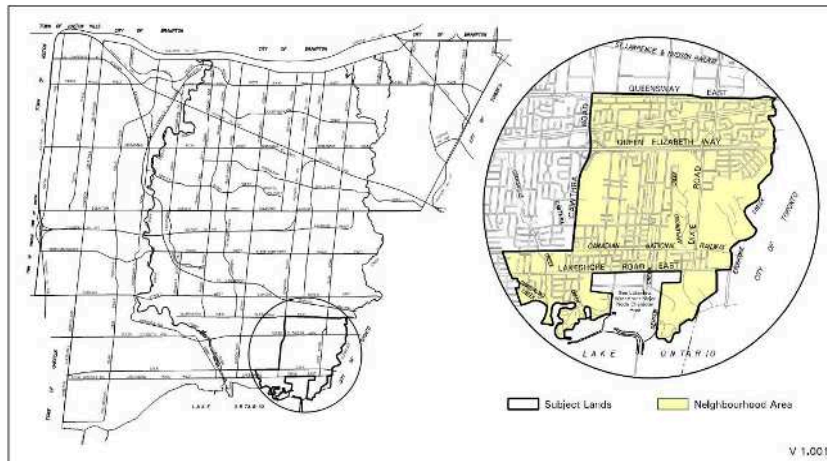
### Port Credit Local Area Plan



#### Objectives:

- Reduce parking requirements
- Minimize surface parking
- Encourage underground parking
- Provide secure bicycle parking storage facilities

### Lakeview Local Area Plans



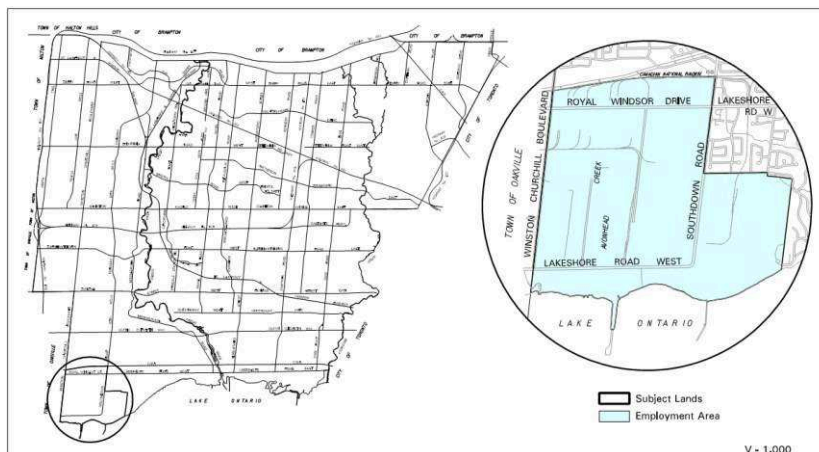
#### Objectives:

Locate parking below-grade, or at the rear of sites

Screen surface parking from adjacent streets and properties by using landscaping and other structural materials

- The City will identify appropriate locations for on-street parking
- Reduce parking requirements and consider max. parking standards
- Provide centrally located visitor parking that is not visible from a public road

### Southdown Local Area Plan



#### Objectives:

- Locate most of the required parking at the rear or the sides of the building
- Limit parking between a building's face and the edge of the right-of-way to visitor's parking
- Parking lots should have defined pedestrian circulation systems leading conveniently to main and employee entries.

## 3.2 STRATEGIC PLAN

Mississauga's Strategic Plan, developed in 2007, was created to shape and direct strategic decision-making for the City. The Strategic Plan is a roadmap "guiding our vision for the future - a plan to get us from where we are today to where we want to be as a city."

During the public conversation that was part of Mississauga's Strategic Plan development in 2007-2008, many residents said that lack of mobility options was one of their most pressing concerns.

The City's Strategic Plan notes that roughly a quarter of the comments received from the City's bi-annual Customer Satisfaction Survey related to improving transit and transportation in Mississauga. It was clear that residents do not want to be entirely car-dependent and would like more choice when it comes to how they travel in and around Mississauga.

Drawing from Our Future Mississauga, a community engagement program connecting over 100,000 people, City Council, various advisory groups, City staff, and the community developed a vision statement and five Strategic Pillars for Change.

The five Strategic Pillars for Change are:

- Move: developing a transit-oriented city.
- Belong: ensuring youth, older adults, and new immigrants thrive.
- Connect: completing our neighbourhoods.
- Prosper: cultivating creative and innovative business.
- Green: living green.

The strategic goals of the Move Pillar are summarized in Exhibit 3-13.


In addition to the strategic goals in Move, the Move initiatives to transition Mississauga to a transit-oriented City include 19 action items:

- Provide "complete" streets that balance land uses and forms.
- Reduce our carbon footprint through "green" transit.
- Implement a parking strategy that supports public transit.
- Investigate higher-order transit (express rail or subway) between downtown Mississauga and Union Station.
- Provide alternatives to the automobile along major corridors.
- Shorten the travel time to a transit stop.
- Create mobility hubs.
- Improve transit service between Mississauga, Union Station, and Pearson International Airport.
- Improve the transportation network for pedestrians, cyclists, and automobiles.
- Encourage walking by establishing maximum block sizes.
- Accommodate the needs of cyclists.
- Implement "real time" bus tracking.
- Establish transit stops at locations that are convenient to walk to.
- Implement transit priority measures.

- Provide sidewalks to all transit stops.
- Use development revenues from “density bonusing” to support higher-order transit.
- Use special development levies to support higher-order transit.
- Require development standards for mixed-use development to support transit.
- Accelerate the creation of higher-order transit infrastructure.

The PMPIS needs to be aligned with the principles set of in the Strategic Plan. PMPIS focuses on forward-thinking policies for parking provision and helping to advance the development of a transit-oriented city.

### Exhibit 3-13 Strategic Goals - Move Pillar



**Direction** Our Future Mississauga is a city where people can get around without an automobile, and where transit will directly influence and shape the form of the city. Transit will be a desirable choice that connects people to destinations, and will underpin an environmentally responsible, inclusive, vibrant and successful city.

**Principle** Mississauga is a city that values clean air and healthy lifestyles through the promotion of transit as a preferred, affordable and accessible choice.

**Strategic Goals**

**Develop Environmental Responsibility** - to contribute to environmental responsibility by reducing private automobile use and developing compact mixed-use development.

**Connect our City** - to contribute to a vibrant, successful city by connecting communities within Mississauga and within the Greater Golden Horseshoe to support a 24-hour city.

**Build a Reliable and Convenient System** - to make transit a faster and more affordable alternative to the automobile, one that is frequent, clean, safe, reliable and convenient, with a transit stop within walking distance of every home and an intricate web of higher order transit.

**Increase Transportation Capacity** - to add capacity to the transportation system through strategic investments in transit, additional links in the street network and active mobility choices.

**Direct Growth** - to direct growth by supporting transit-oriented development policies and deliberate civic actions.

Source: Strategic Plan – What is our future Mississauga? City of Mississauga, 2016

---

## 3.3 MAJOR TRANSIT PROJECTS

Mississauga has been making significant progress in the planning and provision of higher-order transit in the City. The provision of BRT and LRT can have a significant impact on the travel behaviour of residents who live and work within reach of transit if transit offers an attractive alternative to auto travel and car ownership.

The City's major transit infrastructure and projects are:

- Mississauga Transitway
  - Hurontario LRT
  - Dundas Rapid Transit
  - Metrolinx Regional Express Rail (RER) Projects.
- 

### 3.3.1 MISSISSAUGA TRANSITWAY

The Mississauga Transitway is a dedicated busway running for 18 kilometres through Mississauga from Winston Churchill Boulevard to Renforth Drive. There are 12 stations (see Exhibit 3-13). The latest station opened in the fall of 2017.

In peak hours, the Transitway provides a five-minute service. Parking is free at five of the stations.

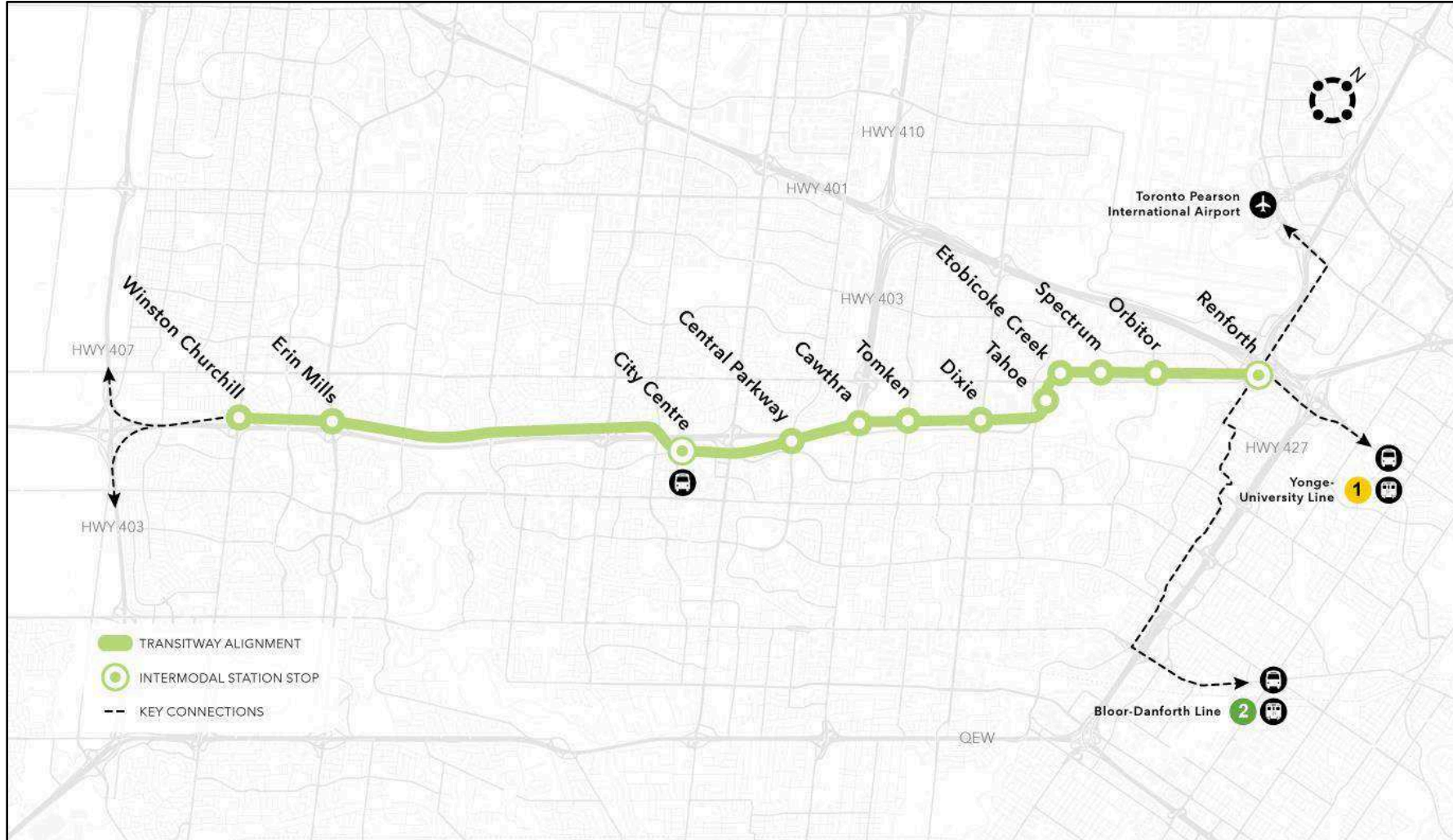
Patrons can connect to other MiWay services and other transit service providers for intra-city and regional travel:

- MiWay at all stations.
- TTC (Toronto Transit Commission) bus services at Renforth.
- GO bus services at Renforth, Dixie, Erin Mills, and Winston Churchill.
- Brampton Transit at Dixie and City Centre.
- The intermodal station at Renforth provides connection to the Pearson Airport and TTC subway lines 1 and 2.

The intermodal station at City Centre is adjacent to the Square One GO Bus Terminal, which connects to the GO trains.



### Exhibit 3-14 Mississauga Transitway Stations



Source: Mississauga Transitway, Metrolinx, 2017

---

### 3.3.2 HURONTARIO LIGHT RAIL TRANSIT PROJECT

The *Hurontario LRT Project Environmental Project Report*, completed by the City of Mississauga, Metrolinx, and the City of Brampton in 2014, is a high frequency LRT joint city project planned for Mississauga and Brampton. The current project study area is the Hurontario Street corridor lands from the Gateway Terminal on Steeles Avenue in the north to the Port Credit GO Station in the south. See Exhibit 3-15.

The current scope includes 22 dedicated right-of-way stations connecting multiple public transit modes within the two cities.

According to Metrolinx, the project is currently undergoing the procurement process with construction scheduled to begin in 2018 and anticipated completion in 2022.<sup>1</sup>

The Hurontario LRT plans make five provisions relevant to parking:

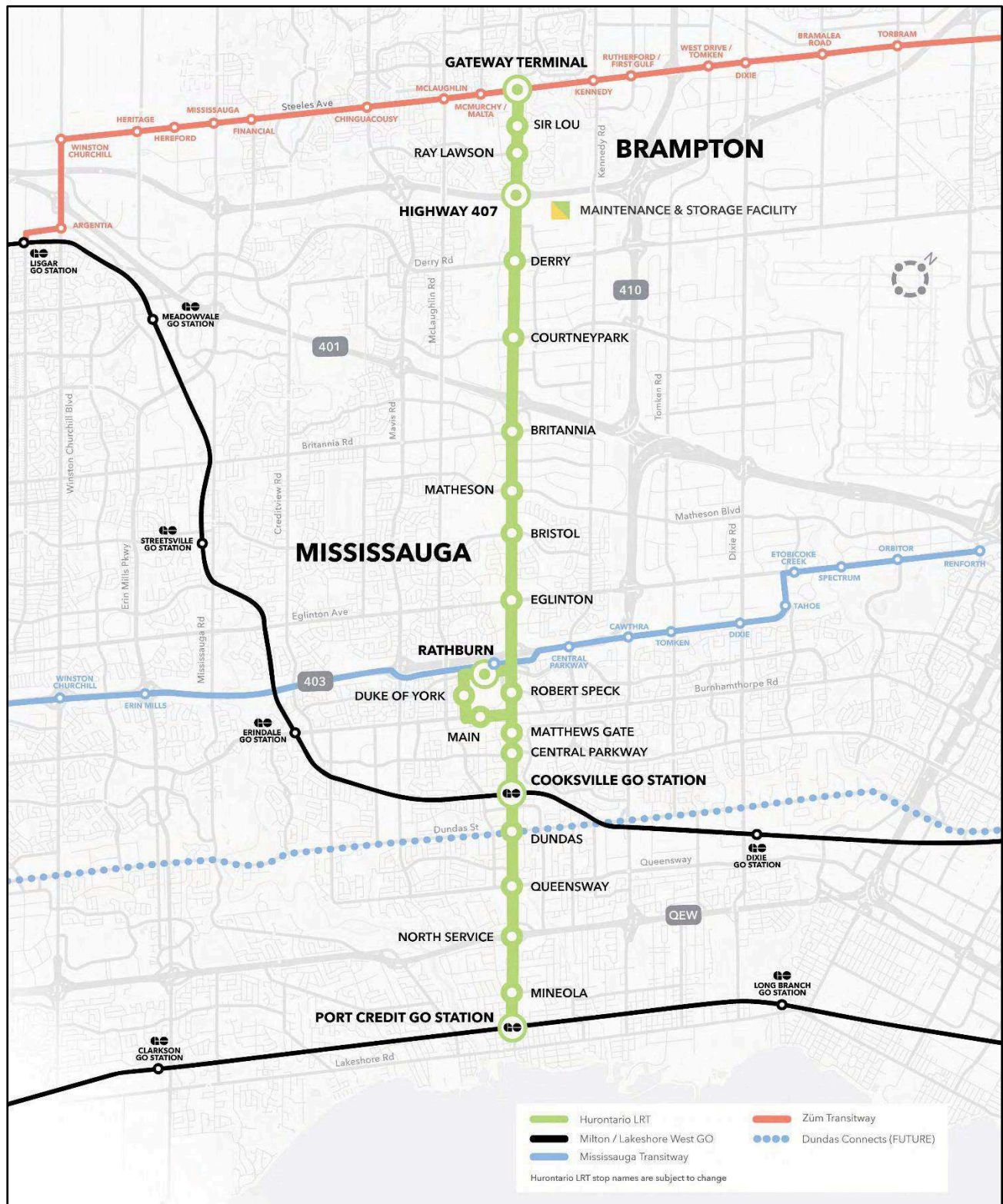
- Various segments of the corridor will apply the Complete Street design approach and will lose approximately 80 on-street parking spots.
- The LRT design process will include residents and businesses when strategize parking and loading to minimize the impact of the changes.
- Additional parking is planned on the lands east of Hurontario Street and south of the rail line. The plans may include a pedestrian bridge connection at the Cooksville mobility hub.
- On-street parking to support small business and retail will be considered only at strategic locations.
- Bicycle parking should be provided near all major transit and LRT stops.

---

<sup>1</sup> Hurontario LRT, Metrolinx, 2018



### Exhibit 3-15 Hurontario LRT Project Corridor Map



Source: Hurontario LRT, Metrolinx, 2017

### 3.3.3 DUNDAS RAPID TRANSIT

The Big Move identified the Dundas Rapid Transit initiative as a Top 15 priority project. The project involves the provision of a higher-order rapid transit service along Dundas Street from Highway 407 in Burlington to Kipling station in the City of Toronto. The service provides a link between the Etobicoke and Mississauga City Centres (designated as Urban Growth Centres), the proposed rapid transit at Hurontario, the UTM campus, and the Oakville Uptown Core at Trafalgar. There is no on-street parking along Dundas Street, but all establishments along the street provides off-street parking.<sup>2</sup>

The Dundas Connects Master Plan was endorsed by the City's Planning and Development Committee meeting on June 11, 2018. The plan calls for the endorsement of BRT for Dundas Street.<sup>2</sup>

According to the plan, Dundas BRT will run along the Dundas Street corridor from Ridgeway Drive at Mississauga's western border to Kipling GO station in Toronto.

The Dundas BRT plans include 20 stops. Two stops will link the BRT to current regional GO rail service (at Dixie and Kipling stations). The stop at Hurontario Street will allow riders to connect to the Hurontario LRT (The Hurontario LRT is scheduled for completion by 2022).<sup>1</sup>

The plan recommends a median BRT from Toronto border west to The Credit Woodlands. The service would run in a single reversible dedicated lane from The Credit Woodlands west to Mississauga Road. It would then run as a curbside BRT from Mississauga Road to Ridgeway Drive. There would also be a short secondary route north from Dundas Street to the UTM campus.

The plan would also incorporate significant transit-oriented development along the route. The recommendations include allowing new densities in different Sections of the corridor to allow for residential buildings as high as 25 storeys in some Sections.

<sup>2</sup> Dundas Connects Master Plan, City of Mississauga, 2018

---

### 3.3.4 METROLINX AND GO TRANSIT REGIONAL EXPRESS RAIL PROJECTS

RER is a \$13.5 billion program that will expand GO service. RER will provide a 15-minute two-way all day electrified service on core segments of the GO network and will expand GO service systemwide by 2025. The improvements include electrification of the Barrie, Stouffville, Lakeshore East, Lakeshore West, Kitchener, and Union Station rail corridors. The Lakeshore West and Kitchener GO Corridor improvements also will benefit Mississauga citizens.

The increase in GO service will provide Mississauga residents with increased opportunities to travel in and around the City and region:

- Lakeshore West GO Rail Corridor Improvements include tunnels and platform upgrades at Exhibition GO station, full station rehabilitation at Mimico GO and Long Branch GO stations, and various other corridor and station improvements. Parking lot will be constructed at new stations. The anticipated start of construction is 2019.
- Kitchener GO Rail Corridor Improvements include track construction to support RER service levels with allowances for future SmartTrack stations at St. Clair Avenue and Liberty Village, grading, Bloor Street bridge realignment, West Toronto rail path realignment and connection to the City of Toronto Phase 2 Rail path, and Bloor GO station connection to Dundas TTC Subway station.<sup>3</sup> This project has already started.

---

<sup>3</sup> Regional Express Rail Program Update - Attachment 3, Metrolinx, 2017

## 3.4 DOWNTOWN CORE

### 3.4.1 DOWNTOWN MISSISSAUGA MOVEMENT PLAN

The Downtown Mississauga Movement Plan (Steer Davies Gleave, 2014) seeks to address the development of a finer street grid, provision of high quality facilities and spaces for pedestrians and cyclists, and how to plan for and manage general road traffic as well as servicing and goods movements.

The Plan also suggests that there is a need to consider how the Downtown moves from a surface level parking-dominated environment to a higher quality, higher density urban core. It notes that the form, location, and management of new/replacement parking will be a key component, with the routing of traffic to/from structured parking facilities being a key consideration that should not detract from the greater emphasis on walking, cycling and transit use.

The Plan seeks to identify key policy themes across existing national and provincial legislation, and provincial and municipal policies. It also seeks to improve the financial sustainability of different transportation networks, including transit and parking: efficient use of land for development; and use of revenue generating opportunities and development contributions to fund enhancements to non-auto modes and transportation demand management measures.

With regards to parking, the Plan recommends that *“New parking maximum standards should be adopted, to balance development, the new user hierarchy and the capacities of the new integrated Transit System and the street network. The City should explore opportunities for publicly-owned parkades to control and manage parking as the new urban Downtown evolves.”* Furthermore, the use of street design and dynamic car park signing (i.e. parking guidance system) should be considered. *“The volume of and location of on-street parking should be reviewed with consideration given to more diverse use of space currently allocated to parking and add to street vibrancy and interest.”*

Sections 4.123 - 4.162 of the plan addresses parking. Specific considerations and recommendations include:

- If the City removes all on-street parking it is estimated it would need a total of 70 000 structured parking spaces
- The City introduces new parking maximum standards which apply to all development in the Downtown and takes into consideration the scale, location and type of the development.
- The potential of publicly owned parkades be explored, allowing the City to lease parking space to new developments reducing their development costs while maintaining control of parking
- Consideration is given to an “interceptor parking strategy”. This implements street design and dynamic car park signing to direct a car-driver approaching Downtown to where parking is available.
- The volume of on-street parking is subject to review, based on the hypothesis that an over-abundance of parking attracts travellers away from sustainable modes.

### 3.4.2 MOPA 8

MOPA 8 (2013) replaces the Downtown Core Local Area Plan. The City adopted this document in March of 2013 and it is currently under appeal.

Relevant parking policies are summarized as follows:

- The City will undertake a strategy to evaluate the provision of parking in the Downtown.
- Parking for new development will be accommodated in below ground or above ground structures.
- Surface parking lots for new development will not be permitted.
- Mississauga will encourage Transportation Demand Management measures as part of development applications within the Downtown Core.
- Parking will be managed carefully within Transit Station Areas. The City will consider reducing parking requirements within Transit Station Areas.

Urban form in the Downtown will be achieved through the following:

- The incremental transition of large surface parking lots into more intensive, urban scale development incorporating structured parking
- On-street parking and cycling amenity in public rights of way, where feasible
- Structured parking designed to minimize impacts on the property and surrounding properties using screening and liner buildings
- New parking facilities that recognize the needs of cyclists and pedestrians

It is also important to note that MOPA permits commercial parking facilities under all land use designations within the governed area as shown in Exhibit 3-16.



Exhibit 3-16 MOPA



---

### 3.4.3 COMMUNITY IMPROVEMENT PLAN

The Community Improvement Plan is proposed to assist in attracting new office development to the entire Downtown Core Character Area. It was identified in the study that the cost of constructing parking in downtown is a major barrier to office developers.

Programs to be considered may include:

- Tax Increment Equivalent Grant (TIEG) – As an incentive to improve or redevelop property, the grant covers a portion of the increase in the municipal property taxes directly attributable to a development or improvement. The grant is provided from the City to the property owner annually for an agreed upon term, and may diminish in scale over time.
- A Development Processing Fees Rebate – whereby a one-time rebate would cover the municipal planning application fees.
- Municipally Funded Parking Program – To stimulate new office developments, the City may build and own a municipal parking facility as a standalone building or within a private office development. The City may offer a below market-value rate for the rental or lease of the parking.
- Municipal Property Acquisition and Disposition – The City may purchase land and initiate office development through requests for proposals for private development, or through public-private partnership (P3). The City may also dispose of City-owned lands for the purpose of attracting new major office building development.

### 3.4.4 CITY CENTRE PARKING STRATEGY (2009)

The Parking Strategy for Mississauga City Centre (2009) was prepared to provide the City direction and guidance in accommodating future public parking needs associated with private sector development in the City Centre, while facilitating the area's transition to a truly urban environment.

The study recommended a Mississauga City Centre Parking Strategy with 38 specific action plans that are grouped under the 6 main topics as outlined in Exhibit 3-17.

These items were proposed to be implemented in 3 phases. Many of the action items have been initiated, implemented, or completed. For instance, some of the completed items include:

- Establishment of a new City Parking Management Group/Division
- Establishment of pay for parking at all civic garages (City Hall, Centre Library, and Living Arts Centre)
- Expansion of on-street paid parking
- Incorporation of new parking and TDM goals and objectives into the Official Plan
- Adding a carshare service
- Adding secure bicycle parking and priority car/van pool parking spaces in all civic garages
- Providing emergency ride home program

General recommendations for typical parking policies for the City's nodes and corridors were also identified to support City's goal to create higher density transit oriented development along major corridors and in some nodes throughout the City.



**Exhibit 3-17 Mississauga City Centre Parking Strategy with 38 specific action plans summaries**

	Improved Management of Existing System	Policy and Regulatory Initiatives	TDM Initiatives	New Parking Infrastructure Investment	Financial Resources	Management Structure and Direction
1	Implement On-Street Paid Parking	City Centre PIL Policy	Deliver TDM through Municipal Parking Program	New On-Street Parking	Charge for All City Centre Municipal Parking	Approve Guiding Principles
2	Revitalize & Open Up Garage to Public	Incorporate Parking Strategy Goals & Objectives into Official Policy Plan Review & District Policies	Add Car Share Service	Partner with Private Sector to Deliver New Garage with Institutional or Hotel Development	Regularly Increase Parking Fees	Create Separate Parking / TDM Department
3	Implement Paid Parking in Civic Garages	New City Centre Shared Parking Schedule	Add Employee Bicycle Spaces / Lockers in Civic Garages	Partner with Private Sector to Deliver New Garage in North City Centre	Set up Parking Reserve Fund to retain annual surplus revenue	Create Parking / TDM Authority
4	Add 750 Burnhamthorpe Parking Lot to Municipal Parking Portfolio with Paid Parking	Require Bicycle Parking for New Commercial / Institutional & Residential Development	Provide Emergency Ride Home Program	Partner with Private Sector to Deliver New Garages in South East City Centre	Payment-In-Lieu Policy	
5	Add Parking Management Software	New Requirement for 80% of Parking in Garages	Create Car / Van Pool Program	Partner with Private Sector to Deliver New Garage in South West City Centre	New Commercial Development Realty Tax Uplift	
6	Create Web-Based Marketing & Communications Program	Require Designated Car / Van Pool Parking for New Office / Institutional Development	Provide Motorcycle / Moped Spaces in Civic Garages			
7	Initiate Paid Parking Test Programs on Private Properties	Require Parking Staging Plans for Phased New Developments	Engage City Centre Employers			
8		Revise and Improve Parking Facility Urban Design Guidelines				
9		Require Transportation Demand Management Plans for New Developments				
10		Reduced Office Parking Requirement to 2.7 / 100 m <sup>2</sup>				

---

## 3.5 TRAFFIC BY-LAW

The Traffic By-law 555-00 contains rules that regulate traffic and covers the following parking and curbside management topics:

- Stopping and Parking on City roads;
- Permit Parking;
- Angle Parking;
- Commercial Motor Vehicle and Heavy Vehicle Parking;
- Parking for Restricted Periods;
- Off-Street Parking Lots;
- Parking Meter Control and Parking Machines;
- School Bus Loading Zones;
- Commercial Vehicle Loading Zones;
- Taxicab stands;
- Designated On-street parking for the Disabled;
- Parking is allowed between 8 a.m. and midnight beyond the three-hour limit for the statutory holidays; and
- No person shall stop or park as authorized in the by-law for a continuous period greater than 30 minutes.

### 3.6 PORT CREDIT AND LAKEVIEW PARKING STRATEGY

The Port Credit and Lakeview Parking Strategy study (2014) was completed to recommend strategies for managing and expanding municipal parking resources in Port Credit and Lakeview and future amendments to the Zoning By-law. The following recommendations and discussions for Port Credit and Lakeview are highlighted from the study:

- The pay for parking environment in Port Credit is recommended to be expanded to include off-street lots and extend the time period for paid parking. The long term municipal parking goal is to continue to provide good service to residents, businesses and visitors with a self-sustaining parking management system.
- In terms of new municipal parking locations, the City Transportation and Works has completed Phase One Feasibility Investigations of all the potential sites.
- The practice of permitting a parking ‘free holiday’ is to be continued within the implementation time period of the study and suggested that additional public consultation with the business community would be required before any change can be made to the holiday provision.
- Implementation of monthly paid parking for the general public on municipally owned lands was recommended.
- Two key recommendations for financing the Port Credit parking operation were identified. The first is to set a monetary goal to fund a future parking garage. The second is to increase revenues to help finance existing and future parking and TDM initiatives. Immediate consideration should be given to implementing the revenue generating recommendations, in particular the introduction of paid parking in all municipal off-street lots that service the main commercial area.
- The Lakeview area has minimal public parking. The City should start looking for opportunities to provide new off-street parking by using Payment-in-lieu of Off-street parking funds to purchase properties, partnering with the private sector as part of development requirements, and through Section 37 bonusing provisions.

Exhibit 3-18 shows the study also recommended 25 specific action plans that are grouped under the 6 main topics.

### Exhibit 3-18 Port Credit and Lakeview Parking Strategy Study Recommended Actions

	Port Credit Parking Strategy	Lakeview Parking Strategy	Cultural Considerations	Zoning By-law Considerations	Financial Considerations	General Management & Operational Considerations
1	Implement additional on-street paid parking	Implement On-Street Paid Parking along Lakeshore Road East	Reduce Zoning By-law requirements for Art Galleries, Museums and Cultural association offices	Implement reduced parking requirements for commercial and apartment uses into Zoning By-law for Port Credit and Lakeview	Develop a business plan to finance and construct new parking facilities in Port Credit	Parking Manager engagement with the Port Credit BIA
2	Develop a plan to provide additional new municipal parking in the Primary Node	Develop a plan to provide 385 new off-street municipal parking spaces in Lakeview	Implement a heritage exemption into the Zoning by-law	Implement new bicycle parking requirement and shower/ change room requirements into Zoning By-law	Increase parking revenues to fund future parking resources.	Develop a parking communications and marketing program for both Lakeview and Port Credit
3	Undertake a feasibility plan for a parking garage at the Port Credit Library and/ or J.J. Plaus Park	Develop a policy framework for future redevelopment of OPG lands	Support events and festivals through parking management	Implement designated heritage building exemption and reduce parking requirements for some cultural uses	Create a separate PIL account for Lakeview	Develop a business plan for future parking development and operations
4	Review potential of constructing a new parking lot on the Imperial Oil lands adjacent to Port Street		Support the transformative parking space project.		Review Corporate PIL policy to reflect the cost to the City of providing shared public parking resources	Eliminate time limits for on-street parking if rates increased to \$1.50 per hour or introduce \$2.00 for third hour.
5					Revise internal accounting practices to better track expenses associated with parking operations in Port Credit and Lakeview	Implement municipal bicycle parking development recommendations
6						Place the nine to ten off-street parking facilities in Port Credit being converted to paid parking under the management of Transportation & Works Dept.

### 3.7 2018 CYCLING MASTER PLAN UPDATE

The City of Mississauga has recently concluded its Cycling Master Plan Update, and the final document has been approved by Mississauga City Council.

The City's *Cycling Master Plan Update* outlines a four-fold strategy: to improve cycling safety; increase the number of cycling trips in Mississauga; build a connected, convenient, and comfortable bicycle network; and foster a culture of cycling in the City. The plan's overall vision is to make Mississauga a city where people choose to cycle for recreation, fitness, and daily transportation needs.

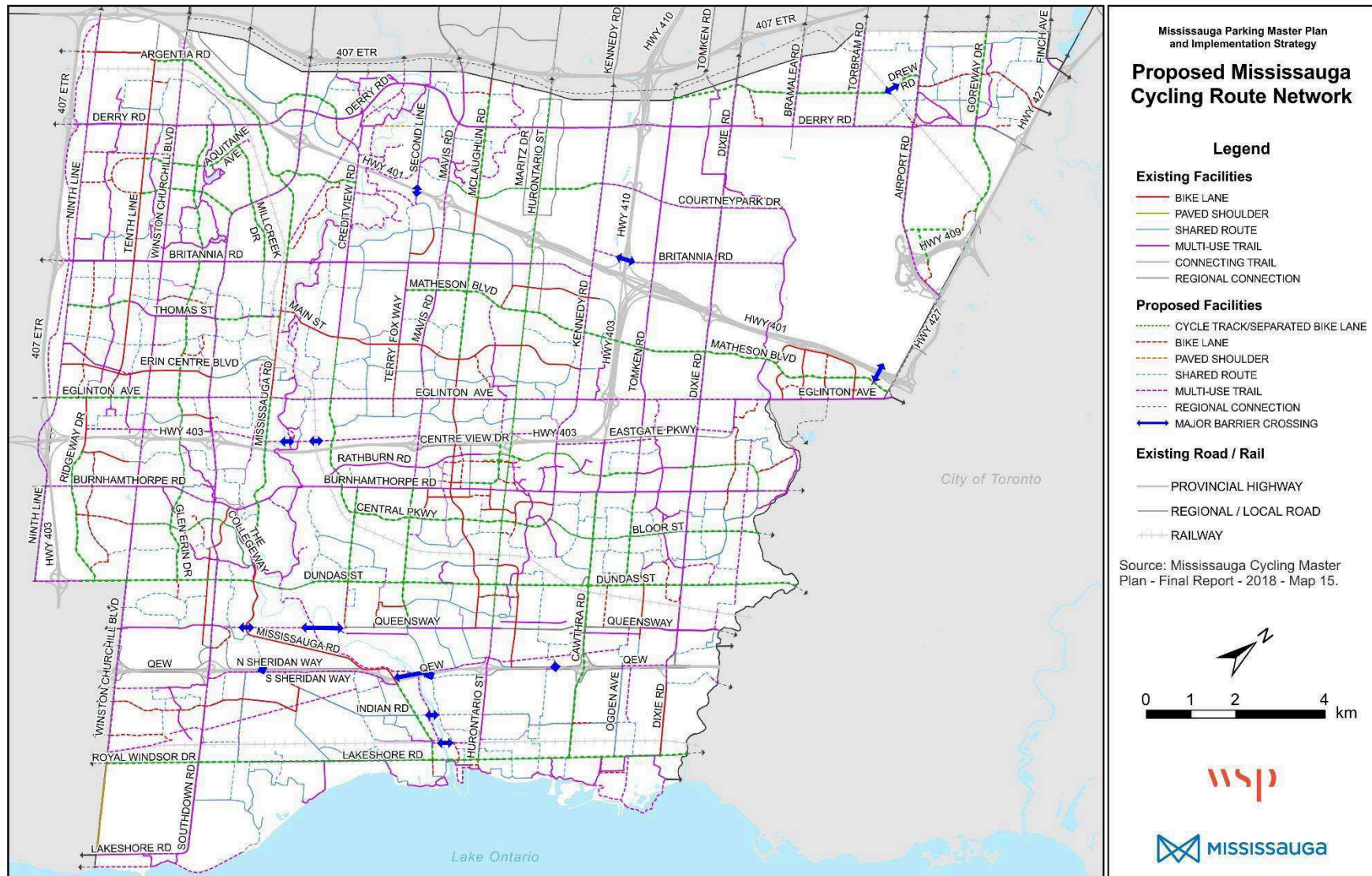
The *Cycling Master Plan Update* provides recommendations regarding:

- Building a connected, comfortable, and convenient cycling network that includes off-road and on-road bicycle route facilities such as conventional and separated bicycle lanes, shared routes on roadways and trails along roadway boulevards or off-road.
- Delivering supporting programs like bicycle parking (on public property within the road right-of-way and at public facilities such as community centres, transit stations, etc.), bicycle share, marketing, and education programs.

Exhibit 3-19 shows the cycling network laid out in the Cycling Master Plan. It will result in 897 kilometres of infrastructure to be built over 27 years, including:

- Cycle tracks where a bicycle lane is physically separated from the road by a curb and is either at sidewalk level or slightly lower, reserved for bicycles only.
- Bicycle lanes separated from traffic lanes by flexible posts, planters, parking stalls, curbs or other barriers, reserved for bicycles only.
- Bicycle lanes where cyclists travel in a lane beside regular traffic lanes, reserved for bicycles only.
- Multi-use trails along boulevards and through parks.
- Shared routes between cyclists and motorists on roads with lower speeds.

Exhibit 3-19 Proposed Mississauga Cycling Route Network





---

## 3.8 TRANSPORTATION DEMAND MANAGEMENT STRATEGY

The *Transportation Demand Management Strategy* emphasizes the importance of TDM for an urbanizing city, and recommends policies for decreasing automobile use by increasing the attractiveness of sustainable modes such as walking, cycling, carpooling, and transit. Section 4 of the strategy recommends some bicycle parking standards on private property (For example, bicycle parking and showers).

---

## 3.9 ZONING BY-LAW 225-2007

The purpose of *Zoning By-law 225-2007* is “to regulate the use of land, buildings and structures and to implement the Mississauga Official Plan.”

Part 3 of the by-law is concerned with parking, loading, and stacking lane regulations. The by-law prescribes standards for the provision, location and dimension of parking spaces, minimum parking requirements for a range of land uses, shared parking standards for mixed use developments, and accessible parking requirements. Part 3 also includes loading and stacking lane regulations.

A comprehensive review of the Zoning By-law’s minimum parking requirements had not been completed since the 1980s. In 2007, when the by-law was last consolidated, a benchmarking exercise was completed and some standards underwent minor changes. Other standards have been updated on a piecemeal basis over time.

The Zoning By-law specifies minimum parking requirements for 14 residential land use categories. For some residential land use categories, including apartments, minimum parking requirements are specified for each unit type. The by-law also stipulates minimum parking requirements for 51 non-residential land use categories. For mixed use developments involving office, retail, service, restaurant, overnight accommodation, or residential components, the by-law provides a shared use parking formula. The shared use parking formula is a matrix that stipulates the level of shared parking supply that the City is willing to approve. The formula considers the time of day (typically morning, noon, afternoon, and evening periods for weekday and weekends) and the land use category. The practical effect of this is to reduce the amount of minimum parking required for a shared parking facility when compared to the minimum parking requirements for independent land uses.

### 3.10 PARKING DESIGN STANDARDS

Minimum parking space and aisle width dimensions are outlined in Part 3 of the Mississauga Zoning By-law 225-2007. The requirements are summarized in Exhibit 3-20.

**Exhibit 3-20 Mississauga By-Law 225-007 Provision**

Mississauga by-law 225-007 provision	Dimension(s)
<b>Minimum Parking Space Dimensions</b>	5.2 metres x 2.6 metres <sup>1</sup>
<b>Minimum Dimensions for Parallel Parking Space</b>	6.7 metres x 2.6 metres
<b>Parking Space Aisle Width</b>	7.0 metres
<b>Parking Space Aisle Width (One-way, parking angle not exceeding 60°)</b>	5.5 metres
<b>Type A Accessible Parking Space Dimensions</b>	5.2 m x 3.4 metres <sup>2</sup>
<b>Type B Accessible Parking Space Dimensions</b>	5.2 m x 2.4 metres <sup>3</sup>

Notes:

<sup>1</sup> Width shall be increased to 2.75 metres where the length of one side of the parking space abuts a building, structure or part thereof, except for a building, structure or part thereof, that extends 1.0 m or less into the front and/or rear of the parking space.

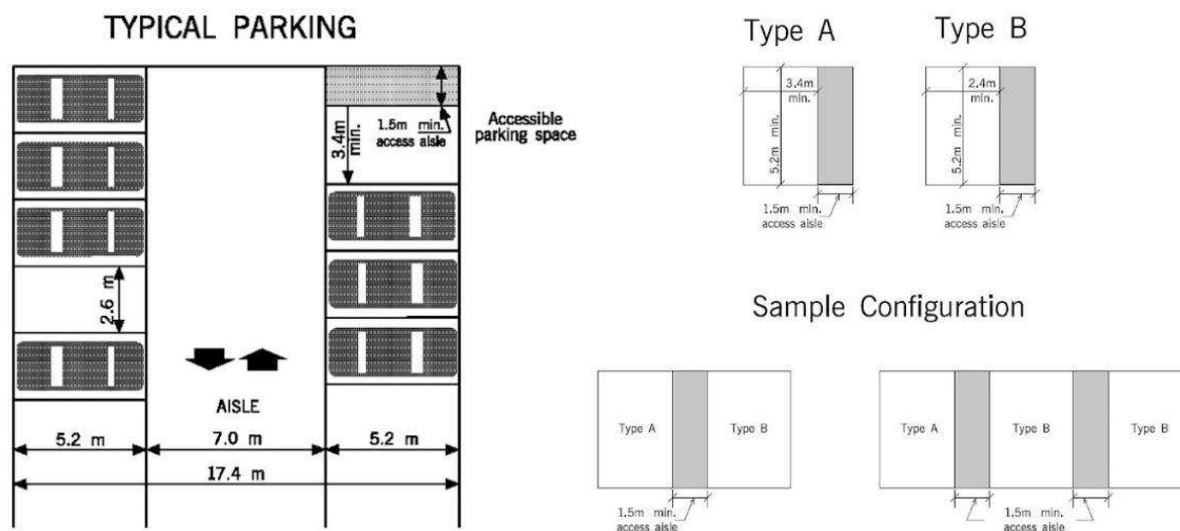
<sup>2</sup> Width shall be increased to 2.9.0 metres where the length of both sides of the parking space abuts a building, structure or part thereof, except for a building, structure or part thereof, that extends 1.0 m or less into the front and/or rear of the parking space.

<sup>3</sup> A 1.5 m wide access aisle abutting the entire length of the accessible parking spaces need to be maintained.

The Zoning by-law requires that all parking spaces be provided, maintained and be clearly identified and marked by permanent lines and markings painted on the paved surface on the same lot for which the parking and loading spaces are required.

Illustrations of the parking space dimensions requirements, which are taken from the Mississauga website are shown in Exhibit 3-21.

**Exhibit 3-21 Parking Dimensions**





### 3.11 CASH-IN-LIEU OF PARKING

Mississauga's Corporate Policy and Procedure regarding Payment-In-Lieu (PIL) of Parking Program (effective April 2016) "permits a building owner or tenant to make an application to the City to provide payment-in-lieu of parking, exempting the owner or tenant from providing or maintaining parking facilities in accordance with the applicable zoning By-law."

The policy states that "Monies accepted through the PIL program will be placed in the respective PIL reserve accounts and will be used for the acquisition, establishment and/or maintenance of municipal parking facilities in the area from which funds were collected."

The PIL program is applicable in all areas of the City where municipal parking is provided. There are two evaluations schemes for PIL applications. Under Evaluation Part A, an application for PIL is evaluated based on criteria related to the appropriateness of the proposed development and the adequacy of the existing public parking supply to offset the proposed on-site parking deficiency. Under Evaluation Part B, the City may request PIL where limited or no municipal parking facilities are available. In this case, the evaluation will have regard for the City's interest in providing municipal parking, the viability of the site and its surrounding area during the interim before municipal parking becomes available, and the timing and adequacy of the future municipal parking supply to address the public parking needs created by the application of PIL. The Planning and Building Department and its Commissioner are responsible for processing PIL applications, preparing the terms and conditions of PIL approval, and executing agreements for PIL of 10 parking spaces for less. Authority from Council is required for the execution of agreements for PIL of more than 10 parking spaces. For applications that are not supported by the Planning and Building Department, a report from the Commissioner is prepared for consideration by the Planning and Development Committee and Council.

PIL payments up to \$15,000 are paid in one lump sum prior to the execution of the PIL agreement. For larger payments, requests for instalment payments would be considered. PIL contributions are tracked by property in the City's Mississauga Approvals Express (MAX) system. Funds collected are placed in the respective PIL reserve accounts for use in the areas from which they were collected.

The cost of parking is estimated using formulas that consider construction cost of a surface or structured parking space, the size of a surface or structured parking space including provisions for driveways, aisles, and columns and ramps, estimated land value within the subject area, and number of parking spaces for which PIL is sought. Exhibit 3-22 summarizes the developer/proponent contribution of the PIL of parking.

**Exhibit 3-22 Current PIL Contributions**

Development related to PIL application:		Developer/proponent contribution:
<b>Change in land use or conversion of an existing building/structure or part thereof</b>	Category 1: Up to 50 sq.m. GFA	12.5% of the estimated cost of parking
	Category 2: Up to 200 sq.m. GFA	25% of the estimated cost of parking
	Category 3: Over 200 sq.m. GFA	50% of the estimated cost of parking
<b>New development, redevelopment, and addition to existing building/structure</b>		50% of the estimated cost of parking

Note: The estimated cost of parking is based on the Planning Act Processing Fees and Charges By-law, and Surface Parking Formula and Structured Parking Formula contained in Appendix A of the Corporate Policy

**3.11.1 EXCERPT FROM FEES AND CHARGES BY-LAW**

Mississauga's General Fees and Charges By-law contains standard fees for services provided by the municipality and is updated regularly. The current by-law 211-16 (amended by 289-16) came into effect on January 1, 2017. The current fees for the review and processing of some parking related matters are summarized in Exhibit 3-23.

**Exhibit 3-23 PIL Administration Fees**

Legal Services	Fee
<b>Payment in Lieu of Offstreet Parking PIL Agreements</b> Review and registration of documents	\$710 plus disbursements
<b>Applications for Site Plan and Rezoning</b> Review and registration of documents satisfying land conditions identified in application Review and registration of Development Agreements arising from rezoning applications including "H" designations	\$710 plus disbursements per agreement
<b>Basic Documents and Agreements</b> Preparation, review and/or registration of documents or agreements including, but not limited to, Off Site Parking Agreements, Shared Use Agreements, etc.	\$710 to \$2940 plus disbursements per Document or Agreement depending on the complexity or time spent as determined by the City Solicitor, Legal Services
<b>Committee of Adjustment</b> Review and registration of documents to satisfy Committee conditions including, but not limited to, Off Site Parking, etc.	\$710.00 plus disbursements

### 3.12 ON-STREET PARKING

On-street parking is regulated through Traffic By-law 555-00. According to information posted on the City's website, parking on City streets is limited to three hours, unless otherwise posted.

The City of Mississauga provides paid on-street parking in the downtown area. Metered parking is also provided in Port Credit, along Lakeshore Road and in the blocks between Stavebank Road and Hurontario Street, as shown in Exhibit 3-24.

**Exhibit 3-24 Downtown metered and non-metered parking**



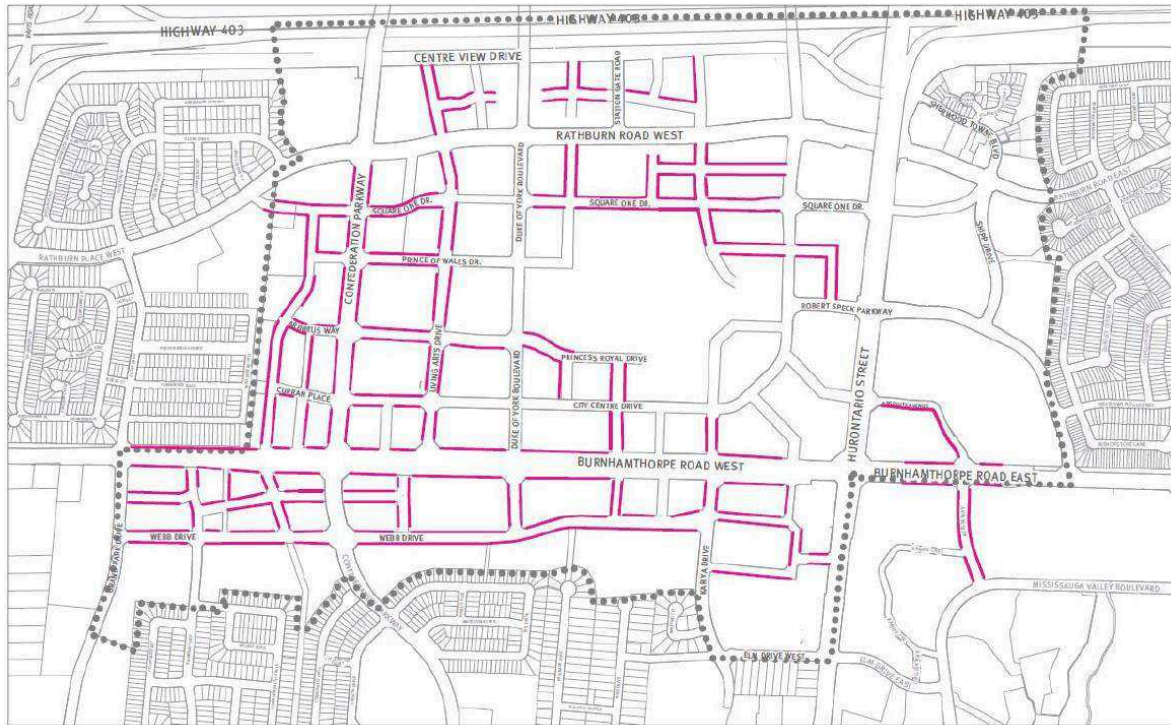
Exhibit 3-25 summarizes the current on-street parking fees and hours of operation.

**Exhibit 3-25 Mississauga current on-street parking fees**

Timing and Location	Fees
<b>Downtown</b>	
On-street parking Monday-Friday, 8 a.m. to 6 p.m. Saturday-Sunday, 10 a.m. to 6 p.m.	\$1.00 per hour (2 hour maximum)
Overnight on-street parking Sunday-Thursday, 6 p.m. to 8 a.m. Friday-Saturday 6 p.m. to 10 a.m.	\$5.00 Maximum rate (incremental payment available) The overnight maximum parking rate can be purchased starting at 5:30 p.m.
<b>Port Credit</b>	
On-street parking Monday-Saturday, 10 a.m. to 9 p.m.	\$1.50 for the 1 <sup>st</sup> hour \$1.50 for the 2 <sup>nd</sup> hour \$2.00 for the 3 <sup>rd</sup> hour (3 hour maximum and incremental payment available)

Appendix G within the Downtown Mississauga Movement Plan identifies a potential on-street parking supply of approximately 1,600 spaces within the Downtown, as shown Exhibit 3-26.

### Exhibit 3-26 On street parking allocations in the downtown



These spaces should be used to provide short-term parking and service needs for adjacent land uses. In order to increase space turnover and discourage long-term usage during peak periods, managing the costs can directly affect the time of day and duration persons use on-street parking<sup>4</sup>.

<sup>4</sup> Steer Davies Gleave, Downtown Mississauga Movement Plan Appendix G – Off- and On-Street Parking, 2014.  
<http://www.mississauga.ca/portal/residents/paidparking> and <http://www.mississauga.ca/portal/residents/parkingbylaw>

## 3.13 PARKING PERMITS

### 3.13.1 TEMPORARY PARKING PERMITS

Mississauga's temporary parking permit allows parking on the un-signed portion of a City street beyond the Parking By-law limits. Parking is allowed between 8 a.m. and midnight beyond the three-hour limit for statutory holidays. Additionally, four types of temporary parking permits are offered by the City, as outlined in Exhibit 3-27.

**Exhibit 3-27 Parking Permits**

Type	Validity (from date of issue)	Number of Vehicles	Reasons	Approval time	Fee
<b>Short Term Temporary Residential *</b>	1 - 5 days	Maximum of 5	Overnight guests, driveway repairs, funerals, parties. License plate numbers for each vehicle required.	Same day where prohibited parking signs are not present.	No Fee (5 days, 14 times per year)
<b>Long Term Residential</b>	More than 5 days	Maximum of 5	For extended visitor stays, driveway repairs, renovations, etc. License plate numbers for each vehicle required.	1-3 days Depending on parking signs or if an inspection of the proposed area is required.	\$62.00 + HST (\$70.06)
<b>Blanket Commercial</b>	Any	No maximum	For large commercial renovations, parking lot resurfacing, underground garage sweeping, parking lot resurfacing.	1-3 days Area is subject to inspection.	\$124.00 + HST (\$140.12)
<b>Blanket Residential</b>	Greater than 5 days	No maximum	For large residential renovations, etc.	Within 2 weeks Area is subject to inspection.	\$62.00 + HST (\$70.06). (5 days, 14 times per year)

Note: \*Maximum of 14 per calendar year for a municipal address.

Temporary parking is not available to heavy vehicles 3,000 kg or more, vehicles without license plates or with expired license plate stickers, trailers that are not attached to motor vehicles, vehicles displaying "For Sale" signs or are not mechanically functional, school buses and commercial coaches<sup>5</sup>.

<sup>5</sup> <http://www.mississauga.ca/portal/residents/parkingconsiderations>

### 3.13.2 INDUSTRIAL PARKING PERMITS

The City operates an Industrial On-Street Permit Parking Program. Permits are granted on a first-come, first-serve basis. Monthly permits are 25 dollars each, and yearly permits are \$250<sup>6,7</sup>. As of April 2015, permit parking is offered at the following locations, listed in Exhibit 3-28.

**Exhibit 3-28 Industrial Parking Permits**

Highway	Side	Between	Times of Day
<b>Brunel Road</b>	North	A point 260 meters (853 feet) east of Whittle Road to a point 90 meters (295 feet) easterly thereof.	Anytime
<b>Brunel Road</b>	South	A point 295 meters (968 feet) east of Whittle Road to a point 60 meters (197 feet) easterly thereof.	Anytime
<b>Century Avenue</b>	West	A point 315 meters east of the North leg of Argentina Rd to a point 75 meters southerly thereof	Anytime
<b>Commerce Boulevard</b>	East	A point 25 meters north of Citation Place to a point 75 meters northerly thereof	Anytime
<b>Explorer Drive</b>	South	Explorer Drive from a point 70 meters east of Satellite Drive to a point 175 meters easterly thereof	Anytime
<b>Shuttle Drive</b>	West	Explorer Drive and Matheson Boulevard East	Anytime
<b>Shuttle Drive</b>	East	Explorer Drive and Matheson Boulevard East	Anytime
<b>Skymark Avenue</b>	North	A point 115 meters east of Orbiter	Anytime

<sup>6</sup> [http://www7.mississauga.ca/documents/FormsOnline/Paid\\_Parking\\_Industrial\\_On\\_Street\\_Parking\\_Permit\\_Application\\_2661.pdf](http://www7.mississauga.ca/documents/FormsOnline/Paid_Parking_Industrial_On_Street_Parking_Permit_Application_2661.pdf)

<sup>7</sup> [http://www7.mississauga.ca/documents/FormsOnline/Paid\\_Parking\\_Industrial\\_On\\_Street\\_Parking\\_Permit\\_Application\\_2661.pdf](http://www7.mississauga.ca/documents/FormsOnline/Paid_Parking_Industrial_On_Street_Parking_Permit_Application_2661.pdf)



---

### 3.13.3 OVERNIGHT RESIDENTIAL PARKING PERMITS

Overnight Permits are available for purchase as an alternate to nightly parking fees at the City Centre (Sheridan College) surface parking lots, where paid parking is in effect. The monthly overnight permit can be purchased for \$65 per month, and is valid only for Sheridan College HMC surface lots during the following times:

- Monday to Thursday 6 pm until 7 am, and
- Friday from 6 pm until Monday at 4 am<sup>8</sup>.

---

### 3.13.4 DAILY PERMITS

Public Daytime Parking Permits are available for purchase as an alternative to daily parking fees at City Centre municipal parking facilities where paid parking is in effect. The permit can be purchased for \$65 a month, and is valid at the following locations at the following times:

- Civic Centre, Central Library and Living Arts Centre Garages, Monday to Friday 7 am to 6 pm.
- Sheridan College Hazel McCallion Campus Surface Lots, Monday to Sunday 7 am to 11:59 pm<sup>9</sup>.

In addition to the aforementioned parking permits, Bulk Parking for Living Arts Centre (LAC), City and Sheridan College clients is available for purchase as an alternate to daily parking fees at City Centre parking facilities and Sheridan College surface lots where paid parking is in effect. This program offers a discounted daily rate of \$3 per visit<sup>10</sup>.

Finally, another alternative to paying for daily parking is the Multi Visit Card program. A Multi Visit Card is a pre-paid, reloadable card that can be loaded with a balance of up to 250 visits. The card is tapped on a Pay and Display machine within municipal parking garages to obtain an all-day parking receipt. The receipt is valid in Celebration Square North (Civic Centre underground), Celebration Square South (Central Library underground) and Living Arts Centre parking garages. The receipt is not valid for parking on-street.<sup>11</sup>

---

<sup>8</sup> [http://www7.mississauga.ca/documents/FormsOnline/Paid\\_Parking\\_Public\\_Overnight\\_Parking\\_Permit\\_Purchase\\_2601.pdf](http://www7.mississauga.ca/documents/FormsOnline/Paid_Parking_Public_Overnight_Parking_Permit_Purchase_2601.pdf)

<sup>9</sup> [http://www7.mississauga.ca/documents/FormsOnline/Paid\\_Parking\\_Public\\_Daytime\\_Permit\\_and\\_Card\\_Purchase\\_2570.pdf](http://www7.mississauga.ca/documents/FormsOnline/Paid_Parking_Public_Daytime_Permit_and_Card_Purchase_2570.pdf)

<sup>10</sup> [http://www7.mississauga.ca/documents/FormsOnline/Paid\\_Parking\\_Bulk\\_Purchase\\_2571.pdf](http://www7.mississauga.ca/documents/FormsOnline/Paid_Parking_Bulk_Purchase_2571.pdf)

<sup>11</sup> [http://www7.mississauga.ca/documents/FormsOnline/Paid\\_Parking\\_Public\\_Multi\\_Visit\\_Card\\_Purchase\\_2683.pdf](http://www7.mississauga.ca/documents/FormsOnline/Paid_Parking_Public_Multi_Visit_Card_Purchase_2683.pdf)

### 3.14 WATERFRONT PARKS STRATEGY

Mississauga City Council approved a *Waterfront Parks Strategy* in March 2008. The strategy includes a comprehensive long-term plan for the development of the City's waterfront parks. The plan provides guidelines to improve the connectivity between parks and the City, to promote sustainable elements in the parks; and to promote a stronger relationship between the parks and their existing natural systems.

The long-term plan also outlines specific guidelines addressing parking development. The main recommendation is a reduction in existing and proposed parking facilities to combat the encroachment of cars onto lands intended for cultural and recreational use. The reduction is intended to support the overall strategy of encouraging the use of transit, walking and cycling.

- Screen parking lots with vegetation to minimize visual impact and help run-off water absorption.

Exhibit 3-29 shows a rendering of typical parking areas as proposed in the *Waterfront Park Strategy*.

**Exhibit 3-29 Rendering of Parking Area**



Source: *Waterfront Parks Strategy*, City of Mississauga, 2008



The 2008 *Waterfront Parks Strategy* also includes plans to:<sup>12</sup>

- Promote Sustainable Best Practices that are “green.” Such technologies include alternative energy services and permeable parking areas with bioswales.
- Decrease reliance on vehicular parking while ensuring that parks are sustainable, well connected, and accessible by pedestrians, cyclists, transit, and vehicles. The Strategy recommends locating new and redeveloped parking near vehicular entrances and as close to the park edge as possible.
- Use permeable pavements to increase infiltration and improve storm water run-off. Both will help to reduce urban heat island effects.
- Incorporate transit loops to accommodate City buses. The design of the loops will allow them to function even if a parking area is removed.
- Give preference to fuel-efficient vehicles and registered carpoolers. Short-term parking should be reserved for nearby picnic for drop-offs. Bike parking areas should be provided in areas close to park activities.
- Provide overflow parking areas for special events and large gatherings. Overflow parking areas should be visibly distinct from conventional lots, such as paving the surface with reinforced turf.
- Implement well-lit waiting areas convenient to parking areas and transit loops. Provide directional information signage and emergency kiosks for the waiting areas.

The City is currently updating the 2008 *Waterfront Parks Strategy*. The new study is not yet complete.

---

## 3.15 RECENT AND ONGOING STUDIES

In addition to the PMPIS, the City has recently completed the Dundas Connects Master Plan, is currently updating the Transportation Master Plan (TMP) and developing the Lakeshore Connecting Communities.

---

### 3.15.1 DUNDAS CONNECTS MASTER PLAN

The *Dundas Connects Master Plan* was completed in March 2018. The purpose of the plan was to integrate transportation and land use planning along the Dundas Street Corridor, and implement best practices to address current and future demand. The study area included the entire Dundas Street Corridor from Mississauga’s border with Oakville in the west to the City of Toronto’s Kipling Station in the east. The area included was 4 km wide and 19.5 km long. It includes Character Areas identified in the MOP and discussed in the Section 3.1.1.

---

<sup>12</sup> Waterfront Parks Strategy, City of Mississauga, 2008

Major recommendations include:

- Mixed use, transit-supportive intensification in seven broader Focus Areas along Dundas Street.
- Implementing BRT along Dundas Street.
- Creating a complete street for all users.

Key recommendations relating to parking include:

- Considering alternative standards for parking provision along the Dundas Street Corridor and within major transit station areas. Reduced parking standards will help incentivize transit-supportive redevelopment and will help encourage active transportation.
- Maintaining the plan's alignment with mixed-use, transit-supportive development through intensification as identified in the City's Affordable Housing Strategy.<sup>13</sup> The approach includes pre-zoning lands for intensification to reduce the cost of the development approvals process and reducing the required parking ratios to lower the construction cost of new development (For example, underground parking).
- Introducing public and or private plazas be near transit facilities along Dundas Street, including wayfinding to trails and major open spaces. These spaces are prime locations for bicycle parking and bicycle-share facilities.
- Considering the use of zoning amendments to reduce minimum parking requirements along the Dundas Street corridor.

---

### 3.15.2 *TRANSPORTATION MASTER PLAN*

A TMP process is also concurrently underway. This process will provide a strategic, long-term planning framework for citywide transportation decision-making.

The PMPIS recommends that the TMP should further reinforce the precinct-based approach to parking outlined in the plan.

---

### 3.15.3 *LAKESHORE CONNECTING COMMUNITIES*

Lakeshore Connecting Communities is a master plan study that looks at how best to connect the communities of Clarkson, Port Credit, and Lakeview while preserving and enhancing the unique character and sense of place of each community. The plan will build on recent planning studies to develop a design for the Lakeshore Road corridor from building face to building face. The objective is to develop a system that supports all modes of transportation, connects people to places, and moves goods to market. The master plan study will also evaluate rapid transit alternatives east of Hurontario Street and a rapid transit extension into the Port Credit area.

The master plan study will deliver a transportation study and conceptual design for Lakeshore Road between Southdown Road and the east City limit, and for Royal Windsor Drive between Southdown Road and the west City limit.

---

<sup>13</sup> Making Room for the Middle - A Housing Strategy for Mississauga, City of Mississauga, 2017

The study is undertaking detailed transportation modelling to ensure that the study understands the impact and recommends mitigation regarding any negative impacts of proposed improvements to transit and active transportation on motorists and parking.

In July 2018, the Lakeshore Connecting Communities study team presented the transit recommendations for the Lakeshore study area, as shown in Exhibit 3-30, at the final open houses. If adopted, this strategy and plan would significantly increase transit service to the area starting with conventional or enhanced bus service and progressing to streetcar service over time as growth increases.

The study's proposals will encourage mix use developments and more dense developments and will provide people using the Lakeshore corridor convenient connections to other transit facilities. The proposals, shown in Exhibit 3-31, are expected to reduce the demand for parking along the corridor by providing transit stops that are within an 800m walking distance.

---

#### **3.15.4      *PMPIS CONSISTENCY WITH RECENT AND ON-GOING CITY PLANS AND STRATEGIES***

The policies and recommendations proposed in the PMPIS are consistent with the parking principles and framework outlined in the above summaries of current and on-going plans and strategies. The PMPIS will complement and add to these plans and strategies to develop the most appropriate parking policies and help to improve the City's transportation network.

### Exhibit 3-30 Lakeshore Recommended Phased Approach to Transit



#### PHASE 1 - Interim\*

##### Implement an Express Bus in Curb Lane

- Express stops between Long Branch GO Station and 70 Mississauga Road (proposed future transit terminal)
- Transit priority measures include transit signal priority and far-side bus stops

\*Within the next 10 years



#### PHASE 2 - BY 2041

##### Express Bus in Median Transit Lanes at East End of Corridor

- Express bus in dedicated median transit lanes from East Avenue to Etobicoke Creek. The express bus continues in mixed traffic from East Avenue to 70 Mississauga Road
- Supports efficient movement of people between Lakeview Waterfront Future Development and Long Branch GO Station, which has two-way, all-day service on the Lakeshore West GO line



#### PHASE 3 - BEYOND 2041

##### Protection for Extension of Streetcar

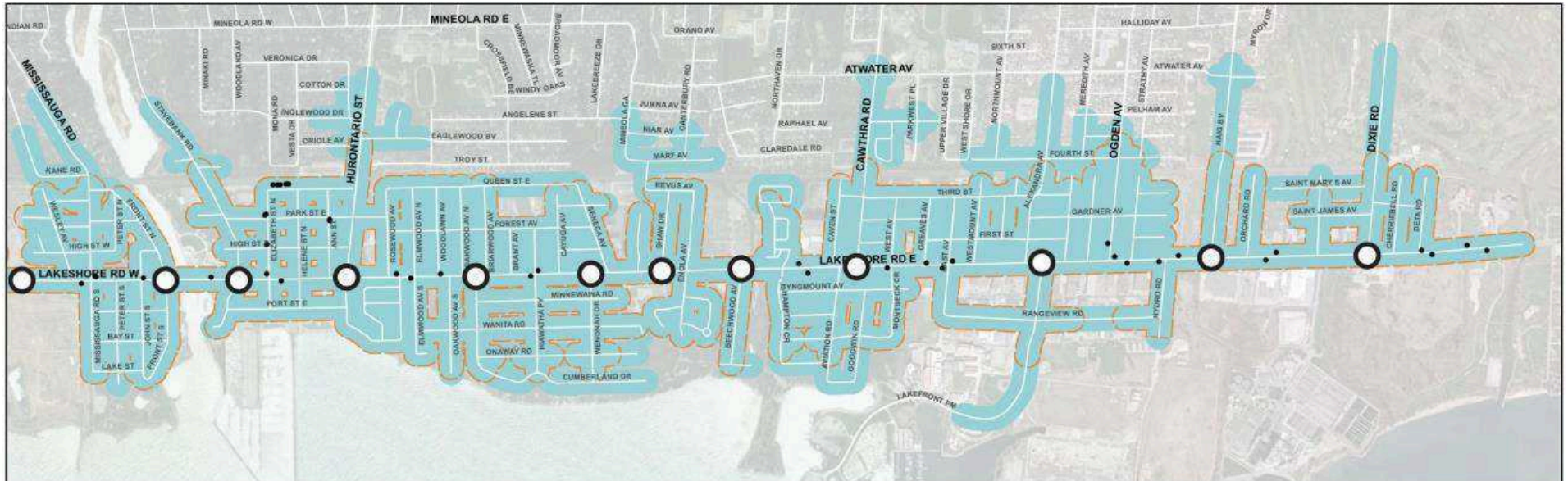
- Protect for the extension of the TTC streetcar into Mississauga from the Long Branch GO Station, subject to discussions with the City of Toronto

Source: Lakeshore Connecting Communities Public Open House 3, City of Mississauga, 2018



### Exhibit 3-31 Lakeshore Potential Transit Coverage

- Existing Local Bus Stop
- Future Rapid Transit Station/Stop
- Existing 400 m walk to transit stop
- Future 800 m walk to transit stop



Source: Lakeshore Connecting Communities Public Open House 2, City of Mississauga, 2017

## 4 OPPORTUNITIES AND GAPS IN CURRENT POLICIES

---

### 4.1 OPPORTUNITIES

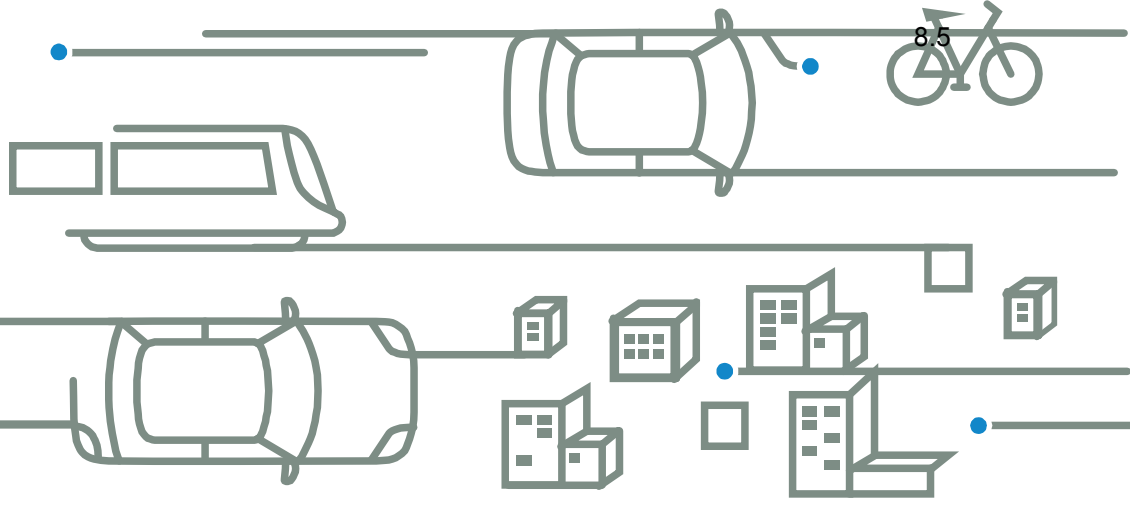
---

## 4.2 GAPS

- The policies related to parking have not formally acknowledged that one size does not fit all throughout the City except in the Downtown areas and Port Credit.
- Several of the policies have approached parking on an ad hoc basis and not all the relevant criteria are being applied evenly.
- Many planning and transportation studies have embraced and applied the seven policy areas in the City Structure, however, the parking policies have not done the same.
- Currently, little coordination exists among transit availability (current and future); TDM programs/measures and parking policies.
- Little clarity exists as to why different parking policies are selected for different areas of the City.
- Current parking policies are fragmented and left alone would not adequately achieve the new multi-modal vision of the City.
- There is a need to have an overarching parking vision with an area-specific focus to address local area needs but be compatible with broader city building objectives.
- Current policies do not adequately address new trends in parking and transportation management such as technology, AVs, shared vehicles, and parking management measures.

## 5 MOVING FORWARD





*PARKING MATTERS*



# APPENDIX 1-3 PARKING POLICY FRAMEWORK

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

# 1 PARKING POLICY FRAMEWORK

The PMPIS parking policy framework was developed to ensure a consistent and focused approach to making decisions about parking provision and management. *Existing Policy and Best Practices Review* notes sets out several approaches to parking policy development. The PMPIS study adopts a hybrid framework which combines *Reforming Parking Policies to Support Smart Growth* and Litman's parking management principles. Litman defines parking management as “the overall practice of developing, implementing, and monitoring policies and programs that result in the more efficient use of parking resources.”<sup>1</sup>

The resulting policy framework is comprised of the following components:

- Parking Vision Statement
- Parking Goals
- Parking Management Principles
- Implementation Plan

This parking policy framework is used to address three fundamental issues in Mississauga:

- Mississauga has a wide range of travel and parking needs.
- These needs vary from place to place in the municipality.
- The policy framework must be flexible enough to cater for both current and future needs.

The proposed parking policy framework has two distinct advantages over the City's existing approach:

- The City will continue to maintain policy flexibility in implementation and can ensure that each area's parking provision and management solution are consistent with the MOP's multi-modal vision and land use priorities and the TMP's precinct approach. The various geographical/land use areas for which different policies are developed are known as precincts in the TMP and in the PMPIS framework.
- The policy framework delivers policy outcomes that are transparent, consistent, robust, practical, inclusive, and fair.

The following sections describe each component of the policy framework and make specific recommendations. Section 1.1 discusses the Vision Statement; Section 1.2 examines goal setting; Section 1.3 discusses parking management principles and strategies; Section 1.4 comments on implementation; Section 1.5 outlines the geographical approach adopted by the PMPIS, and Section 1.6 provides a summary.

---

<sup>1</sup> Parking Management Strategies, Evaluation, and Planning, Victoria Transport Policy Institute, 2016

---

## 1.1 VISION STATEMENT

The Parking Vision Statement should state the City's view of Mississauga in the future and defines the City's beliefs about the overarching principles that parking policy should adopt to achieve that view. The Vision Statement should be aligned with the principles, goals and objectives of the City's Strategic Plan and MOP.

---

## 1.2 GOAL SETTING

Parking goals should support the Parking Vision Statement by emphasizing the intended results for each precinct. Mississauga's diverse range of travel and parking needs requires goals and policies that are appropriate for each community and conform to MOP policies for each precinct.

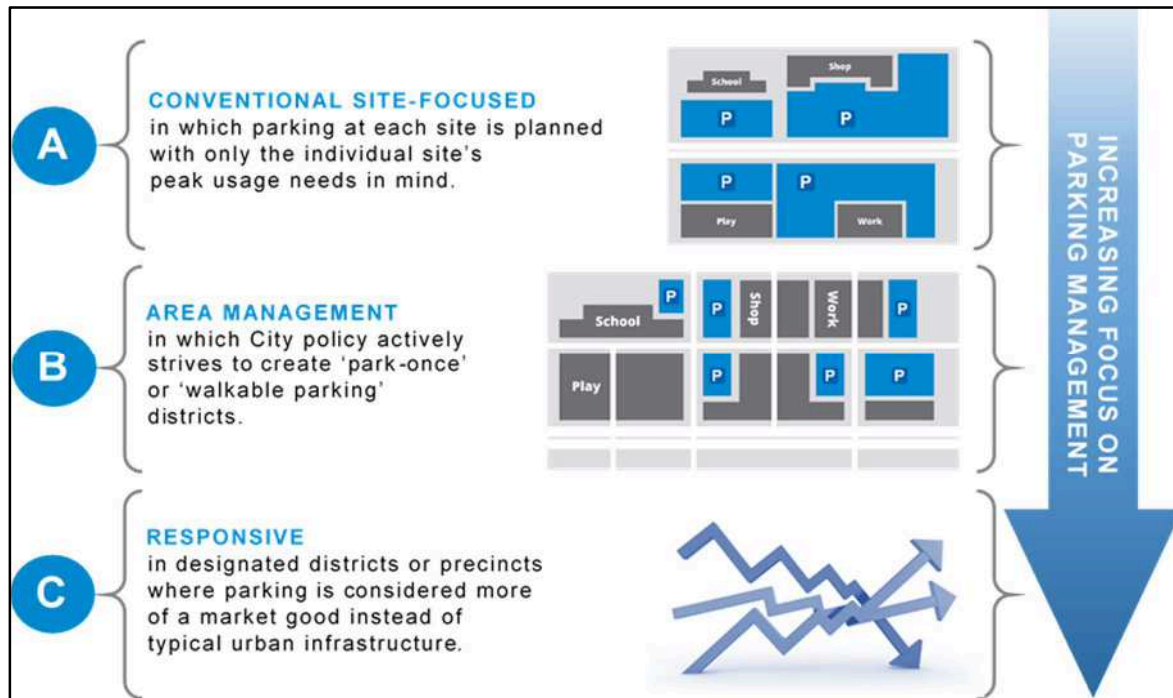
The *Existing Policy and Best Practices Review* report prepared by WSP for this study found a wide range of approaches to municipal parking policy across Canada and across the world. Given the importance of parking to the local economy in Mississauga, the policy framework should be clear, simple, readily understood by the whole community, and the flexible enough to address different local needs.

Barter developed three approaches to parking policy development:

- Conventional site-focused
- Area management
- Responsive

Exhibit 1-1 shows Barter's three approaches.

### Exhibit 1-1 – Parking Policy Approaches



Source: *A Parking Policy Typology for Clearer Thinking on Parking Reform*, Barter, 2014

The three approaches are based on the questions presented in Exhibit 1-2.

### Exhibit 1-2 – Parking Policy Questions



Source: *A Parking Policy Typology for Clearer Thinking on Parking Reform*, Barter, 2014

One of the key strengths of the framework adopted for PMPIS is that the choice of the most appropriate approach can vary by area. This helps the City to adapt to evolving parking and access issues and allows the City to match its chosen parking approach to the City's long-term vision for a given area. Exhibit 1-3 – Policy Approach Considerations shows the main considerations when selecting the most appropriate policy approaches.

### Exhibit 1-3 – Policy Approach Considerations

		<i>Is parking seen as something that should be provided on every site?</i>	
		<i>'Parking facilities should serve their district'</i>	<i>'Every site should be fully served by on-site parking'</i>
<i>Is parking seen as something to be based on infrastructure guidelines or is it a market good?</i>	<i>Parking is a 'market good'</i>	<b>RESPONSIVE APPROACHES</b> Example: Downtown public parking parkades with sufficient demand to exist as a commercial enterprise	<b>- NO CASES -</b> Parking Policy that is both site-focussed and market driven
	<i>Parking is 'infrastructure'</i>	<b>'AREA MANAGEMENT' APPROACHES</b> Example: Park-once High Street districts, TPA municipal parking	<b>CONVENTIONAL, SITE-FOCUSED APPROACHES</b> Example: Suburban-style sites with segregated land uses and mandated minimum parking requirements

Source: *A Parking Policy Typology for Clearer Thinking on Parking Reform*, Barter, 2014

As Mississauga transitions from a suburban built form to a more urban built form, it will be increasingly necessary to shift the policy focus from Conventional Site-Focused Approaches to Area Management Approaches and Responsive Approaches in different areas of the municipality. The rate of change will vary for different areas. This flexibility will help the City to shape the form, location, and amount of parking in each area over time.

## 1.3 PARKING MANAGEMENT PRINCIPLES AND STRATEGIES

This section discusses the parking management principles and strategies that will be considered in the development of policies for managing parking and achieving the desired parking outcome for each precinct.

As previously mentioned, Litman defines parking management as “the overall practice of developing, implementing, and monitoring policies and programs that result in the more efficient use of parking resources.”<sup>1</sup> He goes on to identify the following benefits of parking management:

- Reduced development costs and increased affordability.
- More compact, multi-modal community planning (smart growth).
- Encouragement of alternative modes and reductions in motor vehicle use (reducing traffic congestion, accidents, and pollution).
- Improved user options and quality of service, particularly for non-drivers.
- Improved design flexibility, creating more functional and attractive communities.
- Ability to accommodate new uses and respond to new demands.
- Reduced impervious surface and related environmental and aesthetic benefits.

The *Existing Policy and Best Practices Review* identified 10 clear and concise Parking Management Principles. The principles align well with Mississauga's existing policies and future directions. Application of the principles should result in appropriate parking management strategies for each precinct:

- **Consumer Choice:** People should have viable parking and travel alternatives.
- **User Information:** Motorists should have information on parking and travel alternatives.
- **Sharing:** Parking facilities should serve multiple users and destinations, thereby contributing to the efficient use of land.
- **Efficient Utilization:** Parking facilities should be sized and managed so that spaces are occupied frequently.
- **Flexibility:** Parking plans should accommodate uncertainty and change.
- **Prioritization:** The most desirable spaces should be managed to favour higher-priority uses.
- **Pricing:** When and where appropriate, users should pay directly for the parking facilities they use.
- **Peak Management:** Special efforts should be made to deal with peak demand.
- **Quality vs Quantity:** The quality of parking facilities (aesthetics, security, accessibility, and user information) should be considered as important as the quantity supplied.
- **Comprehensive Analysis:** All significant costs and benefits should be considered in the planning and management of parking.<sup>2</sup>

Litman also provides an extensive list of various Parking Management Strategies to manage different parking challenges. These challenges already exist in Mississauga and will continue to exist.

Exhibit 1-4 shows Litman's strategies. The application of the strategies will vary by parking precinct as reflected in the policy priorities within MOP.

---

<sup>2</sup> Parking Management Strategies, Evaluation, and Planning, Victoria Transport Policy Institute, 2016

## Exhibit 1-4 – Parking Management Strategies

Strategy	Description
Parking Regulations	Regulations favor higher-value uses such as service vehicles, deliveries, customers, quick errands, and people with special needs.
More Accurate and Flexible Standards	Adjust parking standards to more accurately reflect demand in a particular situation.
Parking Maximums	Establish maximum parking standards.
Remote Parking	Provide off-site or urban fringe parking facilities.
Smart Growth	Encourage more compact, mixed, multi-modal development to allow more parking sharing and use of alternative modes.
Walking and Cycling Improvements	Improve walking and cycling conditions to expand the range of destinations serviced by a parking facility.
Increase Capacity of Existing Facilities	Increase parking supply by using otherwise wasted space, smaller stalls, car stackers and valet parking.
Mobility Management	Encourage more efficient travel patterns, including changes in mode, timing, destination and vehicle trip frequency.
Parking Pricing	Charge motorists directly and efficiently for using parking facilities.
Improve Pricing Methods	Use better charging techniques to make pricing more convenient and cost effective.
Financial Incentives	Provide financial incentives to shift mode such as parking cash out.
Unbundle Parking	Rent or sell parking facilities separately from building space.
Parking Tax Reform	Change tax policies to support parking management objectives.
Bicycle Facilities	Provide bicycle storage and changing facilities.
Improve Information and Marketing	Provide convenient and accurate information on parking availability and price, using maps, signs, brochures and the Internet.
Improve Enforcement	Insure that regulation enforcement is efficient, considerate and fair.
Transport Management Assoc.	Establish member-controlled organizations that provide transport and parking management services in a particular area.
Overflow Parking Plans	Establish plans to manage occasional peak parking demands.
Address Spillover Problems	Use management, enforcement and pricing to address spillover problems.

Source: *Parking Management*, Victoria Transport Policy Institute, 2016

---

## 1.4 IMPLEMENTATION

It is important to note that implementation at this stage refers to Planning Framework and the grouping the strategies using a precinct-based approach and Conventional/Site-Based, Area Management or Responsive measures to achieve the desired goals.

---

## 1.5 APPLYING THE PLANNING FRAMEWORK

The planning framework provides the opportunities needed to develop appropriate policies for city areas that have similar characteristics and objectives.

The planning and parking literature refers to the use of geographic areas for delineating policy as a policy area approach. Jurisdictions use many different names for their policy areas including Community, Planning Districts, Zones, Areas, and Precincts. For the PMPIS, we have selected the term “precincts.”

The precincts are identified geographically using the City Structure identified in MOP Schedules 2 and 9.

The precincts are selected by considering the various factors that typically affect parking demand and supply and identifying geographical areas that have parking demand and supply factors in common. The set of factors is then used to set appropriate goals, objectives, and strategies for each precinct.



---

## 1.6 SUMMARY

This brief highlights the main points about the parking policy framework.

---

### *1.6.1 SUMMARY OF PARKING POLICY FRAMEWORK*

The policy framework should include:

- Parking Vision Statement
- Parking Goals
- Parking Management Principles
- Implementation Plan

#### **Parking Vision Statement**

- The Parking Vision Statement should articulate the importance of parking policy to the City and the City's adoption of a strategic approach to parking management now and into the future.

#### **Parking Goals**

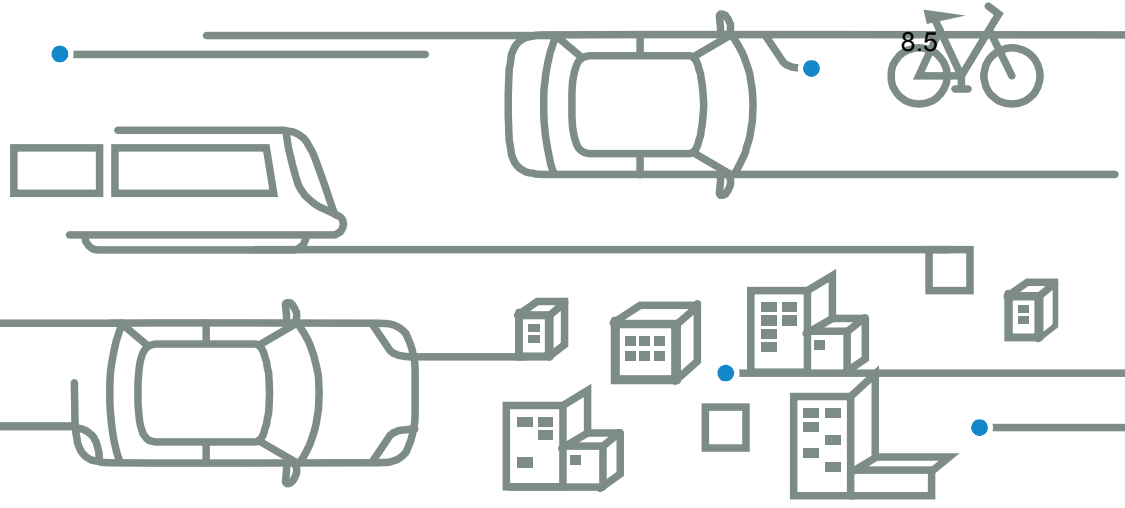
- The parking goals should support the parking vision. The goals specify the intended results of the parking policy for the City and for the precincts.

#### **Parking Management Principles**

- The framework should be based on 10 parking management principles selected to achieve the desired parking outcomes.

#### **Implementation Plan**

- An implementation plan should explain how the City's overall parking vision and various precinct goals will be achieved.



## *PARKING MATTERS*



# APPENDIX 1-4 BEST PRACTICES REVIEW

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

# MISSISSAUGA PARKING MASTER PLAN AND IMPLEMENTATION STRATEGY (PMPIS) BEST PRACTICES REVIEW

## **City of Mississauga**

Project no: 161-14575-00  
Date: May 2017  
Version 2.0



# TABLE OF CONTENTS

<b>INTRODUCTION .....</b>	<b>1</b>
<b>1.0 PURPOSE .....</b>	<b>1</b>
<b>BEST PRACTICES REVIEW.....</b>	<b>2</b>
<b>2.1 THE ROLE OF PARKING IN A VEHICULAR-BASED SURFACE TRANSPORTATION SYSTEM .....</b>	<b>2</b>
<b>2.2 PARKING POLICY TYPOLOGIES .....</b>	<b>3</b>
<b>2.3 PARKING VISIONS AND MANDATE.....</b>	<b>6</b>
<b>2.4 THE VALUE OF PARKING .....</b>	<b>6</b>
2.4.1 SOCIAL VALUE (PARKING AS A SERVICE) .....	7
2.4.2 FINANCIAL VALUE (PARKING AS REVENUE) .....	8
2.4.3 PARKING AS A VALUE PROPOSITION .....	8
<b>2.5 MUNICIPAL PARKING STANDARDS .....</b>	<b>11</b>
2.5.1 MINIMUMS AND MAXIMUMS .....	11
2.5.2 COMPARISON TO OTHER MUNICIPAL PARKING STANDARDS .....	13
2.5.3 BICYCLE PARKING STANDARDS .....	23
2.5.4 HOW DOES MISSISSAUGA COMPARE WITH EMERGING PARKING TRENDS .....	25
<b>2.6 PARKING MANAGEMENT PROGRAM .....</b>	<b>26</b>
2.6.1 RATIONING OF THE PARKING SUPPLY .....	26
2.6.2 PRICING .....	26
2.6.2.1 DYNAMIC PRICING CONSIDERATIONS .....	27
2.6.3 SUPPLY MANAGEMENT .....	30
2.6.4 TRANSIT INCENTIVES .....	31
2.6.5 PAYMENT IN-LIEU OF PARKING .....	32
<b>2.7 ON-STREET PARKING POLICIES.....</b>	<b>35</b>
2.7.1 APPLICATION .....	35
2.7.2 TRAFFIC BY-LAW .....	36
2.7.3 HOLIDAY EXCEPTIONS .....	39
2.7.4 METERED PARKING .....	40
2.7.5 ON-STREET PARKING TIME LIMITS .....	41
2.7.6 PROHIBITED PARKING.....	43
2.7.7 SIDEWALK AND BOULEVARD PARKING .....	44

2.7.8	HEAVY VEHICLES .....	45
<b>2.8</b>	<b>PARKING TECHNOLOGIES AND INFLUENCES .....</b>	<b>46</b>
2.8.1	SMART PARKING .....	46
2.8.2	MOBILE PAYMENT .....	49
2.8.3	ELECTRIC VEHICLE CHARGING STATIONS .....	52
2.8.4	AUTONOMOUS VEHICLES .....	54
2.8.5	SHARING ECONOMY .....	56
<b>2.9</b>	<b>PARKING ORGANIZATIONAL MODEL .....</b>	<b>58</b>
2.9.1	STRATEGIC ORGANIZATIONAL GOVERNANCE MODELS .....	58
2.9.2	FUNCTIONAL ORGANIZATIONAL ALTERNATIVES .....	64
<b>2.10</b>	<b>PARKING FINANCIAL MODELS .....</b>	<b>67</b>
2.10.1	UNDERSTANDING THE REAL COSTS OF PARKING .....	70
2.10.2	KEY ELEMENTS OF THE PARKING FINANCIAL MODEL .....	71
2.10.3	STATE OF GOOD REPAIR FOR PARKING INFRASTRUCTURE .....	71
2.10.4	SUSTAINABLE PARKING NOW AND IN THE FUTURE .....	72
<b>2.11</b>	<b>PARKING ENFORCEMENT .....</b>	<b>73</b>
2.11.1	COMPLIANCE (“CUSTOMER”) VS. ENFORCEMENT (“PUNITIVE”) APPROACHES .....	73
2.11.2	NEW AND EMERGING TECHNOLOGY PRACTICES IN ENFORCEMENT .....	77
<b>2.12</b>	<b>OTHER ON-STREET PARKING RELATED POLICIES .....</b>	<b>78</b>
2.12.1	PARKLETS .....	78
2.12.2	SIDEWALK CAFÉS .....	81
2.12.3	TEMPORARY ON-STREET PARKING PERMITS .....	82
<b>2.13</b>	<b>TRANSPORTATION DEMAND MANAGEMENT .....</b>	<b>82</b>
2.13.1	POLICIES AND PRIORITY PARKING FOR CARSHARE AND CARPOOLS .....	82
2.13.2	UNBUNDLING PARKING FROM DWELLING UNITS .....	83
2.13.3	PARKING IN TRANSIT ORIENTED DEVELOPMENT AREAS .....	84
2.13.4	TDM PROGRAMS TO SUPPORT REDUCTION IN PARKING SUPPLY .....	84
2.13.5	BIKESHARE PARKING .....	85
2.13.6	PARKING FEES SUPPORTIVE OF TDM MEASURES .....	85
2.13.7	SHARED PARKING .....	86
2.13.8	SHORT-TERM VS. LONG-TERM PARKING .....	86

<b>FUTURE OUTLOOK .....</b>	<b>88</b>
<b>REFERENCES .....</b>	<b>90</b>

---

## TABLES

TABLE 4-11 – BEST PRACTICES REVIEW – PARKING BUSINESS MODELS .....	93
TABLE 4-12 – SUMMARY OF MOST COMMON PARKING ORGANIZATION MODELS IN CANADA & USA .....	94
TABLE 4-13 – PROS AND CONS OF MOST COMMON PARKING ORGANIZATION MODELS IN CANADA & USA .....	96
TABLE 4-14 – BENCHMARK MUNICIPALITIES AND ABBREVIATIONS .....	100
TABLE 4-15 – ESTIMATED CAPITAL AND OPERATING COSTS FOR PARKING SPACES BY TYPE .....	104

# FIGURES

FIGURE 3-1 URBAN SYSTEM, CITY STRUCTURE.....	2
FIGURE 3-2 MOP DESIGNATED INTENSIFICATION AREAS .....	2
FIGURE 3-3 - MOP DESIGNATED AREA.....	2
FIGURE 3-4 MOP MAJOR NODES .....	2
FIGURE 3-5 - MOP COMMUNITY NODES .....	2
FIGURE 3-6 - LONG TERM TRANSIT NETWORK.....	2
FIGURE 3-7 – LOCAL AREA PLANS .....	17
FIGURE 3-8 – PARKING DIMENSIONS .....	18
FIGURE 3-9 – MOPA.....	20
FIGURE 3-10 - HURONTARIO-MAIN LRT PROJECT CORRIDOR MAP.....	26
FIGURE 3-11 – HURONTARIO LRT RECOMMENDED PARKING TYPOLOGY .....	26
FIGURE 3-12 – DOWNTOWN METERED AND NON-METERED PARKING .....	30
FIGURE 3-13 - ON STREET PARKING ALLOCATIONS IN THE DOWNTOWN.....	31
FIGURE 4-1 – PARKING STACKER .....	36
FIGURE 4-2 – THE ROUTE FROM A CONVENTIONAL SITE PROVISION APPROACH TO AN AREA-BASED APPROACH.....	38
FIGURE 4-3 – SQUARE FEET PER PARKING SPACE BY FACILITY TYPE .....	41
FIGURE 4-4 – CUSTOMERS ACTUAL AND PERCIEVED MODE SHARE .....	42
FIGURE 4-5 - CUSTOMERS ACTUAL AND PERCIEVED REVENUE SHARE .....	42
FIGURE 4-6 – RESIDENTIAL MINIMUM PARKING REQUIREMENTS .....	48
FIGURE 4-7 – OFFICE MINIMUM PARKING REQUIREMENTS - DOWNTOWN.....	49
FIGURE 4-8 – RETAIL MINIMUM PARKING REQUIREMENTS.....	50
FIGURE 4-9 – INDUSTRIAL MINIMUM PARKING REQUIREMENTS .....	221
FIGURE 4-10 – RESIDENTIAL MINIMUM PARKING REQUIREMENTS - DOWNTOWN ....	52
FIGURE 4-11 – OFFICE MINIMUM PARKING REQUIREMENTS - DOWNTOWN.....	53
FIGURE 4-12 – RETAIL MINIMUM PARKING REQUIREMENTS - DOWNTOWN .....	54
FIGURE 4-13 – INDUSTRIAL MINIMUM PARKING REQUIREMENTS - DOWNTOWN .....	55
FIGURE 4-14 – GENERAL APPROACHES TO RATIONING A PARKING SUPPLY .....	59
FIGURE 4-15 – CALGARY DYNAMIC PRICING CHANGES FOR 2015 11AM TO 1:30PM.	61
FIGURE 4-16 – SF PARK HISTORICAL HOURLY PRICE RATES .....	63
FIGURE 4-17 – REAL TIME PARKING AVAILABILITY EXAMPLES .....	81
FIGURE 4-18 – TIMELINE OF CASHLESS PARKING BY WESTMINSTER CITY COUNCIL	83
FIGURE 4-19 – EDMONTON EPARK SYSTEM, BASED ON CPA PARKPLUS TECHNOLOGY .....	84
FIGURE 4-20 – STRATEGIC BUSINESS MODELS OF PARKING .....	91
FIGURE 4-21 – COMMON MAIN REASONS AND RATIONALS FOR PARKING ORGANIZATIONAL MODELS .....	92
FIGURE 4-22 – PARKING ORGANIZATIONAL STRUCTURE WITHIN SELECT CANADIAN MUNICIPALITIES.....	98
FIGURE 4-23- NO. OF PAID PARKING SPACES MANAGED PER 100, 000 POPULATION	99



FIGURE 4-24 – GROSS PARKING REVENUE COLLECTED PER PAID SPACE .....	7601
FIGURE 4-25 – TOTAL COST PER PAID PARKING SPACE MANAGED .....	101
FIGURE 4-26 – PARKING SERVICES REVENUE TO COST RATIO .....	102
FIGURE 4-27 – PARKING AMBASSADOR.....	107
FIGURE 4-28 – REGINA PARKING EDUCATIONAL BROCHURE .....	107
FIGURE 4-29 –TPA COURTESY CHARGE .....	108
FIGURE 4-30 – EDMONTON PARKLET, WHYTE AVE, 2014.....	112



# Introduction

1

## 1.0 Purpose

The City is seeking a strategic approach to parking in Mississauga, through development of a Parking Master Plan and Implementation Strategy (PMPIS). The approach is intended to improve the efficiency and effectiveness of current and future resources dedicated to parking, and also to use parking as a tool to realize the development objectives of the City's planning framework. Parking is an important intersection between transportation and land use, and needs to be addressed proactively.

An important component of the PMPIS is a benchmarking exercise that illustrates and highlights current parking practices in Mississauga and seeks to contrast these practices with other comparable jurisdictions in the GTHA and elsewhere.

The following best practice review is intended to help inform policy discussions and decisions that will help guide the final PMPIS.

The best practice review begins with an overview of existing policies related to parking in Mississauga, followed by a review of best practices from comparator municipalities.



# Best Practices Review

2

This chapter is concerned with parking best practices in Canada and from around the world. It does this by reviewing:

- The role and value of parking and parking policy in the transportation system
- What a strategic vision for parking entails
- The benefits of adopting parking management principles
- Individual best practices that have been implemented
- Some initial thoughts on the application of a number of these ideas to Mississauga.

Parking management principles are also explored as a method for sharpening the focus on parking as part of a broader transportation system with significant known impacts on land use.

## 2.1 The Role of Parking in a Vehicular-Based Surface Transportation System

Parking is considered one the three essential components of a surface, vehicular-based transportation system (Vuchic 2000):

1. Vehicles
2. Rights-of-way
3. Terminal Facilities

Parking is intended to provide the required space ('terminal facilities' or 'end of trip facilities') to store a vehicle at the start and end of each journey.

In recent years there have been concerted efforts within both the transportation and land use planning professions to encourage clearer thinking about approaches of parking, particularly in urban areas where space is at a premium and capital intensive engineering solutions and alternative uses are often contemplated.



**Figure 4 - 1      Parking Stacker, an example of a space-saving 'Terminal Facility'**

Source: HONGBO Co. Ltd. ([http://hbc-enc.com/wp-content/uploads/data/HBC-APS\(2015\)-eng.pdf](http://hbc-enc.com/wp-content/uploads/data/HBC-APS(2015)-eng.pdf))

Arguments have been made that the absence of a widely-understood typology of parking policy approaches is responsible for confusion and conflicting objectives within urban policy (eg: Barter 2014).

## 2.2      Parking Policy Typologies

To better define the intended purpose of parking policy for a given area, Barter (2014) created a parking policy typology based on two essential criteria:

**Table 4-1    Two essential criteria to determine parking policy**

<b>Criteria 1</b>	<i>Is parking seen as something that should be <b>provided on every site?</b></i>
<b>Criteria 2</b>	<i>Is parking seen as something to be based on <b>infrastructure guidelines</b> or is it a <b>market good?</b></i>

These respective answer to these criteria creates three broad paradigms based on two criteria that can be represented in a matrix that gives rise to three broad approaches:

- Conventional-site focused approaches
- Area management approaches
- Responsive approaches

**Table 4-2 Three broad paradigms based on two criteria (Barter 2014)**

		<i>Is parking seen as something that should be provided on every site?</i>	
		<i>'Parking facilities should serve their district'</i>	<i>'Every site should be fully served by on-site parking'</i>
<i>Is parking seen as something to be based on infrastructure guidelines or is it a market good?</i>	<i>Parking is a 'market good'</i>	<b>RESPONSIVE APPROACHES</b>  Example: Downtown public parking garage	<b>- NO CASES -</b>  Parking Policy that is both site-focussed and market driven
	<i>Parking is 'infrastructure'</i>	<b>'AREA MANAGEMENT' APPROACHES</b>  Example: Park-once High Street districts, TPA municipal parking,	<b>CONVENTIONAL, SITE-FOCUSSED APPROACHES</b>  Example: Minimum parking requirements, Public Washrooms regulations

**Conventional site-focussed approaches** are where parking is generally thought of as being on-site infrastructure, like restrooms which are mandated for buildings in an almost identical way. Parking requirements are the policy mechanism to ensure sufficient parking and no spillover.

**Area management approaches** are where parking is still considered infrastructure but parking requirements are relaxed, usually because of space restraints, cost and alternatives. In this scenario, public parking is emphasised. Area management is part of the parking management policy objective advocated by Metrolinx in the Mobility Hub Guidelines (see section 4.2)

**Responsive approaches** are the circumstance where parking is seen more of a 'market good' and less as 'infrastructure'. Here is natural to think of parking in this circumstance as being commercially managed real-estate.

It is notable that there are no cases where parking is a market good and is site-focussed. Niagara Falls ON could be considered one such example where this has been attempted, but it is not considered the basis for a comprehensive municipal parking policy.

The parking policy classification approach set out here supports the idea that the dimensions are theoretically independent. However adapting and changing parking norms in Mississauga will necessarily be strategic and require a progressive plan. An illustrative route from a site-based over-supply parking is infrastructure position to that with parking supply provided on an area-basis, with supply managed and charges applied is shown in Figure 4-2.

Adapted from Barter (2014)

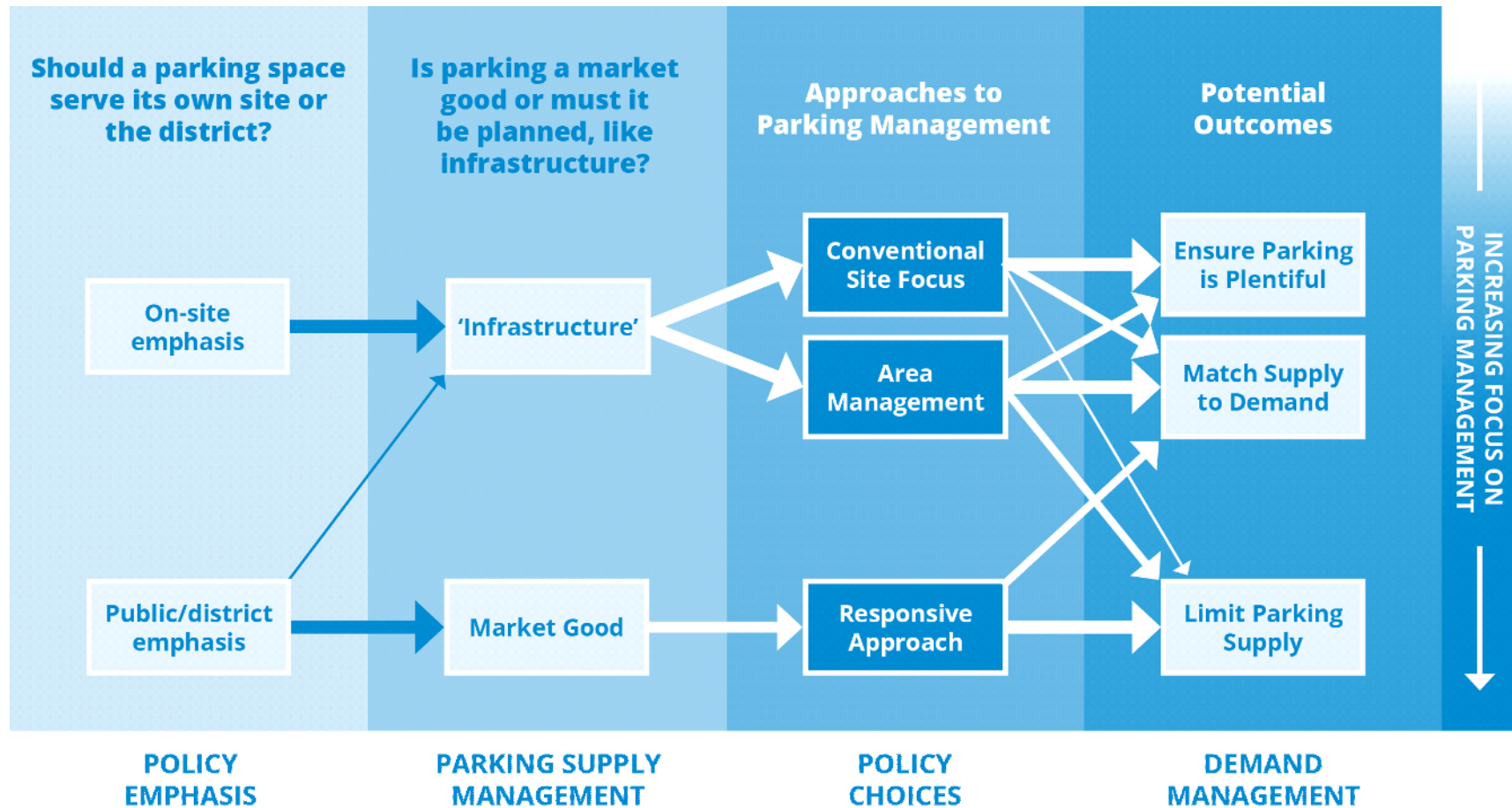


Figure 4 - 2 The route from a conventional site provision approach to an area-based approach



## 2.3 Parking Visions and Mandate

The following **parking management principles** from Todd Litman (2012) are considered to have applicability in Mississauga in that they provide clear and concise principles that align well with Mississauga's existing policies:

1. **Consumer choice** People should have viable parking and travel options.
2. **User information** Motorists should have information on their parking and travel options.
3. **Sharing** Parking facilities should serve multiple users and destinations.
4. **Efficient utilization** Parking facilities should be sized and managed so spaces are frequently occupied.
5. **Flexibility** Parking plans should accommodate uncertainty and change.
6. **Prioritization** The most desirable spaces should be managed to favour higher-priority uses.
7. **Pricing** As much as possible, users should pay directly for the parking facilities they use.
8. **Peak management** Special efforts should be made to deal with peak-demand.
9. **Quality vs. quantity** Parking facility quality should be considered as important as quantity, including aesthetics, security, accessibility and user information.
10. **Comprehensive analysis** All significant costs and benefits should be considered in parking planning.

Some distinct advantages of adopting parking management principles in Mississauga include:

1. Recognition that parking is a strategic asset for managing both transportation and land use outcomes in Mississauga
2. Acknowledgement that effective management of parking is important to the health of the local economy and the community
3. Acceptance of the importance of and need for a long-term plan to manage parking in Mississauga

## 2.4 The Value of Parking

The value of the space that parking provides can be defined and measured in variety of ways: practically, socially, financially and economically. In an everyday practical sense, the benefit of parking to the end user is ubiquitous and easily recognised in almost any setting. This section is concerned with explaining the less obvious aspects of value of parking: its social and economic value and its relevance to Mississauga.

### Official Plan Vision

The vision for Mississauga is that it will be a beautiful sustainable city that protects its natural and cultural heritage resources, particularly the Lake Ontario waterfront, Credit River and other valley corridors, and its established, stable neighbourhoods. The City will plan for a strong, diversified economy supported by a range of mobility options and a variety of housing and community infrastructure to create distinct, complete communities. To achieve this vision the City will revitalize its infrastructure, conserve the environment and promote community participation and collaboration in its planning process

### Strategic Plan Vision

Mississauga will inspire the world as a dynamic and beautiful global city for creativity and innovation, with vibrant, safe and connected communities; where we celebrate the rich diversity of our cultures, our historic villages, Lake Ontario and the Credit River valley. A place where people choose to be.

### 2.4.1 Social Value (*Parking As A Service*)

The social value of parking is typically measured from the value that a car offers a user. In essence a parking facility provides an opportunity for those that have access to a vehicle and wish to access the destination by car the ability to do so. By using the car to travel the user can take advantage of the time savings and other comfort and utility benefits that the car offers. They can only do this because they have somewhere to leave the car at the destination (the 'terminal facility' as noted in section 4.1) while they do not require it. If there is nowhere to legitimately and safely leave the vehicle while its users undertake the purpose of their trip, then it must be parked in a more distant location not as close to the destination as required. Thus the car trip is likely to take longer and is less comfortable or convenient.

In economic terms therefore, a parking lot at the destination has social value as it saves people time by allowing them to travel more quickly to and from their destination. In financial terms, people are often prepared to pay for parking because they recognise the private benefit (referred to in economics as '*utility*') it provides them, through saving time or improving their own comfort. In this regard parking facilities can be seen as an equivalent in providing user time savings similar to a new highway that potentially reduces congestion (Potter 2016).

Providing parking at or close to a destination is therefore commonly seen by commercial establishments as a key aspect of supporting trade. By contributing to reducing the travel time to and from their premises, they can extend the reach of their business.

Negative social impacts of parking must also be considered. While parking can underpin economic well-being it also affects the form and design of a City. Parking promotes car use and car access into those areas in which it is provided. Attracting and serving vehicles in urban areas creates non-permeable urban spaces, pollution, noise and personal risk to pedestrians and cyclists.

In looking at a higher objective of creating economic success in urban areas and setting parking policy, it is often necessary to recognise that serving car users may improve their accessibility and use of the city but that this may be at the expense of the amenity of others. Car accessibility may make urban areas less attractive both as a destination and as somewhere that people wish to spend extended amounts of time. This may prove more restrictive to trade than the uplift provided by good access for car users.

In addition, the amount of land that parking occupies or 'consumes' may not offer the best service to the residents or community; access to parking facilities by high numbers of cars may impair the mobility of those choosing to walk or cycle and general livability of that neighbourhood. Figure 4-1 highlights the opportunity cost of land for parking in terms of land consumption by estimating the amount of space required per parking space. On a per space basis, full size suburban off street parking can consume up to 55 m<sup>2</sup> (600 square feet) per space once landscaping, driveways and access lanes are taken into consideration. On-street parking, on the other hand, can be 2.5 times more efficient than off-street parking. This is particularly relevant for the Mississauga context, as large amounts of existing parking is located off street.

Finally, the annualized costs of providing parking represents a significant cost to the community, particularly if it is offered for free. According to Litman (2005), this can range from \$250 to \$2,250 per space provided per annum, depending on the type and location of the space. If no corresponding revenue is generated for those spaces, then the ongoing costs of providing this parking as a service must be subsidised by users and non-users alike.



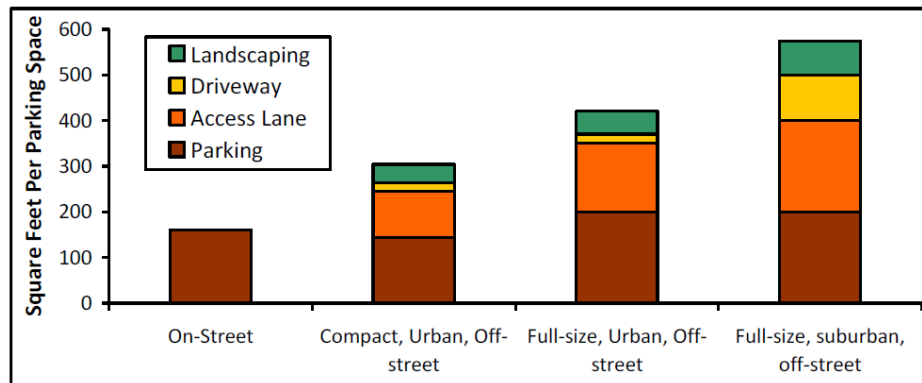


Figure 4 - 3 Square feet per parking space by facility type (Source: Litman 2012)

### 2.4.2 Financial Value (Parking As Revenue)

Parking value is more readily defined and quantified based on the revenues it may earn, particularly in the commercial context. These revenues are a function of the willingness to pay for the time saving and other utility benefits afforded by the parking facility at that location and time. While much parking is charged based on the duration of stay, the benefits accruing to the user are largely appreciated in the time saving of the journeys to and from that parking spot. In Mississauga for example, while an hour's stay may be priced at \$1/hour and an all day stay at \$6, the time saving offered by being able to drive right into the Downtown rather than walk most of the way would be considered equivalent for both trips. According to this definition of value, if that time saving is considered to be worth more than \$6, then driving is likely to be the prevalent mode, which is the case at present.

What is likely to be different, but not necessarily the case, is that a shorter trip to that destination has less utility to the visitor than a longer trip. So if the cost of making the trip outweighs the utility gained from the activity at the destination, then the trip won't occur. More likely is that the trip can be fulfilled in another way, such as going to a different destination where the cost of parking is less. In this case, parking demand is lost since users switch to save money. If there was no other choice, faced with paying a higher charge to park or walk, many users would pay the higher cost up and until the point that the journey is not worth making or the cost of paying to park the car at the destination is higher than the value they ascribe to the benefits of using a car rather than an alternative mode. In a modern retail context, an alternative mode includes an alternative method of fulfilment, such as online shopping. Large commercial establishments understand that factors such as these are likely to influence the future demand for parking.

The duration of parking does not provide any value to the user. It incurs a cost to the provider and wider society because for the duration of time that the parking space is occupied it reduces the opportunity to provide service and similar benefits to other users. The user expects to pay less for shorter durations of stay primarily because of their mindset and established thinking. In reality their willingness to pay for a short duration may be no different to a long stay as the benefit derived is equal in both cases. What may limit the charge potential of shorter trips is the overall value of making the trip at all, such that if the trip is not quick, easy and inexpensive, it doesn't happen. The need is either not worth fulfilling, or fulfilled in a lower cost way.

### 2.4.3 Parking as a Value Proposition

In summary, the value proposition offered by parking can be thought of as being the relative advantage that driving to a location has over other options. Other options may include using parking lots that are

further away or completing the trip by other modes. Parking value only applies to those that have access to a car for that trip.

The approach helps to better contrast situations in which businesses value parking against circumstances in which parking is not always a primary consideration.

**Table 4-3 Contrasting Value Propositions for Parking**

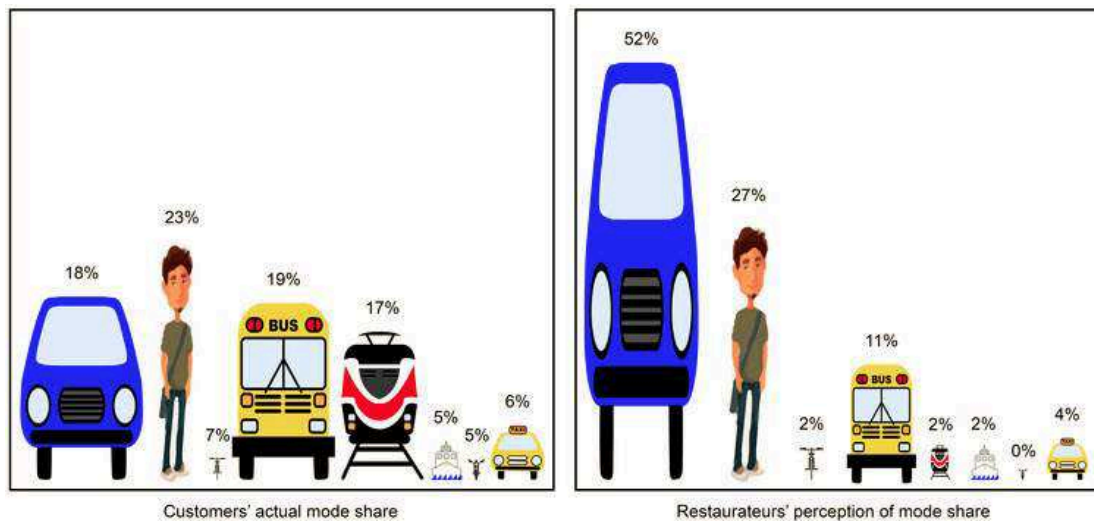
Parking's ability to provide competitive edge	Parking is not always a primary consideration
<p>The ability to provide a competitive edge helps to understanding why parking is important to businesses in this context, particularly those located downtown. If parking is not available, visitors and potential customers may be faced with a more time-consuming trip.</p> <p>They have to park further away and walk or use a slower alternative mode of transport. Similarly if the monetary cost of parking downtown increases, this too makes the trip more costly.</p> <p>The benefit (utility) achieved by the activity at the destination is largely fixed; as the time or cost of making the trip to the destination increase the potential that the trip is not worth making, or can be fulfilled more efficiently by another destination or method, increases, resulting in the business potentially being lost at that destination.</p>	<p>In this case, the benefit (utility) of going to a specific destination outstrips any marginal increases in cost associated with the travel to that destination. When reviewing successful urban areas with paid parking, the combined effects of <b>the quality of the offer</b> and <b>the proximity of the destination</b> dominate where people choose to go.</p> <p>Parking and mode of travel have been found to be secondary and subsidiary considerations (see for example Mingardo, 2012; Koppelman 1978, Shobeirinnejad et al, 2013). Free parking, or ample parking, are not necessarily in themselves attractive to shoppers, nor will they alone draw users away from a destination of choice.</p>

Following this approach, parking can only be considered relevant to those that have access to a car and where the choice of that mode offers the greatest time savings. Where transit or other modes are only marginally less desirable (either by providing equivalent journey times or offering other utility benefits such as comfort, enjoyment or the ability to do other things while travelling) then the actual value of parking on the quality of the offer and proximity of the destination is likely to become more marginal. Moreover by providing parking, and generating car traffic and associated congestion, the parking itself may contribute to reducing the amenity of the destination and the speed or safety of alternative modes.

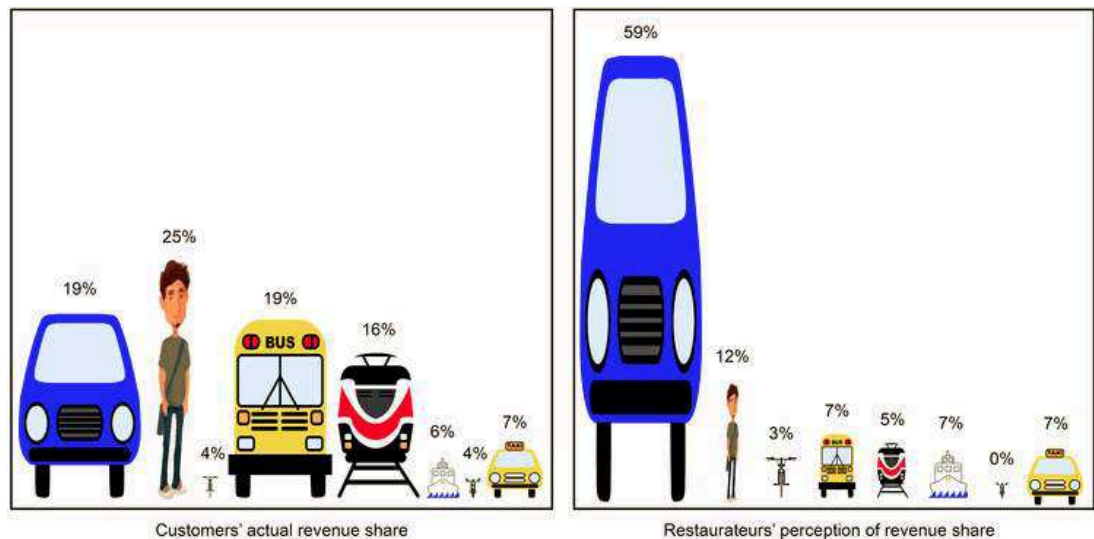
To better highlight this point, consider a 2015 study in Brisbane, Australia (2016 population 1.16 million) that analysed the gap between perceptions of restaurateurs and customers' actual transport choices as well as their differing points of view on the importance of supplied parking (Yen, Burke et al 2015). The study asked customers and restaurateurs to rank parking supply. Rankings ranged from 1 (always available) to 10 (never available). Of customers who drive to the restaurant precincts, 26 per cent ranked parking availability lower than 5. This suggested that just over one quarter of customers think they will find parking most of the time. By contrast, 85.7 per cent of the restaurateur respondents ranked parking availability higher than 6. This suggested that they believe parking is often not available for their customers.

Figures 4-4 and 4-5 show the difference between the customers' actual travel mode share and the restaurants' perception of mode share. Restaurateurs overestimated by more than double the actual importance of customers who came by car. They neglected the contributions of customers who travelled by public transport (by bus and train).

The restaurateurs' estimates of walking and cycling customers were close to their actual mode shares. Customers who travel by car also brought in less revenue than the restaurateurs think. Based on the sample of 100 restaurants, customers who drove provided less than 20 per cent of revenue for the restaurants they were frequenting. The biggest portion of restaurant income (66 per cent) came from customers who walked (25 per cent) or took public transport (19 per cent for bus, 16 per cent for train and 6 per cent for ferry).



**Figure 4 - 4** Customers actual and perceived mode share



**Figure 4 - 5** Customers actual and perceived revenue share

### Relevance to Mississauga

The following points summarise the relevance of the value of adopting a considered approach to parking in the Mississauga context and provide points for consideration in the development of the PMPIS:

- The relative advantage of the car and the attractiveness of the destination is a relevant consideration in determining preference for car travel and demand for parking versus other modes
- As more of the visitors or potential customers to the downtown have good alternatives to car, the relative value of using a car for the journey, and by association, the value of parking, diminishes
- As the benefit provided by a destination increases relative to the benefit (utility) that is gained from any other method of fulfilling the need, the willingness to pay to make the trip increases
- When using a car still remains the best option for users, this willingness to pay can translate into higher parking charges without loss in trip-making or visitor numbers
- As new mobility options are introduced, there will be a need to implement appropriate parking management and transportation demand management practices in high use areas, such as downtown. This is likely to require trade-offs (i.e. prioritizing one or more modes over other modes)
- The City should recognize that its transportation and land use policies have a substantial impact on shaping mode choice and access priorities, particularly for accessing important destinations by adopting a principled approach to parking
- At present the City does not currently have a vision for parking. This would help to manage future mobility and access challenges in Mississauga

## 2.5 Municipal Parking Standards

The following sections include a review of recently adopted progressive parking standards in Canada, the United States and globally.

### 2.5.1 *Minimums and Maximums*

Regulations related to parking have historically stipulated that a prerequisite for initial site development or expansion is the construction of a certain minimum number of parking spaces. This is commonly referred to as a *minimum parking requirement*, calculated as a minimum number of parking spaces per site under consideration. Parking requirements are typically expressed in terms of a ratio (e.g.: “*1 parking space per dwelling*”) and are defined by a particular proposed site characteristic.

As noted in Section 4.3, conventional post-war planning was largely concerned with minimum parking requirements so as to reduce the potential for spillover of parking into adjacent properties or on to public roadways, but it is widely acknowledged this has encouraged car use as well.

Minimum parking requirements have historically been concerned with providing enough spaces to satisfy the peak demand for free parking. The most vocal critic of these requirements, Prof. Donald Shoup at UCLA in California has demonstrated that these requirements add substantially to development costs, limit development potential and disproportionately impose costs on non-users and the disadvantaged.

There are limited examples of maximum parking requirements in Canadian municipalities. However there are some American examples, including Portland (Oregon). Portland's requirements vary by zone and area of the City, with stricter maximums within  $\frac{1}{4}$  mile of a transit station and 125% of the minimum allowed between  $\frac{1}{4}$  and  $\frac{1}{2}$  mile from the transit station.

San Francisco has developed a new ordinance that applies to specific zones within the City that states the number of parking spaces shall be up to a specified number, eliminating the wording of minimums and maximums. For example, hospitals or other inpatient medical facilities has a requirement of up to 8 guest beds (excluding bassinets) or for each 2,400 square feet of gross floor area devoted to sleeping rooms, whichever results in the **lesser** requirements. (San Francisco Planning Code, new ordinance notice – parking and loading). This is a departure from wording in the past that would state whatever is **greater**.

As experience has shown that parking maximums have generally been difficult to implement politically, in recent years, there have been concerted efforts to reduce parking requirements through the collection of more accurate empirical data collection (Willson 2012). As minimums are reduced, developers may elect to provide parking above the minimum where they consider the functionality of the site or the resale of the properties within the site to be compromised if adequate parking is not provided. In effect, as minimums reduce, a market-based parking provision is delivered for sites.

A number of cities have also been successful in abolished parking requirements altogether (Berlin, Hamburg), while others have sought to reduce prevailing requirements in specific districts or neighbourhoods (San Francisco, Frankfurt) mostly through greater consideration of or improvements to non-motorised alternatives, notably transit and active transportation. Application AREA: Corridors/Growth Areas versus City Wide

The previous sections of this chapter have outlined the progressive shift from site-based to area-based approaches. Chapter 1 outlined the applicable provincial policy while Chapter 2 sought to clearly identify City policy and statute as it applies to particular those geographic areas within Mississauga with specific parking policies and provisions. It was clearly identified that there are a combination of provincial based, site based and area based (precinct or corridor based) provisions.

In the short to medium term, in seeking to review all existing provisions at a City-wide level, the City needs be cognisant of the Climate Change Action Plan (2016 – 2020), given that the province has declared its intention to eliminate minimum parking requirements from municipal by-laws for transit corridors and other high-density, highly walkable communities starting as early as 2017/2018 (Section 1.4, Climate Change Action Plan).

The Zoning By-law is a tool to implement the City's land use and development objectives. The Zoning By-law can help to shape development to a desired built form through a combination of controls on land use, massing, etc. Parking standards can be established with a view to promote an urban, compact, mixed-use environment, to support vibrant neighbourhoods, and to facilitate walking and cycling, as well as higher-order transit. This can be accomplished through appropriately reduced parking requirements for developments in areas meant for intensification, including corridors and urban growth areas.



## 2.5.2 *Comparison to Other Municipal Parking Standards*

### **Other Downtown Parking Requirements**

There are many approaches to addressing downtown parking requirements, as seen in various Canadian municipalities. They are as follows:

- Downtown lands with certain Commercial zoning do not need to provide parking spaces as per the Zoning By-law;
- Revenue sharing agreement is established with Business Improvement Associations (BIA), which provides 10% of all on-street parking revenue collected within BIA areas to the BIA for uses relating to parking/landscaping improvements;
- Variances/reductions for on-site parking requirements are allowed in transit rich in cities such as Toronto and Vaughan
- Parking exemptions for downtown (re)development applications are not governed by specific policies; rather, they are addressed through specific contexts/issues;
- No parking required for commercial uses in the downtown and no visitor parking required for residential uses in the downtown (in Thunder Bay and Barrie for example);
- Heritage By-law allows heritage buildings with reduced parking requirements to carry forward such requirements through grandfathering clauses;
- Parking system for downtown snow removal – City issues snow parking bans through media, which require vehicles to be moved off roads the day following a snowstorm. The City plows its surface parking lots/parkades and allows the public to park vehicles there for free following snowstorms to support the removal of vehicles from streets that need plowing
- Seasonal overnight on-street parking bans to support snow removal;
- Downtown zones and other areas in the core where there is anticipated increased development are not required to provide a specific amount of parking. Rather, market drives provision of parking;
- Zero parking requirement in the Downtown core implemented for decades, however this has led to an over-reliance on municipal off-street parking; and
- In Regina, SK, parking space limits are used for developments in suburban areas in an effort to disincentivize off-street parking in suburban areas. Anything exceeding the maximum number requires a payment of \$7,000 per space
- Recently, municipalities such as Markham, Edmonton and Calgary have begun to adopt parking maximums as an important Transportation Demand Management tool

### **TOWN OF OAKVILLE**

Oakville is keen on promoting and improving its Urban Growth Centres. Oakville's Official Plan outlines various ways in restricting and hiding surface parking and parking in general. For example, it mentions that City Commercial uses located within the Central Business District in Downtown Oakville are exempt from parking requirements.

In terms of the Town's parking rates, within Downtown Oakville, there are no minimum parking requirements for non-residential uses within a Mixed-Use Zone. Lower parking rates are also specified for traditional local communities and urban centres such as Bronte Village, Kerr Village, Palermo Village and Uptown Core.

### **CITY OF TORONTO**

The significant increase in Downtown activity and development over the past three decades in Toronto has not been accompanied by any significant increase in road capacity. Instead, the growth in trips has been successfully handled by improvements to transit services and by an increase in Downtown housing that has put more people within walking and cycling distance of their place of work and other activities. Lower parking requirements in the Downtown, including maximum parking limits for new development, have helped reinforce this pattern of trip growth. The City of Toronto has also repurposed underutilized surface parking to the benefit of Avenue Studies, either by bringing more development or converting it into public space (e.g. parks, seating area, landscaping). The Official Plan has outlined policies aimed to reduce the creation and use of parking.

Examining the specific parking by-laws within the City of Toronto, we see a clear difference between the Urban Centre and the rest of the City. The parking ratios for most land uses are classified by Policy Areas (PA), with the different PA largely corresponding to the urban structures in the Official Plan: PA 1 – Downtown and Central Waterfront; PA 2 – Centers; PA 3 – Avenues on the subway; PA 4: Avenues near frequent bus/streetcar services. The City's parking rates are lower and restricted within its Urban Core and transit corridors compared to the parking rates in the rest of the City.

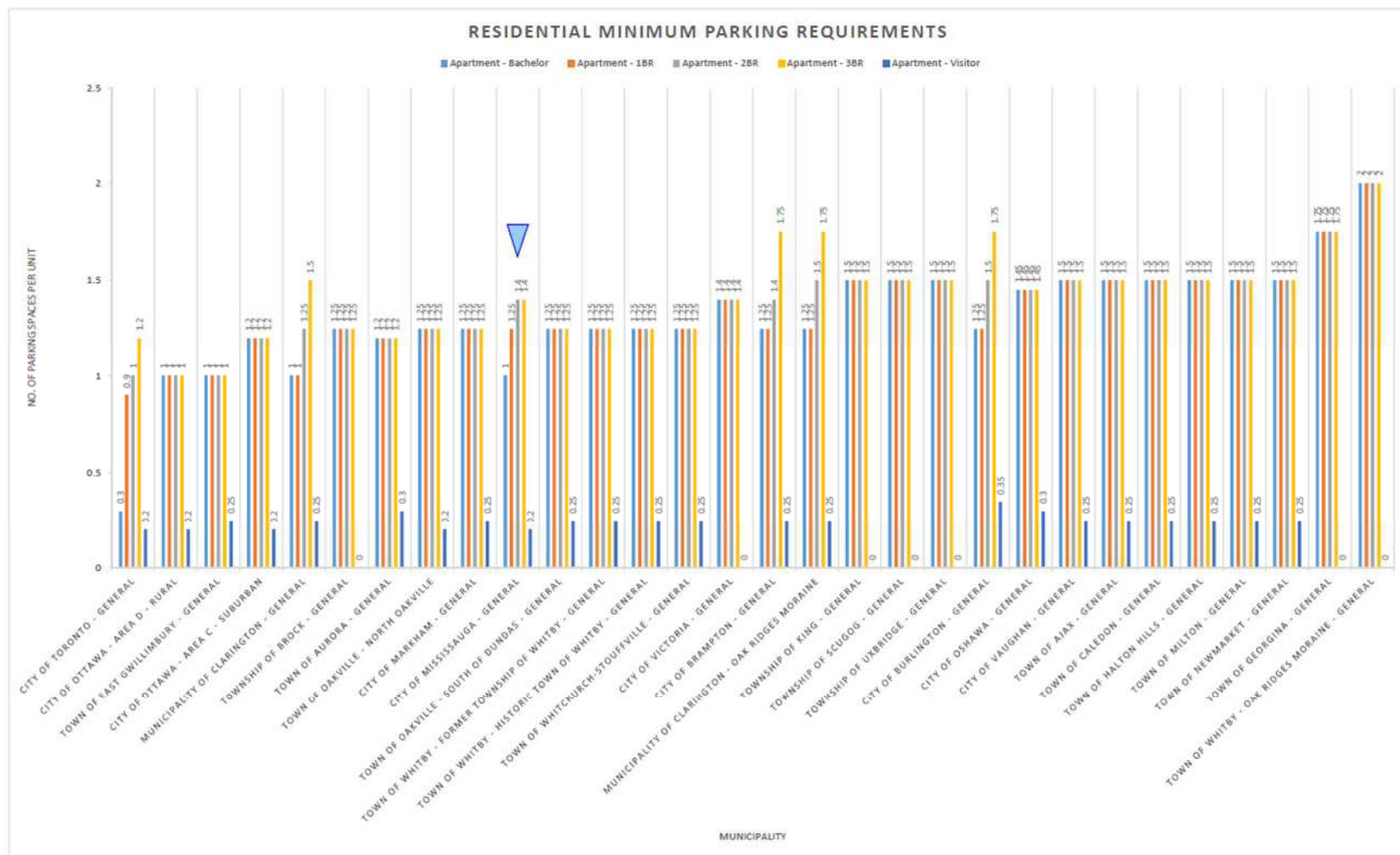
### **CITY OF VANCOUVER**

Similar to Toronto, the City of Vancouver aims to reduce its reliance on the car and make other modes of transportation accessible to its residents. In the Official Plan, Vancouver has outlined a strategic plan which includes reducing parking requirements for developments located within a close proximity to transit. In the case where parking is needed and/or required, the City highly encourages that the space be utilized or shared by carshare vehicles, carpooling vehicles and low emission/electric vehicles.

The minimum and maximum parking rates for all non-residential uses in Downtown Vancouver are 1 space per 145 m<sup>2</sup> GFA and 1 space per 115 m<sup>2</sup> GFA, respectively. As for South East False Creek, the minimum and maximum parking rates are identical to Downtown Vancouver. In addition, it is required that 2% of the spaces are designated as shared vehicle parking spaces. Moreover, the City of Vancouver was capable of lowering and eliminating the parking rates within the downtown core.

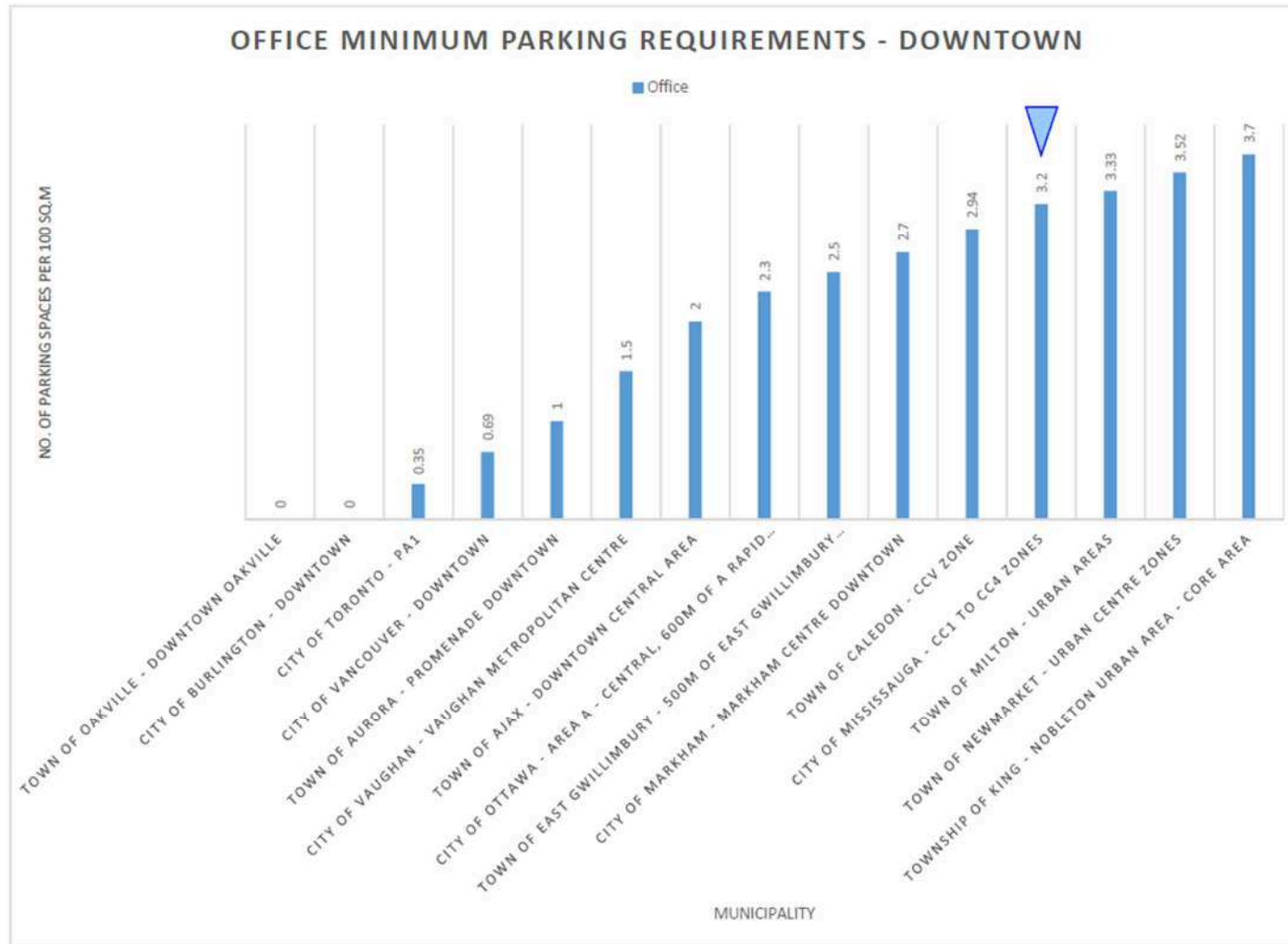
### **How does Mississauga compare?**

To assess how the zoning by-law parking standards of the City of Mississauga compare with other municipalities in Canada, a review of other municipalities parking standards was conducted to have a basic understanding of the parking requirement trends related to the primary land uses. The municipalities reviewed include all GTA municipalities (where zoning by-laws are available online), as well as Vancouver, Victoria, and Ottawa. The land use categories reviewed include residential apartment (condominium), office, retail, and industrial uses, in the general and downtown settings. Tables 4-6 to 4-13 compares the minimum parking requirements for each of these categories.



### Figure 4 - 6 Residential Minimum Parking Requirements





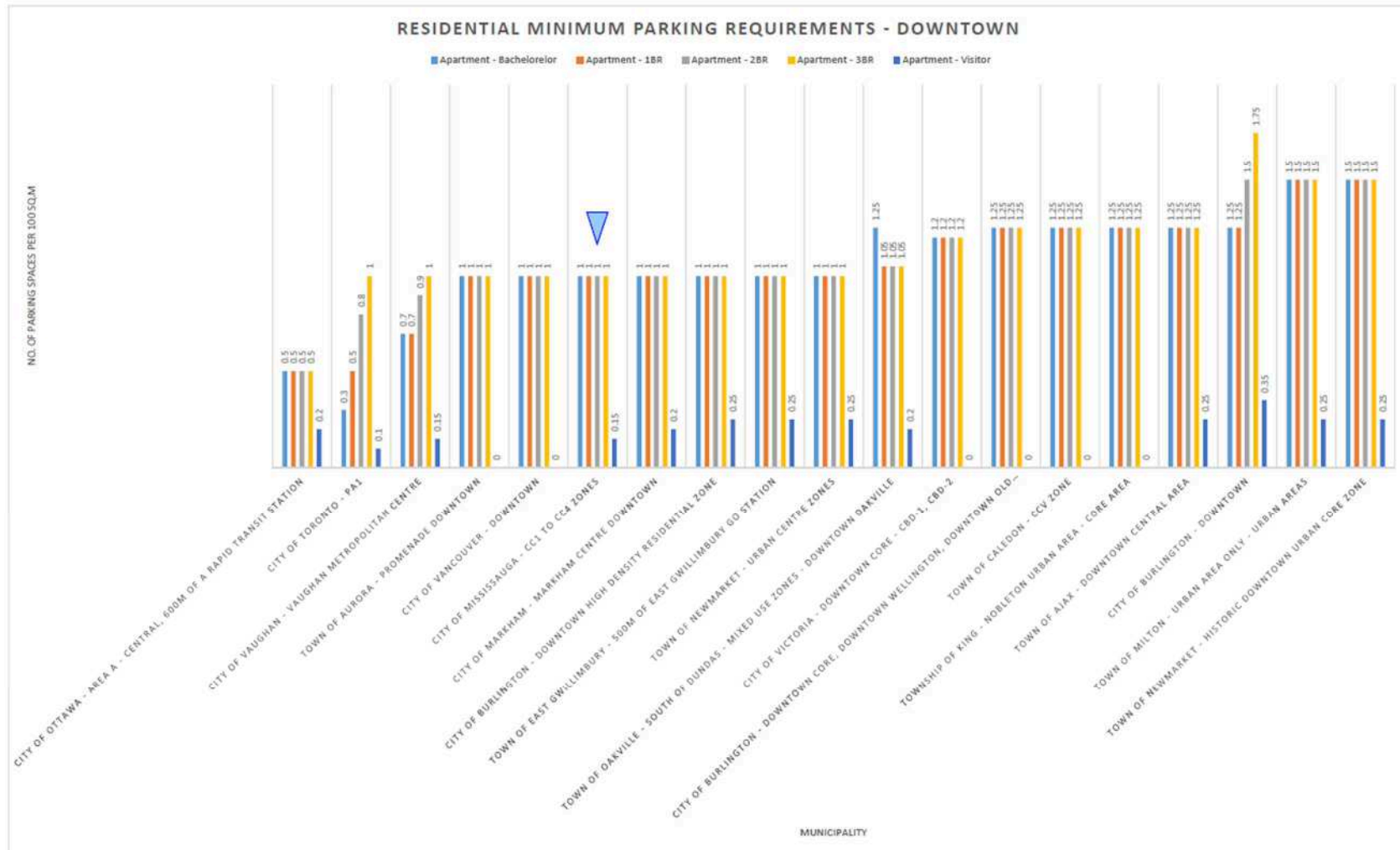
**Figure 4 - 7 Office Minimum Parking Requirements - Downtown**



**Figure 4 - 8 Retail Minimum Parking Requirements**



**Figure 4 - 9 Industrial Minimum Parking Requirements**



**Figure 4 - 10 Residential Minimum Parking Requirements - Downtown**

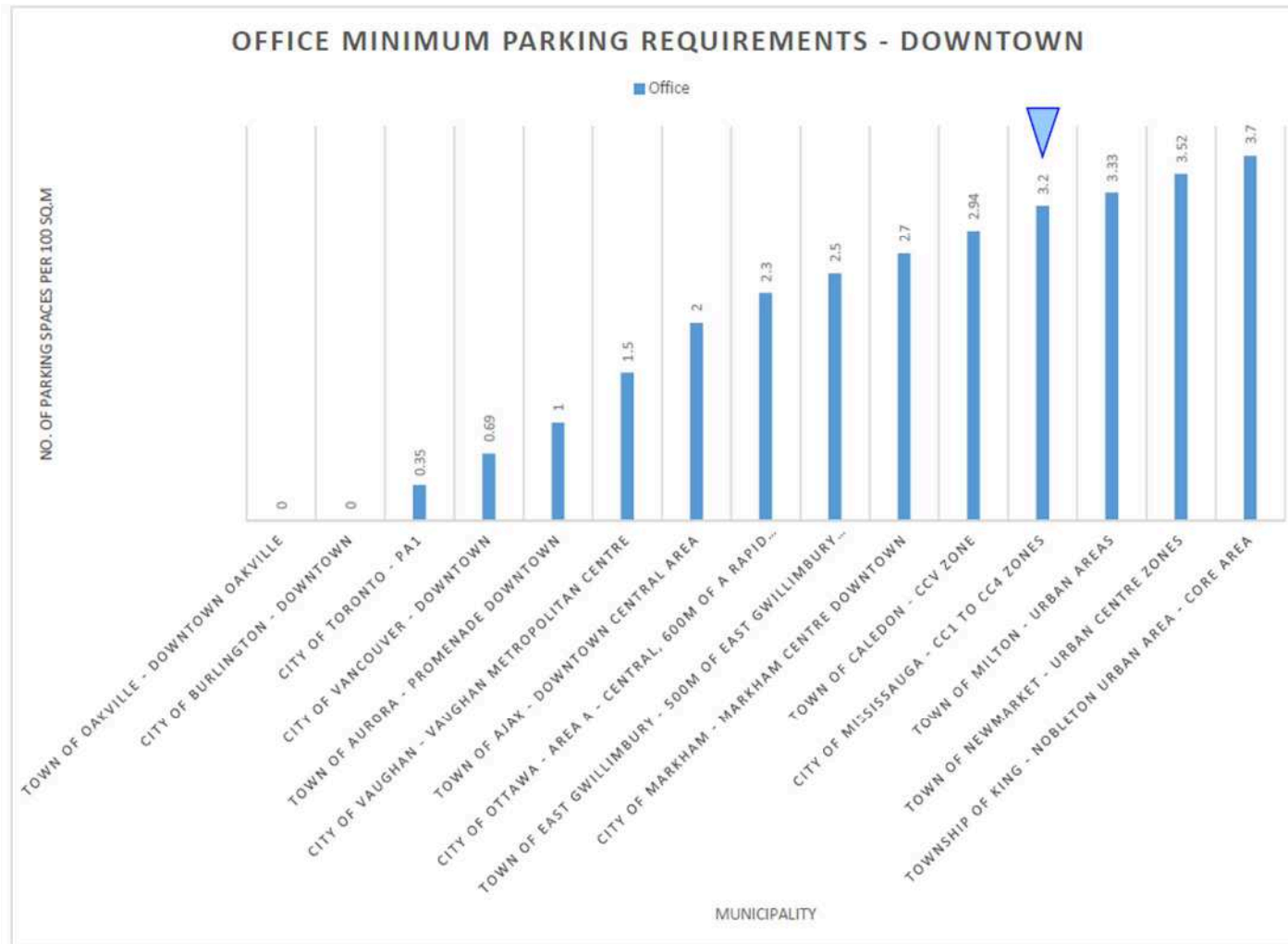
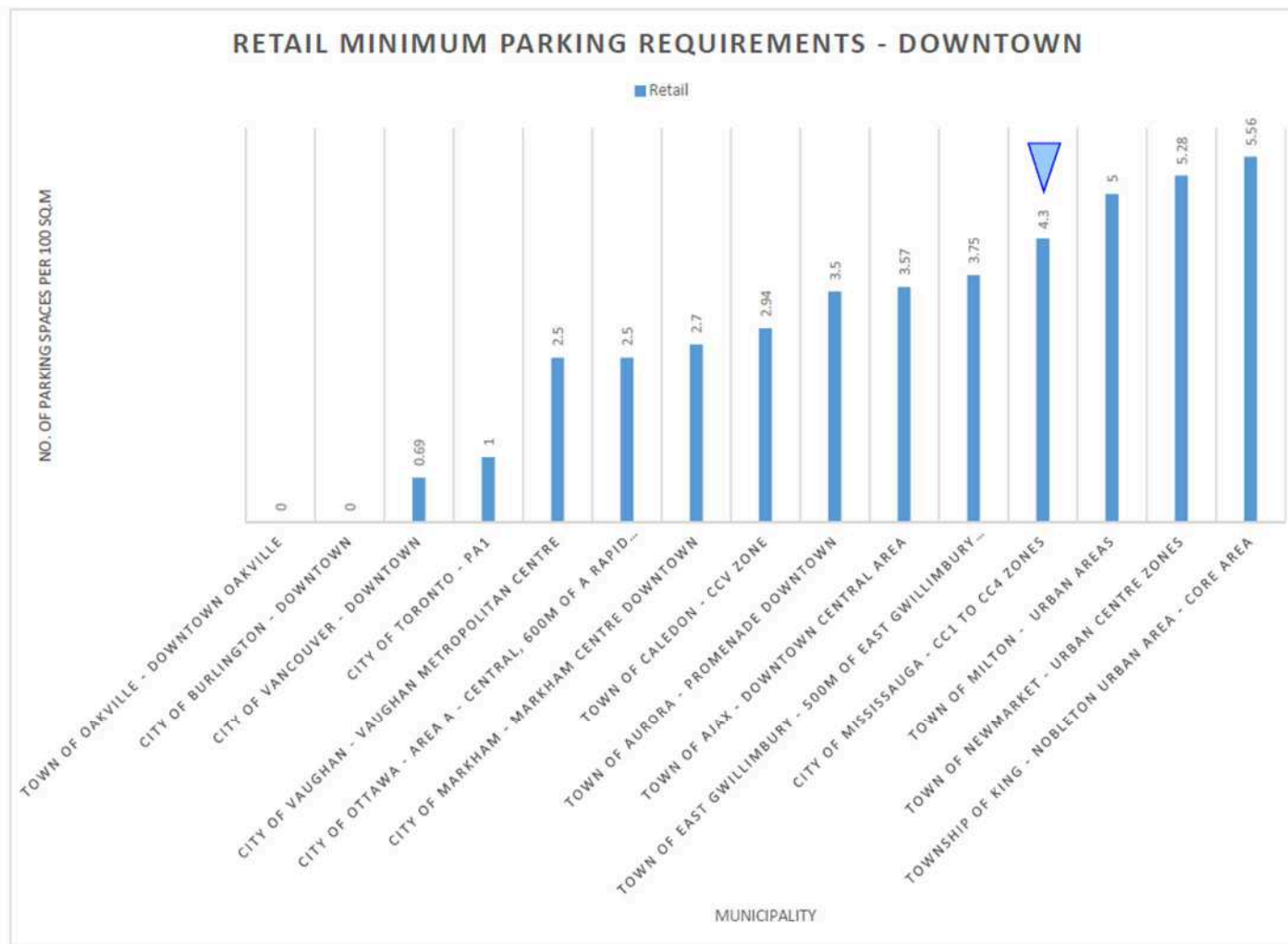


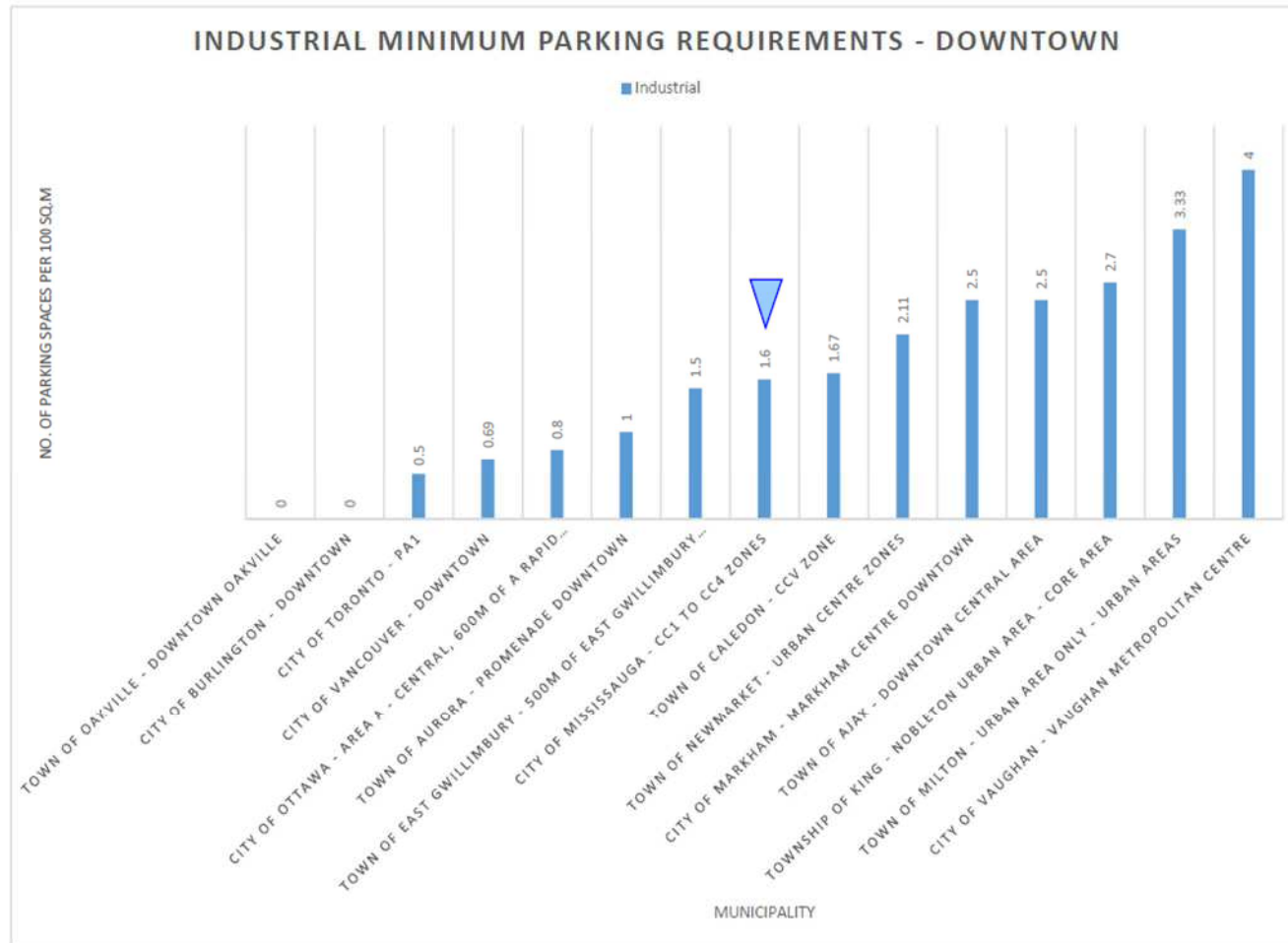
Figure 4 - 11

Office Minimum Parking Requirements - Downtown



**Figure 4 - 12**

**Retail Minimum Parking Requirements - Downtown**



**Figure 4 - 13 Industrial Minimum Parking Requirements - Downtown**

### 2.5.3 Bicycle Parking Standards

Bicycle parking standards vary across Canada and in some municipalities they vary according to the location such as whether it is a more urban area. The bicycle parking standards that are shown in the table below provide a cross-section of those that are available as well as ones that apply to entire municipalities or specific areas.

**Table 4-4 Bicycle Parking in select Canadian municipalities**

Land Use	Oakville (Zoning By-law 2014-014)	Halifax	Vaughan – Metropolitan Centre	Toronto (Zone 1 only)	Vancouver (Parking by-law 6059) Class A (lockers) Class B (racks)
<b>Residential - apartment</b>	1 space /dwelling	0.5 spaces/unit (80% class A; 20% class B)	0.1 per unit or 6 spaces (whatever is greater – short term; .5 per unit with over 10 units – long term)		0.75 to 2.25/ unit varies by type of unit Generally – minimum of 6
<b>Retail</b>	Greater of 2 or 1/1000m <sup>2</sup> (NFA)	1/300 sq. m. GFA – 20% Class A; 80% Class B	0.15 or 6 (whatever is greater) – short term; 0.1 – long term	Short term: 3 + 0.3 per 100 sq. m. of interior floor space; Long term 0.2 per 100 sq. m. of interior floor space	Min 1/500 m <sup>2</sup> GFA Min of 6 spaces (min of 1000m <sup>2</sup> )
<b>Business office</b>	Greater of 2 or 1/1000m <sup>2</sup> (NFA)	1 / 500 sq. m. GFA – 50% Class A; 50% Class B	0.1 or 6 – whatever is greater – short term; 0.13 long term	Short term 3+0.2 per 100 sq. m. of interior floor space; 0.2 per 100 sq. m. of interior floor space	1/500 m <sup>2</sup> GFA Min of 6 spaces (min of 2000m <sup>2</sup> )
<b>Medical office</b>	Greater of 2 or 1/1000m <sup>2</sup> (NFA)		0.1 or 6 – whatever is greater – short term; 0.1 long term	Short term: 3 +0.15 per 100 sq. m. of interior floor space; Long term: 0.15/ per 100 sq. m. of interior floor space	
<b>Employment uses</b>	2 + 0.25 per 1000m <sup>2</sup> (NFA)	1 /1000 sq. m. GFA. 80% Class A; 20% Class B (Min of 2 Class B to a max of 20)			1/1000sq.m or 1/17 employees (whatever is greater) N/A
<b>School, post-secondary</b>	Greater of 3 or 2.0 per 100 m <sup>2</sup> (NFA)	1 space for every 250 sq. m. GFA. 20% Class A; 80% Class B		Short term: 3 +0.3 per 100 sq. m. of interior floor space; Long-term: 1/100 sq. m. of interior floor space	0.4 for every 10 students 0.6 for every 10 students



It is noted that the vast majority of medium to large cities in Canada have bicycle parking standards within their zoning by-laws. Mississauga, in contrast, does not currently have bicycle parking requirements.

End of trip facilities, such as showers and locker/change rooms are sometimes included with bicycle parking standards as they can be linked to the number of spaces provided or is based on the gross or net floor area applied to the number of bicycle parking spaces required.

There are two very good and different examples of end of trip facilities that support the provision of bicycle parking. These are Toronto and Vancouver and the rates for facilities are listed below. In some cases the number of showers and change/locker rooms applies separately to male and female facilities.

**Table 4-5 City of Vancouver End of Trip Facility (Showers) Requirements**

Required Number of Class A Bicycle Spaces	Minimum Number for Each Sex of:		
	Water Closets	Wash Basins	Showers
<b>0-3</b>	0	0	0
<b>4-29</b>	1	1	1
<b>30-64</b>	2	1	2
<b>65-94</b>	3	2	3
<b>130-159</b>	5	3	5
<b>160-194</b>	6	6	6
<b>Over 194</b>	6 plus 1 for each additional 30 bicycle spaces or part thereof	3 plus 1 for each additional 30 bicycle spaces or part thereof	6 plus 1 for each additional 30 bicycle spaces or part thereof

#### **City of Toronto End of Trip Facility (Shower and Change) Requirements**

If a building has uses, other than dwelling units, for which a “long-term” bicycle space is required, shower and change facilities must be provided for each gender at the following rate:

- None if less than 5 required “long-term” **bicycle parking spaces**
- 1 for 5 to 60 required “long-term” **bicycle parking spaces**;
- 2 for 61 to 120 required “long-term” **bicycle parking spaces**;
- 3 for 121 to 180 required “long-term” **bicycle parking spaces**; and
- 4 for more than 180 required “long-term” **bicycle parking spaces**

#### 2.5.4 How does Mississauga compare with emerging parking trends

The following table is a scan of parking regulations and practices in the GTHA that determined whether emerging parking trends were or were not being implemented in Mississauga and other GTA municipalities (WSP 2017). The trends were broken down into four categories as detailed in Table 4-6.

**LEGEND:**

- Municipal policies and/or practices do not align with emerging parking trend
- Municipal policies and/or practices have made progress toward the trend
- Municipal policies and/or practices have responded to and are implementing steps towards the trend

### Table 4-6 Emerging Trends in Parking Policy and Practice

[illegible]

## 2.6 Parking Management Program

The following sections describe some common elements of parking management programs and the principles that underpin these programs.

### 2.6.1 *Rationing of the Parking Supply*

A primary consideration for effective parking management is the question of how to ration the existing parking supply. There have historically been three general approaches to rationing a given parking supply (Roth 1965):

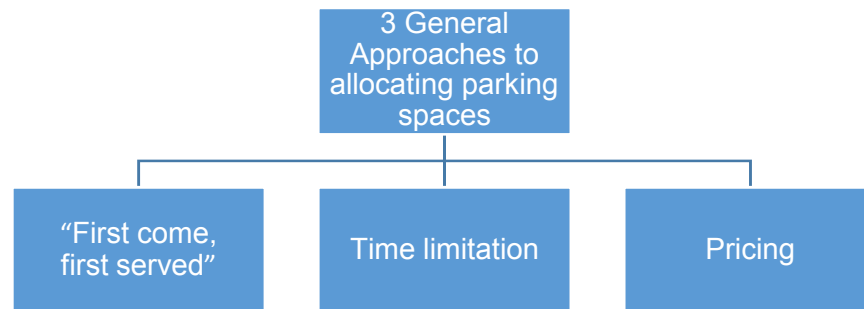


Figure 4 - 14

General approaches to rationing a parking supply

**First come first served** refers to an approach in which the parking supply is not actively managed. In the absence of any parking management, the parking supply is typically oversubscribed and maintenance is difficult due to lack of funds.

**Time limitations** is the practice of employing a defined maximum time period to ration parking supply.

**Pricing** is a market mechanism that rations available supply according to a predetermined price, generally expressed in terms of hours or days.

These methods are particularly relevant for parking facilities that are intended for public use. The methods are frequently combined in parking management; that is, they are mutually inclusive (the use of one method does not necessarily preclude the use of another method). For example, a parking facility may be subject to both a two hour time limit and a price per hour.

### 2.6.2 *Pricing*

In Section 4.2 we described a key aspect of the value of parking derives from the time saving it provides users by allowing them to use their car to access their destination. That utility can be quickly eroded in situations where the demand for parking exceeds supply.

In a 'first come first serve scenario' where supply is exhausted, users must either park elsewhere (which is further from their destination and so involves a longer distance walking and thus increases journey time) or wait until a parking bay at their destination parking lot is vacated by an existing user. In this scenario, pricing represents an opportunity to ration the parking supply in a more effective manner. Pricing can be 'flat fee' (same price all day irrespective of demand) or 'dynamic' (price fluctuates with demand).

### 2.6.2.1 Dynamic Pricing Considerations

The objective of dynamic pricing is to achieve a level of service for the user that ensures there is always a parking spot available for their use at their chosen destination. This is achieved by setting and adjusting the tariff of the parking to manage demand at that location so that the parking facility retains one or more parking spots available for users at all times<sup>9</sup>. This is considered a market based approach to parking.

**The prevailing approach is to set a desirable occupancy rate for a parking facility at around 85-90%.** This level is considered the optimal balance between ensuring that those wishing to visit shops and businesses can find somewhere to park while maximising the remaining use of the facility for those that are already in town doing business. At times and locations that demand is high, the price to park is increased and where there is high availability, the price is reduced.

#### Relevance to Mississauga

- The proven advantages of dynamic pricing demonstrates that it has a role to improve how existing resources are used in a wide variety of situations. It is driven by a measure of parking availability and thus can support Official Plan and Strategic Plan themes as outlined in Section 2.3, such as sustainability and a global city. A key advantage of dynamic pricing is that it presents a mechanism that is independent from any political or revenue raising process. Once the dynamic pricing method and rules by which the tariff will be set have been agreed, and the level of service for users established, it is user demand that sets the parking tariff.
- Where a municipality faces scrutiny to justify parking charges, dynamic pricing enables the politics and budget deficit concerns to be separated from the prevailing tariff (Shoup 2005). Notwithstanding the challenges associated with a market based model such as this, the benefits offered by dynamic pricing demonstrate that it has potential future application in Mississauga.

### Practices of Other Municipalities

#### SAN FRANCISCO

One of the best known adopters of dynamic pricing has been San Francisco. Here the parking tariff was adjusted once approximately every two months. The adjustment was in response to measuring occupancy for the preceding period. Where occupancy was seen on average to be above 80% for a given location and time period, the hourly parking tariff was adjusted upwards. This would manage down and redistribute demand by location and time of day. If the average occupancy was lower than 60% the tariff was reduced. Where parking had an average occupancy between 60-80%, no change was made.

<sup>9</sup> Also known as performance pricing

**Table 4-7 SF Park Performance Pricing Tariff Change Regime**

Average Occupancy in preceding period				
	<30%	<60%	60-80%	>80%
On Street	-50c	-25c	No change	+25c
Off Street	-50c			+50c

For off-street monitoring, gate counters provide a ready method to capture occupancy. For on-street parking occupancy San Francisco used parking in-highway bay sensors to identify and record when bays were in use.

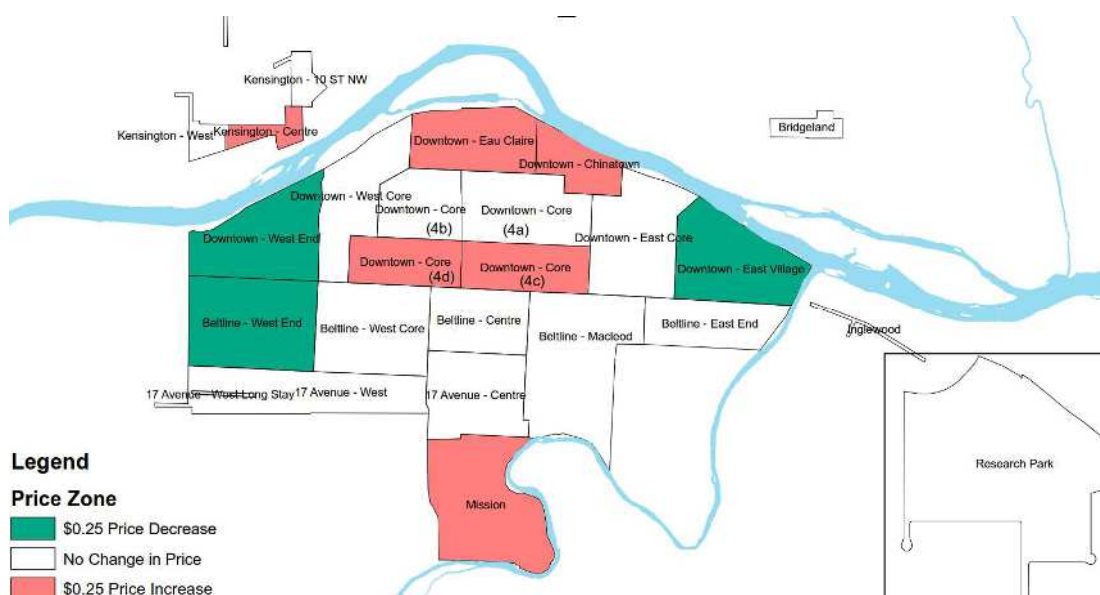
The principles of performance pricing have been adopted in other cities also. Los Angeles, Seattle, Washington DC and more recently Boston have introduced areas of the city applying the principles of performance pricing.

Time Period	Price per hour
Midnight - 9am	3.00
9am - Noon	4.00
Noon - 3pm	4.50
3pm - 6pm	3.50
6pm - Midnight	1.00

*SF Park Rates in off street car parks operate the same tariff periods and are amended every two months based on previous demand*

## CALGARY, AB

Calgary has also begun dynamic pricing using observed occupancies. Approved by the City Council on 1 July 2013, prices were adjusted across 27 paid parking areas on the 1 January 2014 and again in 2015 (Calgary Parking Authority. 2015). The approach is similar to the other programmes: in Calgary prices go up or down 25 cents in each area where occupancy is above 80% or below 50% respectively. They use four time bands during the week covering the period from 09:00 to 18:00 (09:00-11:00; 11:00-13:30; 13:30-15:30; 15:30-18:00). One time period covers the whole of Saturday (09:00-18:00). There is no charge in the evenings, Sundays or Bank Holidays.



**Figure 4 - 15 Calgary Dynamic Pricing Changes for 2015 11am to 1:30pm**

The City Council use data from their ParkPlus system to determine the average occupancy. This data is derived from parking payments that are made at on-street machines or via mobile phone technologies. Payment at on-street machines is pre-determined by the user, and thus may not accurately reflect actual length of stay. However mobile technology users pay only for the period used, texting or using their app to both start and end their period of parking. This makes the mobile payment data a reliable and fairly precise occupancy data source for all compliant parking acts.

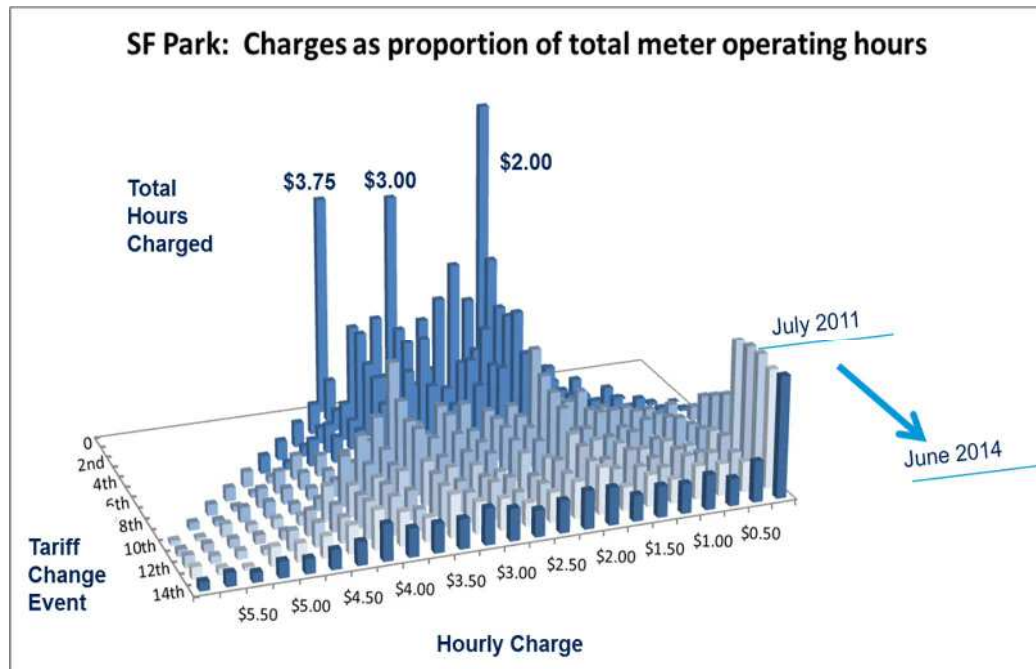
Thus it is a very accessible, data rich system. However such an approach may need some adjustment factors to be determined and applied where there is poor compliance (under-reporting of occupancy) or the proportion of pre-paid parking is significant (potential for over-reporting occupancy where parking is paid for but not fully utilised). Furthermore this approach may need considerable amendment and supplementary data collection methods in areas where there was considerable use of legitimate unpaid parking, such as Blue Badge or residential permits. Auckland in New Zealand has adopted the approach as a cornerstone of its parking strategy for instance.

The tariff is set based on a set of rules that ensures the most efficient use and options are available to users. Those on a budget can find places to park where there is low demand and, as a result of the dynamic pricing, lower prices; those who have high access needs, high values of time and a willingness to pay, can find somewhere to park where and when they need to. While dynamic pricing can support travel demand management, it does not restrict supply. Thus those that have good personal cause to park in areas of high demand can continue to do so. Dynamic pricing does not ensure a minimum level of revenue for a local area. If demand is low, all parking areas could tend to the minimum and overall parking revenues could reduce. The San Francisco trial resulted in a significant number of parking hours in residential areas that were previously operating at a standard \$2/hour rate reducing to no more than 25 cents/hour.

In both San Francisco and Los Angeles, the average hourly rate charged in the performance pricing areas has gone down (4% in SFPark, 11% in LA). While other factors led to increased revenue overall, performance pricing itself in San Francisco “appears to have had a modest impact on revenue” (SFMTA 2014). In Los Angeles meter revenue went up by 2½% (Ghent 2015). However it should be noted that whether overall revenue goes up or down is largely a function of the starting point; both San Francisco and Los Angeles were already charging for parking in the areas that performance pricing was introduced.

The SFPark mandate included maximum and minimum tariff safeguards, and such an approach could be adopted to ensure revenues were in the worst case retained at levels sufficient to cover costs. Use of a maximum, while not desirable, may have political appeal and prove necessary to gain initial approval.





*SF Park: While some time periods have become \$6 per hour, far more metered hours have reduced to the minimum hourly rate of 25 cents.*

**Figure 4 - 16 SF Park Historical Hourly Price Rates**

Experience suggests that public reaction to dynamic pricing is key to successful implementation. None of the trial areas appear to have faced any substantial resistance. Indeed, with reference to Los Angeles, “the level of awareness of the public, and complaints, is significant in its absence” (Ghent 2015).

### 2.6.3 Supply management

Supply management refers to identifying, acquiring, and managing parking supply within the City limits. Supply management supports both the efficient utilization and peak management principles of parking management (refer section 4.1). Clearly identifiable and strategic goals for parking supply management lead to priorities for the allocation of the public parking supply, including both on- and off-street parking. When considering possible adjustments to the allocation of the public parking supply, the priorities and related benefits should be considered.

#### Considerations

Elements for consideration include parking maximums (refer section 4.41) and area wide parking caps; parking management districts throughout the City; efficiency-based standards; and off-site parking where appropriate. On-street parking tends to be the most desirable public parking facility therefore it is helpful to appropriately manage on-street parking for maximum use. Priorities for parking within the City are:

- *On-street parking on commercial streets.* These are the most convenient parking spaces and should be managed for maximum turnover to serve short stops by limiting time typically to less than 2 hours, or applying short-term pricing.
- *Off-street public parking facilities and on-street parking outside the commercial streets.* These are less convenient parking spaces and should be managed for longer stops, including parking by residents, employees, and long-term visitors.

- *Off-street private parking facilities.* These are often the most convenient parking spaces for a particular site, but may also be convenient for other nearby users. They tend to be used to serve other nearby facilities with different parking demand peaks. For example, if a theatre has a peak demand on Saturday night and a church has peak demand on Sunday morning, they can efficiently share parking, if located near to each other (usually within a block or so).

#### 2.6.4 Transit Incentives

Transit incentives refer to increase transit use by creating various incentives to use public transportation for commuting and other trips, including:

- encouraging employers to provide discounted transit passes to employees, shuttles between the workplace and transit stations and free taxi rides home in case of emergency for employees who take transit to work;
- providing incentives to developers during the site plan review process such as reduced development charges or parking requirements for incorporating transit stops into designs and providing transit passes to new residents;
- working with transit agencies to change bus stop locations and route schedules, where needed, to better serve high-employment areas;
- encouraging school boards and schools to undertake school-based TDM approaches which support the use of public transit, active transportation and carpooling by students and staff.

Common factors to be considered when addressing transit incentives and parking with the City, include Transportation Demand Management and its relation to parking reduction for new and existing development, park and ride share programs implemented at transit hubs within the City, and prioritized transit lanes on major arterial roadways that suspend on-street parking during peak AM and PM hours.

##### Mississauga and York Region

A number of transit incentives are currently in place in respect to the City's transit authority, MiWay. When using a Presto pass, if 12 trips are accumulated within a seven day period, any trips above 12 are free provided they are also used within the same seven day period. Moreover, MiWay provides a discounted travel option when transferring to and from GO Transit within a two hour window and free when transferring to Brampton, Burlington Durham, Hamilton, Oakville and York Region transit. Both the above examples and current fare system, when combined with appropriate TDM measures, demonstrate that there is scope reduce parking requirements provided patrons are not required to pay for additional fares.

##### Practices of Other Municipalities:

###### CITY OF VANCOUVER

Provisions within the zoning by-law that allow minimum parking requirements for secured market rental housing to be reduced by 10%, if the following conditions are satisfied:

- The location is within two blocks of a rapid transit station, or within two blocks of the intersection of two distinct bus routes that run north to south and east to west, and within the Metro Core; and
- Each dwelling unit at the property will have one or more zone transit passes for the greater of the life of the building or 60 years.



## MINISTRY OF TRANSPORTATION ONTARIO

→ The Ministry also has released supportive guidelines for TDM in conjunction with transit<sup>10</sup>.

### 2.6.5 Payment in-Lieu of Parking

The Institute of Transportation Engineers defines payment in-lieu of parking program as follows:

*'It may be in the best interests of a city to develop public parking in a densely developed activity center, rather than have each property owner provide parking for each building. With the high cost of parking structures and the competing demands on city resources, a number of cities have asked developers to contribute to the costs of developing municipal parking facilities in lieu of providing the totally required amount of parking for their development site' (Transportation Planning Handbook, 4th Edition, p. 83)*

A payment in-lieu scheme requires three elements to operate effectively:

1. A policy that lays out and adopts a consistent approach to payment in-lieu
2. A formalised stipulation on the part of the body administering and collecting the funds nominating what financial contribution is appropriate on a per space basis
3. A decision mechanism on the part of the municipality in each instance where it is contemplated (usually as part of a development application).

#### Cash-in-Lieu Options

Municipalities in Ontario and elsewhere in Canada adopt a wide range of approaches to cash-in-lieu of parking options. These include the following<sup>11</sup>:

- **City of Barrie:** Increased its cash-in-lieu fees from \$2,500 to \$15,000 per space to reflect 50% of construction costs of a parking structure space. The fees will be reviewed every five years and the income resulting from the fees is intended to fund the construction of parking structures once parking occupancy rates approach 85% of the parking supply;
- **City of Cambridge:** Cash-in-lieu fees apply to commercial developments in the downtown core areas (Cambridge has three core areas – Galt, Preston, and Hespeler). However, the cash-in-lieu option generally is not applied, as zoning does not require parking in the majority of the core areas. Further, the outer limits of the core area are permitted a 25% reduction in parking requirements. The City uses fixed fees for cash-in-lieu: \$10,000 per space. The cash-in-lieu option is administered by the Planning Services Department and it is not regularly reviewed. The City's Zoning By-law is under review and the cash-in-lieu option will be reviewed at this time;
- **City of Hamilton:** Hamilton has a cash-in-lieu option, but it has not been exercised since 2004, and there have only been 10 applications since 1989. Most developers/builders go through Committee of Adjustment or rezoning applications to ask for variances (likely because costs are less). The City generally quotes approximately \$10,000 per parking space, and charges the applicant half of the quote. Payments can be made in instalments. Cash-in-lieu funds are accumulated in a reserve fund, which can be used anywhere in the City (not just the area where the development has occurred). Cash-in-lieu option is rarely used in the downtown core;
- **City of Ottawa:** The City is currently in the midst of repealing its Cash-in-Lieu of Parking By-law (May 31, 2013 Staff Report to Planning Committee and Council). The report notes that it is more common in Ottawa (and Ontario municipalities in general) for reductions in parking to be achieved through

<sup>10</sup> See <http://www.mto.gov.on.ca/english/transit/supportive-guideline/ridership-strategies.shtml#transportation-demand-management>

<sup>11</sup> Not all participating municipalities use cash-in-lieu options

minor variances granted by Committee of Adjustment or Zoning By-law Amendments, than through cash-in lieu of parking options. The goal of the existing cash-in-lieu option is not to increase the number of parking spaces, but rather to support alternative forms of transportation (by making it more challenging to park, the City encourages the use of alternative modes of transportation). Cash-in-lieu applications can be approved by staff. Approvals are based on (1) the application's appropriateness/surrounding context (can surrounding area support the on-site parking deficiency); (2) do site constraints legitimately limit the ability to provide parking; (3) the use of the property is not considered over the development of the site; (4) no negative impact on liveability of adjacent residential areas; and (5) application is in line with other planning objectives. Fees have not changed since 1986 and are detailed in the calculations table below. Parking studies are required if an application requests a reduction of more than 10 spaces. Cash-in-lieu applications are very rare in the downtown area; and

- **City of Regina:** Cash-in-lieu provisions are included in the Zoning By-law (Chapter 14; Section 3.15), which permit Council to, at its own discretion, waive all or part of the parking requirements in the (1) Downtown Zone in exchange for payment-in-lieu calculated on the basis of \$7,000 per waived space; and (2) the Dewdney Avenue Warehouse Zone in exchange for a payment-in-lieu calculated on the basis of \$2,500 per waived space. The City is reconsidering its program and may base it around provisions for 'office zones' in suburban areas and the fees for wishing to add additional spaces (a fixed fee of \$7,000 per added space). The intent of this is to promote greater density within suburban development and it recognizes developers will also be expected to contribute to downtown amenities (funds would be directed to improvements within the Downtown Core area). The cash-in-lieu provisions have been incorporated into considerations of implementing Office Zones.

Table 4-8 provides an overview of the general intent of the above five municipalities' cash-in-lieu of parking calculations, as well other municipalities that use cash-in-lieu options. The table does not delve into calculation formulae, but our team has considered municipalities' cash-in-lieu fee formulae and will continue to do so as this Study moves forward.

**Table 4-8 Overview of current Canadian approaches to cash-in-lieu**

How does Mississauga compare?		
At present, the City of Mississauga allows four policy options to cash-in-lieu or parking options:		
<ol style="list-style-type: none"> <li>1. If the GFA equals or is less than 50m<sup>2</sup> the total amount is 12.5% of the estimated cost for parking</li> <li>2. If the GFA equals or exceed 50m<sup>2</sup> and is equal to or is less than 200m<sup>2</sup> the total amount is 25% of the estimated cost for parking</li> <li>3. If the GFA equals or exceed 200m<sup>2</sup> the total amount is 50% of the estimated cost for parking</li> <li>4. For new development, redevelopment or additions to existing structures, 50% of the estimate cost for parking must be adopted.</li> </ol>		
Municipality	Policy Approach	Source
<b>Ontario Municipalities</b>		

Municipality	Policy Approach		Source
<b>1. Mississauga, ON</b>	Change in Land Use or conversion	Cash-in-lieu	City of Mississauga, Development Approval Cost Guideline, 2012
	GFA equals or is less than 50m <sup>2</sup>	Formula – 12.5% of estimated cost of parking spaces	
	GFA equals or exceeds 50m <sup>2</sup> but equals or exceeds 200m <sup>2</sup>	Formula – 25% of estimated cost of parking spaces	
	GFA equals or exceeds 200m <sup>2</sup>	Formula – 50% of estimated cost of parking spaces	
	New Development, redevelopment & additions to existing structures	Formula – 50% of estimated cost of parking spaces	
<b>2. Brampton, ON</b>	Formula based – 50% of estimated cost to provide parking spaces		City of Brampton, Downtown Parking Strategy, 2009
<b>3. Richmond Hill, ON</b>	Formula based – 50% of cost of land and construction cost. Construction cost varies with grade level type of parking structure		City of Richmond Hill, Richmond Hill Parking Strategy, 2010
<b>4. Barrie, ON</b>	Recently increased to \$15,000 per space to reflect 50% of construction cost of a parking structure space		City of Barrie, Parking Services & Rate Review Report, February, 2012; Questionnaire
<b>5. Hamilton, ON</b>	No fixed value. Calculation is based on combination of fair market land value and cost of construction a parking space. In general, parking spaces are quoted at approximately \$10, 000 per space, and the City charges the applicant half of that quote.		Questionnaire
<b>6. Ottawa, ON</b>	Fees are based on 1986 costs of providing a space after an amortization period of 35 years.		Questionnaire
	Short-term space outside former City of Ottawa	\$2,600	
	Long-term space outside Central Area	\$4,700	
	Long-term space inside Central Area	\$9,700	
	Application fee	\$2,500	
<b>7. Milton, ON</b>	Flat rate - \$7,728 per space increases 3% annual		Town of Milton, Development Agreement Fees, 2013
<b>8. Cambridge, ON</b>	Flat rate	\$10,000 per space	Questionnaire Response
<b>Out of Province Municipalities</b>			
<b>9. Canmore, AB</b>	Flat rate - \$40,000 per parking space. Based on 80% of \$50,000 construction cost estimated by Town.		Town of Canmore, Cash-

Municipality	Policy Approach	Source
		in-lieu Policy, 2008
10. Regina, SK	<p>Downtown Zone: payment-in-lieu is calculated on the basis of \$7,000 per waived space.</p> <p>Dewdney Avenue Warehouse Zone” payment-in-lieu is calculated on the basis of \$2,500 per waived space.</p> <p>The City is reconsidering its program and may base it around provisions for ‘office zones’ in suburban area and the fees for adding additional spaces (a fixed fee of \$7,000 per added space).</p>	Questionnaire
11. Vernon, BC	Flat rate - \$10,000 per space in-lieu of up to 50% of the required parking supply.	City of Vernon, Parking Implementation Strategy, 2012

## 2.7 On-Street Parking Policies

### 2.7.1 Application

In areas where the roadway is sufficiently wide to accommodate both traffic flow and parking, it is often cost-effective to utilize on-street parking. Additionally, on-street parking uses less land per space than off-street, since it does not require access lanes. By comparison, as noted in section 4.4.1, an off-street space typically requires 25% more land to serve a single destination, compared to the land required for an on-street space. On-street parking also creates a buffer between street traffic and pedestrians, and assists with traffic calming by reducing vehicle travel speeds. It is widely acknowledged that streets with on-street parking tend to have lower travel speeds and that on-street parking is generally an effective traffic calming tool in helping to create places that are safer, more walkable, require less parking, and have more vitality.

There are a number of competing uses for the limited supply of on-street parking available within the Study Area, including high turn-over parking, accessible parking, construction and temporary use rental parking, on-street loading, and short-term licensed parking. These potential uses for on-street parking need to be prioritized, and the conditions for permitting each use should be defined to support the implementation of on-street parking related policies. Consistent with **efficient utilization** and **prioritization** parking management principles, the following are recommended priorities for the use of on-street parking in the Study Area:

- **High-demand, short-duration, high-turnover parking** is considered vital to the economic well-being of businesses in the Study Area. On-street parking provides highly visible parking opportunities in close proximity to destinations. This type of parking is highly desirable for businesses as it can attract potential customers by allowing them to make convenience stops. Generally, the available on-street parking supply in the Study Area should be prioritized for short-duration, high-turnover parking in high-demand commercial areas.
- **Accessible parking** should to be provided in accordance with the City’s minimum requirements for barrier-free parking. Since this type of parking is for the use of persons with limited mobility, accessible parking should be placed in highly accessible and convenient locations that are in very close proximity to desirable locations. On-street accessible parking should be located in high-

demand locations, and cater to short-duration and high-turnover demands (i.e. not reserved). This is likely second in priority to the provision of regular high-turnover parking on-street.

- **Construction and temporary use rental parking** is often necessary when a site cannot accommodate sufficient parking. Construction and temporary use rental parking should have priority in locations immediately adjacent to a construction site to provide convenient access to equipment and material storage. In addition to the convenience benefits, the use of on-street spaces adjacent to construction activity would mitigate potential safety hazards for those who would park at the location under normal circumstances. Contractors should encourage workers to use nearby off-street parking or transit, where possible. Permits for construction and temporary use rental parking should be issued on the basis of an approved Construction Traffic Management Plan. Recognizing the value of on-street parking, the permits should be priced so that the provision of construction and temporary use rental parking is at minimum revenue neutral.
- **Loading** is necessary for the economic vitality of the Study Area and needs to be accommodated close to businesses for practical reasons. There are very few opportunities for off-street loading in many instances within the Study Area due to site constraints and other factors. If loading is not specifically accommodated, loading activities are likely to occur on the travelled portion of the roadway, impacting traffic flow, or on the boulevard, impacting the pedestrian environment and experience. A viable alternative to off-street loading is to continue to provide on-street loading. On-street loading is an efficient way to accommodate loading activities, since loading spaces are not provided and reserved for each business, but rather used on a shared basis. On-street loading spaces also double as pick-up and drop-off facilities when not being used for loading.
- **Short-term licensed parking (including sidewalk extensions)** is desirable for attracting visitors, tourists, and economic activity to the Study Area, and is expected to generate significant economic benefit for businesses. Short-term licensed parking (including sidewalk extensions) should be prioritized in areas where alternative off-street parking opportunities may exist that can compensate, at least in part, for the loss of on-street parking. Recognizing the priority of high-turnover on-street parking in high-demand areas, short-term licensed parking may not be desirable in the busiest locations where parking demands are very high. The rates for the short-term licensing of parking including sidewalk extensions should be annually reviewed. Recognizing the value of on-street parking, the short-term licensing of parking should be at minimum revenue neutral.

### 2.7.2 Traffic By-Law

The City of Mississauga Traffic By-Law 555-00 governs the rules of on-street parking in all respects: including parking restrictions and enforcement, heavy vehicle parking, meter parking, sidewalk and boulevard parking.

The time limit of parking on city streets is currently set to 3 hours, unless otherwise stated. The City of Mississauga, can, however, put away signs prohibiting parking and stopping, and temporarily waive the 3 hours limit during parking maintenance activities or through special considerations. (See Traffic by-law 555-00 s. 4 (6)). Accessible parking for disabled persons occurs via special designated on-street parking space where no other persons are authorized to park unless they possessed a valid Disabled Persons Parking Permit issued by the Ministry of Transportation displayed in or on the vehicle. The maximum parking time limit in this case is 24 hours. This permit also waives the fees for on-street meter parking during regular hours (see s.51 (1-3)).

Heavy vehicles are not allowed to park on any street of a residential neighbourhood for the sake of safety, protection of road pavement, aesthetics, and the flow of traffic. Any vehicle other than a school bus having a weight of more than 3000 kg is defined as a heavy vehicle (see s.1).

Anyone who parks at metered parking must pay a fee during its hours of operation for a specified period and rate, and must not park longer than the maximum allowed time. Further, the vehicle must be parked



completely in the space designated, and in the case where the vehicle length required two spaces, the person shall pay the fee for both parking meters (see s.21 (1-5)). No other than Canadian and U.S coins are accepted.

The by-law prohibits anyone to park a vehicle on a paved or grassed boulevard, the portion of land between the sidewalk and the road. Requests to permit parking on the lower driveway boulevard can be obtained through the City's Resident Parking Petition Package. If there are no sidewalks, the boulevard is the piece of land between the property line and the road. Vehicles are not allowed to park on sidewalks, or stationed in a way so as to obstruct pedestrian flow.

In order to protect traffic and pedestrian flows, and ensure a safe sightline, the by-law further forbids anyone to park where parking is prohibited unless authorized.

A person may park in a permit parking for a fixed period of time if the vehicle is parked entirely within the designated parking space with the permit issued by the City of Mississauga clearly displayed either on the visor or on the dashboard (see s.9).

#### Practices of Other Municipalities:

The City of Barrie Traffic by-law 80-138 defines heavy vehicles with a different term: "Large Motor Vehicle", and with a more lenient gross weight threshold of 4500 kg. It also noted that no heavy vehicles should park on any streets in a residential neighbourhood, but reserved an exception where it is used for delivery or for providing services (see s. 4(14)). In the City of Kitchener, the threshold is 4600 kg. The City of London's threshold is even higher at 5000 kg. The City of Barrie Traffic by-law also sets forth the method of on-street parking in a more specific term: vehicles must be parked on the right side, in the direction of vehicle flow, no more than 0.15m away from the curb measuring from the right front and rear wheels. Section 4(13) forbids anyone to park on-street so as to hinder traffic flow, or for longer than the time period prescribed. Mississauga and Kitchener require the driver to pay the fee for both parking meters the case where the vehicle length required two spaces, but did not mention a maximum limit. Barrie went further and stated that vehicles that are greater than 6.5 meters are not entitled to on-street meter parking (see s.5 (6)).

The City of London Traffic By-law PS-111 also allows vehicles to occupy more than one parking space (s. 39(2)), but forbids anyone to park more than one vehicle in a parking space. This includes miniature vehicles. However, exceptions are given to motorcycles with the maximum number limited to 3 (s.40 (3)). Mississauga, Kitchener, and Barrie do not have such a consideration.

#### Discussion:

Although many municipalities are more lax on heavy vehicle parking regulations, the City of Mississauga is based around a larger population centre which necessitates greater level of safety considerations for its residents. However, it may set it higher in less crowded neighbourhoods to facilitate service provision, where the risk of a conflict with a heavy vehicle is lower. It appears that the City of Barrie set out more specific and stricter restrictions on the method of on-street parking such as the minimum parking distance from the curb, and the maximum vehicle length. While the City of Mississauga does not have to restrict the minutia such as the "distance from the curb", it would need to require drivers to exercise due diligence or reasonable discretion depending on the context, e.g. the width of the street, the flow of traffic, and etc; so as to not impede vehicular or pedestrian flow. Otherwise, it is considered that strict and specific restrictions work best in local settings.

A common cause of by-law infractions is that many people are unaware of the regulations. It is not reasonable to assume that everyone knows that parking on city streets is limited to 3 hours. People who came to Mississauga from elsewhere may have been subjected to different regulations, as in the case of Kitchener, where downtown on-street parking are limited to 2 hours, not 3. It is therefore a better practice to have more informative signs near on-street parking spaces detailing the hour and day limits than having these signs only placed near major entrances to the city.

By-law infractions could also be willful and deliberate for reasons such as personal convenience. Hard methods such as towing and heavy fines can generate considerable revenues, but may not be expedient because it would induce an aversion or contempt of authority. The City of Barrie allows a grace period of 15 minutes after the parking meter time expired, during which the driver will receive no penalties (s.5 (22)). The purpose of this is to motivate people to willingly comply so that the City does not have to expend too much time on monitoring activities. The unending war on drivers was said to be causing “huge” damages to local businesses, which could offset the revenues generated through fines (Osborne, 2015). The City should also consider revising its existing by-laws to ensure that they are fair and reasonable and do not gratuitously impose restrictions on drivers.



### Relevance for Mississauga

In a review of select Canadian cities as shown in Table 4-6 **Error! Reference source not found.**, parking is regulated in a separate parking by-law, a separate traffic by-law or a combined traffic and parking by-law. Edmonton, Regina, Vancouver and Victoria are similar to Mississauga in that parking is regulated through a traffic bylaw.

A concern may be that parking issues may not be efficiently addressed if parking is not regulated through a separate parking by-law administered by those directly responsible in the municipality for parking operations and planning. Over half of the select cities shown (11), many with larger parking operations and traffic volumes than Mississauga have parking regulated within a traffic by-law or a combined traffic and parking bylaw. Of the select 20 cities, 9 cities regulate parking through a separate parking by-law. With many aspects of parking requiring the coordination of other departments, divisions or sections or even external organizations (i.e. Region of Peel transportation), a best practice is to establish good internal coordination and communication processes between traffic and parking functions.

This issue may be explored in greater depth among peer municipalities as part of sessions at the Ontario Traffic Council (OTC) of which Mississauga is an active member.

**Table 4-9 Comparison of By-law Types in Regulating Parking - Select Canadian Cities**

Feb. 2017 Best Practices Review – Select Canadian Cities – Comparison of By-law Types in regulation Parking					
Ref. #	Canadian City	Traffic By-law	Traffic & Parking By-law	Parking By-law	By-law Number
1	Mississauga	✓			555-00
2	Brampton		✓		93-93
3	Burlington			✓	39-2016
4	Calgary			✓	41M2002
5	Edmonton	✓			5590
6	Hamilton			✓	01-218
7	Kingston			✓	2010-128
8	Kitchener		✓		2007-138
9	London		✓		PS-111
10	Montreal		✓		98-049
11	Newmarket			✓	1993-62
12	Ottawa		✓		2003-530
13	Regina	✓			9900
14	Thunder Bay			✓	CHAPTERS 983 & 989
15	Toronto		✓		CHAPTER 950
16	Vancouver	✓			2849
17	Vaughan			✓	1-96
18	Victoria	✓			09-079
19	Windsor			✓	9023
20	Winnipeg			✓	86-2016
	<b>TOTAL</b>	<b>5</b>	<b>6</b>	<b>9</b>	
		<b>25%</b>	<b>30%</b>	<b>45%</b>	

### 2.7.3 Holiday Exceptions

In Mississauga, parking restrictions and fees are waived on certain statutory holidays each year. This is designed to accommodate shopping, and public events and assemblies at the request of Council.

On holidays, vehicles may be parked on streets beyond the three hours limit between the period 8 a.m. to 12 p.m. There are 11 recognized statutory holidays:

1. New Year's Day,
2. Family Day,
3. Good Friday,
4. Easter Sunday,
5. Victoria Day,
6. Canada Day,
7. Civic Holiday,
8. Labour Day,
9. Thanksgiving Day,
10. Christmas Day,
11. Boxing Day

#### Practices of Other Municipalities

This practice appears to be relatively consistent across Ontario municipalities. In the City of Kitchener, drivers are not required to pay a fee for on-street metered parking on holidays (City of Kitchener by-law # 2007-138, s. 6.1 (a)). In addition, it allows vehicles to park beyond the three-hour limit from April 1 to November 30 between the periods of 6 a.m. to 11 p.m. The City of Barrie not only waived the fees for



metered parking on holidays but all other restrictions including time limits (City of Barrie by-law 80-138, s. 5(18)) The City of London likewise put off all restrictions for on-street meter parking during Sunday and holidays (City of London by-law PS-111, s. 51).

#### Relevance to Mississauga

Although there are exceptions to time limits, it does not appear that the City has not implemented free metered parking on holidays as have many less populated municipalities. However, it is still possible to ensure free parking without compromising equal opportunity for all by setting a time limit so that each person would not use up the entire time between 8 a.m and 12 p.m. In considering how to ration the parking supply as outlined in 4.6.1, the City may wish to consider retaining and not waiving parking rules or fees even during holidays to maintain social order and fairer access to parking.

Holiday activities often occur in downtown areas; however, in such areas where cars are not the most suitable mode of transportation because of the convergence of heavy pedestrian, public transit, and private vehicle flows on limited street spaces, it is worthwhile considering reallocating parking spaces for bike lanes and other active transportation options. This also reduces stresses and delays on transit movements, and increase their efficiency. Reclaiming parking spaces would also help to reduce the number of vehicles on the road, especially when private vehicle demands continue to grow and cause congestion. Increasing the number of flexible spaces available for deliveries and servicing is another idea worthy of consideration.

### 2.7.4 Metered Parking

On-street metered parking refers to on-street paid or metered parking. It supports the **consumer choice**, **efficient utilization**, **flexibility**, **pricing**, **peak management** and **prioritization** parking management principles. The City recently approved a \$2.00 per hour rate in the City Centre with a two hour time limit during regular business hours from 8:00 AM to 9:00 PM Monday to Friday and 10:00 AM to 6:00 PM Saturday and Sunday. An overnight on-street parking rate of \$5.00 was recently introduced.

#### Considerations

Relevant considerations include the duration of time and pricing, the appropriate technology used to collect the parking fees and enforce the specific time limit, and enforcement tools used ensure patrons are following the specific bylaws. In some cases, on-street parking that is not conveniently located in a business area can be used for employee permit parking at a monthly rate that might be less than the standard rate charged in off-street lots.

#### Practices of Other Municipalities:

Municipalities' approaches to on-street metered parking options include the following:

- **City of Toronto:** the Board of Directors of the Toronto Parking Authority (TPA) sets the rates for city-wide off-street parking. The TPA recommends appropriate rates for on-street metered parking spaces with final approval subject to the approval of Local Councillors and Council as a whole. Throughout the City, metered spaces are either \$1.50, \$2.25, \$3.00 or \$4.00 per hour depending on the area with rate being clearly posted on the machine or meter.

- **City of Vancouver:** All parking meters within the city limited are in effect from 9:00AM to 10:00 PM every day including holidays. Meters typically outline various fares based on time limit, time of day, and location. The Rogers Arena and British Columbia Place operate solar-powered parking stations oppose to coin metering.
- **Town of Oakville:** Various types of metered parking provisions exist within the city limits and range from on-street parking meters and pay and display machines.

### Discussion

Within the City of Mississauga, Traffic By-Law 555-00 states that the basic premise for paid parking is based on a requirement that makes it an offence to park without paying a fee:

*"notwithstanding any other provisions of this by-law, where parking meters are authorized, no person shall park a vehicle in a parking space governed by a parking meter without paying a fee, by depositing in the parking meter the amount prescribed."*

Policies and guidelines specific to parking should encourage the use and implementation of on-street and metered parking. On-street metered parking provisions currently exist within the City of Mississauga. Revisiting and readdressing provisions towards on-street metered parking in terms of pricing, technology and time are necessary. No vehicle may park at a meter without having paid a fee during the hours of operation noted on the meter.

Ostensibly, the purpose of Section 21(2) is to prevent motorists from abusing parking privileges and to ensure that parking spaces are available for use by all patrons. Moreover, during the hours and on the days of the week specified on the meter, a vehicle parked in a metered space when the time indicator shows that the time has expired may be served with a parking infraction notice. Note that under Section 51(3) of By-law 555-00, a vehicle displaying a valid disabled person's permit may park in a metered space free of charge.

## 2.7.5 On-Street Parking time limits

On-street parking limits are a way of rationing the supply of on street parking to manage overall demand. They appear in a variety of contexts and are often combined with paid parking. They are closely related to *spillover problems*, which are defined as the '*undesirable use of offsite parking facilities*', typically 'spilling over' onto the street (Litman 2012). One of the most common examples cited is when business customers and employees park on the streets to the detriment of other residents or businesses.

Consequently, the rationing of on street parking utilising parking time limits varies considerably between residential neighbourhood and commercial areas. Major activity centres, transit interchanges or institutions (hospitals in particular) are some of the most problematic examples.

Another common consideration in Canada for time limits are the use of winter parking restrictions pertaining to on-street overnight parking. This refers to the restriction of parking in residential areas to allow for winter snow clearance. During summer months, overnight on-street parking is not encouraged but varies widely

### Mississauga

There are four types of on-street parking permits issued by the City of Mississauga: Short-term temporary residential, long-term residential, blanket commercial, and blanket residential. The purpose of an on-street parking permit is to allow a vehicle to be parked longer than the set limit of 3 hours.

All on-street parking permits are approved by the City if no prohibited parking signs are present in the area parked. If signs are present, the site has to be inspected by Parking Enforcement and Traffic Operations before approval can be granted.

Short-term temporary residential parking permit is valid for parking of up to five vehicles for a period of up to 5 days from the date it was issued, whereas the long-term permit is valid for more than 5 days but requires longer time to approve, typically 1 to 3 days. While there are no charges for short-term permits, long-term permits cost about \$62.00 plus tax. Each residential address can apply for no more than 14 short-term temporary residential parking permit a year.

Blanket permits are long-term permits without limits on the number of vehicles parked. Blanket residential permit is similar to long-term residential parking permit, except that it has no vehicle limits and takes longer to approve, typically within 2 weeks. Blanket commercial parking permit has neither limits on the number of vehicles nor the number of days parked, and can be applied by paying twice the amount of a blanket residential permit or \$124.00 plus taxes.

Vehicles whose weight equals to or greater than 3000kg are not eligible for on-street parking permits, nor any vehicles having no license plates with currently valid stickers, nor any vehicles for sale, nor any non-functional vehicles. Also, permits cannot be obtained for individual trailers, school buses and commercial coaches.

A person may park in a permit parking for a fixed period if the vehicle is parked entirely within the designated parking space with the permit issued by the City of Mississauga clearly displayed either on the visor or on the dashboard.

### Practices of Other Municipalities

Other municipalities' approaches to on-street parking options include the following:

- City of Toronto: Within the city temporary parking permits are available for residents and their visitors. In designated areas throughout the City, residents can purchase overnight passes for \$10.62 per month for a first vehicle, \$26.56 per month for a second vehicle and \$37.19 per month for a resident who has no access to on-site parking. HST is extra in each case.
- City of Ottawa: In predominantly residential areas, overnight on-street parking may be permitted on a cost-recovery basis. This policy is similar to the \$50 monthly rate (excluding taxes) charged in Ottawa. Such a rate may deter the number of people who wish to use the street, and may encourage residents to use their garages, alternative parking provisions, or reconsider the need for car ownership.
- The City of London issues free non-commercial overnight parking passes during the weekend between Labour Day and Victoria Day, which allow vehicles to be parked on unposted streets for more than the 12 hours maximum limit. Each vehicle license plate may apply for no more than 15 passes during the same period. As with Mississauga, the City of London does not allow any vehicles having no license plates with currently valid stickers, nor individual trailers, nor any non-functional vehicles.
- The City of Barrie sells Downtown and Waterfront parking permits for residents. There are three types of Downtown passes: Yellow, Green, and Blue, each valid for specified streets and areas for parking. Yellow Pass costs \$60.00 a month, 576.00 a year plus taxes. Green and Blue passes are \$75 and \$85 a month respectively; annual passes are not available. Regarding Waterfront passes, those who wish to park along Lakeshore Drive between Simcoe St and Minet's Point Rd must purchase a Resident Parking Pass from the City.
- The City of Kitchener has 390 on-street parking for two-hours without fees, but there are no permits for them. A monthly permit is available only for off-street parking lots.

## 2.7.6 Prohibited Parking

There are locations in Mississauga where parking is prohibited for reasons such as safety, traffic flows, and aesthetics. Collisions are more likely to occur when the vehicles are parked on-street in residential neighbourhoods, obstructing the flow of traffic of narrow lanes.

### Considerations

The traffic by-law does not permit any vehicles to be parked or stopped across from or adjacent to school property between the hours of 8 a.m. – 4 p.m., Monday to Friday, September 1<sup>st</sup> to June 30<sup>th</sup> when authorized signs are displayed, nor on any street where signs placed prohibit the parking of any vehicles. If prohibited parking or stopping signs are present, no vehicle can be parked unless permission from Parking Enforcement and Traffic Operations is granted.

The by-law further stated that no vehicles should be parked on a street that is equal to or less than 6 metres in width, in a way that would impede vehicular flow, or encroach any sidewalk or crosswalk. Vehicles must be parked 1 metre away from an entrance of a roadway leading to a private road or driveway, 3 metres away from a fire hydrant measured from the edge of the road, 90 metres away from an over- or underpass, 6 metres away from the entrance of a hotel, theatre or public hall. Furthermore, vehicles should be 5 metres away from the lateral lines to an intersection, 15 metres away from the railway, and not stationed in a way that could hinder parked vehicles from leaving the street.

Heavy vehicles are prohibited from parking in a residential zone. All vehicles are currently prohibited from parking on a street within 3 metres of a fire hydrant or for longer than 3 hours unless permitted by signs, permits, or by the City through an agreement. The vehicles must be licensed, functional, not for sale, not for repairing/washing, and in good condition (not leaking).

### Practices of Other Municipalities

Most municipalities reviewed are broadly consistent with the Mississauga approach to regulating prohibited parking. The City of London has a comprehensive prohibited parking regulations that encompass unsigned areas, signed areas, specified streets, transit stops, taxi stands, and loading zones. It is very detailed in that it enumerates a number of unsigned locations and provides specified time and distance requirements. For example, vehicles are prohibited to park within 6 metres of the closest intersection crosswalk, and within 15 metres of any signalized intersections. It further forbids parking on any street for over 12 hours or between 3 a.m. and 5 a.m.

The City of Kitchener does not allow parking in a “no parking zone”, but reserve a few exceptions where there may be potential conflicts with other vehicles, or where the driver is following the directions of a police officer or the guidance of a traffic control signal/device. In addition to not allowing to park in a school zone, the City does not allow parking on the side of the street adjoining a park or playground. The City further prohibits parking within 15 metres of a dead end, which is not mentioned in the other bylaws.

The City of Barrie also prohibits parking in posted and unposted places. It issues temporary ‘No Parking’ signs on streets for public assemblies and parades or because of special circumstances such as fire. Again, Mississauga and most other municipalities have detailed and generally consistent prohibited parking regulations. There are few slight variations in time and distance limits. For example, the City of London prohibits parking within 2 metres of a fire hydrant, whereas it is 3 metres in the City of Barrie. The City of Kitchener forbids parking between 2:30a.m and 6:00a.m., instead of 3 a.m. and 5 a.m. as in the City of London.

### Discussion

Regulation is difficult in suburban areas where on-street parking is often allowed without some forms of Controlled Parking Zone in place. Yet it is generally considered good practice to reduce restrictions for

on-street parking where possible. It could be easily argued that the City of Kitchener is not effectively using its limited urban spaces, having more than 10 times as much off-street parking lots as on-street parking spaces in the downtown area. On-street parking is not only a low-cost alternative to off-street parking but also a means to minimize the space that would have been taken for off-street parking lot which require access lanes. It is also seen as a buffer for sidewalks to protect pedestrians from the vehicles.

To anticipate future demands for on-street parking, it is best to keep an accurate inventory of parking spaces. This is consistent with both the user information and comprehensive analysis parking management principles. The database could also be used in conjunction with TDM technology to coordinate and guide drivers to vacant parking spaces without causing traffic delay. A successful example of this application is found in Seattle, Washington.

### 2.7.7 Sidewalk and Boulevard Parking

Sidewalk and boulevard parking refers to zoning regulations that permit long-term shared parking agreements (day-time and night-time sharing) or off-street caveated parking. In the case of boulevards, they can be leased for parking. If restaurants or cafes choose to use parking space(s) for patio construction during the summer season, an option is to do so by paying \$5/day per space, plus the \$100 cost of a permit.

Elements to be considered when addressing sidewalk and boulevard parking include the provisions and distinctions between a sidewalk and boulevard in terms of motor vehicles parking. Another consideration is the determination of an appropriate fee towards allowing temporary parking or usage of the sidewalk and boulevard for parking. An opportunity cost approach is generally considered a good starting point, i.e.: 'What is an appropriate fee to charge if the area in question cannot be used as public space or paid parking?' (compare one potential use against another).

#### Practices of Other Municipalities

Where permitted by other municipalities, applications for sidewalk extensions for the purposes of restaurant patios and cafes and the like are generally considered on the individual merits of the application and, if approved, are licensed for a nominal fee (e.g., \$100 application fee, plus \$5 per day for each occupied on-street parking space). This approach suggests there is recognition of the economic benefits associated with such expansions and an expectation that there is a relatively minor reduction in parking-related revenues (approvals are for the summer months only). Also implicit may be an expectation that displaced parking demand can be accommodated in an alternative location. Other approaches include:

- City of Toronto: The boulevard is outlined as part of the highway that is not used or intended to be used for motor vehicle travel. As outlined, in Toronto Municipal Code Chapter 918 "No person shall park any motor vehicle on any boulevard unless parking is authorized under this chapter or under any other Municipal Code chapter or by-law except for the parking of a motor vehicle within the confines of that portion of the boulevard within a private driveway, provided that no motor vehicle may be parked in the driveway less than 0.3 metre from the back edge of the sidewalk, or where no sidewalk exists, not less than 2.0 metres from the face of the curb or edge of the roadway."
- City of Vancouver: Street and Traffic By-law No. 2849 outlines that 'an owner, registered owner, lessee or operator of a vehicle must not cause, allow or permit that vehicle to stop in front of or within 1.5 metres of the nearest side of a private road, boulevard crossing or sidewalk crossing;'

#### Discussion

The City of Mississauga currently requires that no person may park a vehicle on the paved or grass portion of the City boulevard. The boulevard is defined as the portion of the driveway between the



property line or sidewalk and the road. Moreover, no person may park a vehicle in such a way as to partially obstruct or block the sidewalk from pedestrian traffic.

The City may also wish to consider a fee for applications for sidewalk extensions that is fair in terms of recognizing lost parking revenue, while also acknowledging economic and tourism objectives in Mississauga.

Given expectations that such uses are primarily seasonal, it is reasonable to expect that applications for sidewalk extensions should be reviewed and approved annually. In this way, there could be consideration of changes in parking demands on a year-to-year basis that could, in turn, be reflected in updated fees.

### 2.7.8 Heavy Vehicles

'Heavy Vehicle' generally refers to a commercial motor vehicle having a registered gross weight in excess of 3,000 kg, however this does not include a passenger vehicle, emergency vehicle, any vehicle owned and operated by the Transit Commission, a privately-owned commercial motor vehicle making a delivery to or a collection from a bona fide destination which cannot be reached via a highway upon which heavy vehicles are not prohibited by this by-law and taking the most direct route to such a destination from a highway or part of a highway upon which heavy vehicles are not prohibited by this by-law.

#### Considerations

Elements to consider when addressing heavy vehicle parking within the City of Mississauga include the particular specifications of heavy vehicles and the load classification. Moreover, outlining the issues of signage and road specification are important to note when limiting and outlining allotted heavy vehicle parking within the City limit.

#### Practices of Other Municipalities

Municipalities' approaches to on-street metered parking options include the following:

- **City of Toronto:** The city maintains that no heavy vehicle may move, drive, park or operate on the highways set out in schedule 950-1329. The schedule is typically restrictive of localized residential areas.
- **City of Kitchener:** The City maintains that unless authorized via displayed signage, no person shall drive, move or operate a heavy truck on municipality highways except those outlined in Schedule 23. Moreover, unless otherwise permitted by bylaw Number 2007-138 no person shall at any time part a vehicle on any highway is such vehicle is a heavy truck. Provisions within the City of Kitchener clearly outline the most appropriate use for truck usage and parking throughout both residential and commercial areas.
- **City of London:** The City maintains that various streets and parts of the urban area are limited to heavy trucks noted by signage in Schedule 14.

### Relevance to Mississauga

Through its Traffic By-law 555-000, the City of Mississauga currently regulates that “No person shall park, stop or stand a heavy truck on any highway in a residential zone”. The purpose of this section of the Traffic By-law is to maintain the safe and clear flow of traffic, to prevent damage to paved road surfaces and to maintain the aesthetic aspects of neighbourhood communities. Moreover, a heavy vehicle is defined in the Traffic By-law under Section 1 as a vehicle, including a bus but not including a school bus, as defined under the Highway Traffic Act, having a gross vehicle weight of 3,000 kilograms (3 tonnes) or greater.

## 2.8 Parking Technologies and Influences

### 2.8.1 Smart Parking

This section describes existing and emerging technologies that offer greater user knowledge of the availability and choices they have for parking.

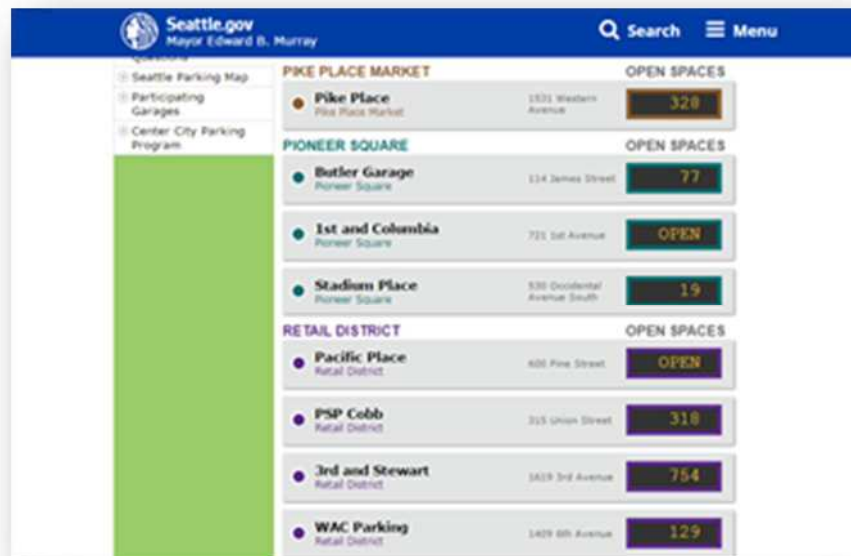
#### Practices of Other Municipalities

At the more elementary level, the variable message sign may be considered part of this knowledge sharing system. A Variable Message Sign uses count devices at the lot or facility entry and exits to inform users at key decision points on the availability of parking at different lots in real time. VMS offers to reduce lost time by users arriving at lots that are full and thereby assist distribute demand to those lots that have availability.



*Mississauga Square One presents parking spaces in fixed message boards*

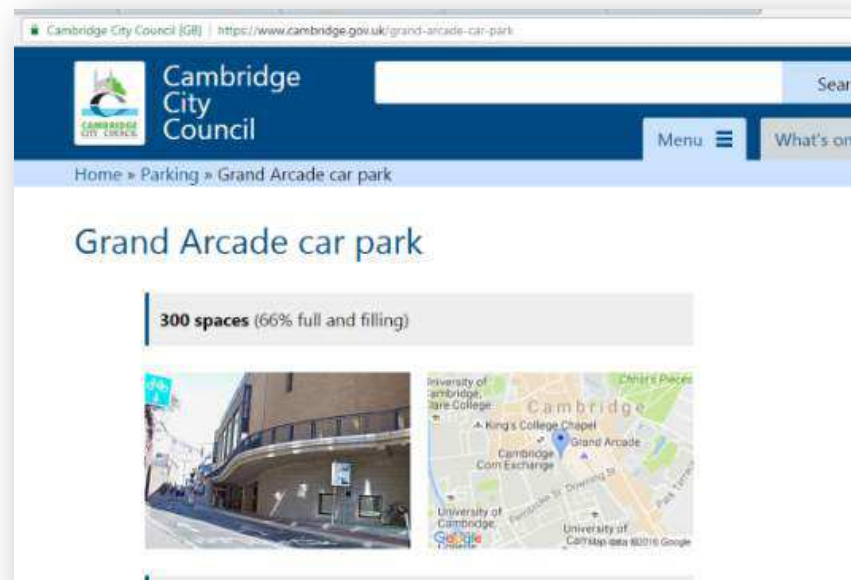
Seattle's e-park presents a live message board of parking availability across the city.



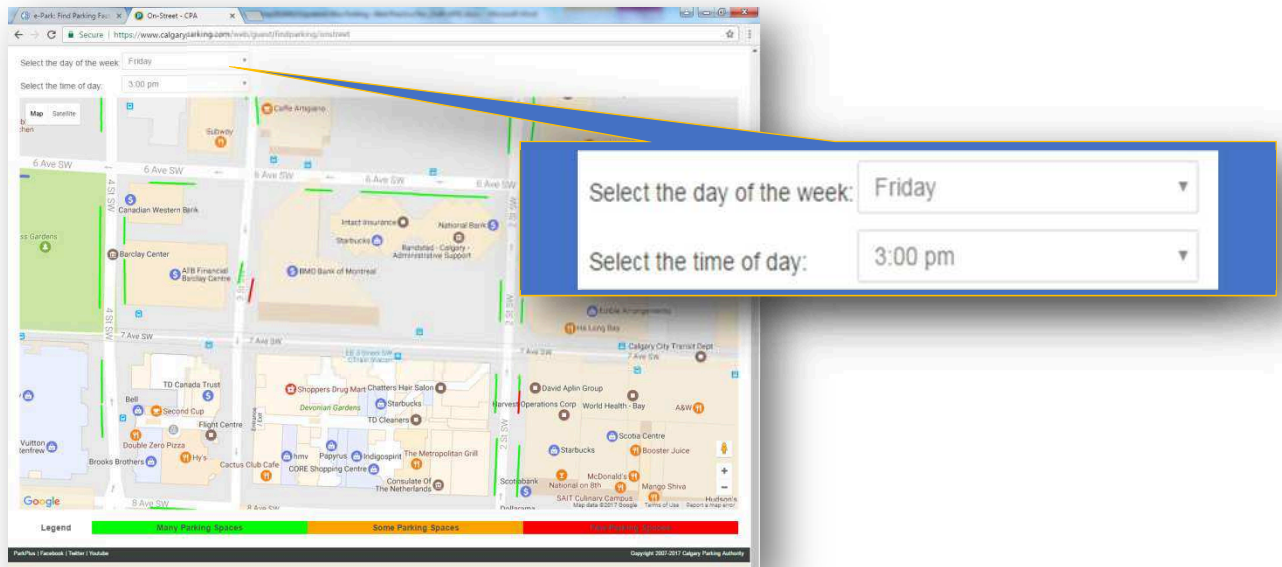
In addition, this information can be provided on a website and mobile app. For off street car parks the logging of information on occupancy is much less expensive to capture.

Some cities are providing information on the availability, or likely availability of parking, **on-street** for different times and days. Calgary provides this data based on historical records.

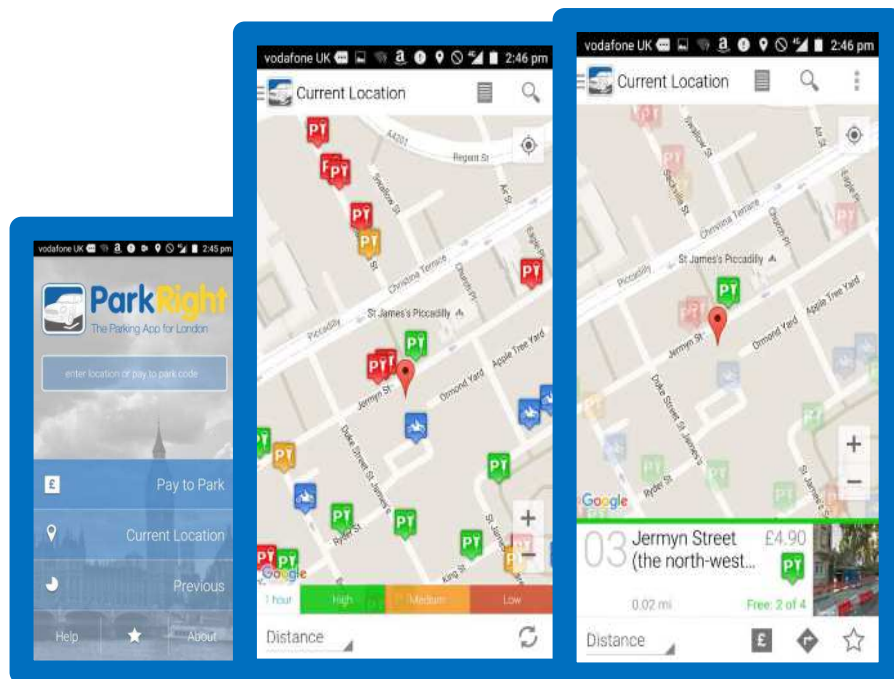
Cambridge City Council, UK, provides live data on car park occupancy via their website







*Seattle – Likely availability of on-street parking for Friday afternoon based on historical data*



*Westminster ParkRight app provides users with real-time data on the likely availability of on-street parking at local level.*

**Figure 4 - 17 Real time parking availability examples**

Phase 1 of the Westminster Bay Sensor Programme was completed in October 2014, covering more than 3,000 paid-for and disabled bays across the West End of London. On the first full day of analysis sensors recorded over 11,000 parking events. The data from the sensors is available as real-time data on likely availability of a parking spot at street level. Westminster provide the ParkRight app for users to locate available parking and pay for their sessions.

The live feed for on-street parking in San Francisco has been discontinued since the end of 2013 once sensors came to the end of their useful life. SF still provide garage occupancy data in real time and provide tariff information for the on-street locations.

### Discussion

There is some doubt that providing users with real-time information delivers the levels of benefits that may be expected. It is evident that some users will travel to a preferred parking location irrespective of signs indicating that it is full while other locations carry spaces. These users will queue to enter facility based on an expectation that this wait will not be particularly long.

In Westminster UK, analysis has shown that even at times of high occupancy there has not been an improvement in the equilibrium of occupancy across neighbouring streets and the variance in occupancy between different streets has not reduced (Fitsall & Potter 2016). Westminster does not adjust tariffs in response to historic demand.

Information to those seeking parking appears most effective within extensive areas of parking where there are local alternatives that are similar or progressive in their proximity to the destination. This may be most relevant to message signs at the entry points or on the circulatory highway around the parking provided at a large shopping mall.

It appears that the principal use of the Westminster ParkRight app is to pay for the parking session, rather than locate a parking spot.

## 2.8.2 *Mobile Payment*

The technologies used for locating a parking spot are frequently linked to those that are changing the way users can pay for parking. The key trend is that payment for parking will be via mobile devices, it is unlikely to use ticketing and payment will be cashless.

### Considerations

Most major cities are now adopting pay by phone accounts for parking to some extent. This includes payment by apps on mobile devices (which now make up a greater share of use). Users are billed against a credit or debit card or against a personal account that holds credit. A third party operator provides the service for a limited fee which may be absorbed by the operator or passed onto users. Vehicle parking time is purchased against the Vehicle licence plate which is passed to the enforcement team.

The system removes the requirement for cash. Furthermore, by creating a back-office accounting process it enables the tariffs unbounded by the denomination of coinage or user familiarity. Tariffs may be set as fractional cents per minute if required, can be differentiated by time of day and location, could be linked to the parked vehicle type (allowing different charge rates based on vehicle size, emissions or other consideration) and can readily be linked in to a process of reward and rebates based on account holders' activity or other specifications (such as being registered as a resident in the area or applying a retrospective limit on parking charges incurred within a given period).

The initial account set-up is considered a barrier to users and there is some reticence for the public to switch to the system.

Compared to standard meters or pay and display, pay by phone/app offers significant user advantages. It can still operate the pre-pay model but will send text messages to users reminding them when their paid duration is due to end and, subject to the restrictions in force, offer time extensions to be purchased by mobile device. In this way the system has the functionality to address the pre-determination difficulty for those uncertain of their duration of stay: There is no requirement to return to vehicle to feed the meter.

### Practices of Other Municipalities

#### WESTMINSTER, LONDON, UK

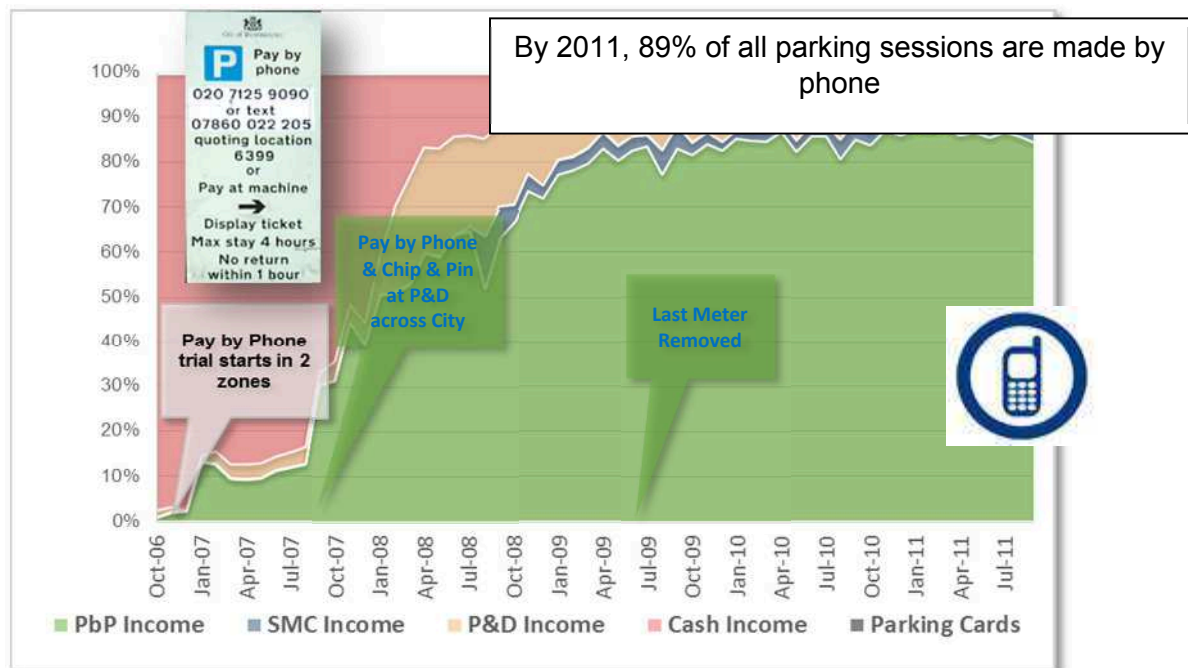


Figure 4 - 18 Timeline of Cashless Parking by Westminster City Council

In 2006 cash was the only means of payment for on-street parking in Westminster. A pay by phone pilot was initiated in October 2006 in 2 zones as a complimentary payment method and from October the following year rolled out across the city. Chip & PIN Pay & Display was also introduced as the cash meters were progressively removed. By May 2009 all means of paying cash for parking had been removed. By July 2011, 89% of all parking transactions were being made by phone which had rise to 95% by 2015. However the removal of the cash option did present some difficulties for specific users requiring the introduction of parking cards (or vouchers as used elsewhere in this note). (Fitsall, The Intelligent Kerbside, 2012).

Within Westminster users are also presented with the epay option which enables them to use cash at local shops. Once parked in any paid-for bay, users go to the nearest epay point retailer. They provide the retailer with the 4 digit location code of their parking bay, their vehicle registration number and the appropriate cash payment. (Parking for Visitors, 2015) The retailer effectively provides the media interface otherwise afforded by the phone account.

#### CALGARY'S PARKPLUS SYSTEM

Introduced to Calgary in 2007, the ParkPlus system is a proprietary technology developed by the Calgary Parking Authority that allows users to pay for their parking:

- Using a cash, debit or credit card at a ParkPlus pay machine. The user enters the 4-digit zone number in which they are parked, their licence plate and payment for the time required.
- by cell phone with a registered ParkPlus cell phone account. The account must be provided with credit in advance and all the vehicle licence plates associated with that account. Users park, call up the voice activated service or send a text with the zone number and either “Start” or “End”. Users are charged for the period used.
- using the Virtual Pay Machine app. which allows users to pay for their session by mobile device using a credit or debit card.

Accounts are arranged and managed using a separate website. Users can add credit to their account and review all their historical charges for parking.



**Figure 4 - 19 Edmonton ePark system, based on CPA ParkPlus technology**

## Discussion

### Back office accounting

The attractiveness for user and operator of pay by phone is the back-office account. The electronic payment processing offers tariff and charging flexibility and for users removes the need to handle what are typically small cash values. The systems described do at this stage still require user intervention to pay for their session or undertake some form of text process to begin and end it.

### Seamless Parking

The emerging evidence is that a seamless parking experience is imminent. Pre-booked parking is also available and becoming more prevalent beyond the airport. At the underground Upper Street Car Park in Islington, London, cars that have been pre-booked and paid for their parking via the website are granted access through the barrier using a License Plate Reader (LPR). For those parking within the booked period, there is no further verification or payment, and departure is similarly controlled by LPR.

The retail vision currently sees that parking will become one component in the overall integrated and personalised shopping trip. Festival Place retail centre in Basingstoke, UK has launched the “Festival Rewards” app. For those customers that sign up and input car registration and other personal details there is an ambition to enable parking to be booked in advance, a personal greeting on entry to the car park, remote billing with payment done back office from account, internal direction-finding to a (pre-determined) parking spot inside the car park, a mobile app fed with offers and information while in the centre based on location and activity and the potential for parking fees to be reduced by incentives and purchases. Goods may be delivered to the car or a collection point with parking payment acknowledged and communicated on departure and on-going correspondence and loyalty points/rewards for parking and shopping at that centre between visits (Murphy, 2015).

Various manufacturers are already using and developing installed navigation and communication technology. In the near term it is expected that the dashboard will be the portal for parking. Navigation and parking information will be combined to lead drivers directly to an available parking spot. (ParkMobile, 2015).

There are thus a number of options emerging that will enable users to progressively link actual vehicle location or parking activity to an account for payment that will be passive and invisible to the user in the near future. Users may be required to select a park option, and the on-board navigation will confirm parking legitimacy in that location for that vehicle and commence the charging process. For more users it will become common for parking charges to be consolidated and reported by way of a monthly invoice, with payment debited directly from an associated source account. BMW are one of a number of car manufacturers who envisage the in-car navigation process to include parking location selection and payment as an automated process for the user. This will make paying for parking a background activity, reducing the inconvenience of the transaction.

Based on attitudes to other remotely collected charges, it is also likely that it will reduce the impact of the payment by not only separating the action from the cost, but by consolidating the individual costs into one larger electronic monthly payment. (Thaler, 1999). An interesting avenue with this vehicle-specific connectivity is the opportunity for municipalities to develop progressively more specific regulations for parking; users will only be informed of those applying to their vehicle. In simple terms users may be told by the on-board system whether or not they can park as desired. Indeed it is likely that the system will manage the whole process, and only select a parking location that is legitimate for that vehicle.

Thus the key conclusion is that on-street furniture and more traditional methods of paying for parking at the point of use could to a significant degree diminish in importance over the next five years. This may have a bearing on the life expectancy of any on-street equipment and the density of deployment, or indeed any decision regarding which payment mechanisms to introduce. The integration of parking availability into the overall system will also limit the value of investing in fixed Variable Message Signs.

### 2.8.3 *Electric Vehicle Charging Stations*

According to the Ontario Ministry of Transportation, an electric vehicle (EV) is any vehicle that is partially or entirely powered by electricity and plugs in to recharge. EVs build on proven hybrid technology and offer even greater reductions in fuel consumption and emissions than conventional hybrids.

The primary benefit of electric vehicles is to help reduce harmful air pollutants and greenhouse gas emissions. While electric vehicles are a sustainable transportation option, these vehicles still occupy the road network and require a parking space at home and at destinations.

Electric vehicles must be 'refueled' by plugging into the electricity grid through charging stations. Most of the charging will be taken place at home due to its convenience, and at night when the cost of electricity is at the lowest. The time it takes to recharge is hinged on the level, or speed, of charging. Charging requirements are classified into two classes: residential and commercial:

- Residential charging stations range from \$800 - \$1,200 including parts and labour
- Commercial charging stations (Networked) range from \$8,000 - 10,000. These facilities are connected to the internet allowing the owner to control access.
- Commercial charging stations (Non-networked) costing \$2,000 - \$4,000. These facilities cannot be remotely controlled.



The Ontario government released in June 2016 Ontario's Five Year Climate Change Action Plan (2016 – 2020), which includes the following actions that are intended to assist municipalities develop local land use policies to deal with climate change:

- The Ontario government is prepared to empower municipalities through consultation and proposed amendments to the Municipal Act (scheduled to start in 2017/2018).
- The Ontario government will set requirements for all new homes and townhomes with garages to be constructed with a 50-amp, 240 volt receptacle (plug) in the garage for the purpose of charging an electric vehicle. This is scheduled to commence in January 2018.
- Commercial buildings and appropriate workplaces are also required to provide charging infrastructure which is due to start in 2018.
- A commitment to continue the Green Licence Plate Program until 25% of passenger vehicles have green plates.

The WWF-Canada 2014 status update on Electric Vehicles indicates that one electric vehicle was sold for every 224 regular vehicles sold in Canada in 2014. This represents a 31% annual increase in electric vehicle sales. As a result, Ontario is investing close to \$20 million from Ontario's Green Investment fund to construct approximately 500 EV charging stations at over 250 locations by March 31, 2017 according to the Ontario Ministry of Transportation.

According to the Canadian Automobile Association (CAA) EV Charging Station Locator, in Mississauga alone, there are currently about 30 charging locations including shopping centre, GO station, and the Pearson Airport. By comparison, approximately 400 public charging locations are available in Ontario.

Based on the best practices survey of other municipalities, there are three main policy approaches adopted by various municipalities to encourage developers to provide required infrastructure by developers to support electric vehicles, namely the charging stations:

1. Development of regulations to allow electric vehicle infrastructure as a use in all zones except those zoned for residential, resource or critical areas in the Zoning By-law (Squamish, BC, and Washington State);
2. Mandatory EV charging circuits as a certain percentage of parking spaces provided in residential, mixed-use and commercial buildings through the building by-law. (Vancouver, BC). In Vancouver, residential mixed-use buildings that consist more than three dwelling units must incorporate a receptacle for charging electric vehicles in 20 percent of all parking stalls used by owners or occupiers of the dwelling units. Similarly, commercial buildings designated as mixed-use must be designed with a receptacle for charging electric vehicle in 10 percent of all parking stalls; and
3. Accommodation for electric vehicles in residential buildings for excess parking supply at the Site Plan Application stage (Toronto, ON). Recently, Toronto also started requiring new development applications to include provisions of electric charging stations as part of the Travel Demand Management Plan on a site-specific basis.

In addition, municipalities could use their purchasing power to support the electric vehicle market by adding electric vehicles to municipal fleets or hybrid buses to public transport systems. Municipalities could also install charging stations at libraries, parking garages, city halls, or other public buildings. For instance:

- The City of Toronto has 19 Level 2 City owned EV charging stations in place in City properties, available to City vehicles only.

- The City of Vancouver also provided curbside charging stations. One approach was integrating EV charging station with cellular infrastructure. As a trial project, the City of Vancouver and TELUS partnered to install three integrated EV charging station and cellular units in parking lots at three English Bay park locations in 2013. The construction cost and power to the infrastructure is fully funded by TELUS, which recovers EV-related costs through site rent abatement.

#### 2.8.4 *Autonomous Vehicles*

There is an expectation that autonomous vehicle will evolve as technical, political, legislative and public acceptability move on to permit increased use. Most of the automation available today is in what are called Level 2 vehicles (partial automation), such as Tesla's "Autopilot" system. Level 3 (conditional automation) and level 4 (high automation) vehicles are being piloted in many different settings around the world including Japan, US, Singapore, and Dubai.

Various governments are pushing ahead to help create the right conditions for further development and investment to occur in their jurisdictions (Isaac 2017):

- The Australian Government has published *National Guidelines for Automated Vehicle Trials*, which focuses on safety and sets out its expectations for the private industry.
- The US Department of Transportation is funding research for automated vehicle technology "proving grounds."
- Ontario has sought applications for private industry and academic institutions to conduct AV testing.
- In the United Kingdom, the government awarded a £5.5 million grant to a consortium of partners, which include Bosch, Transport Research Laboratory (TRL), Jaguar Land Rover, Direct Line Group, The Flook and the Royal Borough of Greenwich.

There are several key considerations that AVs could have on parking. The first and most immediate is already appearing with the self-parking car. With vehicles able to discharge their passengers before parking, this immediately could improve the density in which cars are stored. This will apply first in terms of the surface area used, reducing the dimensions of the parking bays and aisles. Over time it will also work its way through into the design of parking decks. Those decks used and accessed exclusively by vehicles will require less headroom. They will also require less ventilation, signing or lighting.

The second impact could be on parking distribution. With vehicles able to leave their passengers and go locate their own parking then there will be a greater trend for parking capacity to move out of the higher value locations into areas with lower value land. In city centres with a distinct differentiation between commercial high-end land and lower cost neighbourhoods, it may be reasonable to see a rise in land on the periphery of the CBD being converted into use for parking. (TRB reference).

The third consideration could include the impact on overall private vehicle ownership. If a shared autonomous vehicle model is widely adopted, because the costs and availability of AVs become attractive, then this may result in people reducing private car ownership. Preliminary analysis using a downtown model indicates that under such a scenario a single shared autonomous vehicle could replace between nine and thirteen privately-owned or household-owned vehicles (Fagnant & Kockelman 2016).

The work by Fagnant and Kockelman indicated that miles travelled would increase by up to 10%. In contrast empirical work based on a diary of mileage covered and the trips conveyed by a single uber vehicle indicted that a shared AV model could result in VMT increasing by nearer to 80% (Henao 2017). This increase is a result of some empty miles but also considerable abstraction of demand from non-motorised modes and transit.



### Practices of Other Municipalities

The proposal to create a shared AV core area within large urban areas, in which there would be no private vehicle access, presents an outcome in which there could be between 15% and 20% additional developable area compared with a typical central urban layout. This is primarily due to the removal of almost all parking spaces, but also because of roadspace simplification that will save space (WSP|Parsons Brinckerhoff & Farrells, 2016).

Central London has a parking coverage of around 16% and a total of around 6.8 million parking spaces, on and off street. Around 8,000 hectares of central London is used for parking. Based on Communities and Local Government valuations, a 100 hectare AV zone development in the heart of London could generate more than £1.25 billion in recovered land use. Further afield, general figures of 15-30% parking coverage are typical of New York, Paris, Vienna, Boston and Hong Kong.

The reduced requirement for parking has implications at the residential level also. Around 80% of the UK's suburban housing stock has some form of front garden space, of which around a third have been paved to become a parking space; in London, the proportion of front gardens that have become parking spaces is even higher, at around 50%. Repurposing residential on-street parking and residential off-street parking spaces back into gardens or areas of landscaping would not only improve the streetscape, it could provide a key part of improving climate resilience through reducing the impact of rainwater runoff in urban areas.

### Discussion

That vehicles will become more automatic and connected is largely unquestioned. The rate and form that change will have and the extent to which it will permit and deliver the changes forecast remains less certain. Much of the changes forecast remains less certain. Much of the benefits in reduced car ownership and release of parking requirements over large downtown areas are reliant on a model of use that has shared AVs. This is very much the core assumption presented in creating AV zones in the core of major cities.

The prevalent model of use therefore will prove key to determining how parking needs change. Without a strong public policy led approach and in contrast the development of personal autonomous cars non-reliant and capable of operating amongst non-automated vehicles, there is every possibility that the current status and other assumed benefits of personal ownership will remain. The intrinsic approach to marketing the car as a reflection of the personality of its user will support this model. Without strong public policy, and indeed with governments considering that the development of technology is something for the commercial sector to lead, then this outcome is more likely.

Changes to parking needs under the primarily personal AV scenario thus take a different turn. The idea that downtown parking will become redundant as AVs take themselves to suburban parking lots is reliant on the cost of making that trip being low, and certainly lower than the cost of parking. But these empty AV miles will occur in the denser parts of the city, where space is already limited and highway capacity already saturated. Empty AVs conveying themselves to lower cost parking will exacerbate current congestion levels, and will do so without the current intolerance of delay that tends to cap the extent that congestion increases: if there is no-one in the vehicle, it does not matter than the average speed of travel is only 5mph. But this will have an adverse effect on those AVs that are occupied. For those people who are trying to move about, the potential congestion caused by vehicles with negligible values of time will be a cause of consternation and social cost.

Moreover, a downtown that has its network consumed by additional traffic will also impact on the reliability of journey time of those AVs that are empty. Thus this may create challenges for an AV planning to collect a user at the right time or called in earlier on account of the user's plans changing.

So the main point of the discussion may be that the congestion caused by additional empty AV miles could be significant and the economic cost substantial. An efficient governmental response may then be to introduce a charge through fuel taxes and/or congestion charging that makes the saving from relocating the AV to a suburban parking lot marginal, since the AV will incur charges on each journey in and out. Combined with the inconvenience of progressively greater unreliability the farther the AV relocates to park, it may be that other than narrower parking aisles and stalls, there will be little change in downtown parking capacity needs.

### 2.8.5 *Sharing Economy*

The 'sharing economy' is broadly defined as peer-to-peer transaction that permit sharing, borrowing or bartering of underutilized assets in exchange for goods, services, or money. Falling under this umbrella term, it branches out to different forms of sharing like parking. When applied to modern parking management practices, parking space owners are linked to drivers with available private parking spaces. Two general types of parking sharing exist, which are MonkeyParking and Driveway Parking.

#### **MonkeyParking**

The mobile application called MonkeyParking was first introduced in 2013 in San Francisco to allow users to auction off any parking spaces to the highest bidder. In addition to auctioning off spaces owned by the user, the mobile application allows users to profit off public city-owned parking spaces. In essence, the mobile app distributes and monetizes "information" on public parking spaces. San Francisco officials claimed MonkeyParking violates the city's Police Code that prohibits individuals or companies from buying, selling, or leasing public on-street parking. Since then, the MonkeyParking and the associated practice of profiting off public parking have been made illegal by Los Angeles, Santa Monica, and Boston.

#### **Driveway Parking**

A more common form of sharing economy on parking is driveway parking, which is observed in Canada, UK, and Australia. For instance, mobile applications exist to allow property owners to rent available parking spaces on their private properties by the hour. Examples of these mobile applications include Rover Parking and HonkMobile in City of Toronto. For Rover Parking, the price for parking is set by the user at an upper limit of \$2 an hour to ensure the spaces are competitive when compared with traditional parking spaces. However, this type of sharing economy practice is generally considered illegal by City of Toronto. City's by-law officials indicated that it is acceptable to rent out unused garage space, but renting out spaces on driveway to multiple drivers are not. The reason is that if residents are allowed to rent out driveways to multiple parkers, those vehicles will result in additional traffic in the local neighbourhoods. Furthermore, transient people coming and going presents a risk to the neighbourhood safety and may result in nuisance complaints with the city.

The Sharing Economy Public Design project, a collaboration between MaRS Solutions Lab, the Province of Ontario, and the City of Toronto conducted a comprehensive review on sharing economy to have a better understanding of what role the government should play in. The study recognized that there is a shortage of city-wide parking spaces, while condo buildings often have empty parking spots. This would enable the flexible use of residential condo parking in spaces that are otherwise privately used. This will require appropriate changes to the zoning, condo board and building bylaws.

Apart from Toronto's response to sharing economy, there have been mixed responses on how municipalities deal with driveway parking. To illustrate the variations between some municipalities, the table below highlights some of the practices by municipalities to the leasing of private parking spaces.

**Table 4-10 Shared Economy approaches**

	Municipalities	Response
<b>Accepted Practice</b>	Borough of Rosemont-la-petite-patrie (Montreal)	Allows residents to rent out their off-street parking facilities including driveways and garages
	City of Sydney	Allows residents free to lease parking spaces from their property using any online resources however the permits cannot be transferred. However, planning conditions and strata by-laws are in place to prevent spaces in some apartment buildings from being leased out to non-residents. This ensures private buildings cannot be used as public car parks and maintains security for other apartment residents.
	City of Melbourne	Allows residents renting out their driveways but cannot be transferred or a sale transaction of resident parking permits. Leasing private parking lots or spaces are not regulated by Council
	United Kingdom	Allow rental of parking spaces without planning permission given no nuisance to neighbours
<b>Prohibited Practice</b>	City of Ottawa	According to the City's zoning by-law, parking spaces must be reserved exclusively for their associated uses
	City of Perth	Retains the legal right preventing the sale, transfer, or sell resident parking permits (Samson, 2014).
	City of Brisbane	

Sharing economy has become an emerging phenomenon which municipalities continue to monitor given the economic and social appeals. It presents the following opportunities and challenges:

- Economically, it can capitalize on underutilized parking facilities and is viewed as an opportunity for growth and development.
  - Socially, it opens up an avenue of extra income for lower income households.
  - A lack of comparable insurance coverage between traditional businesses and sharing economy businesses.
  - Impacts on tax revenues are considered difficult to estimate at this point in time
  - Some of the negative impacts of sharing economy can be mitigated through appropriate regulation and technology. For instance, according to Rover, their mobile app is able to impose limits on the number of vehicles that can be parked at any given time at any single location to reduce the impacts on the local neighbourhood.
  - It could be viewed as disrupting existing markets which in turn create an inequitable gap between laws encountered by traditional operators and their competitors.
  - It can result in the diminishing control of "publicly accessible" parking supply by the City, which in turn lower the ability of the City to influence mode choice of commuters.
- Accordingly, the municipalities have to rethink their regulation in a holistic approach to formulating innovative regulatory regimes addressing competitive fairness and consumer safety while enabling sharing economy to evolve and develop.





## 2.9 Parking Organizational Model

### 2.9.1 Strategic Organizational Governance Models

From a best practices review of municipalities in Canada and the USA, the approach has been to first achieve consensus among the various stakeholders on the mission and vision of parking in meeting the City's overall strategic goals before determining the best type of parking organizational and service delivery model. This process will begin soon with the first round of stakeholder consultation as part of the development of the Mississauga Parking Master Plan.

In Canada and the USA there is a wide-range of strategic business models, however, they fall within four (4) main groups, as shown in **Error! Reference source not found.**, from full privatization of parking with a private governance board (column A) to a publicly governed and delivered service (column D) either by a municipal department or section or a special purpose body, such as a parking authority.

Nearly all municipal parking services in Canada fall within public municipal parking (column D) and governed by a municipal Council or a separate board with members appointed by the City Council comprised of elected councillors and citizens. Within the 4 strategic type of parking business models, there are variations primarily adopted in the USA and summarized in 6.

MUNICIPAL PARKING BUSINESS MODELS			
PRIVATE		PUBLIC	
PRIVATE MUNICIPAL PARKING CONTRACT	PUBLIC SECTOR OWNERSHIP AND PRIVATE SECTOR MANAGEMENT	P3 (PUBLIC PRIVATE PARTNERSHIP)	PUBLIC MUNICIPAL PARKING
			
<ul style="list-style-type: none"><li>✓ COMPLETE PRIVATIZATION</li><li>✓ PRIVATE BOARD OVERSIGHT AND GOVERNANCE</li><li>✓ PRIVATE REVENUE RISK</li></ul>	<ul style="list-style-type: none"><li>✓ PUBLIC POLICY AND STANDARDS SETTING</li><li>✓ PUBLIC ADMINISTRATION</li><li>✓ PRIVATE SERVICE DELIVERY</li><li>✓ PUBLIC REVENUE RISK</li><li>✓ PUBLIC BOARD/ COUNCIL OVERSIGHT AND GOVERNANCE</li></ul>	<ul style="list-style-type: none"><li>✓ PUBLIC POLICY AND STANDARDS SETTING</li><li>✓ JOINT PUBLIC &amp; PRIVATE ADMIN.</li><li>✓ PRIVATE SERVICE DELIVERY</li><li>✓ SHARED REVENUE RISK</li><li>✓ PUBLIC BOARD/ COUNCIL OVERSIGHT AND GOVERNANCE</li></ul>	<ul style="list-style-type: none"><li>✓ COMPLETE PUBLIC SERVICE</li><li>✓ PUBLIC BOARD/ COUNCIL OVERSIGHT AND GOVERNANCE</li></ul>
A	B	C	D

Also, Hybrids of A to D Aspects

Figure 4 - 20 Strategic Business Models of Parking

4-21 shows a selection of Canadian and American cities with public pay parking and the type of parking business model, whether the organization is non-tax supported, the three common types of public parking business models that nearly all Canadian municipal parking falls under and if any contract out some of their main services. Montreal is the only public parking service that operates as a Business District in the downtown and is operated and governed by Montreal's Board of Trade. American cities are shown as they are the only examples where a privatization of parking has actually been implemented and many more USA municipalities are considering this option due to severe financial issues and the need to free up cash for other municipal services.

There are five parking authorities in Canada: Calgary, Toronto, Vancouver, Thunder Bay and Winnipeg while the rest of the Canadian cities are sections within a department, division or branch. From this national review, we found one city, London, Ontario, with a standalone separate parking department operating within the upper tier level of Transportation Services and at the same level as public transit (London Transit Commission). As an organization structure, Parking Authorities tend to be most prominent in cities that have a large number of public pay parking spaces (with the exception of Thunder Bay) compared to cities with smaller number of parking spaces and organized as a section within a municipal division or department.

Figure 4-14 provides a description, the main reasons or rationale for the organizational model, examples in Canada or the USA and additional information under the comments column for each of the 5 business models for parking with the two most common, illustrated graphically below:

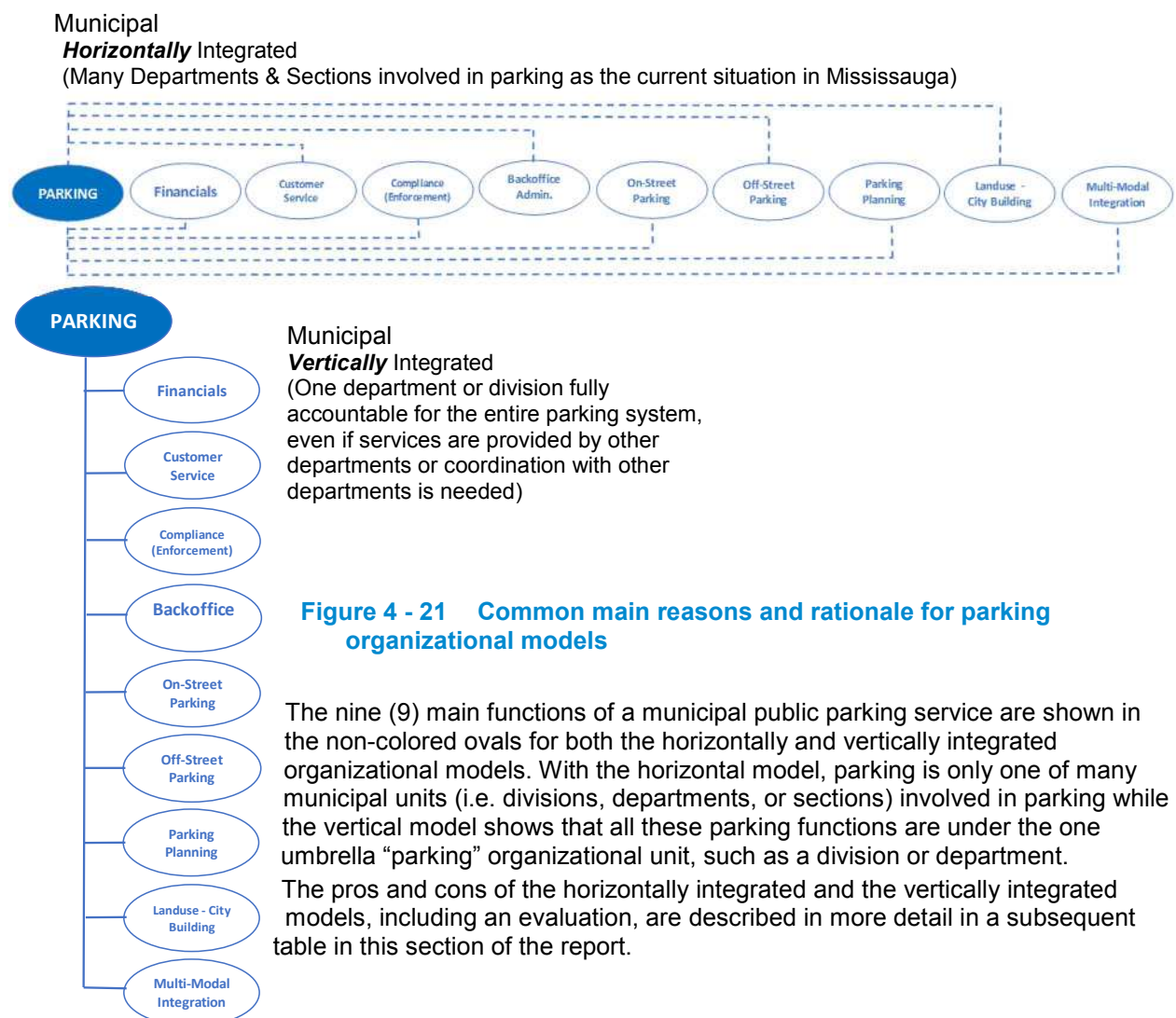




Table 4-11 Best Practices Review - Parking Business Models

Best Practices Review - Canadian & USA Cities - Parking Business Models											
					Governance	Parking Business Model					Primary Contracted Services
						Public			Business District	Privatization (Monetization)	
Ref. #	Canadian City	Population	Total Public Pay Parking Spaces	<sup>1</sup> 100% Non-tax Supported		Parking Dept.	Section Within Dept.	Parking Authority	Separate Organization	Separate Organization	
1	Mississauga	766,000	2,328	<sup>4</sup> Yes	Council		✓				• Parking equipment, maintenance, repair, transaction processing
2	Burlington	178,000	1,519	Yes	Council		✓				• Enforcement
3	Calgary	1,235,000	17,374	Yes	Board			✓			• None
4	Edmonton	899,500	6,562	Yes	Council		✓				• Enforcement
5	Hamilton	520,000	3,700	Yes	Council		✓				• None
6	London	366,000	2,664	Yes	Council	✓					• Enforcement • Some Off-Street
7	Montreal	1,649,500	22,214	Yes	Board of Trade				✓		• None • Enforcement by Police (civilians)
8	Ottawa	883,400	6,737	Yes	Council		✓				• On-street & Off-street revenue & equipment • Ticket processing
9	Regina	195,000	1,250	Yes	Council		✓				• Enforcement
10	Thunder Bay	109,000	3,178	Yes	Board			✓			• Revenue collection • Some Off-Street
11	<sup>2</sup> Toronto	2,615,000	53,000	Yes	Board			✓			• Revenue collection
12	Vancouver	605,000	20,930	Yes	Board			✓			• None
13	Winnipeg	727,500	5,971	Yes	Board			✓			• None
14	Windsor	216,500	4,355	Yes	Council		✓				• Enforcement
	U.S.A. City										
15	<sup>3</sup> Chicago, Illinois	2,720,500	45,176	Yes	Private Board					✓	• All On-street & 4 large parking garages
16	Indianapolis, Indiana	853,000	3,900	Yes	Private Board					✓	• All On-street
17	Minneapolis, Minnesota	411,000	22,000	Yes	Council		✓				• Off-street facilities • On-street revenue collection
18	Harrisburg, Pennsylvania	49,000	8,983	Yes	Private Board					✓	• All On-street & Off-street

- Notes:
- For municipal parking departments or sections, snow ploughing, lot sweeping, hydro, enforcement, professional services and other services may be performed or covered by other municipal departments with the associated costs not allocated to the parking function.
  - Toronto currently reviewing possibility of contracting out parking enforcement for on-street operations now provided by the Toronto Police Service (civilian officers).
  - Chicago's on-street parking was privatized in 2008, with an original least term of 99 years that was scaled back to 75 years in 2013. The four large Millennium Park parking garages in the downtown were privatized later under a separate agreement.
  - The City issues violation tickets and retains all revenue from them, even for the tickets that are issued by the concessionaire/parking operator."
  - The primary functions of parking operations & enforcement are self funded through fees and fines, but other functions and related costs performed by other depts. are not allocated to the Mississauga parking

Table 4-12 Summary of Most Common Parking Organization Models in Canada & USA

Organizational Model	Description	Main Reasons	Examples in Canada?	Comments
1- Municipal Horizontally Integrated	<ul style="list-style-type: none"><li>→ Various aspects of parking are spread across many departments and sections.</li><li>→ Each section, division or dept. manages one or more parking functions</li><li>→ No one dept. has total responsibility, accountability &amp; full understanding of all functions &amp; interrelationships</li></ul>	<ul style="list-style-type: none"><li>→ Growth of the municipality resulted in need for a parking function</li><li>→ Usually started in existing public works dept. that was responsible for roads and traffic management</li><li>→ Municipal bylaw enforcement for zoning and animal control already existed and were given added function for parking.</li><li>→ Finance division already responsible for revenue (taxes, permits, etc.), resulting in additional function when pay parking introduced.</li></ul>	<ul style="list-style-type: none"><li>→ Mississauga</li><li>→ Markham</li><li>→ Vaughan</li></ul>	<ul style="list-style-type: none"><li>→ Municipality may also outsource operations through contracted management agreement or lease agreement with guaranteed monthly revenue over a 5 year plus contract – very common among Ontario hospitals and commercial building owners and managers.</li><li>→ Mississauga currently contracts out maintenance &amp; repair of its 120 on-street pay &amp; display machines.</li></ul>
2- Municipal Vertically Integrated	<ul style="list-style-type: none"><li>→ One division or section, lead by a department head, is fully responsible for on-street and off-street parking, parking system planning, enforcement and with other parking functions that may or may not be included.</li></ul>	<ul style="list-style-type: none"><li>→ ‘One stop shop” for parking services</li><li>→ Full accountability for operations and coordination of and interacting with other municipal depts. and sections on land use and transportation planning, economic development, special events, TDM and active transportation.</li><li>→ Council maintains full control of policies and fee setting.</li></ul>	<ul style="list-style-type: none"><li>→ Burlington</li><li>→ Edmonton</li><li>→ Hamilton</li><li>→ London</li><li>→ Ottawa</li><li>→ Regina</li><li>→ Windsor</li></ul>	<ul style="list-style-type: none"><li>→ The “Parking Dept.” under this model may also decide to outsource aspects of parking operations (similar to above comments).</li><li>→ Variations of this model exist depending on size of parking operations, type of services, overall municipal organizational structure &amp; extent of urban development.</li></ul>
3- Parking Authority	<ul style="list-style-type: none"><li>→ Publicly owned and managed organization separate from the municipality with its own Board of Directors and CEO and comprised of citizen appointees and Councillors.</li><li>→ Focused on all aspects for parking operations, with responsibility for parking facility planning, construction, maintenance, ownership, setting fees and fines (independently of the municipal Council).</li><li>→ Prime focus on revenue generation and 100% self-funded often contributing millions of dollars per year in dividends (profit) back to the municipality.</li></ul>	<ul style="list-style-type: none"><li>→ Most established in the late 1940s and 1950s focused on managing on-street meters to achieve vehicle turnover of spaces and meet greater demand created by increasing car ownership through construction of off-street lots &amp; garages to support local businesses.</li><li>→ Successful in large cities where extensive parking infrastructure required to meet growing demand by providing lots, garages, joint venture agreements with developers for shared parking and expanded on-street payment areas.</li></ul>	<ul style="list-style-type: none"><li>→ Calgary (estab. 1968)</li><li>→ Toronto (estab. 1952)</li><li>→ Vancouver (estab. 1948)</li><li>→ Winnipeg (estab. 1995)</li><li>→ Thunder Bay (estab. 1979)</li></ul>	<ul style="list-style-type: none"><li>→ Works with the municipality for zoning parking requirements, Payment-in-Lieu contributions and joint ventures with developers.</li><li>→ Parking authorities may also contract out to a private operator to manage off-street parking facilities.</li><li>→ Council loses control of parking policy approval and rate setting, which become the responsibility of the Parking Authority Board.</li></ul>
4- Business District	<ul style="list-style-type: none"><li>→ Parking is operated &amp; managed by a downtown business improvement group, Chamber of Commerce, Board of Trade or urban renewal agency through an operating agreement with the City.</li><li>→ Smaller cities may not have the parking infrastructure and this provides them with opportunities to establish relationships with the private sector landowners willing to work with the City in providing parking.</li></ul>	<ul style="list-style-type: none"><li>→ Downtown business community has a vested interest in urban renewal and resurgence and often have skills in strategic planning that may be lacking by traditional municipal structures.</li><li>→ Business are committed to making parking successful in meeting the business community’s concerns on the vitality of commercial streets and the downtown’s attractiveness to residents and tourists.</li><li>→ Encourage parking efficiency and parking infrastructure investment.</li><li>→ Plan parking facilities at strategic locations.</li></ul>	<ul style="list-style-type: none"><li>→ <b>Montreal (Stationnement de Montreal)</b></li><li>→ <i>More common in USA:</i></li><li>→ Boise, Idaho</li><li>→ Tempe, Arizona</li><li>→ Cedar Rapids, Iowa</li></ul>	<ul style="list-style-type: none"><li>→ Stationnement de Montreal (SDM)</li><li>→ Created in 1995 to optimize paid on and off street parking in the downtown &amp; is subsidiary of the Montreal Board of Trade.</li><li>→ Governance of SDM is by the Board of Trade’s partner, Accesum Inc., which forms the Board of Directors and meets the operating terms set by the City of Montreal under a 30-year agreement.</li><li>→ Privatization generated much higher revenue for the City than originally projected.</li><li>→ The City determines rates, locations and other regulations.</li><li>→ SDM contributes \$50 million per year to the City.</li><li>→ The City is considering changing governance and management arrangements due to new Parking Policy to broaden the mandate of parking, which is supported by the Board of Trade.</li></ul>



Organizational Model	Description	Main Reasons	Examples in Canada?	Comments
5- Privatization (Also referred to as “asset monetization”)	<ul style="list-style-type: none"><li>→ A way for municipalities having serious financial debt and cash problems to operate, maintain, and plan for the future by outsourcing on-street and off-street parking facilities to a private consortium of investors over a 35 to 50 year plus term in exchange for large upfront cash payment.</li><li>→ Assets remain property of the municipality.</li><li>→ City transfers to the private consortium: (a) operating risk (i.e. management &amp; maintenance costs) and (b) capital expenses for the term of the long term agreement.</li><li>→ Gain extra capital funding from investor for new facilities.</li><li>→ In parking, this is a trend only in USA cities and universities over the last 10 years.</li><li>→ Challenge is on how to develop and implement a long term agreement that is fair to a city and the private consortium.</li></ul>	<ul style="list-style-type: none"><li>→ Lack of funds to maintain, modernize or upgrade parking infrastructure, such as on-street meters/technologies and parking garages in need of intensive capital refurbishment.</li><li>→ The need for new parking facilities (lots or garages), but shortage of City funds.</li><li>→ A city looks to the future requirements for parking infrastructure refurbishment or replacement (i.e. parking garage) and determines they do not have the finances to undertake such a capital intensive project, so they pursue private sector investors.</li></ul>	<ul style="list-style-type: none"><li>→ NO</li></ul> <p>U.S.A. EXAMPLES:</p> <ul style="list-style-type: none"><li>→ Chicago, ILLINOIS</li><li>→ Indianapolis, INDIANA</li><li>→ Minneapolis, MINNESOTA</li><li>→ Harrisburg, PENNSYLVANIA</li><li>→ Ohio State University, Columbus, Ohio</li></ul> <p>CHICAGO:</p> <ul style="list-style-type: none"><li>→ Leased 36,000 on-street spaces plus 4 large downtown garages (Grant Park/Millennium Park)</li><li>→ City faced serious financial issues in 2008</li><li>→ Received upfront payment in 2008 of \$1.15 Billion for 75-year lease for on-street metered spaces and \$563 million for 99 year lease for the 4 garages.</li><li>→ Upfront payment used to pay off debt, improving neighbourhood parks, funding programs for low income residents and establishing a long-term reserve fund.</li></ul>	<ul style="list-style-type: none"><li>→ If municipality is under pressure to reduce costs and to fund growth key questions are:</li><li>→ Is parking a key core service?</li><li>→ Can the capital be better invested elsewhere into core municipal services?</li></ul>

Over the past 9 years since the dramatic financial collapse of world markets in 2008, the Business District model is becoming a popular trend in the USA where business associations or urban development renewal agencies are becoming responsible for operating, managing and governing parking services. The only city in Canada with this model is in Montreal, where the Board of Trade and its 2 partners, Accesum Inc. and the Stationnement de Montreal are responsible for parking since 1995. The privatization or monetization of parking infrastructure assets and services is also a trend in the USA where small and medium size cities are seeking lump sum large payments from investment groups to address debt and cash flow problems. The largest City in North America to monetize their parking, was the City of Chicago under a 75 year lease.

Table 4-8 explains the purpose of each common organization model and provides the pros and cons of each and the resulting questions that must be considered, which will later be addressed through the stakeholder engagement process and a subsequent evaluation of organizational options.

Table 4-13 Pros and Cons of Most Common Parking Organization Models in Canada & USA

Organizational Model	Purpose	Pros	Cons	Resulting Questions
1- Municipal <b>Horizontally Integrated</b>  (Many Departments & Sections - Current in Mississauga )	<ul style="list-style-type: none"><li>To provide a range of parking services comprised of on-street and off-street (paid and unpaid) parking, enforcement, parking planning, customer service, backoffice administration and coordination with City's strategic goals (i.e. landuse planning and multi-modal integration).</li><li>To balance objective of meeting the service &amp; "City building" needs of the City while being financially self funded (with minimal or no tax support) to the greatest degree possible.</li></ul>	<ul style="list-style-type: none"><li>Cost effective as not all costs allocated to parking functions due to functions absorbed by other departments or sections</li><li>Promotes an environment of teamwork by allowing for input into parking from several departments or sections across the municipality at different hierarchical levels.</li><li>A satisfactory approach to parking services if the municipality has the objective of limited investment in the development of major off-street parking program.</li></ul>	<ul style="list-style-type: none"><li>Accountability for parking may be lost due to no one department or division to manage and coordinate all of the aspects of parking as an integrated overall system that is seamless to the parker.</li><li>Conflicting objectives that may interfere in achieving City's strategic goals resulting in some issues not receiving proper focus as parking issues becomes more complex.</li><li>Mixed messages to municipal staff on their role of being focused on revenue generation or meeting service requirements regardless of cost impact on the municipality.</li></ul>	<ul style="list-style-type: none"><li>What is the clear role of parking for the community?</li><li>How can conflicting objectives of revenue vs. service be clarified?</li><li>To what extent does the City want to expand parking infrastructure in on-street and off-street facilities?</li><li>What level of investment is appropriate for the municipality to provide off-street parking compared to private sector land developers?</li></ul>
2- Municipal <b>Vertically Integrated</b>  (One Dept. or Division fully accountable for parking services)	<ul style="list-style-type: none"><li>Same as above, but with greater emphasis on parking as a service in "City building" and promoting multi-modes of transportation.</li><li>To provide parking services to "customers" with an approach that is compliance oriented rather than the traditional punitive method treating parkers as "violators."</li></ul>	<ul style="list-style-type: none"><li>Public and elected officials are clearer on where to go for parking services, issues or concerns: "One stop shop."</li><li>Direct decision-making by Council on policy issues i.e. parking rates and strategic goals</li><li>Raises profile and advocacy for parking needs in the City</li><li>Full accountability for operations and coordination of parking within the City</li><li>Net operating revenue (i.e. annual surplus) may be applied to promoting TDM and active transportation.</li><li>May continue with other sections of the City in providing parking functions i.e. finance, capital works &amp; transportation planning.</li></ul>	<ul style="list-style-type: none"><li>Conflicts will still arise due to the mixed goals of balancing revenue with service ("City building").</li><li>Parking revenue growth may be limited in establishing competitive market-based parking fee/rates due to municipal decision-making approval process.</li><li>Parking dept. or division competes with other City depts. to fund parking program (operating &amp; capital) even though funding source is from parking revenue.</li></ul>	<ul style="list-style-type: none"><li>How important to the City is the goal of parking as a revenue generator in being non-taxed supported?</li><li>What are the City's financial expectations from parking?</li><li>What are the best ways to resolve the conflicts between revenue and service when they arise?</li></ul>
3- Parking Authority  (Special Purpose Body external to municipal organization)	<ul style="list-style-type: none"><li>To provide, manage and operate on and off-street parking facilities with a prime goal of revenue generation to off-set operating &amp; capital costs and directing surplus revenues (dividends or profits) to a parking capital reserve fund and the municipality under an operating agreement.</li></ul>	<ul style="list-style-type: none"><li>A Board, not City Council, focused on parking services and issues resulting in more rapid decision-making in response to changes in the parking marketplace in terms of consumer needs (sharing economy), competitive parking rates, new technologies and expanded parking facilities.</li><li>Works well in an environment of extensive urban growth where expanded parking infrastructure needed and requiring a strong organization to focus on project implementation.</li><li>Financially self funded and non-tax supported.</li><li>Surplus funds placed in reserve fund for refurbishment of existing parking facilities and expansion of new parking facilities</li></ul>	<ul style="list-style-type: none"><li>A separate Board makes the decisions on day-to-day operations, including parking rates with no approval by City Council.</li><li>Other municipal objectives that may negatively impact parking revenue and cost efficiency are given low priority i.e. "City building" and promotion of multi transportation modes.</li><li>The annual surplus funds (i.e. dividend) contributed to the City may vary as it is tied to parking demand and may not meet the City's annual financial expectations.</li><li>If financial losses occur, the operating agreement includes provisions that such losses would be covered by the municipality and not the parking authority.</li></ul>	<ul style="list-style-type: none"><li>To what extent is City Council's goal to generate sufficient revenue so parking is fully non-tax supported with surplus annual revenues placed in a reserve fund for the expansion of parking services and facilities (and/or contributed to the City)?</li><li>How will the City (staff and Council) address conflicts that arise between prime objective of revenue at the expense of other City strategic goals of "City building" and achieving a multi-modal approach to transportation?</li><li>How agreeable is City Council to relinquishing decision-making powers on parking services to a separate Board?</li></ul>
4- Business District  (Similar to Parking Authority, but run by local development agency or formal business association)	<ul style="list-style-type: none"><li>Similar purpose as a Parking Authority with another major goal of planning, managing and delivering parking services that encourage commerce and support the needs of local businesses.</li></ul>	<ul style="list-style-type: none"><li>Downtown business community has a vested interest in the economic vitality of the downtown and competitiveness to other commercial areas and therefore committed to making parking services successful.</li><li>Provides skill sets in business and strategic planning that may be lacking, especially in small and mid-size municipalities.</li><li>Beneficial in provision of private sector parking facilities by establishing partnerships without intensive capital investments.</li><li>Financially self supporting without property tax support.</li></ul>	<ul style="list-style-type: none"><li>A separate Board, comprised primarily of local business managers and owners makes the decisions on day-to-day operations, including parking rates with no approval by City Council.</li><li>Other municipal objectives that may negatively impact commerce and the attraction of visitors to shop, work and entertain in the downtown, are given low priority i.e. "City building" and promotion of multi transportation modes.</li><li>Promotions offered by the business community, such as free parking during different times of the year to encourage commercial activity may be in conflict with City objectives on reducing vehicular traffic.</li><li>Depending on parking rates, may have insufficient capital to expand parking facilities (i.e. rates may be set below market rates).</li></ul>	<ul style="list-style-type: none"><li>How agreeable is City Council to relinquishing decision-making powers on parking services to a separate Board comprised primarily of local business managers and owners?</li><li>How will the City (staff and Council) address conflicts that arise between the prime objective of meeting local business owner objectives of commerce whom may not be concerned about the City's strategic goals of "City building" and achieving a multi-modal approach to transportation?</li></ul>

Organizational Model	Purpose	Pros	Cons	Resulting Questions
5- Privatization (Also referred to as "asset monetization")  (Private consortium of investors)	<ul style="list-style-type: none"><li>To obtain a lump sum large upfront payment from a private consortium in exchange for rights to the revenue over 35 (or more) years to operate and manage parking.</li><li>Immediate funds are needed by the City to address serious financial debt and cash problems.</li></ul>	<p><i>Experience in USA is that privatization has resulted in number of benefits:</i></p> <ul style="list-style-type: none"><li>Renewed parking facilities previously in disrepair</li><li>Improved response time to service and maintenance calls.</li><li>New on and off street technologies previously unaffordable or lack of technical know-how on implementation by City officials</li><li>Future refurbishment transferred to private sector</li><li>Lump sum upfront payment used for other municipal funding programs not necessarily related to parking.</li><li>Better branding, marketing &amp; promotion of parking to customers.</li><li>Assets remain property of the municipality.</li></ul>	<ul style="list-style-type: none"><li>City is out of the parking business with no Council involvement on decisions.</li><li>Decision-making by a private Board with priority goal of recouping initial investment (i.e. lump sum upfront payment) and generating additional profits for shareholders.</li><li>Problems in clearly detailing and defining the exact terms, conditions and risk factors in a long term agreement that is fair to a city and the private consortium</li><li>Under estimated revenue projections resulting in greater profits to consortium</li><li>Negotiated too long a term i.e. 50 years instead of 35 years</li></ul>	<ul style="list-style-type: none"><li>How well and high functioning is the parking system in meeting both the public's and City Council's objectives?</li><li>Does the City want to be in the parking business and if so, to what extent?</li><li>Is the privatization (monetization) of the City's parking assets a way to meet future financial challenges?</li><li>If there are budget problems, are there other alternative solutions?</li><li>How important is parking to the overall municipal infrastructure, community and economic development over the long-term?</li></ul>

2.9.2 Functional Organizational Alternatives

Table 4-9 shows a more detailed comparison of the 5 most common business models in relation to the main functions of parking (i.e. finance, customer service, compliance/enforcement, on and off street operations, etc.). The “Existing Mississauga Parking Services” (status quo) organizational structure is compared to the other models of “City Department,” “Parking Authority,” “Business District,” and “Privatization.” As shown, by the two-piece rectangles, there are many functions that are currently shared and will continue to be shared even under a consolidated “Parking Department,” with the main difference being that the department or division head, will be accountable for the parking system as the “go to person” on parking issues, including being responsible for ensuring any coordination and integration is carried out among other sections, divisions or departments.

The “Own Unit” boxes refer to a parking function that would be directly provided within the particular organizational structure and not shared with another municipal section or department. It is interesting that even with the Parking Authority, Business District and Privatization models, the parking functions of Backoffice Administration (ticket & permit processing) and Compliance may be performed by other departments. For example, Chicago (Privatization model), the Police are responsible for parking enforcement and retain all revenue from fines even though the concessionaire (private operator) is allowed to use their own trained officers to issue tickets in order to increase compliance and hence parking revenue.

There are variations to all models shown. For example, the Toronto Parking Authority even as a self-governing agency with their own Board and a focus on operations and revenue generation, they are still involved with following the City of Toronto’s strategic transportation and land use objectives. The TPA has a very long history of high hourly parking rates, which have been supportive of encouraging public transit and the last few years being responsible for the City’s Bike Share program.

Table 4-10 is a more detailed illustration of the organizational structure of parking within eight (8) Canadian municipalities showing the comparison of hierarchical layers upon which the parking function operates. Parking is located within the transportation or public works areas for 6 municipalities, while two have parking in the Community Services Department (Regina) or the Planning and Economic Development Department (Hamilton). For Mississauga, Burlington, Edmonton, Hamilton and Ottawa parking is the 3<sup>rd</sup> hierarchical level within the main department or branch whereas London, Regina and Windsor are at the 2<sup>nd</sup> hierarchical level.

After the stakeholder consultation sessions these models will be more refined and evaluated based on a variety of criteria to narrow down the most feasible options.

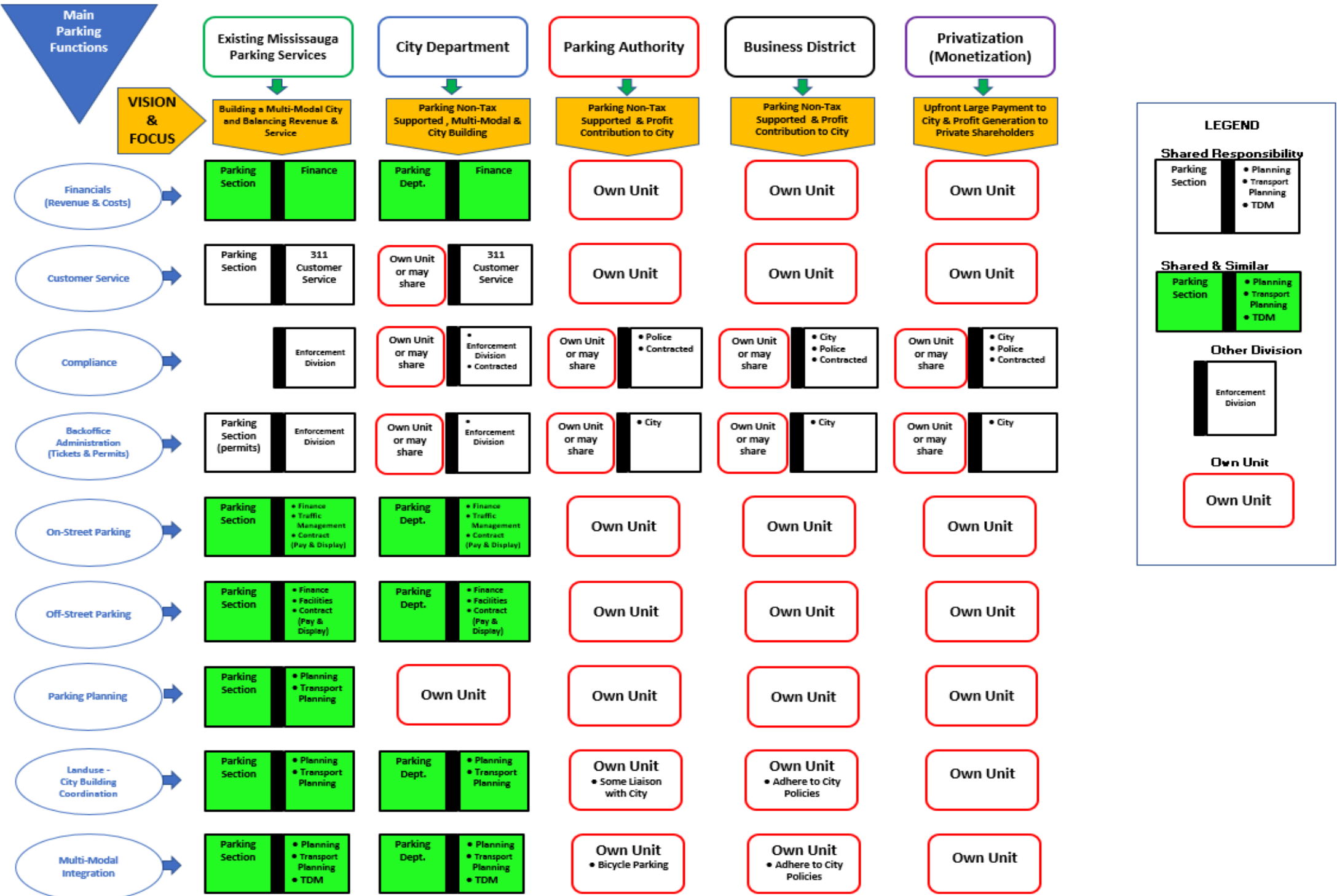


Figure 4 - 22 Parking Organizational Structure Within Select Canadian Municipalities





Figure 4 - 23 Parking Organizational Structures Within Select Cabnadian Municipalities

## 2.10 Parking Financial Models

As shown in the previous section, nearly all of the selected Canadian parking services are non-tax supported and generate surpluses for contributing to capital reserve funds for parking infrastructure improvements or expansion and/or an annual contribution to the municipality to off-set property tax increases. The City of Mississauga was shown as funded partially by the property tax base due to the horizontal organizational structure of many departments and sections across the City involved in parking and the non-allocation of all costs related to parking services. Therefore, a best practice is self-funded operation with no subsidy from the local property tax base.

The other financial model with a major difference as outlined in Figure 4-9 is the privatization (monetization) of the parking infrastructure to a consortium of private investors in exchange for a large lump sum upfront payment and long term agreement over 35 years. This has not been applied to any Canadian parking operations, but a similar situation occurred back in the mid-1990's in Ontario when the new Highway 407 Toll Highway concession was sold to a group of investors in exchange for building the highway and then operating it for 99 years and retaining the toll revenue.

The next section of this best practices review provides some key performance indicators for 2015 benchmarking and comparing Mississauga to eleven (11) other Canadian municipal parking services.

### Benchmarking

For benchmarking Mississauga parking services against other Canadian cities, the most recent and publicly available data was from Dundas, Ontario based MBN Canada (Municipal Benchmarking Network Canada, formerly known as OMBI), which is a network of 16 Canadian municipalities using data to continuously improve the way they deliver services to their communities. MBN Canada uses 37 service areas, including municipal parking, 670 measures covering 6 provinces.

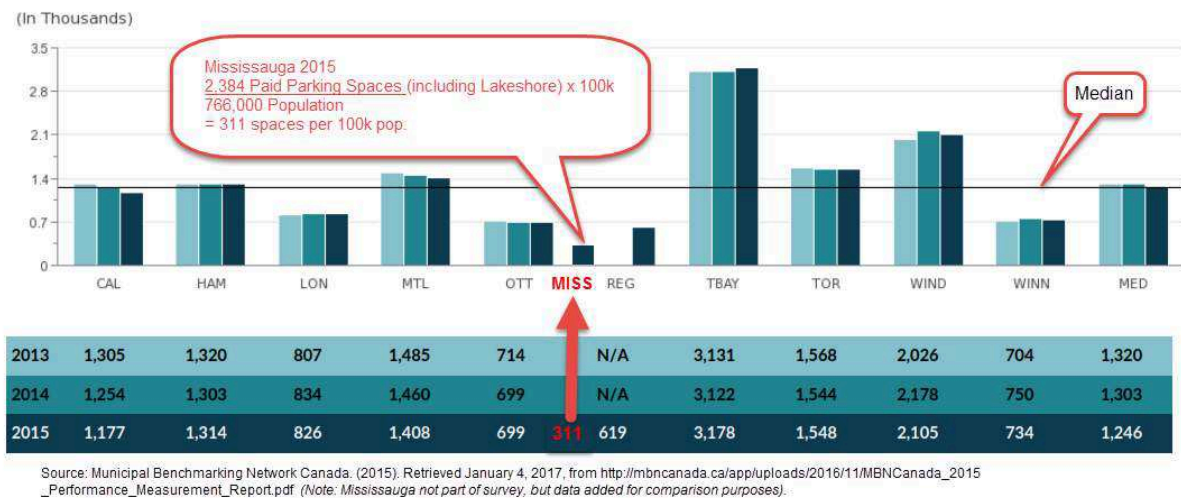
Mississauga 2015 data was not available directly from MBN Canada, but was obtained from City staff, calculated and then manually added to the applicable parking performance measure graphs extracted from the publication.

The abbreviations for the Canadian municipalities that are used on the graphs, are as follows:

The regional municipalities noted below do not operate municipal public pay parking so are not included in the subsequent graphs.

**Table 4-14 Benchmark Municipalities and Abbreviations**

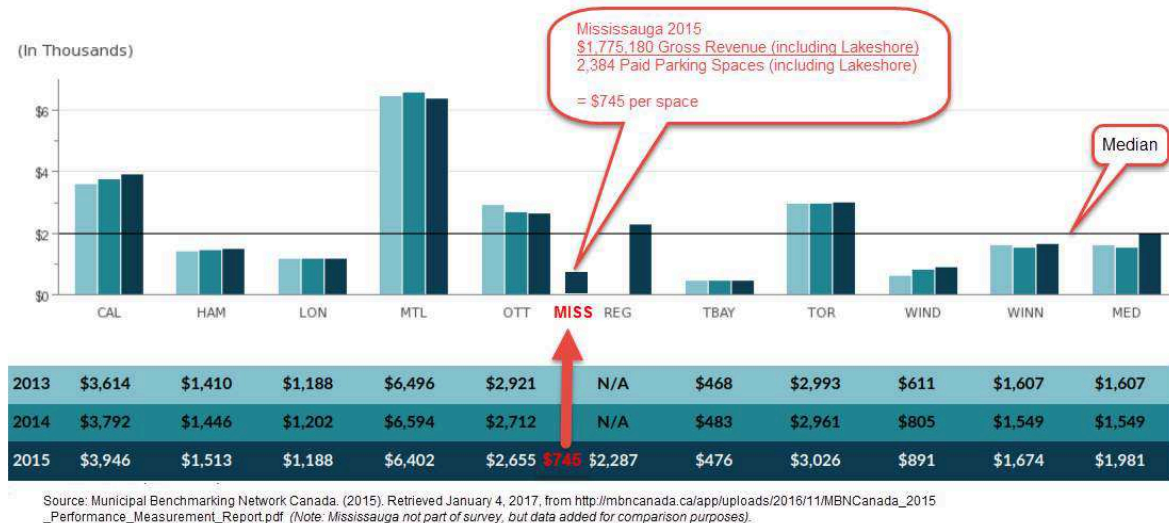
Benchmark Municipalities and Abbreviations			
City of Calgary	CAL	City of Thunder Bay	TBAY
Region of Durham	DUR	City of Toronto	TOR
Halton Region	HAL	Region of Waterloo	WAT
City of Hamilton	HAM	City of Windsor	WIND
City of London	LON	City of Winnipeg	WINN
City of Montreal	MTL	York Region	YORK
Niagara Region	NIAG	Median	MED
City of Ottawa	OTT	Mississauga	MISS
City of Regina	REG		



**Figure 4 - 24 No. of Paid Parking Spaces managed Per 100, 000 Population**

#### Discussion

- Mississauga has the lowest (311) number of paid parking spaces per 100,000 population (and less than half of the median) due to the fact that the benchmark cities have traditional well established old downtowns and pay parking operations compared to Mississauga which has a relatively new and growing downtown and pay parking only introduced a few years ago.



Comment: In the City of Montreal, a higher proportion of revenues is derived from parking tickets. The utilization of a web application (P\$) has helped to increase revenues and reduce the non-payment rate.

**Figure 4 - 25 Gross Parking Revenue Collected Per Paid Space**

#### Discussion

- Mississauga has the 2nd lowest (\$745) parking revenue per paid parking space, which is higher than the lowest, Thunder Bay (\$476) and close to Windsor (\$891).





Figure 4 - 26 Total Cost per Paid Parking Space Managed

#### Discussion

- Mississauga has the third lowest cost (\$624) per space compared to London (\$461) and Thunder Bay (\$440).
- The largest parking operations have higher costs per space with Calgary (\$2,129) having the highest cost followed by Montreal (\$1,849), Ottawa (\$1,778) and Toronto (\$1,613).



Figure 4 - 27

Parking Services Revenue to Cost Ratio – Total

### Discussion

- The Revenue to Cost Ratio is an indicator of financial performance of the parking operation. A R/C ratio of 1.00 means that the parking system is breaking even. When the R/C exceeds 1.00 it's representative of producing a surplus (or profit) that may be either reinvested into the operation through a capital reserve fund or paid out as a contribution to the municipality in the case of all business models except the Privatization model.
- In 2015, of all the cities, Mississauga had the lowest R/C ratio of 1.19 with Montreal having the highest at 3.77, Calgary at 2.42 and Toronto at 2.09.
- Hamilton's R/C ratio of 1.27 is only marginally better than Mississauga's (1.19), yet Hamilton has a much larger operation (3,700 spaces) than Mississauga's (2,000 spaces) indicating less utilized spaces and/or greater competition by private parking operators in the downtown.

### 2.10.1 Understanding the Real Costs of Parking

Despite common thinking that parking can be provided for “free,” there are inherent costs associated with providing parking. For new parking facilities, the cost of parking spaces include: land acquisition, design & construction, lighting, power, signage, access control, safety and security, fencing, landscaping, parking planning and insurance. For existing parking facilities there are ongoing maintenance costs of snow and litter removal, power sweeping, resurfacing, landscaping, line painting, lighting and insurance as well as costs of marketing, promotion and enforcement.

It is often raised that privately owned shopping malls provide “free” parking, when in fact the inherent costs are passed along to the user. For example, the capital and operating costs incurred of operating the large number of parking spaces at a mall are reflected in the tenants' rent, which is passed on to consumers through the price of goods and services.

Enforcement costs are increased when free time-limited parking is provided because more frequent patrols are required. In some cities, parking enforcement revenue is used to support the entire parking program and operations, including enforcement costs.

When municipalities opt to provide “free” parking, the costs must be covered from sources other than user fees such as taxes and there isn't the ability to build reserves to fund future capital projects.

Table 4-15 shows the estimated capital and operating costs per space for various types of parking facilities, excluding land acquisition costs. Land acquisition costs have not been incorporated into this table since real estate costs vary greatly based on location. These costs apply to Southern Ontario and are based a recent WSP Canada Inc. study for Exhibition Place in Toronto.

**Table 4-15 Estimated Capital and Operating Costs for parking spaces by type**

Type		Cost (\$ per space for capital and \$ per space per year for operating)
<b>Capital</b>	Surface lot	\$6,250
	Above Ground Structure	\$44,000
	Above Ground Pre-Fab Steel	\$20,000
	Below Ground Structure	\$62,500
<b>Operating</b>	Surface Lot Stall	\$150-250
	Above Ground Structure	\$250-350

	Below Ground Structure	\$350-500
--	------------------------	-----------

### 2.10.2 *Key Elements of the Parking Financial Model*

Based on our combined previous work in this area, in developing a financial model for the Parking Master Plan, it will be important that public officials and managers resist the urge to increase revenue for revenue's sake and that the program's qualitative goals are not sacrificed for revenue expediency. However, there will be trade-offs and a balancing act to meet the strategic parking policy framework objectives while ensuring sufficient funds to support the parking requirements of the community. There are financial realities of providing an effective parking program and therefore, it is critical to understand the real costs before approving concepts in the Parking Master Plan to avoid burdening the local taxpayer. Parking revenue from paid parking and fines is important to re-invest in the parking services and infrastructure as well as supporting a state of good repair and other programs, such as TDM and active transportation.

The key elements that will drive the parking financial model (to be developed at later stage of the PMPIS) are:

- **Demand (parkers) forecasts** – short and long-term
  - volume of parkers by type of parker (transient vs. monthly)
- **Supply (spaces) forecasts**
  - based on demand or availability
- **Revenue (rates) forecasts**
  - based on demand (volume of parkers, by parker type) & pricing (rates)
  - fine tuning different rates to respond to the rate level to charge for monthly parking vs. transient parking
  - Incremental pricing increases (based on parking market)
- **Cost – Capital and Operating forecasts**
  - based on supply
  - type of parking facility (on-street, surface lot, underground, above ground)
  - ongoing operating and maintenance expenses
  - capital costs of surface and structured parking
- **Finance**
  - funding sources (user fees, Payment-in-Lieu, development charges, tax contribution, private sector contribution (in return for zoning variance) and tax incentives promoted through the Province's Smart Growth initiatives
  - ROI (Return on Investment) – including “breakeven point”
  - payback period (years)

### 2.10.3 *State of Good Repair for Parking Infrastructure*

Based on our experience and similar parking studies a best practice is that a financial model should start with a “State of Good Repair” evaluation of the City's existing parking infrastructure and equipment and a review of the City's 10-Year capital and operating budget forecasts and the amount of allocations for

infrastructure (i.e., resurfacing, lighting system replacement, elevators, parking access and revenue control technologies, parking guidance systems and garage refurbishment).

Any future expansion targeted to a specific area of the City Centre or other area (i.e., Port Credit), would a high level financial analysis will be undertaken of requirements for capital investment, ongoing operating costs, revenues and parking fees needed (i.e., charged to parkers) to sustain and support surface and structured parking during the life cycle of the parking facilities.

The development of the parking financial model will also consider the impact of new technologies that will transform the future transportation system. With the City's approach to forward thinking and planning, it will be important to ensure that the municipality is adaptable and flexible towards future trends that must be considered prior to making multimillion dollar investments in parking services and infrastructure.

In Ontario one of the most active and progressive parking operations that charges for parking, is the Toronto Parking Authority (TPA) where 7% to 10% of the total parking operating budget, should be budgeted for annual maintenance, covering sweeping and power washing facilities, pavement line markings, pavement patching and repair, equipment repair, and lighting and signage upgrades for both surface lots and parking structures. Snow clearing would add approximately an additional 4 to 5 percent of the parking operating budget.

Another typical best practice is an annual allocation of 1 percent of the total value (cost) of parking capital assets for major upgrades to elevators, parking lot repaving, lighting system replacement and technology (software and hardware) improvements for both surface lots and parking structures. This annual allocation should be used for refurbishment of surface parking lots at Year 15 and parking structures (above ground and underground) at Year 25 from the date of initial opening of the facilities. Surface parking lots typically have a 15-year life, while underground parking structures and prefabricated above ground structures have a life cycle of 50 years or more, if maintained properly.

#### 2.10.4 *Sustainable Parking Now and in the Future*

Sustainable parking may be viewed in terms of financial sustainability as an economically viable operation with little or no burden on taxpayers and as an organization committed to environmental sustainability outcome, such as reducing greenhouse gas emissions and taking action on climate change. Financial self-sufficiency has been outlined in this report earlier and there is another section in the finance portion of this review, so it will not be repeated here.

Across North America municipal parking service providers are taking a leadership role in environmental sustainability by implementing many initiatives, which are listed below:

- Parking guidance systems both on local nearby road networks (i.e. Square One, Mississauga) and within surface parking and garages to cut down on motorists searching for spaces. The guidance system advises motorists where available parking spaces are located in real time.
- Support for TDM and active transportation by managing bicycle sharing programs and establishing secure bicycle parking in traditional parking garages. Examples can be found in Austria, 200 Euros subsidy per new bike parking space in existing parking facilities built before 2000 and 400 Euros subsidy per e-bike space (BMLFUW 2017), Munich (Germany), and Melbourne.
- Preferential parking locations within parking facilities for multi-occupant vehicles.
- Greening of buildings by working with local hydro boards and government programs to install energy efficient LED lighting and solar power panels on parking garages.

- Electric vehicle charging stations in garages (Mississauga is already doing this) and providing convenient locations within parking facilities for doing so.
- Carbon off-set programs through training and education for parking managers on learning how to calculate carbon footprints and reduce the latter with the objective of achieving 100% carbon neutrality.
- Carbon neutral internal fleets used by municipalities and their associated parking divisions.
- Partnerships with ZipCar, Car 2Go and others to allow for convenient parking spaces, 24 hours a day, 7 days a week.
- Smartphone guidance and payment apps to reduce parking ticket paper and make parking more convenient for customers.

This does not represent an exhaustive list; there are many other programs that are continually evolving as new technologies and practices are developed.

## 2.11 Parking Enforcement

Nobody likes to receive a parking ticket or getting towed. Parking enforcement is often viewed by the parkers as a “tax grab” for a municipality to generate additional revenues.

In balancing the management of parking spaces and the service needs of parking customers, there has been a trend the last few years of shifting the approach from parking enforcement to parking compliance. Enforcement helps to manage a scarce resource of parking spaces. To assist prospective customers with complying with the parking bylaws on payment, time limits, location and accessibility, some enforcement agencies are shifting away from seeing violators that need to be punished for parking infractions as customers who should be valued and appreciated.

The key objective of the “customer” approach is to improve compliance rather than issuing more tickets. A parking ticket is merely one of the tools. When illegal parkers do not comply, this causes safety issues and inconvenience to other parkers who require access to goods and services, their workplace, residence, place of worship, education and many other activities.

Some municipalities in both Canada and the USA have taken an approach where parking enforcement officers become “ambassadors” by helping motorists on how to use parking technologies, providing directions and educating someone parking illegally where the person has made an honest mistake or is purposely ignoring the law by directing them to a legal parking space.

### 2.11.1 Compliance (“Customer”) Vs. Enforcement (“Punitive”) Approaches

#### Parking Ambassador Programs

##### **VICTORIA AND NANAIMO, BC**

After several decades dating back to the 1950s of using contracted Canadian Corps of Commissionaires as parking enforcement officers, in January 2016 the City of Victoria, BC introduced a “parking ambassadors” program by hiring 23 new in-house staff that provide proactive customer service, while also enforcing the parking bylaws to ensure high parking turnover for residents and downtown businesses. Victoria adopted this program from a similar successful ambassador program used by the City of Nanaimo, BC. The criteria for hiring were candidates with strong verbal and interpersonal communication skills, proactive nature and strong judgment. A comprehensive training program was

introduced by providing the new staff with understanding of the importance of tourism, knowledge about the geography of the City and the needs of downtown businesses and the importance of safe and efficient parking services.

The ambassador program has been well accepted by the parking public and downtown businesses as fewer tickets are being issued with people complying more by paying for parking resulting in parking revenue in 2016 being \$500,000 to \$900,000 more than budgeted. There was a reduction of 5,000 fewer tickets due to fewer complaints and improved interactions with parkers where no ticket is written.



In addition to parking ambassadors, the City introduced convenient pay by smartphone service that lets drivers start and stop a parking session, paying only for the time they use. The rates in the City's parking parkades were changed by providing the first hour free and rate reduced to \$2 per hour, resulting in a shift of parkers from the highly occupied on-street spaces to the lower utilized spaces in the parkades. This has resulted in higher turnover rate for on-street parking.

The uniforms of the "ambassadors" appear less military looking. The parking ambassadors have provided the City with additional sets of eyes and ears on the streets, resulting in nearly 50 calls per month for crews to respond to traffic issues, graffiti, broken glass or garbage cans in need of cleanup as well as helping police identify stolen vehicles and simply assisting people.

**Figure 4-27 Parking Ambassador**

Source: Times Colonist. (2016). Retrieved December 27, 2016, from <http://www.timescolonist.com/news/local/new-parking-regime-a-winner-for-city-of-victoria-1.2314184>



The metrics of measuring “ambassador” programs may consist of the number of customer interactions, increased compliance (i.e. revenue increases in the parking payment machines and technologies), customer and merchant feedback and many others that may be different than solely based on the total number of tickets issued by enforcement officers.

The bottom line was that the City was serious about ensuring customer have a positive parking experience making the downtown more attractive for people to come and return downtown.

### DUNCAN, BC

In 2015 the City of Duncan, British Columbia (population 5,000 with pay parking), the town adopted a new model for parking management in and around the downtown core by having a goal of being 100% customer friendly by ensuring prime parking spots are reserved for customers shopping in the downtown core. If an officer (contracted to the Canadian Corps of Commissionaires) issues a parking ticket to a customer while shopping or using downtown services, the person just calls City Hall to have the ticket cancelled or drops by in person. Business owners, employees and students that are all-day parkers in the downtown area are not provided the same leniency as a customer when parking in the downtown core and any tickets received may not be cancelled. (contracted to the Canadian Corps of Commissionaires) issues a parking ticket to a customer while shopping or using downtown services, the person just calls City Hall to have the ticket cancelled or drops by in person. Business owners, employees and students that are all-day parkers in the downtown area are not provided the same leniency as a customer when parking in the downtown core and any tickets received may not be cancelled.

#### 10 WAYS TO AVOID A PARKING TICKET

1. Watch and follow the signs – Parking is typically signed to create clarity and avoid confusion.
2. Know parking options – meters, parking lots and parkades
3. Know the difference between no parking and no stopping
4. Leave bus stops and bus lanes open for buses
5. Park safely near schools
6. Leave designated disability spots for people with disabilities
7. Keep fire hydrants accessible
8. Respect time-limited parking and don't park in alleys
9. Follow parking standards for intersections, cross walks and driveways
10. Err on the side of caution – If you are unsure of your parking choice, find another spot. A poor parking decision can lead to impacts on others and a ticket for you.

#### Understanding Parking

### BURLINGTON, ONTARIO

For over 15 years, the City of Burlington has had a very successful “downtown parking ambassador” that regularly meets with downtown businesses during patrols, interacts with the downtown Business Improvement Area members, helps pedestrians and drivers, reports damaged municipal property (i.e. lighting, equipment signs, cracked sidewalks, pavement failures), while issuing tickets under the Provincial Offences Act (POA).

### REGINA, SASKATCHEWAN

In 2015, the City of Regina introduced a 6-month pilot parking ambassador program similar to the programs in Victoria and Nanaimo. When first launched, ambassadors handed out pamphlets about parking meters, bus lanes, fire hydrants and “10 ways to avoid a parking ticket.” As part of this education approach in the downtown, ambassadors provided warnings to parkers that were improperly parked rather than immediately issuing a parking ticket. Since the start of the program, there has been a decrease in repeat offenders and officers are continuing to issue pamphlets in 2017.

### COURTESY TAGS – TORONTO PARKING AUTHORITY



 <b>COURTESY CHARGE</b>		
100133999		
Date of Infraction	Time of Infraction	Officer #
Oct 26, 2015	06:59 PM	77509
License Plate	Plate	Vehicle Make
	ON	Kia
Infraction Location		
Lot# 78		
35 ERINDALE AVENUE		
Reason for Charge (23)		
PARKED OVERTIME		
Comments		
AMOUNT DUE: \$ 6.00		
Payment Instructions on Back		

One of the longest most successful alternatives to issuing parking tickets has been the Toronto Parking Authority's (TPA) "Courtesy Envelope" (CE) program that has been successfully used in all of their off-street facilities for over 25 years.

The TPA uses courtesy envelopes as its primary means of enforcing parking violations, related to the non-payment of posted fees. Courtesy envelopes are issued on attended, pay-on-foot and unattended "Green P" lots (pay & display).

The TPA views the courtesy envelope program as the most customer friendly means of enforcement that encourages initial compliance (payment for parking) while supporting the needs of local businesses. The use of courtesy envelopes is strongly supported by the Toronto Association of Business Improvement Areas (TABIA) representing Toronto's 82 Business Improvement Areas (BIAs) comprised of more than 40,000 businesses. The business community believes that exclusive use of parking tickets (officially called Parking Infraction Notices - PINs) to enforce parking on municipal lots will encourage shoppers to abandon shopping at local retail stores for shopping malls that offer free parking.

**Figure 29 TPA  
Courtesy Charge**

The TPA supplements the use of courtesy envelopes with parking tickets to enforce parking violations mainly on unattended lots (pay and display representing nearly 90% of all CE's issued). For several years a vehicle recorded as having three outstanding unpaid courtesy envelopes was required to be issued by a TPA enforcement officer a PIN on the fourth violation. However, the program was modified after 2002, as follows:

- If a vehicle had no ticket displayed and no unpaid CEs it would be issued a CE;
- If a vehicle had no ticket displayed and any unpaid CEs it would be issued a PIN
- If a vehicle was parked overtime and had zero or one unpaid CE it would be issued a CE;
- If a vehicle was parked overtime and had 2 or more unpaid CEs it would be issued a PIN;
- If a vehicle had 6 paid CEs within the previous 6 months it would be issued a PIN.

All of the above activities are tracked automatically by TPA enforcement officers use of handheld computerized parking ticket issuance devices.

### Revenue Impact

The most publicly available information from the CE program on effect on overall revenue is 2009. Revenue from pay & display (PD) lots was impacted in 3 ways:

- Increase in initial compliance (persons buying PD tickets on entry);
- Less CEs being issued but for higher amounts; and
- More program related PINs issued.

Since the modification of the modified program noted in the above points, the following was reported:

- 135,000 CEs issued per year (down from 220,000 CEs prior to the modification)

- PINs increased from 24,000 to 44,000 per year
- CEs and PINs in arrears decreased from 244,000 to 179,000 resulting in initial compliance increasing substantially by 4% to \$800,000 per year (every 1% increase in revenue compliance is equivalent to \$200,000 per year).

In 2007, the TPA encouraged the Toronto Police Service to adopt the Courtesy Envelope program for on-street pay parking, but it was rejected for a variety of reasons where the Police believe there would be issues with differential enforcement, program boundaries, preferential treatment, increased disputes, risk to overall parking ticket program compliance and a decrease in overall parking ticket revenue to the City. However, the TPA continues to this day to successfully operate the CE program in all of its off-street parking facilities.

Depending on the organizational model adopted by the City of Mississauga there may be an opportunity to adopt this type of customer friendly program for Mississauga's parking program. If there is interest, the City may wish to have further detailed discussions with TPA officials.

### **LAMBTON SHORES, ONTARIO**

In 2015, the community of Lambton Shores on the southern shores of Lake Huron (population: 11,000) adopted an enforcement approach that had officers issuing "courtesy tickets" on offending vehicles on Grand Bend's Main Street West and paid parking lot, which was well received in the community.

Green cards were issued to vehicles either lacking paid parking tickets or displaying time-expired tickets. The green cards informed parkers about their infractions, advised that an officer would be returning in approximately 15 minutes and requested that the parkers either buy more time or move their vehicles to avoid a parking ticket (fine).

The Town reported the program was successful. Out of the 3,373 "courtesy" tickets issued only 349 vehicles subsequently received parking tickets, which is almost 90 per cent compliance with the courtesy tickets. Positive feedback was received from merchants in support of the program and from visitors to this tourist area.

## **2.11.2 New and Emerging Technology Practices in Enforcement**

Over the past 3 years, one of the latest advances in parking enforcement that was once only economical for larger operations and now cities, such as Guelph, Waterloo, Whistler, Prince George, Nanaimo, Lethbridge, and others are deploying mobile LPR (Licence Plate Recognition) for parking enforcement.

### **LPR - how it works**

A normal vehicle is equipped with two cameras on the roof, just above the windshield, that scan the licence plates of any cars parked on a street. The computer will log the plate number, the GPS location of the vehicle, the date and the time. It also is tied through the internet for cities that have adopted pay by licence plate and mobility payment (pay by cell) to alert officers of expired purchases of parked vehicles.

For areas without pay parking, the officer may drive at the posted speed limit, and will return to the area when the period of free parking (i.e. 2 hour limit) has expired. Any vehicles that have not moved in that time are flagged by the LPR system and the officer issues that vehicle a parking ticket.

A second set of cameras at the back of the vehicle scans the position of the tire valves to determine whether or not the vehicle moved during that time and re-parked in the same location.

The data is stored on a secure server and follows the recommendations provided by the Information and Privacy Commissioner of Ontario about the handling of data.

### **CALGARY'S PARKPLUS SYSTEM**

As noted in sections 4.6.2.1 and 4.82 the Calgary Parking Authority (CPA) has one of the most advanced and customer-convenient parking payment and enforcement system of any other city in North America. A customer enters the system using their licence plate number at either a pay by licence plate machine or with their cell phone, while camera mounted vehicles scan licence plates to verify payment. This process streamlines efficiency and can be used on-street, in surface lots or within parkades through the installation of stationary cameras to create a virtual gate. It's the ease and efficiency of this system that sets it apart from others: customers have a straight-forward and easy way to pay so they do, while on the operations-side, enforcement officers only have to check the vehicles in violation, which are just a small percentage of the vehicles scanned by the system. All those vehicles for which payment has been made are automatically accepted as valid by the system.

#### **The City of Calgary Experience**

In a survey conducted by Ipsos Reid (2013), 88 per cent of CPA customers indicated that they are "satisfied" or "very satisfied" with the ParkPlus System while 92 per cent of their cell phone payment customers echoed those satisfaction levels. Recent data shows that these satisfaction levels have resulted in a 19 per cent increase in payment compliance: people are choosing to pay for their parking more than ever before.

Since the adoption of the ParkPlus System, the City of Calgary has benefited from a 10 per cent increase in available on-street space because painting designated stall space isn't necessary. By opening up the curb side in this manner, more vehicles are able to park in a given area as smaller cars are able to utilize space that a regular sized vehicle can't squeeze into.

The CPA has experienced significant productivity improvement in enforcement with ParkPlus. Today, 10 enforcement officers do what 16 officers produced with walking beats and issuing tickets. The number of disputed tickets has decreased by 60% because of the strength of photo evidence; as a result, the number of court challenges has been drastically reduced saving the CPA company costs related to fees and time spent in court. These same streamlined efficiencies have impacted the operations side of the business as well.

In 2014, Edmonton became the first City to purchase the CPA's ParkPlus technology, rebranded as 'ePark'. The implementation cost of replacing 3,000 coin meters was estimated at \$12 million (Metro News Edmonton 2014).

## **2.12 Other On-Street Parking Related Policies**

### **2.12.1 Parklets**

The National Association of City Transportation Officials (NACTO) defines parklets as '*public seating platforms that convert curbside parking spaces into vibrant community spaces*'. Also known as street seats or curbside seating, parklets are the product of a partnership between the city and local businesses, residents, or neighbourhood associations".

Parklets are typically applied where narrow or congested sidewalks prevent the installation of traditional sidewalk cafes, or where local property owners or residents see a need to expand the seating capacity

and public space on a given street. Parklets typically require property owners to enter into an agreement with a municipality, in some cases through a citywide application process, procuring curbside seating in place of one or more parking spaces.

NACTO recommends that six critical steps must take place to ensure the proper planning of parklets:

1. Visibility with moving traffic and cars with a buffer zone
2. The implementation of vertical elements to ensure high visibility
3. A minimum width of 6 feet
4. A flush tradition with sidewalks and curbs,
5. The incorporation of seating with the parklet,
6. A level sub structure dependent on slope.

Moreover, elements to consider when addressing parklets on City roadways are the applications process, control, and Local Business Improvement Area (BIA) role in facilitating parklets. Seasonal variation, and space allocation are also notable considers when deciding on the location and implementation of parklets

### Practices of Other Municipalities

#### EDMONTON

In Edmonton, parklets are semi-enclosed miniature parks opened for the public situated in the ancillary zone of a street to provide a place for public gathering, a destination to attract people. Parklets can be temporary or fixed in nature, and usually would have a ramp from the sidewalk to the road as well as a railing around the outer edge. To protect it from the traffic, it may have flex posts at each end clad with reflective tape. Measured from the face of the curb, parklets are usually 2.25m wide, but lengths are flexible and are context-dependent. Ancillary zones of 2.5m (the width of parking stalls) are demarcated on each side of the street for loading and parking purposes, and as an amenity space.

Again, parklets can be either temporary or permanent. In Edmonton a temporary parklet along Whyte Avenue was built to pay respect to a cyclist who was killed in an accident on the same street. The objective of this was to promote safety awareness in transportation (Lye, 2014).



**Figure 4 - 30**     **Edmonton Parklet, Whyte Ave, 2014**

### **ADELAIDE**

Funded and designed by non-governmental organizations, Adelaide parklets are small parks inserted into an existing streetscape to provide amenity space. They may include spaces for catering, bike parking, plants and landscaping, and public benches. They contribute to the city-life both day and night. The City of Adelaide Parklet Program objective is to encourage public participation in street life by offering places for a temporary stay, which keeps an “eye on the street” or help with surveillance of undesirable behaviours.

### **TORONTO**

The City provides design guidelines for parklets however the current approach is being refined as part of a larger review of regulations surrounding outdoor cafes. In this context, “outdoor cafe” refers to more than sipping a cappuccino on a patio and encompasses a range of commercial and community uses on and around sidewalks. The City of Toronto recently authorized the development of an Elm Street Summer Parklet

### **VANCOUVER**

The City proved an application process and manual for businesses opting to extend a platform over on street parking to include benches, tables chairs, landscaping, and bicycle parking.



**MONTREAL**

The City outlines a guide for how to transform and implement parklets on on-street parking. The City's guidelines provides guidelines to create dynamic parklets on portions of the highways. The implementation of parklets aim to; (1) reinvent the street, (2) encourage alternative transportation, (3) support the local economy, (4) encourage social interaction, (5) increase security, and (6) stimulate creative designers.

**Relevance to Mississauga**

Parklets may be adopted by the City for use and implementation on many of their high traffic arterial roadways. These high traffic areas would directly benefit from additional street scape, and increased activity. Moreover, areas prompt from economic growth may benefit from parklets due to assumed increased pedestrian traffic.

**2.12.2 Sidewalk Cafés**

Sidewalk cafés and Parklets are commonly link together in terms of their intended use. The intended use would be to implement a sidewalk parklet followed by aiming to use the space as a sidewalk café. These cafés are typically linked to a business that possess the capabilities and desire to increase an outside service seating area.

**Considerations**

Like many of the elements slated for consideration in the preceding section, sidewalk cafes mimic many of the considerations for parklets. The main difference is, the sidewalk café are usually owned and operated by a business, a valid business license certificate(s) should accommodate and regulate the addition of seating. Likewise, if the business maintains a liquor license, this document must be accompanied and outlined during the application / implementation process.

**Practices of Other Municipalities****CITY OF TORONTO**

The City maintains a Sidewalk Café Manual. The manuals main goal is to outline functional design, public right-of-way access, and what is required opposed to optional. Guidance, safety and accessibility are outlined to aid business owners on the proper use of sidewalk cafés.

**CITY OF CHICAGO:**

The City currently implemented an application process in respect to design guidelines, landscaping, and accessibility. For example, all sidewalk café platforms shall not be longer than 40 by 6 feet and support a 750 lbs. per square foot, all platforms must include plants are a minimum of 4 by 1 foot long by 32 inches tall, and include a transition zone between any raised sections and the natural sidewalk

**Relevance to Mississauga**

The City of Mississauga took steps in generating growth in its downtown core though endorsing Downtown21 – Conceptual Master Plan. This document outlines a walkable downtown prompting a complete street approach. Sidewalk cafés were mentioned with an aim to increase green technologies, a walkable downtown core, and improve the quality of downtown life not only as a place of work.

### 2.12.3 *Temporary On-Street Parking Permits*

Temporary on-street parking refers to providing limited exclusive use of existing on street parking provisions within a designated time frame. Temporary provisions regulating on-street parking can significantly impact the City's transportation system, parking-related income, pedestrian experiences, as well as the goals and objectives of the City's Official Plan. It therefore follows that they should be carefully planned and regulated.

#### **Considerations**

Two main elements should be considered when addressing temporary on-street parking provisions: payment structure and time length. Time length refers to whether daily, or weekly temporary regulations are put in place and whether special replacement parking is provided in lieu of standard on-street parking.

#### **Practices of Other Municipalities:**

Municipalities' approaches to on-street metered parking options include the following:

#### **CITY OF TORONTO:**

The City provides three alternatives to temporary on-street parking; a 24-hour period, 48-hour period, and 1 week temporary parking permit. Associated costs increase with each alternative.

#### **CITY OF RICHMOND HILL:**

The City's approach to temporary on-street parking throughout a fixed payment fee system. The City provided a 24-hour parking permit for \$5 plus HST and is valid from 7:00 AM to 6:59 AM the next day. In the situation of unforeseen circumstances such as construction, repair, and City maintenance, temporary on-street parking may be issued to residences free of charge by the City.

#### **Relevance to Mississauga**

The City currently outlines all temporary on-street and all parking provision in Traffic By-law 555-00. Temporary parking permits are currently provided on a case-by-case basis to address alternative parking provisions

## 2.13 **Transportation Demand Management**

### 2.13.1 *Policies and Priority Parking for Carshare and Carpools*

The increase in the use of carshare and carpools has led to changes in the approach to parking management. To encourage the use of both, there needs to be policies that support the provision of carpool parking spaces as well as locating them in safe and secure areas where they are close to building entrances, and elevators. .

City of Toronto (Staff Report dated 11 July 2014) – OPA includes policies in support of TDM and Parking including: allowing required number of parking spaces to be converted to spaces dedicated for carshare vehicles and provide preferential parking for carpool, carshare and low emission vehicles. The actual amendment (section 2.4) states:



8. In support of the TDM and environmental policies of this Plan, the City may:

- a) Support the conversion of required parking spaces to designated publicly accessible carshare spaces
- b) Encourage new developments to include publicly accessible bike share facilities
- c) Encourage parking providers to designate preferred parking spaces for the exclusive use of carpool and low-emissions vehicles
- d) Encourage parking providers to install plug in stations for electric vehicles and
- e) Provide on-street, reserved parking spaces for car sharing vehicles in selected locations

### 2.13.2 *Unbundling Parking from Dwelling Units*

Unbundled parking refers to the separation of housing and parking costs. “Traditionally, the cost of an apartment or condo unit includes one or more parking spaces, regardless of whether the tenant/owner is using them or not. Unbundling allows residents to choose the number of parking spaces they use and pay for accordingly.” Unbundling of parking can take several forms, including the following (MTC, 2017)

- a) Parking spaces are not included in the base rent/purchase cost, and are rented by the tenant/owner separately.
- b) Landlords/condo associations can provide a discount to renters/owners who do not want to use the standard number of parking spaces.
- c) Landlords/condo associations can create a secondary market for parking by renting unused spaces out as a separate commodity.
- d) Unbundling can be used as a municipal code tool that allows developers to reduce the amount of parking they are required to provide.

There are limited examples of unbundled parking that has been documented in Canada, but there have been some documented examples in the United States.

The Massachusetts Transit-Oriented Development (TOD) Bond Program in 2006 awarded \$2 million for a mixed-use affordable housing development called Dudley Village on Dudley, East Cottage and Leyland Streets in Dorchester. The development will have unbundled parking and just 0.7 parking spaces per unit. (MA Office of Commonwealth Development 2006)

The City of San Francisco is considering a proposal to limit parking in some downtown neighbourhoods to 0.75 spaces per unit in an effort to force developers to unbundle parking from housing costs. Developers would not be able to simply provide a space included with each unit; in order to build more parking, they would have to obtain a conditional use permit, the conditions of which would stipulate that parking costs must be unbundled from housing costs. (Millard-Ball 2002)

A condo project called "moda" in downtown Seattle includes 83 of 251 units that are lower priced and come without parking. The project sold out within a week. (Multifamily Executive 2007)

A new condominium development in St. Louis a block from the MetroLink public transit system that offered parking spaces for purchase separate from the units experienced rapid sales and found that 20-25% of buyers opted out of purchasing a parking space. The proximity to transit was instrumental in convincing the lender that the project could succeed without at least one parking space per unit. (Patterson 2006)

### 2.13.3 *Parking in Transit Oriented Development Areas*

Several municipalities have developed parking policies that are supportive of transit oriented developments (TOD). A few examples are below.

#### **CALGARY**

The City of Calgary has developed a set of policies to support the development of TODs within the City. They have included a number of areas including: reducing the number of parking spaces required (from the zoning bylaw) in TOD areas; cash-in-lieu; and provisions for shared parking, enhanced bicycle parking and on-street parking counting towards supply for development. (City of Calgary Transit Oriented Development Policy Guidelines)

#### **WATERLOO (CITY)**

The City of Waterloo has undertaken a considerable amount of work to support the introduction of the ION LRT service. The plans for the station areas include strategies that are supportive of the TDM and parking management, such as:

- Introducing maximum parking standards
- Priority parking near or at stations for carpools, vanpools, carshare services and bicycles
- Shared use of parking facilities
- Encourage parking fees that are higher than LRT fares (Waterloo Station Area Plans, 2016)

#### **CITY OF OTTAWA**

The City will soon be opening up the LRT services (mid-2018) and to ensure that the development surrounding the stations would encourage the use of the services, TOD guidelines were developed. Included were guidelines for parking. Below is an overview of these guidelines:

- Provide only the amount of parking required by the bylaw
- Encourage shared parking amongst uses with different peak demands (by time of day)
- Locate parking at rear of buildings
- Develop pedestrian corridors through parking areas
- Provide preferential priority parking for carpools, carshare and ridesharing vehicles.

### 2.13.4 *TDM Programs to Support Reduction in Parking Supply*

TDM programs and parking provision are intrinsically tied to each other. It is almost impossible to create a TDM program and hope it will be successful if there is a tremendous amount of free parking in the community, at a workplace or in a mixed-use, transit-oriented centre. The following communities have successfully undertaken TDM programs that support reductions in parking supply:

Cambridge, MA developed a parking and TDM ordinance to help encourage the use of sustainable modes, encourage short-term parking and discourage the use of single occupant vehicle trips particularly for long-term parkers and commuters. This program has been successful and has been used as an example of how to administer TDM programs.

Boulder, CO integrated TDM and parking in a way that has led to a vibrant downtown and parking revenues being invested into TDM programs so that they can reach their goal of a successful access management plan. As a result the TDM program includes bicycle parking spaces, managing shared parking, an Eco-pass program which allows the presenter to travel for free within the Boulder transit system. They also encourage people to travel downtown using other modes such as transit, cycling, walking and carpooling. (Kurt Matthews, Manager of parking Services, Boulder Co in IPI Newsletter, 2016)

### 2.13.5 *Bikeshare Parking*

Bikeshare programs are spreading across North America. In most areas that are no requirements for actually having a specific number of bikeshare parking areas. However, most are located in near transit stations, commercial areas, mixed use communities and institutional uses.

#### ***Munich, Germany***

Munich is the state capital of Bavaria and home to the Munich Region with 2.6 million residents spread over an area of 5504km<sup>2</sup>. Approximately half of these residents live within the City boundaries. In recent years, government and transit operators have made modest investments into bicycle parking with significant uptake. In 2009, it was estimated that 50,000 people were using bike and ride daily as an access method to train stations. In the wider region, investment has continued so that there are now 45,000 bike and ride parking spaces at a total of 96 train station in the region, suggesting that the daily figure would have increased significantly since this time. Within the immediate city area, 4,300 parking spaces exist and many are monitored by video surveillance.

Review of real world data associated with this expansion shows that bike and ride is 10 times more spatially efficient than park and ride. That is, that up to 10 bikes can be parked in the same area required for one car. The bicycle has been found to be most effective at increasing access to transit over distance of 3 to 5km. A 2009 study found that 35 % of bicycles were found to be left overnight and 20% of these overnight bicycles were used again by 10am the next day, demonstrating their effectiveness as a last mile solution to and from train stations for work purposes.

In recent years, the main local transit operator, the Münchener Verkehrsgesellschaft (MVG), has expanded into bikeshare and made created additional bicycle parking at many transit stations (train, tram, bus). MVG now operates a bike share system with bicycles that can be rented from 125 bike stations across the region. The capital cost of the system was estimated at 2.5 Million Euros and has led to 50,000 registered customers. The maximum daily price of bicycles is 12 Euros. In February 2017, citing continued growth in the popularity of the bikeshare system, the City resolved to increase the supply of bicycles by 2000 from 1200 to 3200 bicycles.

Other bicycle trends to emerge in the past 20 years include full-time supervised bike stations in which bikes can be stored, hired and serviced. The typical cost of storing a bicycle in such a facility is around 0,70 Euro cents per day or 4 Euros per week

### 2.13.6 *Parking Fees Supportive of TDM Measures*

Generally municipal parking fees are put into general revenues or into funds to replace and repair existing structures and equipment. While important, it continues to perpetuate the need for more parking with no regard to assisting with the need to reduce it overall and encourage the use of sustainable travel options. Changes to parking fee structures are often not very popular, however, some municipalities have attempted to develop programs and supportive measures that not only encourage the use of sustainable modes, but fund them as well

## VANCOUVER

Vancouver has tried a few different programs to manage the supply of and demand for parking. Translink introduced a tax on parking fees that has essentially resulted in a tax of 35% on parking fees. This has had an impact on the number of people driving downtown and choosing other modes such as the Sky Train.

## HALIFAX

As part of the ecoMobility program initiated by Transport Canada, Halifax applied for funding to develop a program to migrate funds from less sustainable modes to more sustainable modes. The program is called the TDM Migration Fund. Fees obtained from on-street parking permits are used to fund transit and other sustainable transportation programs and TDM-related measures.

### 2.13.7 Shared Parking

#### The City of Markham Parking Standards By-law 28-97 (Office Consolidation)

Parking can significantly influence the look and feel of a site. The City of Markham includes provisions for parking in their By-laws that permit the use of shared parking which can reduce the overall supply of parking on the site. Below is an abstract from the Parking Standards By-law (28-97):

#### Shared Parking

The parking requirements in Section 3 of this By-law may be reduced if the *lot* is used for two or more separate uses, each of which may have separate parking requirements. To determine the parking requirement for such a *Building* or *lot*, the total parking required for each use type is multiplied by the occupancy rates below, and the individual sums determined for each of the morning, afternoon and evening periods. The largest of these sums shall be the minimum parking requirement for the uses on the *lot*.

The City of Kitchener developed shared parking requirements within the ION station areas to support the use of the new LRT service. Similar to other municipalities, they have based it on the peak demand (by time of day) for each use.

The use of shared parking can be part of the overall approach to managing parking and encouraging the use of sustainable modes of travel to and from the site.

### 2.13.8 Short-Term Vs. Long-Term Parking

Parking pricing has an impact – at the moment many places discount parking the longer you are there and have high rates for the first few hours. However if it is reversed and the short term parking is cheaper and restriction on renewing it, then there could be less people parking all day and therefore reducing the number of personal vehicles driven alone. This could also see an increase in revenues as turnover would be higher and provide those only needing to park for a short time with lower parking rates.

Limiting the length of time people can park – free or not can be a method of encouraging short term parking over long-term, particularly in busy commercial areas where on-street parking is a premium.

Santa Monica is using TDM and encouragement of behaviour change. This is to free up more short-term parking for shoppers by raising the parking rates to discourage some more using them. The intent is to

encourage more people to walk, take transit or park further away. Other cities are doing similar things – using market-based parking rates to encourage more sustainable travel behaviour. These cities include Los Angeles, San Francisco and Washington DC. What this has resulted in is that there is plenty of on-street parking, it is just that it was being used by local workers and others who parked all day long. This approach will encourage more turnover and the ability of shoppers to get to their destinations. (Martha Groves, Los Angeles Times, 14 October 2009 ([www.latimes.com/news/local/la-me-parking-experiment15-2009oct15,0,6335426,print.story](http://www.latimes.com/news/local/la-me-parking-experiment15-2009oct15,0,6335426,print.story))).



# Future Outlook

3

Based on the review of existing City policy and Best Practices presented here, it is recommended that the City work towards developing a clear and deliberate parking framework that recognises the both the known importance and measurable impact of parking on the City. It is recommended that the parking framework be based on the following seven themes:

Intended Theme	What is it?
<b>1. Vision &amp; Principles</b>	<i>A clear statement of parking's intended contribution to the future Mississauga and outlines the parking management principles the City will pursue in managing and resolving transportation and land use aspirations as outlined in the Official Plan and Strategic Plan</i>
<b>2. Governance</b>	<i>Outlines the City's governance process and mechanisms for both operational and long term management of parking.</i>
<b>3. Paid Parking</b>	<i>Defines and captures the role of the City in determining the appropriate amount of paid parking in the City on an area/precinct basis in accordance with the vision and parking management principles</i>
<b>4. Funding &amp; Finance</b>	<i>A statement of the City's fiscal priorities for parking asset maintenance and strategic investment in parking and</i>
<b>5. Parking Provisions</b>	<i>City statute that outlines the obligations of land owners and other infrastructure providers to provide and manage parking on public and private land.</i>

Intended Theme	What is it?
<b>6. Demand Management</b>	<i>Those parking management principles that are designed to bring about a better balance of supply and demand for parking and guide people to using alternative modes where feasible.</i>
<b>7. Technology</b>	<i>Modern parking infrastructure that provides more accurate information on the availability and usage of parking to guide strategic decision making concerning parking supply and management across the municipality.</i>

From the best practices and trends outlined here, it is clear that these themes will help to better define the focus for the next stages of the Parking Master Plan and Implementation Strategy. The intention is to develop a Master Plan that provides the City with the ability to strategically evaluate the role of parking as it moves towards implementing the City's long term strategic vision now and into the future.





# References

## Existing Policies:

- BA Group Transportation Consultants. (2009). Parking Strategy for Mississauga City Centre.
- Brook McIlroy Inc. | Pace Architects. (2008). Waterfront Parks Strategy. City of Mississauga.
- City of Mississauga, City of Brampton, Metrolinx, SNC-Lavalin Group Inc, steier davis gleave, DIALOG, & LEA Consulting Ltd. (2014). Hurontario-Main LRT Project Environmental Project Report.
- City of Mississauga. (2000). The Traffic By-Law 555-00.
- City of Mississauga. (2005). Snow Clearing (05-06-03).
- City of Mississauga. (2005). Employee paid parking and commuter options (05-02-04).
- City of Mississauga. (2007). Mississauga Zoning By-Law No.0225-2007.
- City of Mississauga. (2009). General Fees and Charges By-Law 398-09.
- City of Mississauga. (2013). Amendment No.8 to Mississauga Official Plan City of Mississauga Planning Area.
- City of Mississauga. (2014). PDC Mississauga Parking Strategy - Phase 2 - Port Credit and Lakeview. Mississauga, ON.
- City of Mississauga. (2016). Mississauga Official Plan.
- City of Mississauga. (n.d.). Terms of Reference: Parking Utilization Studies for Site Specific Application.
- CPD Committee. (1991). Council Resolution pertaining to on-street visitor parking in subdivisions.
- Government of Ontario. (2016). Ontario's Five Year Climate Change Action Plan 2016-2020.
- IBI Group. (2016). Parking Strategy for Main Street District and Sheridan College Hazel McCallion Campus. City of Mississauga.
- Metrolinx. (2011). Mobility Hub Guidelines for the Greater Toronto and Hamilton Area.
- Mitcham, P. A. (2008). Waterfront Parks Strategy (Wards 1 and 2). City of Mississauga.
- MTC. (2017). MTC's VPP Parking Project: <https://parkingpolicy.com/reduced-requirements/>
- Ontario Ministry of Infrastructure. (2013). Growth Plan for the Greater Golden Horseshoe, 2006.

- Powell, M. (2004). Strategy for the implementation of Parking Charges for On-Street Parking - City Centre (Wards 4 and 7). City of Mississauga.
- Powell, M. (2007). Pay and Display Parking System (Wards 1,2,4,7). City of Mississauga.
- Provincial Policy Statement, Under the Planning Act. (2014). Toronto, ON.
- Region of Peel. (2012). Peel Long Range Transportation Plan.
- Region of Peel. (2016). Healthy Development Assessment User Guide.
- RU Consulting Ltd. (2011). Mississauga City Centre: Transportation Demand Management & Parking Study.
- Sajecki, E. R. (2006). Report on Comments - Amendment 58 to Mississauga Plan - Proposed Interim Residential Intensification Policies, Community Improvement Policies and Community Improvement Areas. City of Mississauga.
- Sajecki, E. R. (2008). Mississauga Office Strategy Study - Mississauga Plan Review. City of Mississauga.
- Sajecki, E. R. (2009). Information Report: Official Plan Amendment and Rezoning Applications. City of Mississauga.
- Sajecki, E. R. (2015). Community Improvement Plan for Downtown. City of Mississauga.
- Steer Davies Gleave. (2013). GO Transit Rail Parking and Station Access Strategy. Metrolinx.
- Steer Davies Gleave. (2014). Downtown Mississauga Movement Plan - Making the Connections. City of Mississauga.

#### **Best Practices:**

- City of Toronto. (2015). Toronto Sidewalk Café Manual.
- Hillsborough County City-County Planning Commission. (2016). Best Practices in Parking Management:
- Ideas to stimulate program development in the City of Tampa.
- IBI Group. (2009). Parking Standards Review: Examination of Potential Options and Impacts of Car Share Programs on Parking Standards. City of Toronto.
- Isaac, L. (2015). Driving Towards Driverless: A Guide for Government Agencies. WSP | Parsons Brinckerhoff.
- Massachusetts Office of Commonwealth Development, (2006) "TOD Bond Program Awards, 2006", <http://www.mass.gov/?pageID=oecdmodulechunk&L=1&L0=Home&sid=Eocd&b=termin....>
- Millard-Ball, A. (2002) "Putting on their parking caps", Planning, April 2002, v68 i4 p16(6).
- Multifamily Executive Magazine, (2007) "Direct Reports: No Parking", February 1, 2007; <http://www.multifamilyexecutive.com/industry-news.asp?sectionID=539&arti....>
- Osborne, S. (2015). Drivers to be given 10-minute 'grace' period after parking tickets expire
- Patterson, P. (2006) "Downtown Still Going Strong; Neighborhoods and Inner Suburbs Need Leadership", Urban Review STL, November 20, 2006; <http://www.urbanreviewstl.com/?p=2849>.
- (Rep.). The Independent. doi:<http://www.independent.co.uk/news/uk/drivers-to-get-10-minute-grace-period-after-parking-ticket-expire-a6674626.html>

- Rathwell, S., Willemse, M., & George, T. (2016). Planning for Automated Vehicles in Cities. Dillon Consulting.
- SDOT. (2015). Seattle Department of Transportation Streetery Supplement. City of Seattle.
- Steenhoven, J. V., Burale, I., Toye, V., & Buré, C. (2016). Shifting Perspectives: Redesigning Regulation for the Sharing Economy. MaRS Solutions Lab.
- Town of Newmarket. (2015). Community Services- Economic Development Report 2015-36.
- UCLA Luskin School of Public Affairs. (2012). Reclaiming the Right of Way: A Toolkit for Creating and Implementing Parklets.
- UCLA Luskin School of Public Affairs. (n.d.). Reclaiming the Right-of-Way: Best Practices for Implementing and Designing Parklets. Institute of Transportation Studies.
- WSP | Parsons Brinckerhoff & Farrelis. (2016). Making Better Places: Autonomous vehicles and future opportunities.
- WSP | Parsons Brinckerhoff. (2016). New Mobility.
- WSP (2017) Metrolinx Regional Parking Policy - State of Practice Review, Trend Evaluation Memo

PEOPLE CONSULTED (OPTIONAL)

→ Names, titles, employer



# *PARKING MATTERS*



# Appendix A

## ABBREVIATIONS AND UNITS

## Acronymes

Acronymes	Description
<b>HOV</b>	High Occupancy Vehicle
<b>ITE</b>	Institute of Transportation Engineers
<b>TWLTL</b>	Two-way Left-turn Lane
<b>MTO</b>	Ontario Ministry of Transportation
<b>MNR</b>	Ministry of Natural Resources
<b>OPSS</b>	Ontario Provincial Standards



## APPENDIX A-1

## UNITS

ABBREVIATION	Description
<b>v/c</b>	Volume to capacity ration
<b>AADT</b>	Average annual daily traffic
<b>km/h</b>	Kilometres per hour
<b>m</b>	Metre
<b>s</b>	Second
<b>s/veh</b>	Second per vehicle
<b>veh/h</b>	Vehicles per hour
<b>veh/d</b>	Vehicles per day
<b>M</b>	Million
<b>B</b>	Billion
<b>\$</b>	Canadian Dollar





# Appendix B

CONCISE TITLE OF THE APPENDIX





# Appendix C

CONCISE TITLE OF THE APPENDIX





# Appendix D

CONCISE TITLE OF THE APPENDIX

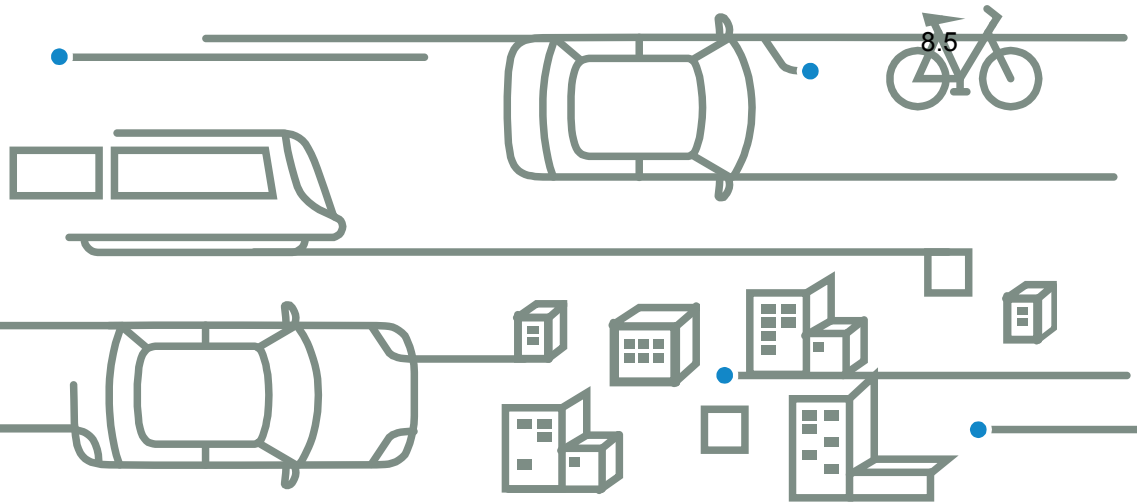






# Appendix E

CONCISE TITLE OF THE APPENDIX

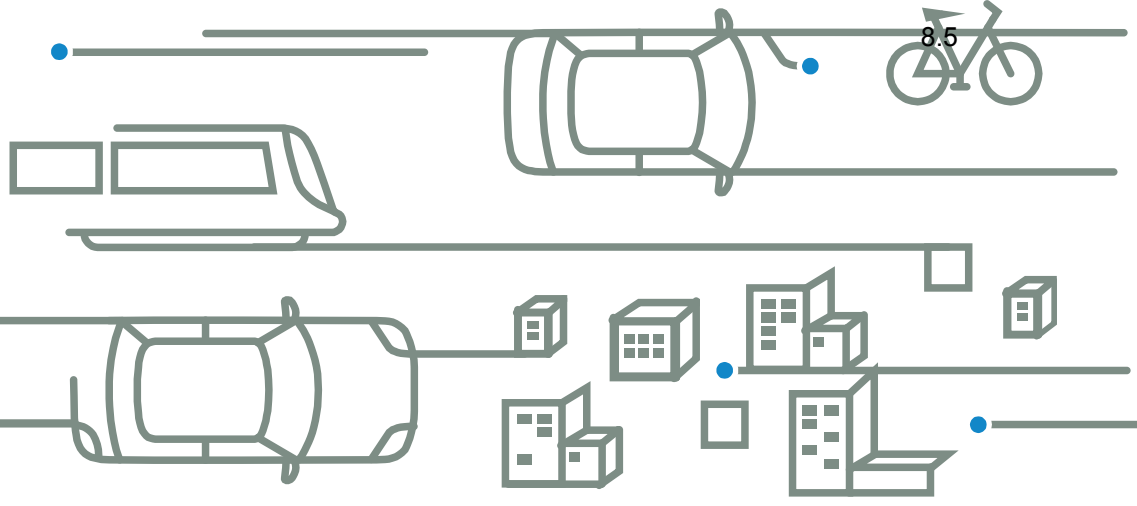


*PARKING MATTERS*



# APPENDIX 1-5 CONSULTATION ROUND 1 AND ROUND 2 SUMMARY REPORT

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)



## *PARKING MATTERS*



# CONSULTATION ROUND 1 SUMMARY REPORT

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

# Table of Contents

<b>Chapter 1: Introduction</b>	<b>1</b>
1.1 Who was Engaged	
1.2 Round 1 Consultation Overview	
<b>Chapter 2: What we heard</b>	<b>5</b>
2.1 Who was Engaged	
2.2 Round 1: Introducing the Project	
2.2.1 Project Promotion	
2.2.2 Councillor Interviews	
2.2.3 Parking Provider Workshop #1	
2.2.4 Parking User Session #1	
2.2.5 Online Engagement Tool #1	
<b>Chapter 3: Summary of key themes</b>	<b>32</b>



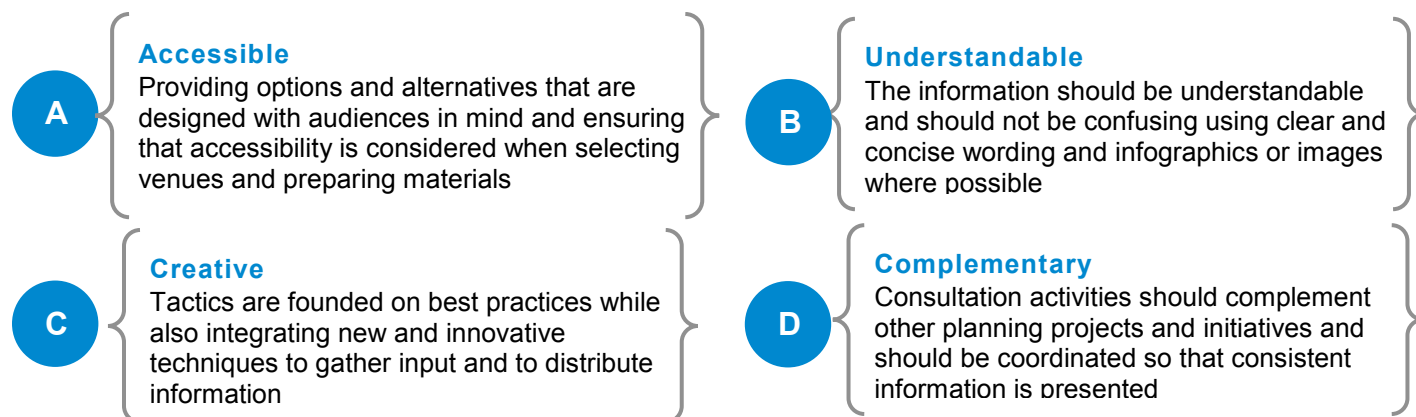
# CHAPTER 1.0

## Introduction



The Mississauga Parking Master Plan and Implementation Strategy ("Parking Matters") is being developed based on a significant amount of input from a wide range of audiences. In March and April 2017, the Mississauga Parking Master Plan and Implementation Strategy ("Parking Matters") project team undertook a first round of consultation with Council, industry stakeholders, developers, City of Mississauga staff and members of the public to learn more about the parking issues and opportunities in Mississauga.

Effective and successful consultation and engagement was one of the primary goals / objectives of Parking Matters. The consultation and engagement program designed for the City was established based on four (4) key principles:





*Figure 1 – Consultation & Engagement Process used to Guide the Mississauga Parking Master Plan Consultation Process*



## 1.1 Who was Engaged?



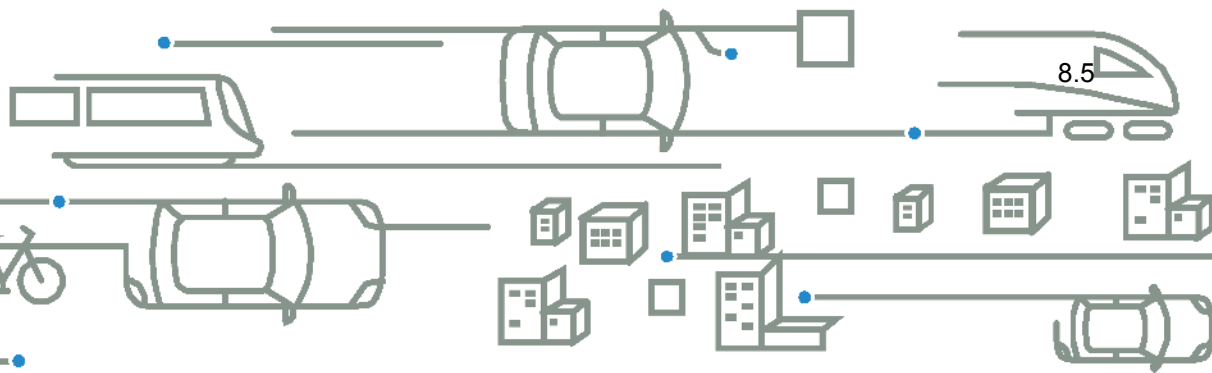
*Figure 2 – Overview of the Parking Master Plan Consultation & Engagement Audiences*

1.2 Round 1 Consultation Overview

Table 1 – Overview of Consultation Rounds, Milestones & Promotion Tactics

Overview of Round 1 Consultation   Introducing the Project	
	Objectives
	Milestones
	Promotion





## *PARKING MATTERS*

# CHAPTER 2.0

## What we heard



### 2.2 Round 1: Introducing the Project

1

2

3

### 2.2.1 *Project Promotion*

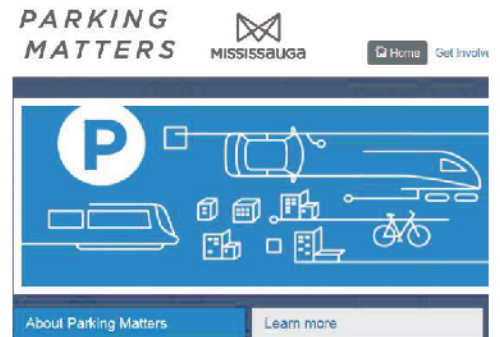
**Objective:** To increase awareness of Parking Matters to various audiences and to promote the opportunities for engagement and involvement as they arise.

**Audience:** All members of the public specifically residents of the City of Mississauga in various neighbourhoods and communities

**Timeline:** Preliminary promotion took place at the time of project launch in February 2017 and was enhanced around the time of the first Public open house in March 2017.

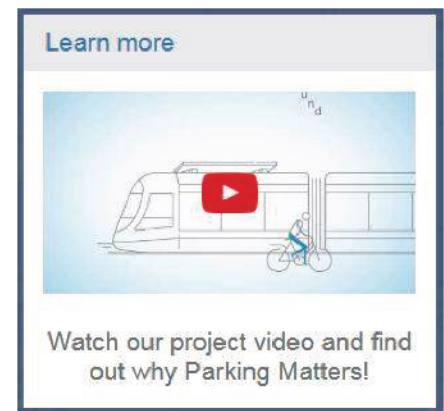
1

## Project Website



2

## Project Video



3

## Social Media



4

## Promotional Tools



5

## Existing Networks



6

## Consultation Pop-ups





### 2.2.2 Councillor Interviews

**Objective:** To meet with member of Council early in the study process to provide them with an overview of the intent and purpose of the study and to ask them questions about their experiences and the current state of parking within their Ward. Specific focus was placed on parking issues as well as opportunities for improvement re: management and engagement.

**Audience:** Each member of Council was invited with all except one accepting interviews with the consultant team.

**Timeline:** The interviews were held over the course of a three-week period within the month of March 2017.

Question	Recurring Responses
Question #1:	

Question	Recurring Responses
----------	---------------------

Question #2:

Question #3:

Question	Recurring Responses
----------	---------------------

Question #4:

Question	Recurring Responses
----------	---------------------

Question #5:

Question	Recurring Responses
----------	---------------------

Question #6:

### 2.2.3 *Parking Provider Workshop #1*

#### Agenda Summary

**Purpose:** To meet with, inform and engage with anyone that is responsible for a / or has influence over the provision and management of parking in Mississauga to discuss parking issues and opportunities, as well as share ideas.

**Objective(s):**

- To inform stakeholders of the intent, purpose and anticipated outcomes of the parking master plan study;
- To inform stakeholders of the work that has been completed to date;
- To engage parking providers on the opportunities and challenges around parking in the City of Mississauga; and
- To engage on current usage and experiences of parking provision throughout the City.

**Audience:** The workshop was attendees by invitees only including representatives from both public and private entities that are responsible for the management of parking throughout the City of Mississauga.

**Timeline:** The workshop was held on March 21, 2017, between 1:00 p.m. and 4:00 p.m.

## Presentation Overview



Figure 3 – Samples of Slides from the Presentations given at the Provider Workshop



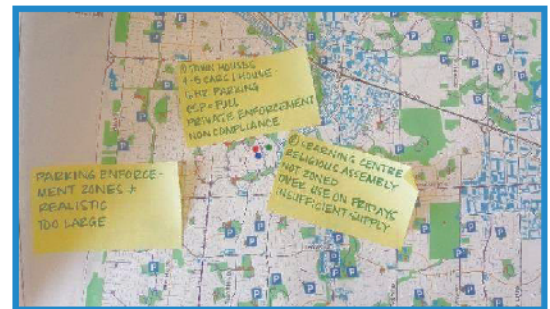
*Activity #1: Who is here?*

Private	Public
---------	--------

*Activity #2: Identifying Challenges*

- 1 **Technology**
- 2 **Enforcement**
- 3 **Demand Management**
- 4 **Communication & Outreach**
- 5 **Multi-modal Integration**
- 6 **Optimize Utilization**

### Activity #3: Parking Context



### 2.2.4 *Parking User Session #1*

**Objective:** To inform the public of the intent and purpose of the parking master plan study and to gather their input on their experiences, interests and challenges associated with parking throughout the various areas of the City.

**Audience:** The open house sessions were targeted to members of the public (i.e., parking users) including residents of the City of Mississauga, community representatives, stakeholders and interest groups.

**Timeline:** A total of two public open houses were held the first on March 21, 2017, and the second on March 23, 2017, and both sessions were held between 6:00 and 8:00 p.m.

Board	Description
-------	-------------



7

## INPUT

For the situations below please tell us how easy / hard it is to find parking. Use a marker and place a check mark in the box to indicate your experience finding parking.

PARKING SITUATIONS	VERY EASY	SOMEWHAT DIFFICULT	VERY DIFFICULT	NOT APPLICABLE TO ME
At home				
When I visit friends / relatives				
At work				
At my business				
At places of religious assembly				
At places where I shop / eat				
At places where I have appointments				
At special events				
At municipal parking lots				
At parks				
At community centres				
At schools				
At (GO) Transit facilities				

MISSISSAUGA PARKING MASTER PLAN  
PUBLIC OPEN HOUSE

**PARKING MATTERS**

## Ranking of Parking Experience

8

## INPUT

From a safety perspective, how problematic are each of the following situations? Use a marker and place a check mark in the box to indicate your experience finding parking.

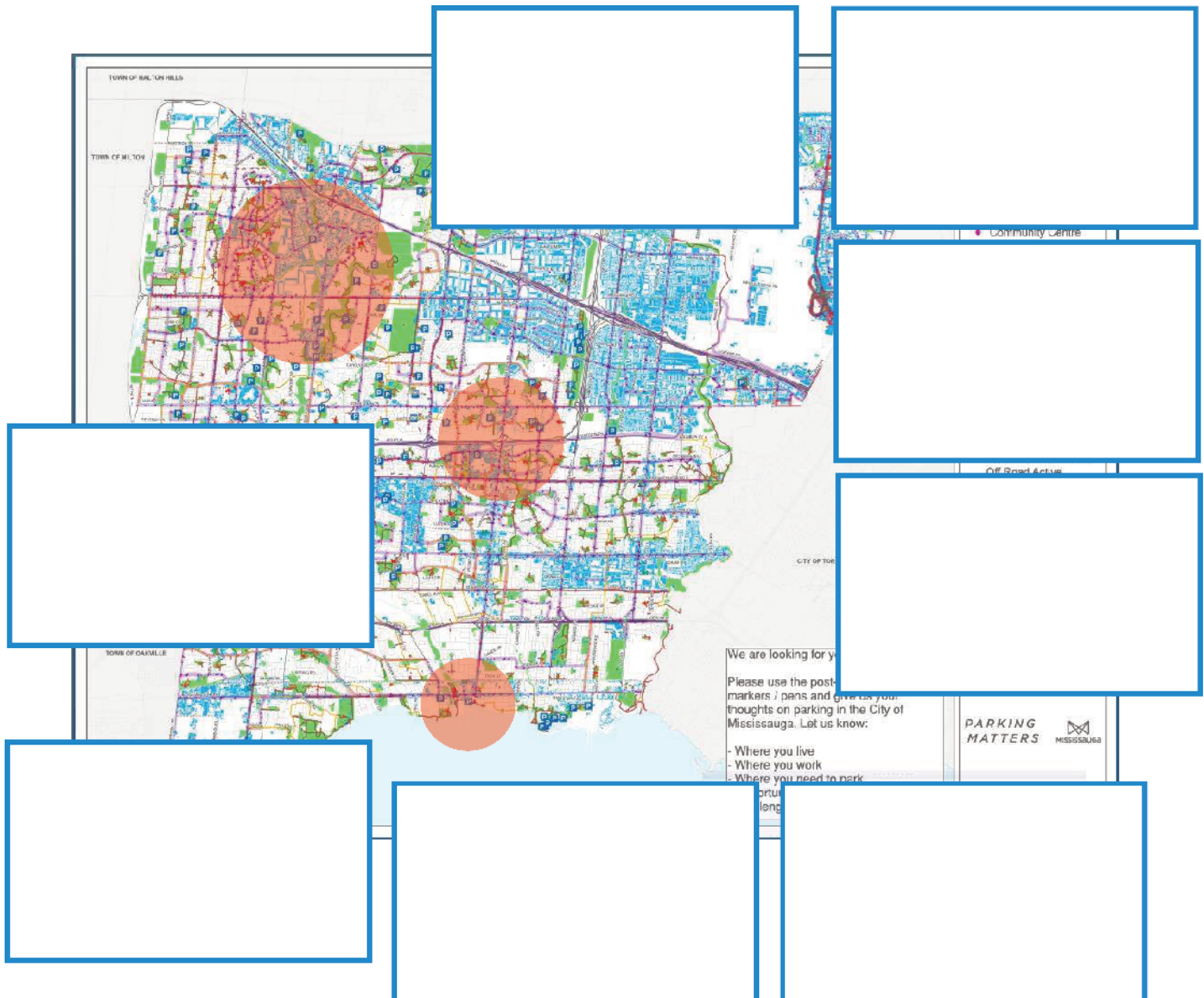
SITUATIONS	NOT PROBLEMATIC	SOMEWHAT PROBLEMATIC	VERY PROBLEMATIC
People walking from parked cars to buildings			
Bike lanes passing by driver door of cars parked on street			
Parking entrances crossing sidewalks without a light			
Residential driveways crossing the sidewalk			
Ice and snow removal in parking lots			
Ice and snow removal on streets			
Night lighting of parking lots			
Illicit activity in parking lots / garages			

MISSISSAUGA PARKING MASTER PLAN  
PUBLIC OPEN HOUSE

**PARKING MATTERS**

## Safety Around Parking Areas



*Mapping Input*

1

2

3

4

5

6

### 2.2.5 Online Engagement Tool #1

**Objective:** To gather input from parking providers and parking users about their experiences related to parking within the City of Mississauga

**Audience:** Parking Users and Parking Providers

**Timeline:** The online surveys were hosted through the project website from March 1, 2017, until May 1, 2017.

Our first phase of consultation has now closed



Please sign up for updates by providing your e-mail to stay in touch about when the next round of public consultation will begin. Thank you!

Respond

## *Parking Provider Survey*

Parking Provider Survey Questions	Response Highlights
-----------------------------------	---------------------

**Question #1:**

**Question #2:**

**Question #3:**

**Question #4:**

**Question #5:**

Parking Provider Survey  
Questions

Response Highlights

Question #6:

Question #7:

Question #8:

Question #9:

*Parking User Survey***Parking Provider Survey  
Questions****Response Highlights****Question #1:****Question #2:****Question #3:****Question #4:**

Parking Provider Survey  
Questions

Response Highlights

Question #5:

Question #6:



# CHAPTER 3.0



## Summary of key themes



Location



Application



Enforcement



Communication



Context



Perception



**Location:**

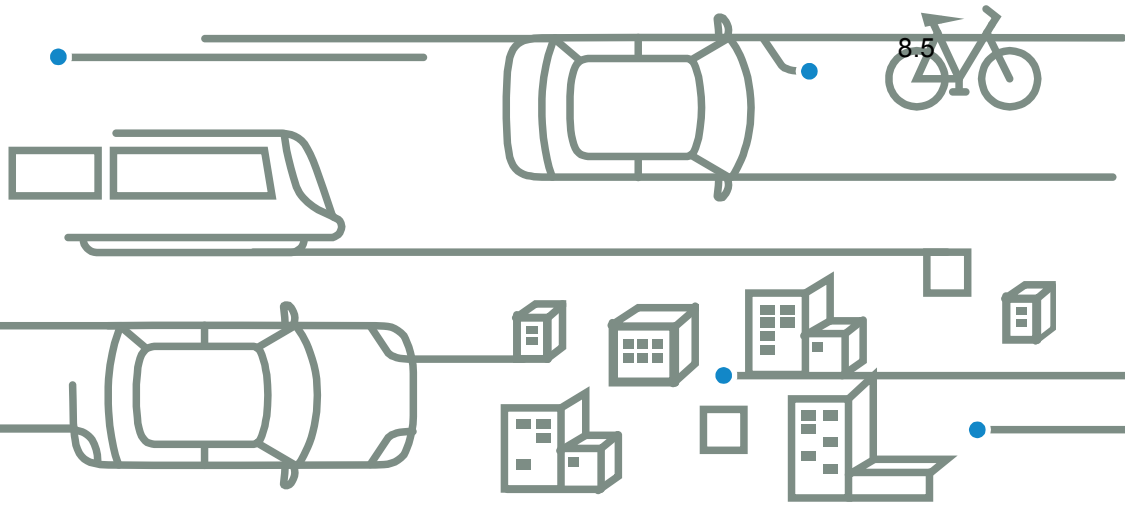
**Application:**

**Enforcement:**

**Communication:**

**Context:**

**Perception:**



## *PARKING MATTERS*

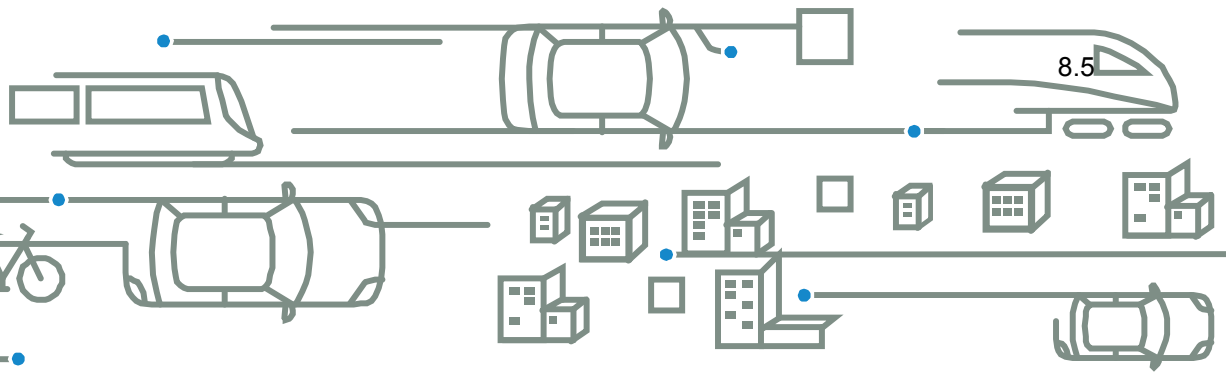


# CONSULTATION ROUND 2 SUMMARY REPORT

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

# Table of Contents

<b>Chapter 1: Introduction</b>	<b>1</b>
1.1 Who was Engaged	
1.2 Round 2 Consultation Overview	
<b>Chapter 2: What we heard</b>	<b>6</b>
2.1 Round 2: Assessing the Options	
2.1.1 Parking Provider Working Sessions	
2.1.2 Parking User Open Houses	
2.1.3 Online Engagement Tool #2	
2.1.4 Pop-Up Information Nights	
<b>Chapter 3: Summary of key themes</b>	<b>33</b>



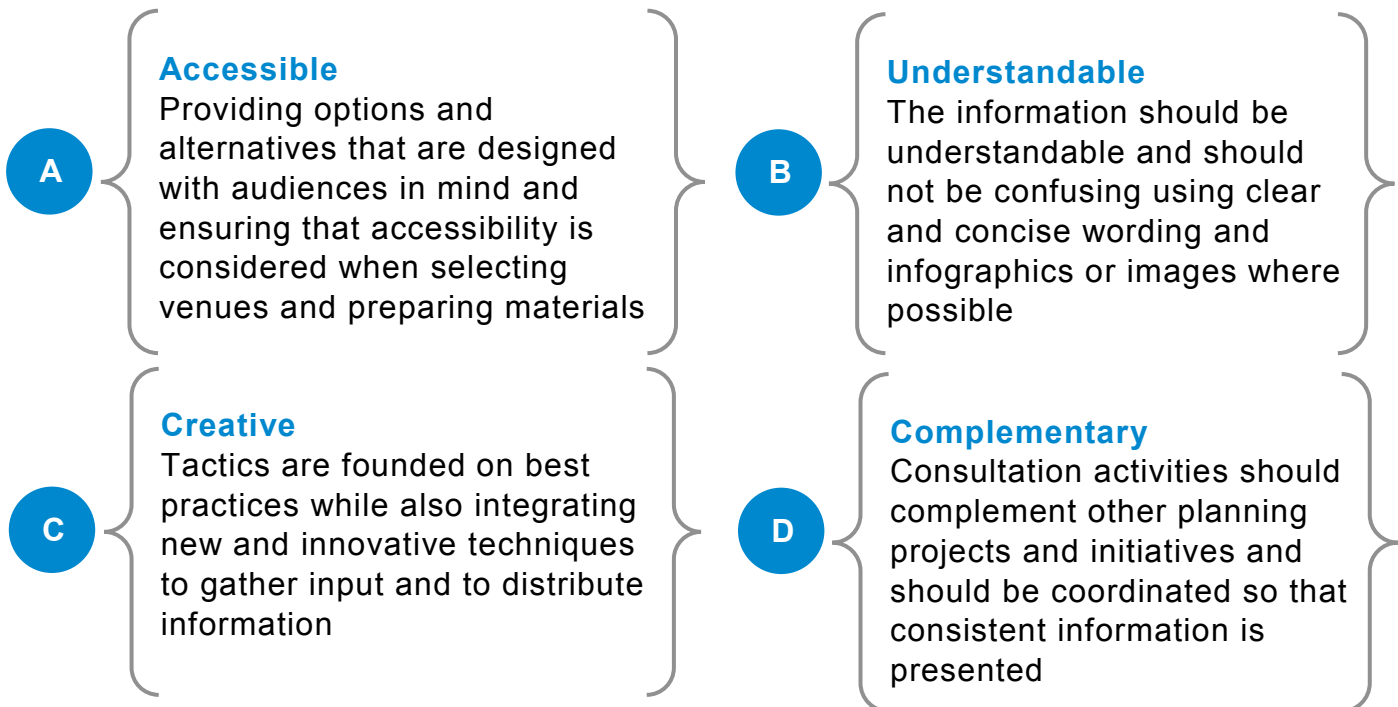
## *PARKING MATTERS*

# CHAPTER 1.0

## Introduction



In November 2017, the Mississauga Parking Master Plan (“Parking Matters”) Project Team embarked upon a second round of consultation with industry stakeholders, developers, City of Mississauga staff and members of the public to inform and educate stakeholders on the progress of the project. The consultation and engagement program continues to be based on the four (4) key principles established in Round 1:





*Figure 1 – Consultation & Engagement Process used to Guide the Mississauga Parking Master Plan Consultation Process*

## 1.1 Who was Engaged?



## 1.2 Round 2 Consultation Overview

Table 1 – Overview of Round 2 Consultation, Milestones & Promotion Tactics



## Round 2 | Assessing the Options

**Objectives**

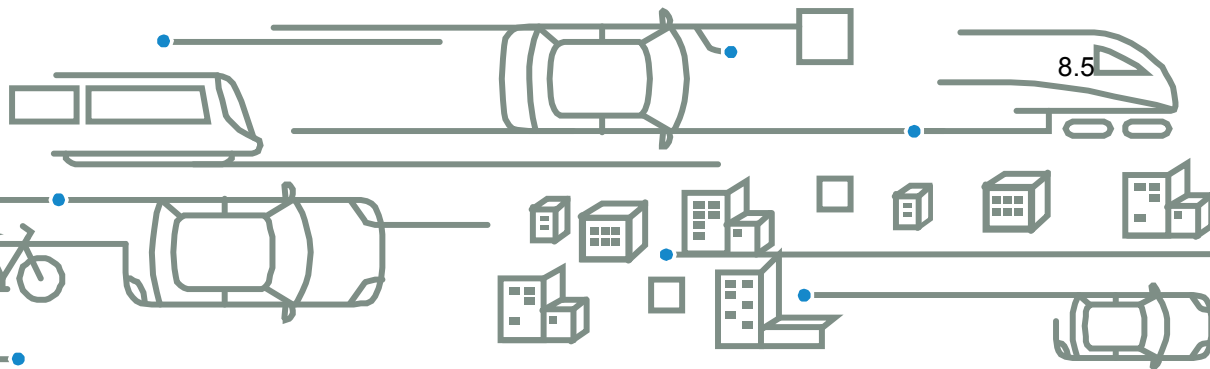
**Milestones**

**Promotion**

<http://www.parkingmatters.ca>







## *PARKING MATTERS*

# CHAPTER 2.0

## What we heard



The input that was generated over the course of Round 2 was documented through a range of consultation tactics and documentation techniques similar to those used in Round 1. The methodology used to generate the input for this round of consultation and the outcomes is documented below.

### 2.1 Round 2: Assessing the Options

As noted in the previous chapter, the second round of engagement of the Parking Master Plan study was designed based on the following objectives:

- 1 To provide audiences with an update on the progress of the study
- 2 To present the parking strategy themes developed to date and associated preliminary recommendations identified by the project team
- 3 To gather input on the preliminary recommendations to be able to refine these in the final phase of the study

### 2.1.1 Parking Provider Working Sessions

#### Agenda Summary

**Purpose:** To meet with, inform and engage with anyone that is responsible for a / or has influence over the provision and management of parking in Mississauga about the preliminary parking strategy recommendations.

**Objectives:**

1. To provide audiences with an update on the progress of the study
2. To present the preliminary parking strategy themes and recommendations identified by the project team
3. To gather input on the preliminary recommendations to be able to refine these in the final phase of the study at workshop session with the participants.

**Audience:** The workshop was attendance by invitation only including representatives from both public and private entities that are responsible for the management of parking throughout the City of Mississauga.

**Timeline:** The a.m. workshop was held November 14, 2017, at Port Credit Arena and the p.m. workshop was held November 16, 2017, at the Living Arts Centre.

## Presentation Overview

### Consultation #1 Highlights

- One-on-One **Councillor** Interviews
- 2 Open Houses, 50+ attendees each
- 1 Parking Provider Workshop, 40 attendees
- 3 Information Nights, 550 bookmarks handed-out
- 486 survey respondents

### Theme 3: Parking Demand Management and Outreach

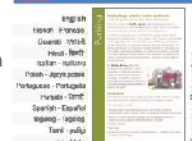
#### What are we considering?:

- Identifying Transportation Demand Management (TDM) measures for each Precinct to influence parking demand

TDM Strategies
Flexible storage
Carpooling
Car sharing to support transit, cycling and walking
Parking management (paid parking, parking enforcement)
Flexible working arrangements
Transit discounts/subsidies
Car-pooling programs
Real-time transit information
Park and ride facilities
Tele-telecommuting
Technician level meeting projects
Outreach services



- Establishing tactics and channels to improve outreach and education about parking



### Theme 8: Technology and Innovation

#### What are we considering?:

- Upgrading digital and physical technology

#### Possibilities:

- Digital payments and products
- Digital signage and sensors
- Parking guidance systems
- Enforcement upgrades
- Data digitization (for Open Data)

#### Protect for:

- Digital permits
- Dynamic pricing
- Automated Vehicles



*Workshop Discussion: New Parking and Management of Existing Parking*

*Table 2 - Organizations represented at Parking Provider Working Sessions*

Private	Public
---------	--------

Table 3 - Summary of parking provider workshop feedback by theme

Theme	Parking Provider Workshop Feedback
-------	------------------------------------



Theme	Parking Provider Workshop Feedback
-------	------------------------------------

---

---

---

---

### 2.1.2 Parking User Open Houses

#### Objectives:

1. To provide audiences with an update on the progress of the study
2. To present the preliminary parking strategy themes and recommendations identified by the project team
3. To gather input on the preliminary recommendations to be able to refine these in the final phase of the study.

**Audience:** The open house sessions were targeted to members of the public (i.e., parking users including residents of the City of Mississauga, community representatives, stakeholders and interest groups).

**Timeline:** A total of two public Open Houses were held: November 14 (Port Credit Arena) and November 16 (Mississauga Civic Centre) between 6:30 and 8:30 p.m.



Figure 2- Open Houses (Port Credit and Mississauga Civic Centre)

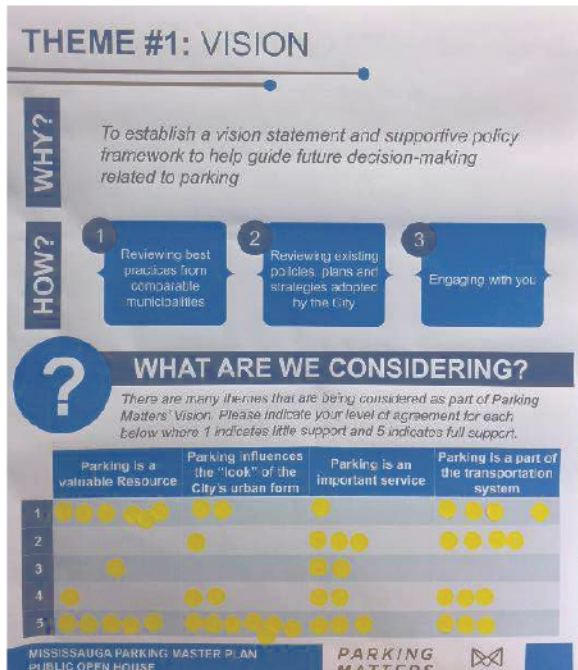


Table 4 - Display Boards, associated theme and description

Board	Theme	Description
-------	-------	-------------

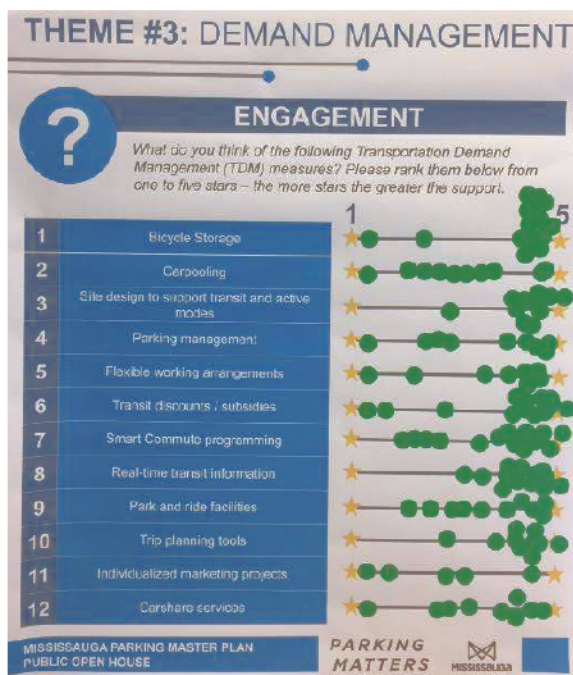
Board	Theme	Description
-------	-------	-------------

*Interactive Display Board Input*

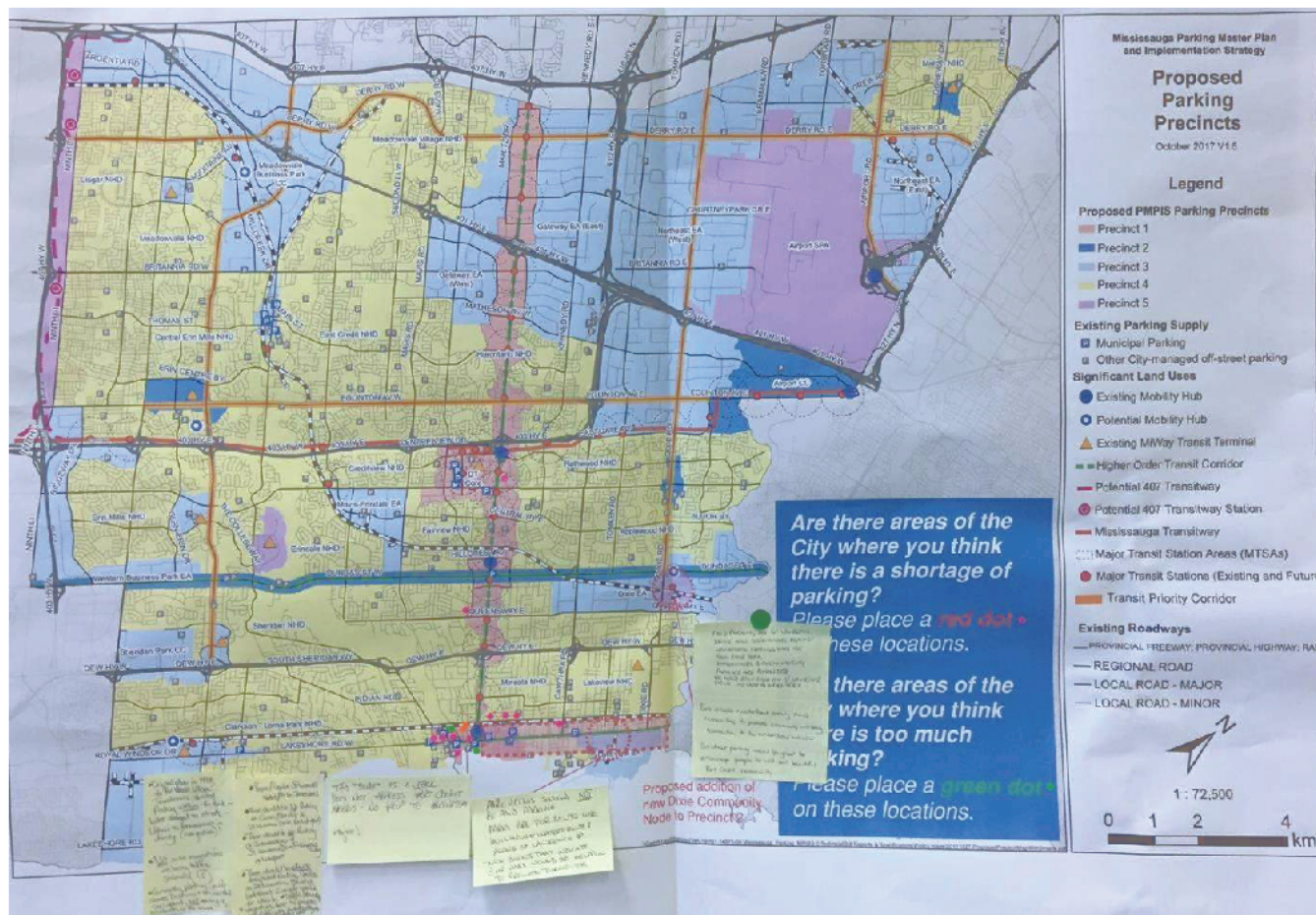


## Theme 1: Vision

**Theme 2: City Policies and Bylaws for New Parking Provision is discussed on the next page**



## Theme 3: Demand Management



## Theme 2: Parking Precincts





## THEME #6: FUNDING & FINANCE

**WHY?** To be strategic with policies and practices for revenues and capital spending on City-managed parking

**HOW?**

1. Investigate a strategy for paid parking rates and use of reserve funds
2. Identify criteria for investment in municipal parking infrastructure
3. Identify processes for partnerships with landowners, developers and operators

**WHAT ARE WE CONSIDERING?**

The City anticipates it will need to build new parking infrastructure to support future growth. How do you think the City should fund and finance this? Please indicate your thoughts below.

	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
1. People who drive and park should pay	[Red dots]			
2. City-run parking should be funded by property taxes	[Red dots]			
3. Other	[Red dots]			

Please indicate other options below.

MISSISSAUGA PARKING MASTER PLAN  
PUBLIC OPEN HOUSE

*Handwritten notes:*  
NEED BUDGET PARKING  
HIDE PARKING FROM THE AVENUE  
PARKING MATTERS

### Theme 6: Funding and Finance

## THEME #8: TECHNOLOGY

**ENGAGEMENT**

What do you think of the different technologies being considered for the City of Mississauga? Please rank them below from one to three stars indicating your support – the more stars the greater the support.

	1	2	3
1. DIGITAL PAYMENT & PRODUCTS	[Yellow stars]	[Yellow stars]	[Yellow stars]
2. DIGITAL SIGNAGE & SENSORS	[Yellow stars]	[Yellow stars]	[Yellow stars]
3. PARKING GUIDANCE SYSTEMS	[Yellow stars]	[Yellow stars]	[Yellow stars]
4. ENFORCEMENT UPGRADES	[Yellow stars]	[Yellow stars]	[Yellow stars]
5. AUTOMATED VEHICLES	[Yellow stars]	[Yellow stars]	[Yellow stars]
6. OTHER?	[Yellow stars]	[Yellow stars]	[Yellow stars]

Are there other forms of technology related to parking that you would like the City of Mississauga to consider? Please write them in the space below.

*Handwritten notes:*  
use of drones for enforcement? Not!  
GREAT FOR PARKING LOTS / BUSINESSES BUT NOT RESIDENTS.  
Place comments Here.

### Theme 8: Technology

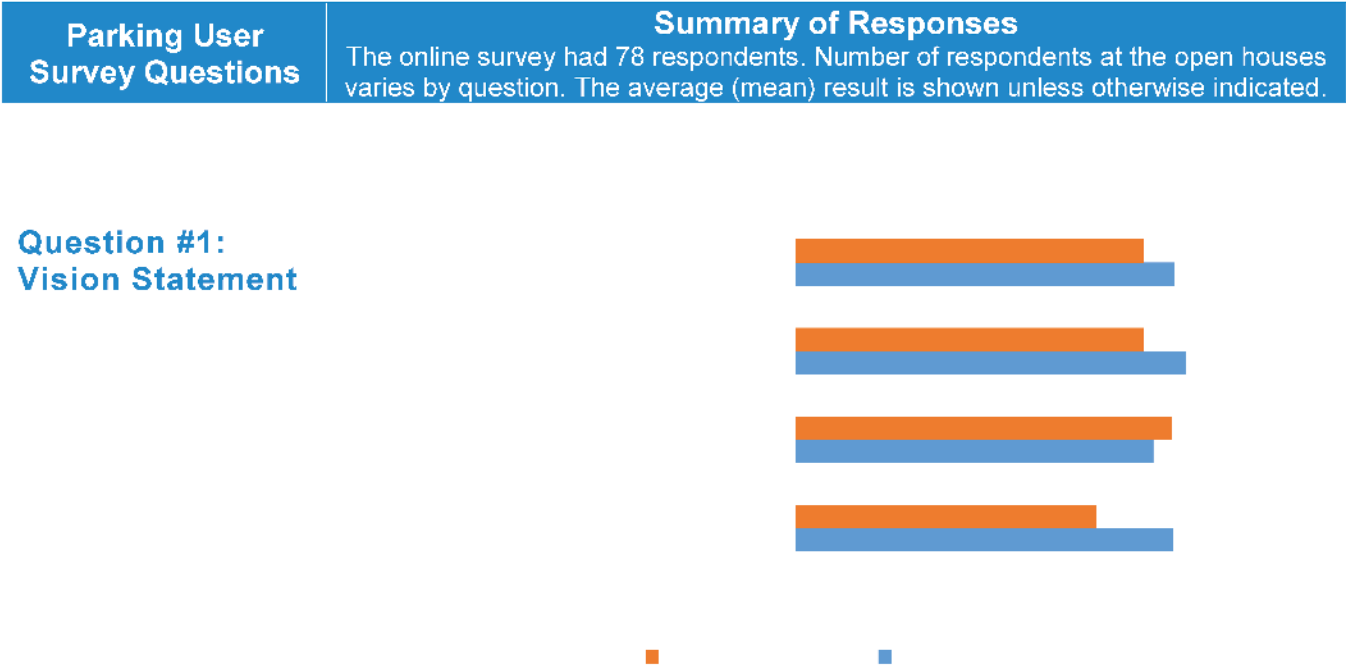
2.1.3 Online Engagement Tool #2

**Objective:** To gather input from parking providers and parking users about their experiences related to parking within the City of Mississauga.

**Audience:** Parking Users and Parking Providers.

**Timeline:** The online surveys were hosted through the project website from November 1 to December 10, 2017.

Table 5 - Parking User Survey Responses and comparison with Open House responses (where available)

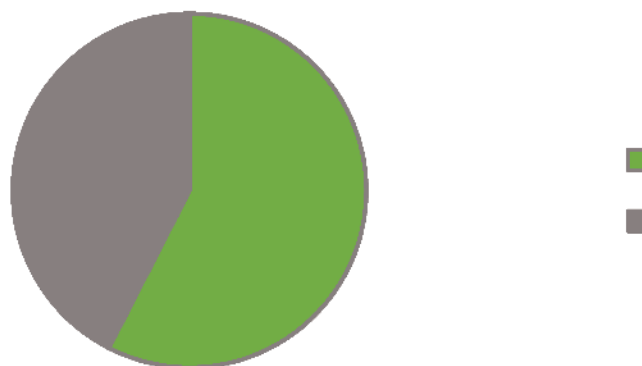


### Parking User Survey Questions

### Summary of Responses

The online survey had 78 respondents. Number of respondents at the open houses varies by question. The average (mean) result is shown unless otherwise indicated.

#### Question #2a:



**Common  
locations cited in  
both online and  
open house:**

#### Question #2b:





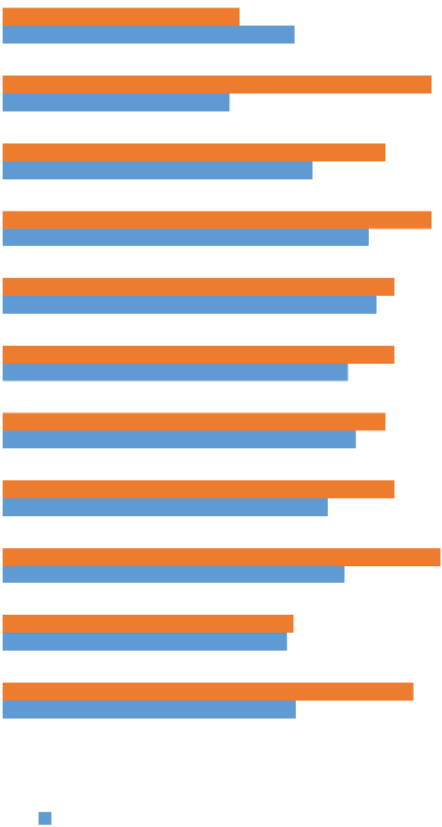
Parking User  
Survey Questions

Summary of Responses

The online survey had 78 respondents. Number of respondents at the open houses varies by question. The average (mean) result is shown unless otherwise indicated.

Common  
locations cited in  
both online and  
Open House:

Question #3:

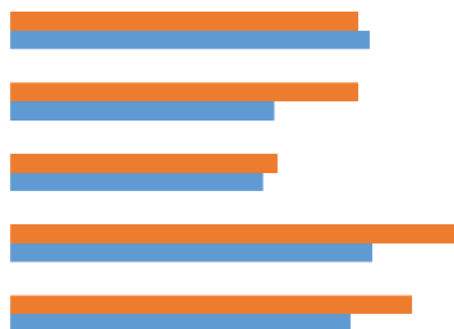


### Parking User Survey Questions

### Summary of Responses

The online survey had 78 respondents. Number of respondents at the open houses varies by question. The average (mean) result is shown unless otherwise indicated.

#### Question #4 a) on-street and residential considerations:



■

■

#### 4. b) Permit Parking on residential streets



■

■

**Parking User  
Survey Questions**

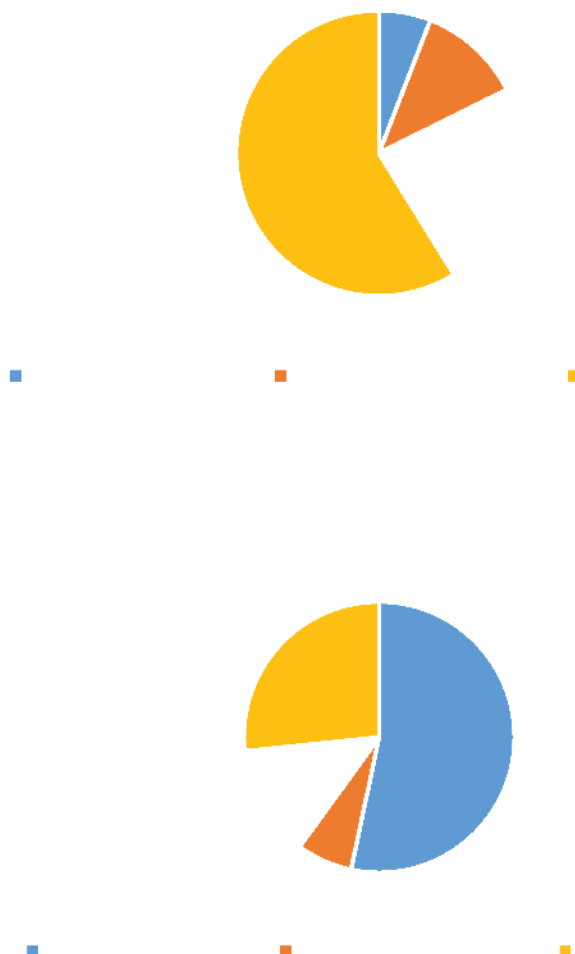
**Summary of Responses**

The online survey had 78 respondents. Number of respondents at the open houses varies by question. The average (mean) result is shown unless otherwise indicated.

**4. c) How do you think the City could improve on-street parking?**

**Parking User  
Survey Questions****Summary of Responses**

The online survey had 78 respondents. Number of respondents at the open houses varies by question. The average (mean) result is shown unless otherwise indicated.

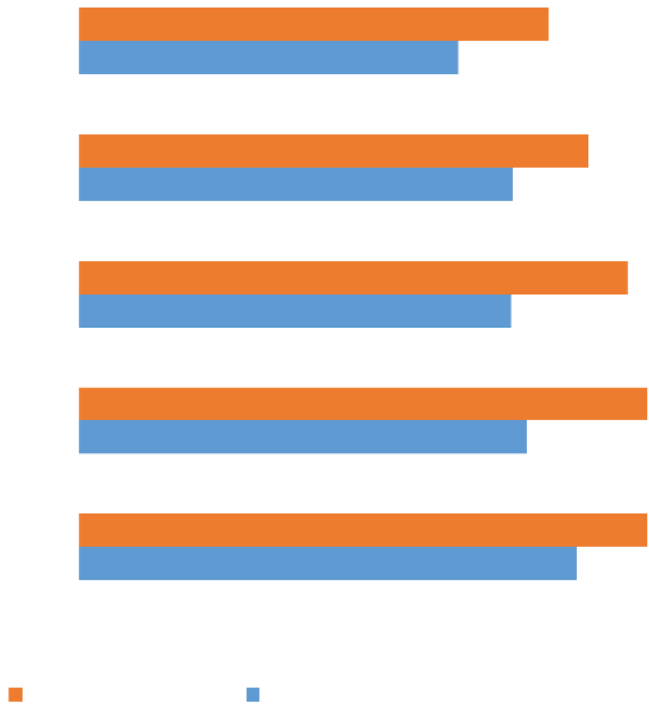
**#Q6a). Attitudes  
towards funding  
and paying for  
parking**

Parking User  
Survey Questions

Summary of Responses

The online survey had 78 respondents. Number of respondents at the open houses varies by question. The average (mean) result is shown unless otherwise indicated.

Question #6b):  
Support for New  
Technology



Question #6:  
Technology

**Parking User  
Survey Questions****Summary of Responses**

The online survey had 78 respondents. Number of respondents at the open houses varies by question. The average (mean) result is shown unless otherwise indicated.

**Question #7:**

#### 2.1.4 Pop-Up Information Nights

**Objective:** To provide additional opportunities for parking users i.e. residents within the various areas of the City to learn more about the project and to provide input.

**Audience:** Parking Users and Parking Providers

**Format:** Pop-ups were held in community locations throughout various areas of the City with a paired down version of the display boards to ask simple questions and to drive traffic to the project website and the second online engagement tool.

**Timeline:** November 21st, 22nd, 23rd, 28th, 29th and 30<sup>th</sup>, 4:00 – 7:00 p.m.

**Locations:**

1. Burnhamthorpe Library
2. Malton Community Centre
3. Meadowvale Community Centre
4. Churchill Meadows Library & Activity Centre
5. Clarkson Community Centre
6. Erin Meadows Community Centre





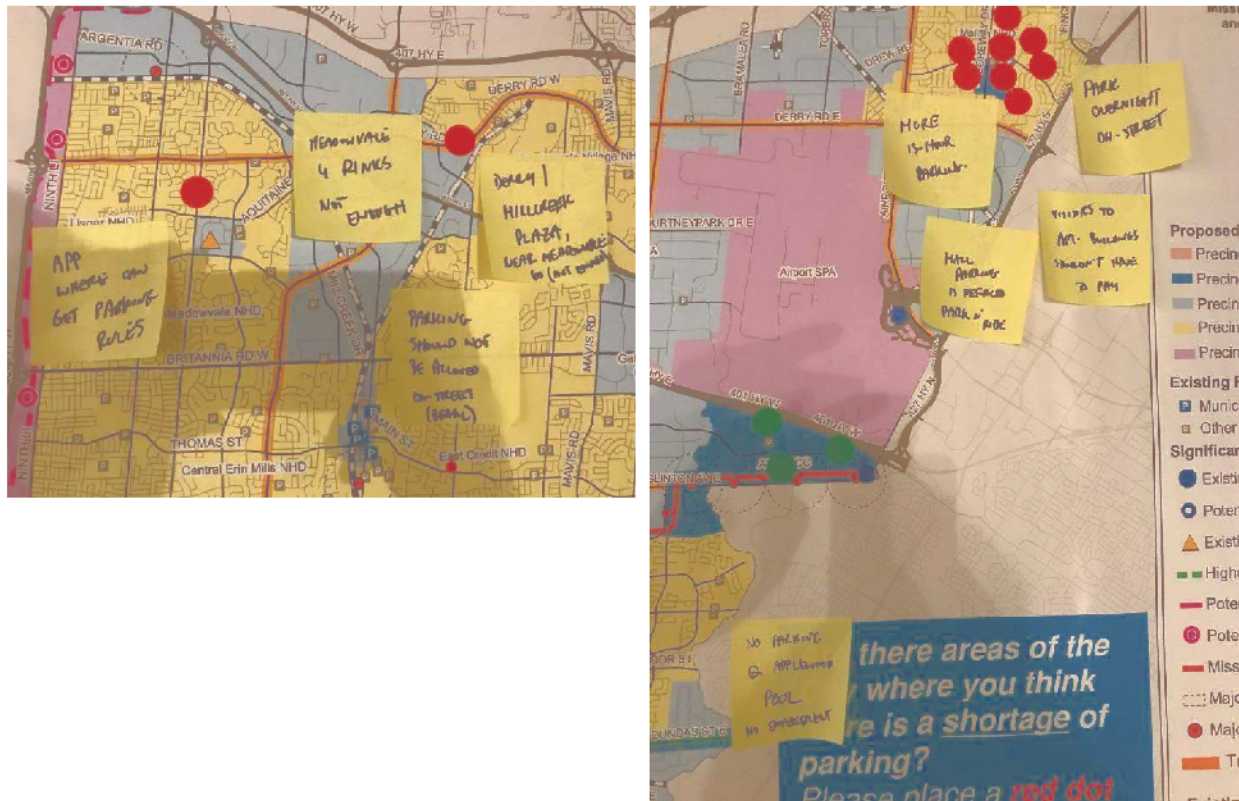


Figure 4 - Week 1 Pop-Up Information Night (November 21,22 and 23) Post it Notes Feedback

### Neighbourhood-specific feedback (Week 1)

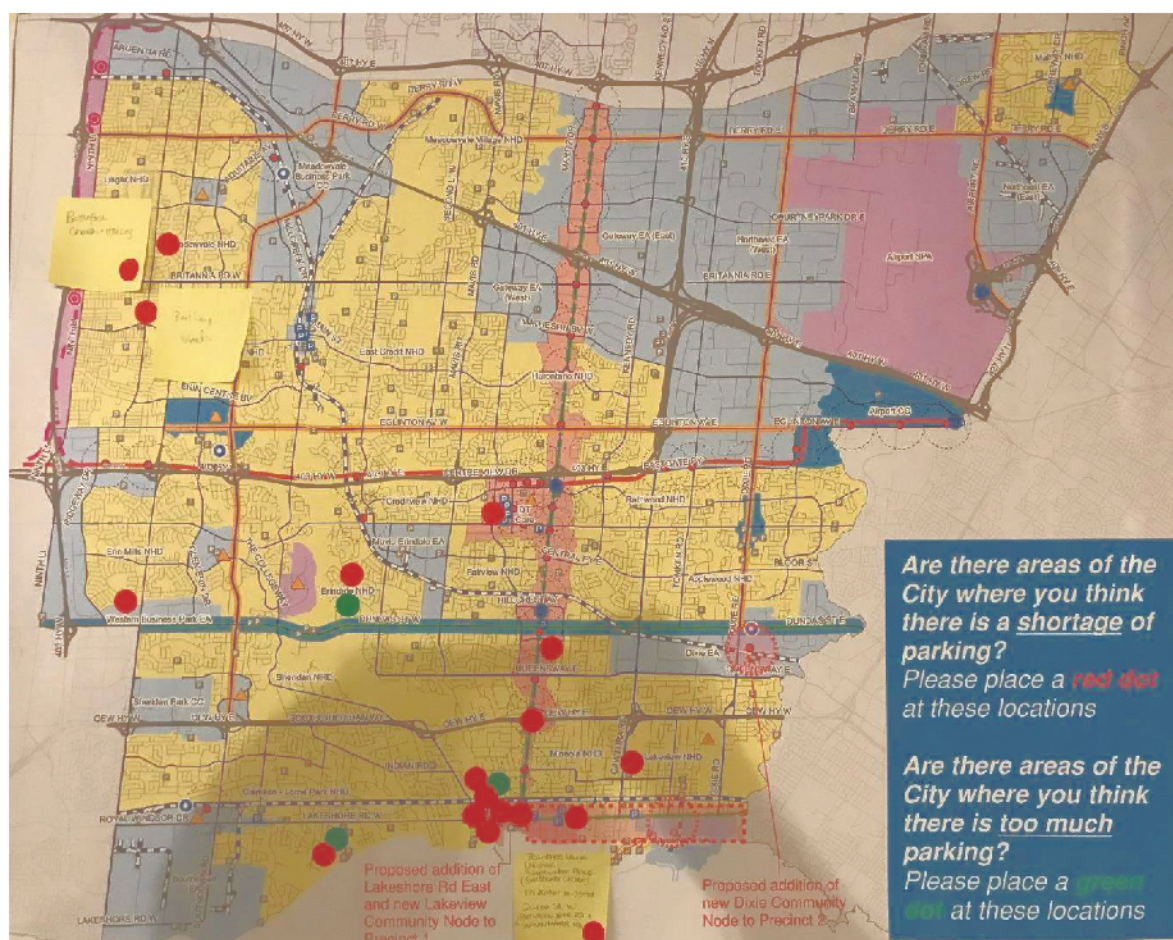


Figure 5 - Week 2 Pop-Up Information Night (November 28, 29 and 30) Feedback

## Theme 2: Parking Precincts (Week 2)

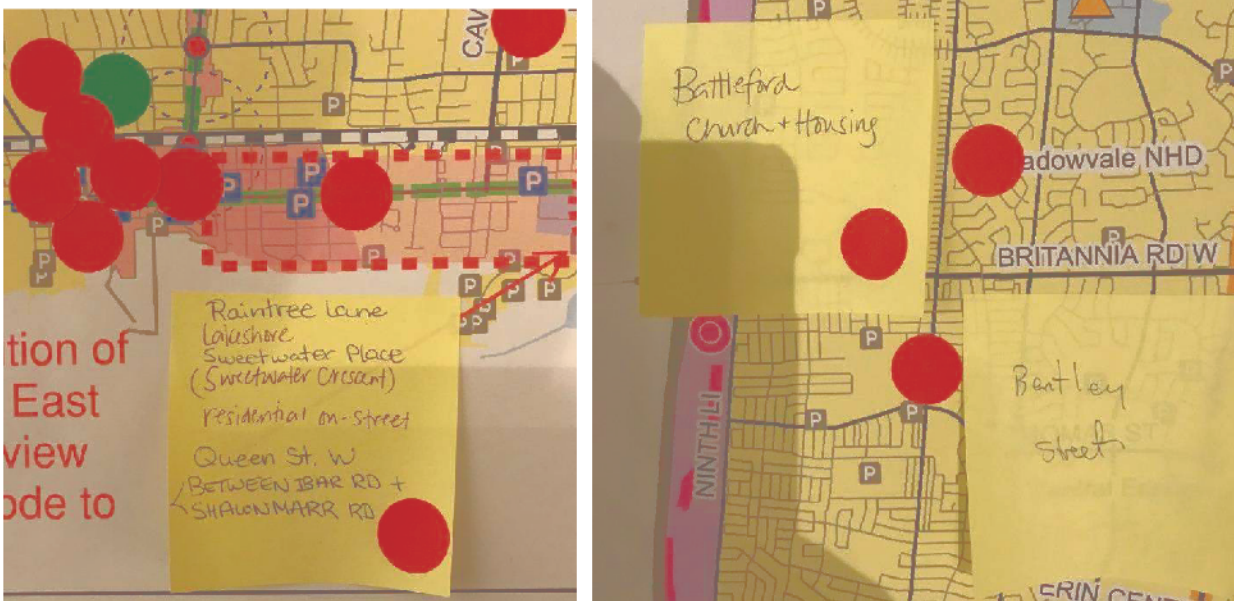
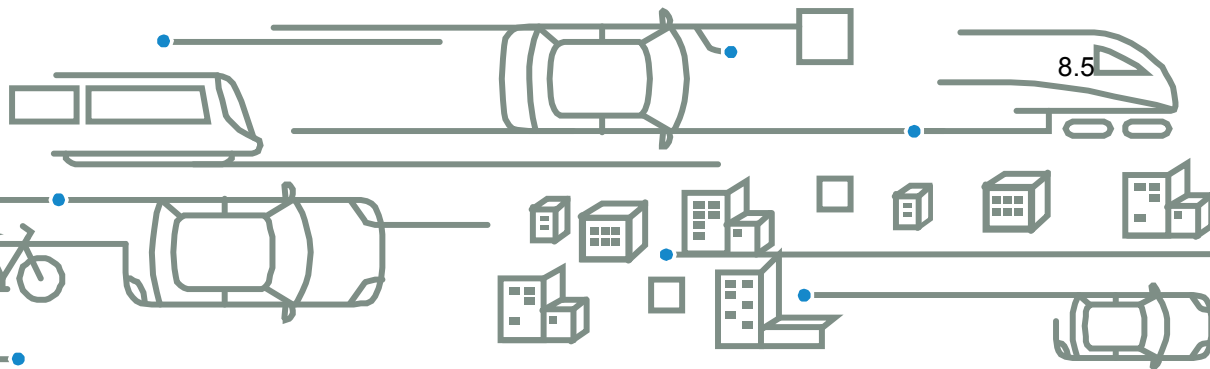


Figure 6 - Week 2 Pop-Up Information Night Feedback (November 28, 29 and 30)

### Neighbourhood-specific feedback (Week 2)





## *PARKING MATTERS*

# CHAPTER 3.0

## Summary of key themes



Based on the feedback received from the three main user groups and input analysed in this Round 2 report, the Project Team now believes there is a solid basis from which to further refine the ten parking policy themes and adjust the preliminary recommendations developed in the Parking Matters project thus far. The feedback received has been sorted into three themes that featured prominently in this round of engagement.

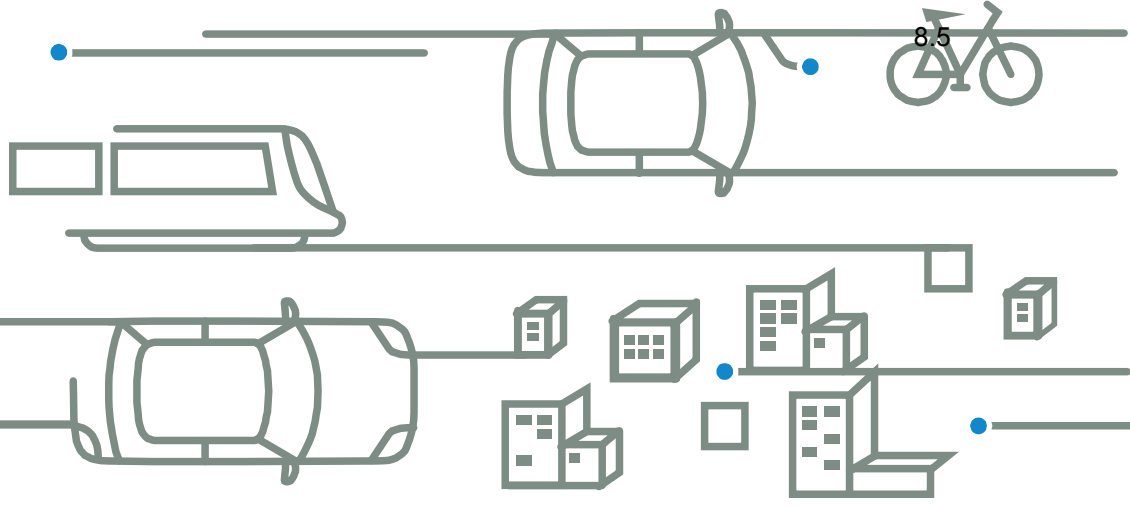
### **Formalizing the Plan and Level of Engagement**

For the part of the parking providers, the feedback received suggests that parking providers welcome both a renewed focus on parking and appreciate the City's efforts to formalize the its involvement with a new Parking Master Plan. The main concerns centre on developing a greater understanding of how any new city policy and governance structures stand to affect existing operators.

In moving to the final phase of the project, the Project Team recognises that it will continue to need to work closely with the City to ensure that the final Parking Master Plan recommendations are considered fair and transparent by each of the user groups. It will be important to demonstrate to parking providers that these sentiments are reflected in the final Parking Master Plan.

Proposed Policies and Impacts

Financing Parking



# *PARKING MATTERS*



## **APPENDIX 2-1 JURISDICTIONS WITH PRECINCT/POLICY AREA APPROACH TO PARKING POLICIES**

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

# 1 PARKING PRECINCTS

---

According to the relevant literature as presented in the *Existing Policy and Best Practices Review* appropriate parking management policies are best developed using a policy area (precinct) approach based on the quality of transit available in the different areas and the expectations for future development.

This Brief first examines criteria for defining and determining precincts for parking policy analysis (Section 1.1) and then summarizes the approach and experience of seven jurisdictions in southern Ontario (Section 1.2). The seven jurisdictions are: Toronto, Vaughan, Kitchener, Hamilton, Richmond Hill, Oakville, and Newmarket.

---

## 1.1 CRITERIA FOR DETERMINING PRECINCTS

Exhibit 1-1 provides a list of factors that typically affect parking needs, parking demand, and parking supply. The factors listed are obtained from Litman's *Parking Management Comprehensive Implementation Guide* and most are commonly used in the development of appropriate parking management policies. Some are also used to group areas with similar characteristics and therefore a similar vision and need for a similar set of parking policies.

The most effective and most frequently used factors are:

1. Transit Accessibility and Service Frequency
2. Vehicle Ownership
3. Availability of Alternative Travel Modes
  - Active Transportation Network
  - Shared Vehicles
  - Taxi Service
  - Carshare Service
4. Public Parking Facilities
5. Land Use
6. Walkability

### Exhibit 1-1 – Factors Affecting Parking Demand, Supply, and Management

Factor
<b>Geographic Location:</b> Vehicle ownership and use rates in an area
<b>Residential Density:</b> Number of residents or housing units per acre/hectare
<b>Employment Density:</b> Number of employees per acre/hectare
<b>Land Use Mix:</b> Land use mix located within a convenient walking distance
<b>Transit Accessibility:</b> Nearby transit service frequency and quality
<b>Car Sharing:</b> Whether car-sharing services are located within or nearby a building
<b>Walkability and Bike-ability:</b> Walking environment quality
<b>Demographics:</b> Age and physical ability of residents or commuters
<b>Income:</b> Average income of residents or commuters
<b>Housing Tenure:</b> Whether housing is owned or rented
<b>Pricing:</b> Parking that is priced, unbundled, or cashed out
<b>Sharing/Overflow:</b> Ability to share parking facilities with other nearby land uses:
<b>Management Programs:</b> Parking and mobility management programs implemented at a site
<b>Design Hour:</b> Number of allowable annual hours a parking facility may fill
<b>Contingency-Based Planning:</b> Use lower-bound requirements, and implement additional strategies if needed

Source: *Parking Management Comprehensive Implementation Guide*, Victoria Transport Policy Institute, 2018



---

## 1.2 JURISDICTIONS WITH PRECINCT APPROACH

As pointed out in the *Existing Policy and Best Practice Review* prepared as part of the PMPIS, jurisdictions in many countries have adopted a policy area approach to parking policy. The availability of transit, public parking, and active transportation networks is important to the approach. Many jurisdictions also review their parking policies and update their Zoning By-laws when adopting a policy area approach. The policies that emerge differ with the different needs of different jurisdictions. Seven jurisdictions are reviewed: Toronto, Vaughan, Kitchener, Hamilton, Richmond Hill, Oakville, and Newmarket.

---

### 1.2.1 CITY OF TORONTO

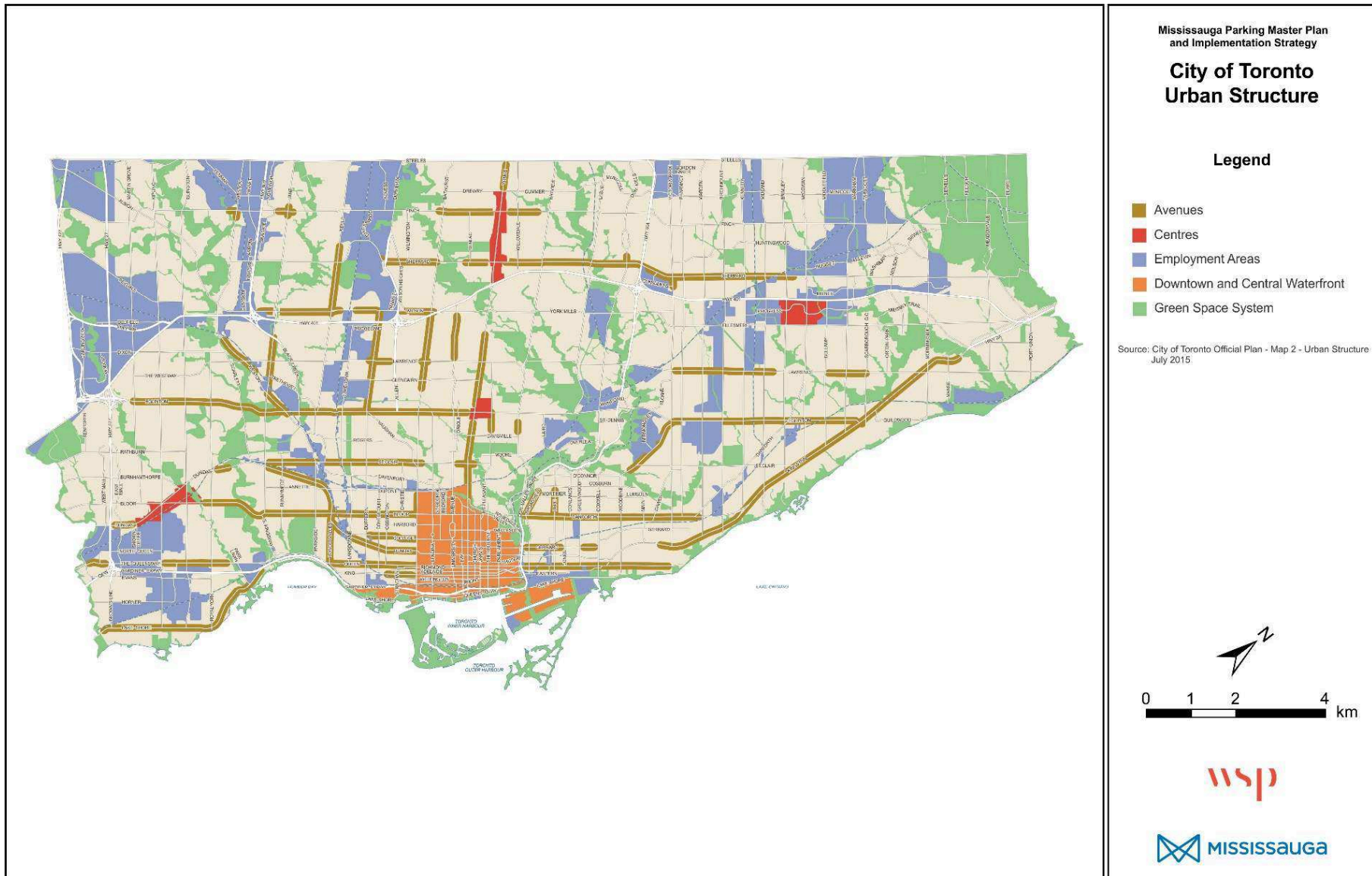
The City of Toronto conducted a series of reviews of its parking policies and standards to develop a new *Zoning By-law 569-2013* in 2013. The new by-law reflects the parking needs of residents and businesses and incorporates policies in the city's Official Plan Urban Structure (Exhibit 1-2) and higher-order transit corridors (corridors serviced by higher-order transit). The Zoning By-law includes specific parking policies for: Avenues, Centres, Employment Areas, and Downtown and Central Waterfront.

The City of Toronto parking reviews also used the city's Official Plan Urban Structure and higher-order transit corridors to develop standards for the following five policy areas:

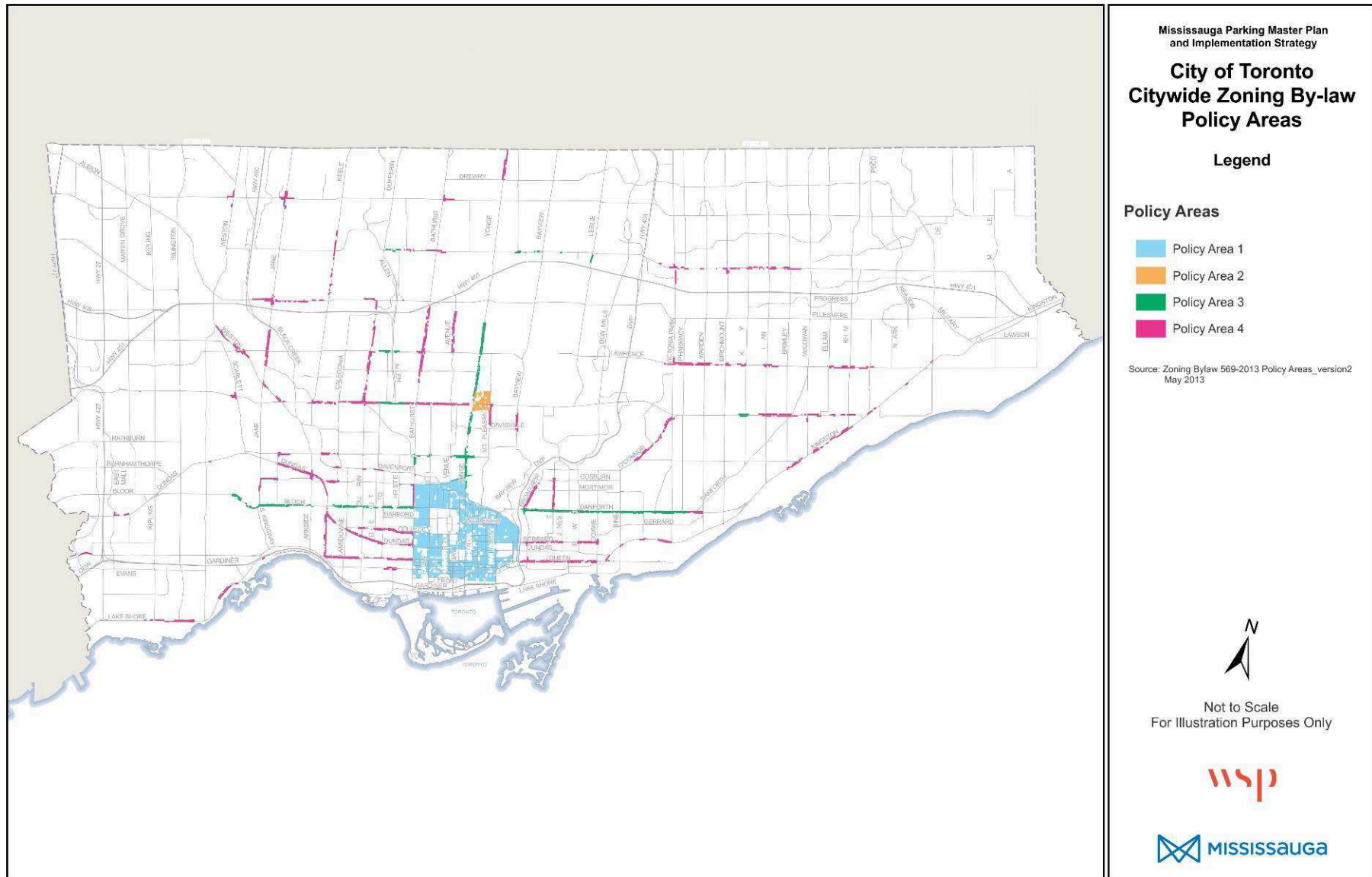
- Policy Area 1: Downtown and Central Waterfront.
- Policy Area 2: Yonge and Eglinton.
- Policy Area 3: Centres and Avenues on Subway.
- Policy Area 4: Other Avenues well served by Surface Transit.
- Policy Area 5: Rest of the City.

Exhibit 1-3 shows the five policy areas as incorporated by *Zoning By-law 569-2013*.

## Exhibit 1-2 – City of Toronto Urban Structure



# Exhibit 1-3 – City of Toronto Zoning By-law Policy Areas



---

### 1.2.2 CITY OF VAUGHAN

The City of Vaughan also adopted a parking policy area approach in 2010 based on the city's Official Plan's urban structure and linked to current and planned transit facilities. The city's parking policy review recommended four policy areas:

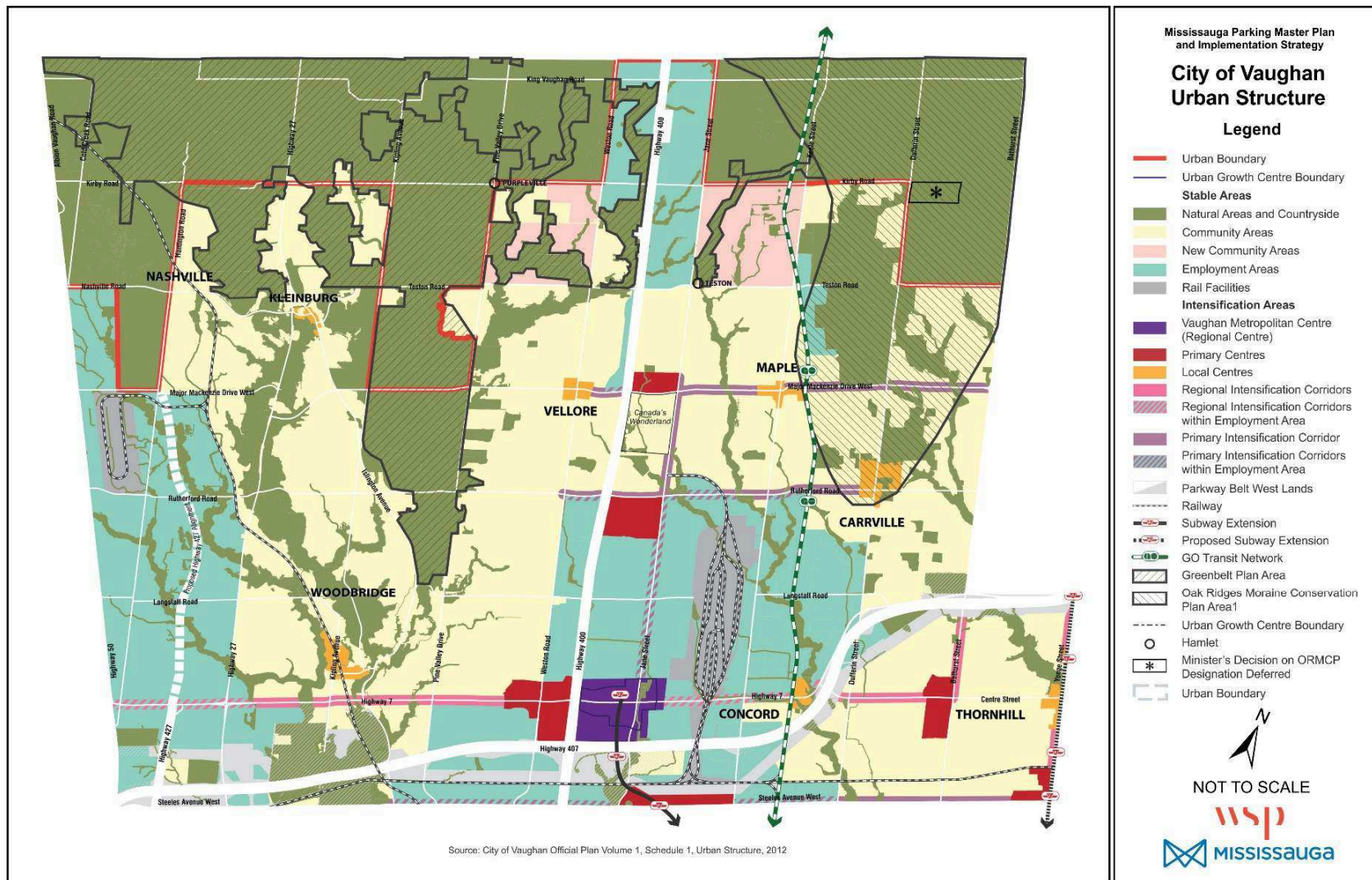
- Higher-order Transit Hubs
- Local Centres
- Primary Centres and Primary Intensification Corridors
- Base (Other Areas)

The review recommended parking standards for each separate area. These standards ranged from minimums in areas with limited transit to maximums in areas in Transit hubs or along higher-order transit facilities and Intensification Areas.

Exhibit 1-4 shows the City of Vaughan Urban Structure map and Exhibit 1-5 shows the approach adopted for each of the four policy areas.



## Exhibit 1-4 – City of Vaughan Urban Structure



### Exhibit 1-5 – City of Vaughan Proposed Parking Structure

Urban Context Category	Approach
<b>High-Order Transit Hubs</b> (Vaughan, Metropolitan Centre, Steeles Corridor, Jane to Keele, Yonge Street)	<ul style="list-style-type: none"> <li>• Lowest parking minimums recognizing high level of transit service and planned availability of on- and off-street collective parking</li> <li>• Responsible parking maximums designed to encourage transit use, promote compact development, and support establishment of on- and off-street collective, priced parking</li> <li>• High potential for public parking including on- and off-street facilities provided that parking maximums are enforced and City develops capacity to provide public parking</li> </ul>
<b>Local Centres</b> (Woodbridge Core, Thornhill Heritage Conservation district, Maple Heritage Conservation District, Kleinberg-Nashville Heritage District, Vellore, Carrville, Concord)	<ul style="list-style-type: none"> <li>• Low parking minimums recognizing small lots, mixed-use development form, desire to maintain high-quality public realm, and availability of on-street parking</li> <li>• Parking maximums on surface parking designed to discourage large surface parking lots encourage transit use and structured parking, and support development of more on- and off-street collective parking</li> <li>• High potential for public parking in selected areas including on-street (in commercial/industrial areas) and off-street facilities provided that parking maximums are enforced and City develops capacity to provide public parking</li> </ul>
<b>Primary Centres/Primary Intensification Areas</b> Regional Corridors: Yonge Street, Avenue 7, Jane Street Vaughan Metropolitan Centre west of 400	<ul style="list-style-type: none"> <li>• Reduced parking minimums recognizing good level of transit service and desire for compact development</li> <li>• Parking maximums on surface parking designed to encourage transit use, discourage large surface parking lots and support establishment of on- and off- street collective, priced parking</li> <li>• Medium potential for public parking in selected areas including on- and off-street facilities building off of initiatives in the Vaughan Metropolitan Centre and Steeles Corridor</li> </ul>
<b>Base (Other Areas)</b> (The rest of the City including Employment lands and Neighbourhoods)	<ul style="list-style-type: none"> <li>• Basic parking minimums requiring a minimum responsible level of parking, but allowing for some flexibility to account for availability of travel choices and surrounding land use context</li> <li>• No maximum parking limits recognizing that these areas are currently auto-dependent and not well served by transit.</li> </ul>

Source: Review of Parking Standards Contained Within the City of Vaughan's Comprehensive Zoning By-law, IBI Group, 2010

### 1.2.3 TOWN OF RICHMOND HILL

The Town of Richmond Hill developed a parking strategy study report in 2010. The report recommended a parking policy area approach similar to that of other municipalities in the Greater Toronto Area (GTA). The approach should consider, for example, existing or planned Mobility Hubs and rapid or higher-order transit facilities. Richmond Hill also used their Official Plan's urban structure as the geographical base and overlaid the planned transit facilities.

Exhibit 1-6 lists and defines the town's five Parking Strategy Areas.

**Exhibit 1-6 – Town of Richmond Hill Parking Strategy Areas**

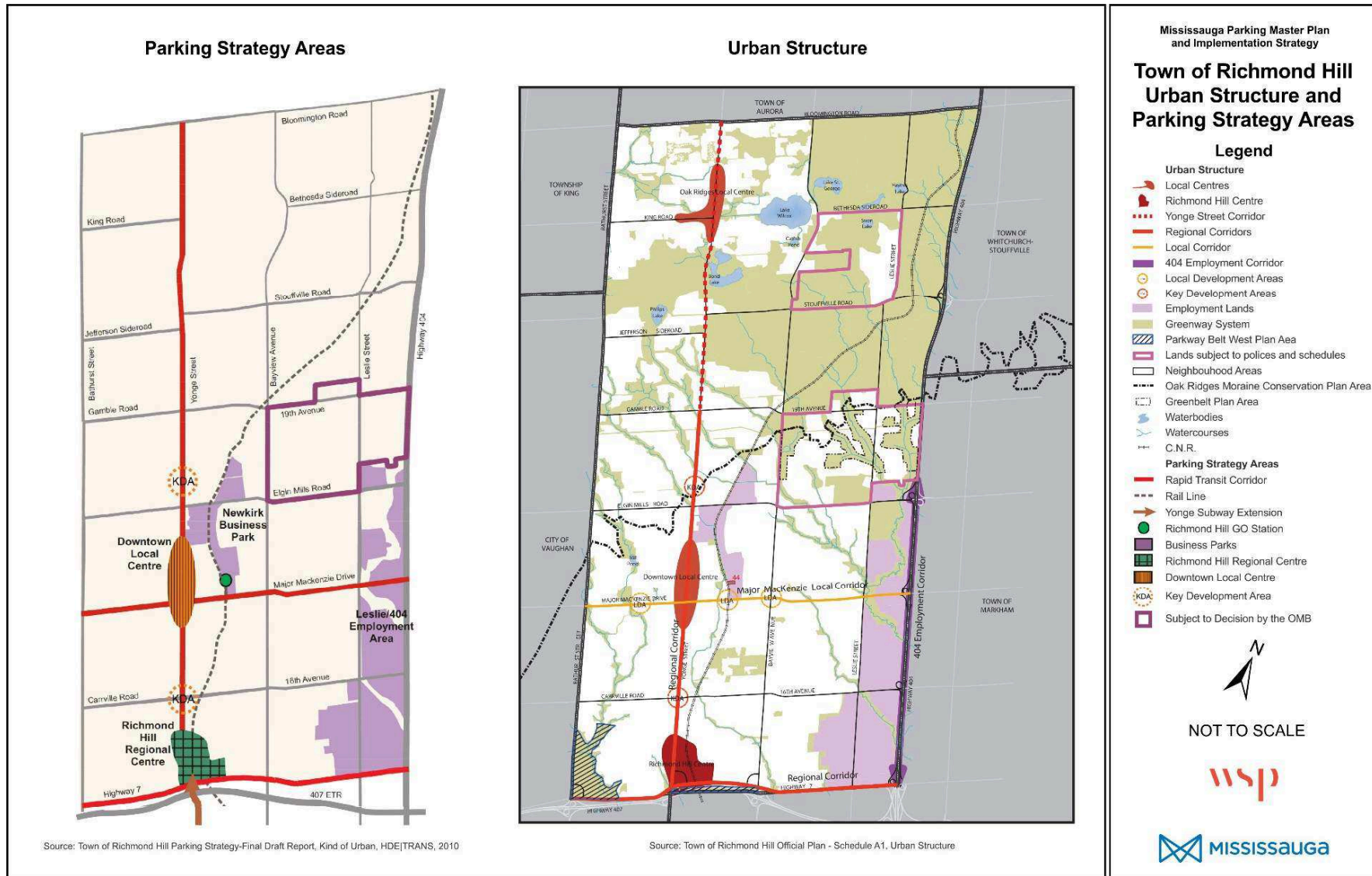
Parking Strategy Areas	Area Definition
Downtown Local Centre and Key Development Areas (KDA)	The Downtown is located along Yonge Street from Levendale Road south of Elgin Mills Road to Harding Boulevard south of Major Mackenzie Drive. KDAs are located at Yonge Street north of Elgin Mills and at Yonge Street and 16th Avenue-Carrville Road.
Richmond Hill Regional Centre	As defined in the Urban Structure Plan.
Rapid Transit Corridors	Areas within 400 m walking distance of: <ul style="list-style-type: none"> <li>– Rapid transit stops on Yonge Street</li> <li>– Rapid transit stops on Highway 7</li> <li>– Rapid transit on Major Mackenzie Drive</li> <li>– Richmond Hill GO Rail station</li> </ul>
Business Parks	Newkirk Business Park and Employment Corridor consisting of Beaver Creek, Headford, Barker, and other employment lands along the 404 Employment Corridor As shown in the Draft Official Plan.
Rest of Richmond Hill	All remaining areas of Richmond Hill.

Source: *Richmond Hill Parking Strategy, HDR | iTRANS, 2010*

Exhibit 1-7 shows Richmond Hill's Urban Structure and Parking Strategy Areas.



## Exhibit 1-7 – Town of Richmond Hill Urban Structure and Parking Strategy Areas





The Town of Richmond Hill parking strategy report recommends the adoption of parking maximums. In the case of sites located within a Mobility Hub, the report recommends reducing existing parking rates by up to 30 percent.

---

#### 1.2.4 CITY OF KITCHENER

The City of Kitchener recently undertook a comprehensive review of their Zoning By-law in 2018 and recommended that in some areas of the city, density bonuses be provided instead of Transportation Demand Management (TDM) strategies. The proposed new by-law is not yet approved by Council.

The parking requirements in the new by-law are lower for Planning Around Rapid Transit Stations, Urban Growth Centres (including City Centre) and for Mixed Use Zones than for other areas of the city. The by-law provides minimum and maximum parking requirements for multi-unit residential developments in these zones.

---

#### 1.2.5 CITY OF HAMILTON

The City of Hamilton recently updated its *Zoning By-law No. 05-200* in 2018. The new by-law has lower parking requirements in the Downtown, Commercial Zones, Mixed Use Zones, and Transit Oriented Zones than in rest of the city. If the gross floor area (total area contained within the building) meets a minimum requirement, some commercial developments in these zones are not required to provide parking. The city has minimum and maximum parking ratios for multi-unit residential developments in the Transit Oriented Zones.

---

#### 1.2.6 TOWN OF OAKVILLE

The Town of Oakville's *Zoning By-law 2014-014* outlines parking policies for areas including: Mixed-Use Zones, Growth Areas, and Downtown. The town has lower parking requirements in the Mixed-Use Zones and Growth Areas. Downtown commercial developments do not have to provide parking, but there is a minimum parking standard (no maximums) for residential uses in Downtown.

In the Bronte Village, Kerr Village Palermo Village, and Uptown Core Growth Areas, all non-residential uses are assigned a common (or "blended") minimum parking ratio. The ratio varies across the areas from 2.5 to 4.2 spaces/100 m<sup>2</sup> of net floor area.

Part five of the Oakville *Zoning By-law 2014-04* mentions that "in the Growth Areas, the minimum numbers of parking spaces required are reduced to support the town's strategic and policy objectives related to transit, growth management, and design."<sup>1</sup>

---

<sup>1</sup> Zoning By-law 2014-014, Town of Oakville, 2014

---

### 1.2.7 TOWN OF NEWMARKET

The Town of Newmarket is currently the northern limit of the expanding York Region Rapidway. The Rapidway will travel through the Newmarket Urban Centres Secondary Plan Area.

The town decided to develop an Area-Specific Zoning By-law for the Urban Centres Secondary Plan. As part of that exercise, the town commissioned a parking standard background study.

As the study area is to be highly transit-oriented, the report recommended both minimum and maximum parking rates. The study also recommended the following:<sup>2</sup>

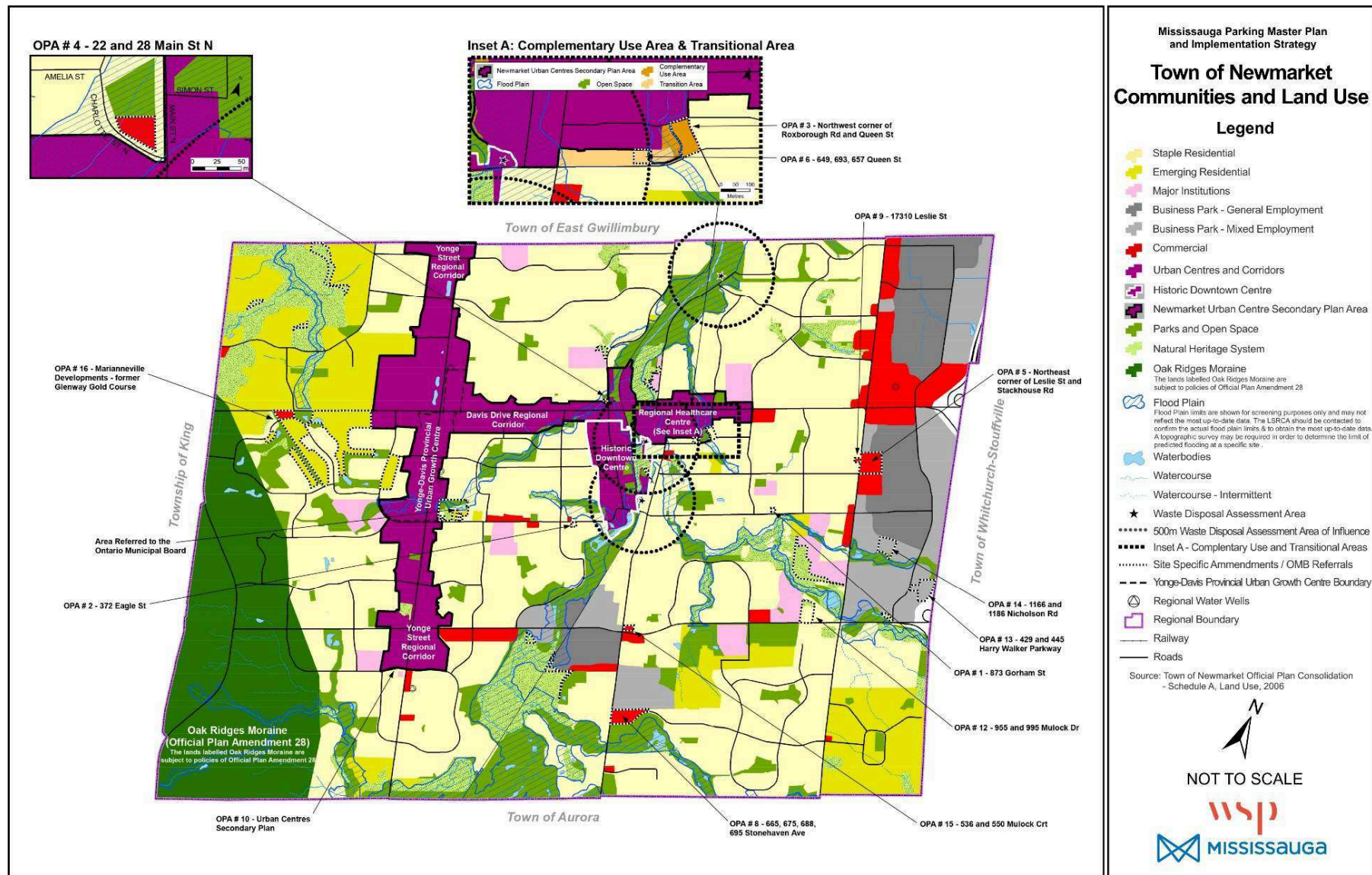
- A 30 percent reduction in parking requirements, may be applied to both the minimum and maximum calculated parking supplies, for residential and non-residential land uses where it is demonstrated that:
  - The proposed development main entrance is within 500 m walking distance of either the GO Rail Station or Bus Terminal main entrances.
  - Adequate TDM infrastructure and programs will be in place to the satisfaction of reviewing agencies, in accordance with town's Urban Centres Secondary Plan policies and York Region Mobility Plan Guidelines for Development Applications.

Exhibit 1-8 shows the Newmarket communities and land use, and Exhibit 1-9 shows the town's transit and road facilities.

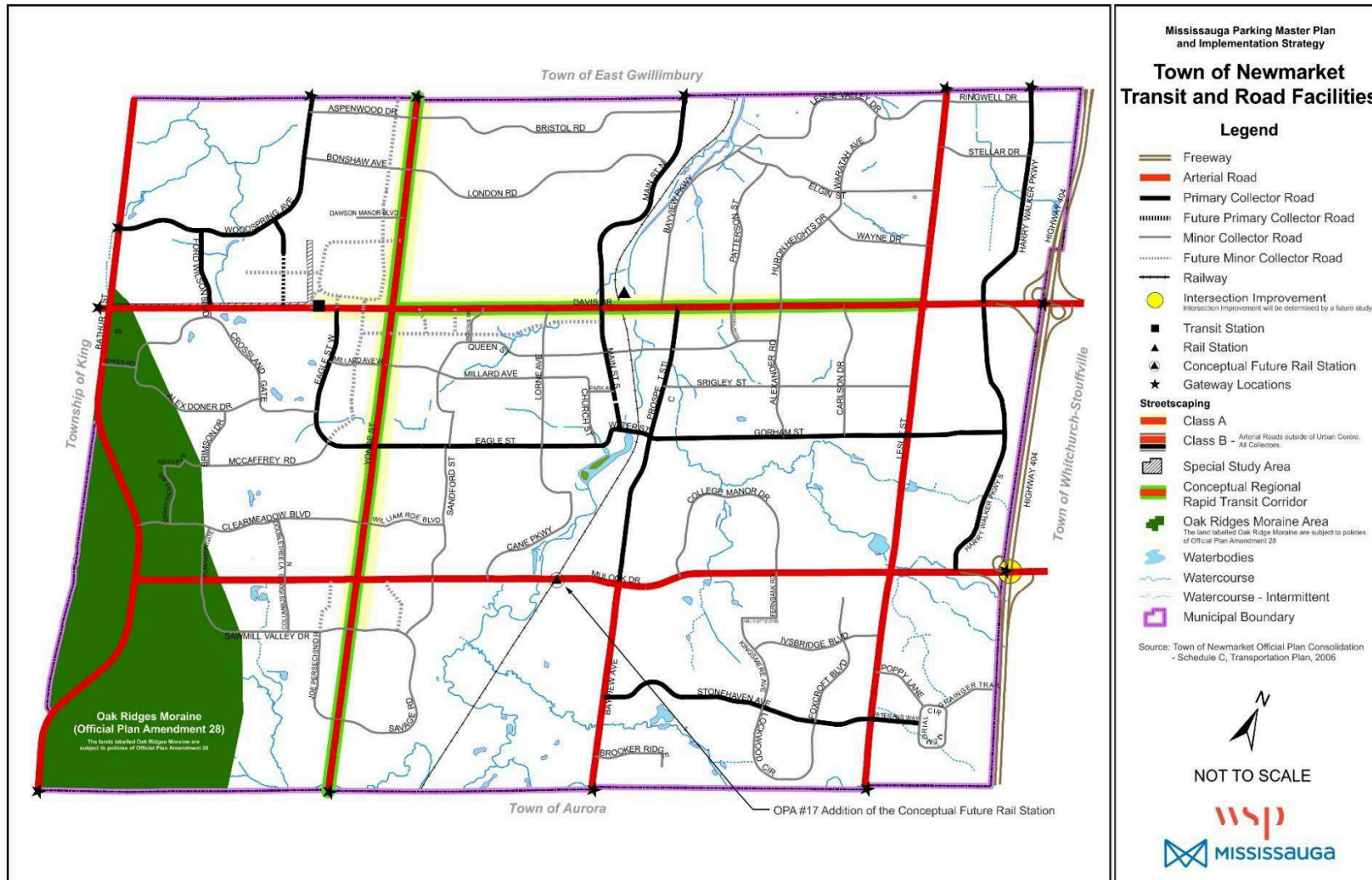
---

<sup>2</sup> Parking Standards Background Study, Town of Newmarket, 2016

## Exhibit 1-8 – Town of Newmarket Communities and Land Use



# Exhibit 1-9 – Town of Newmarket Transit and Road Facilities



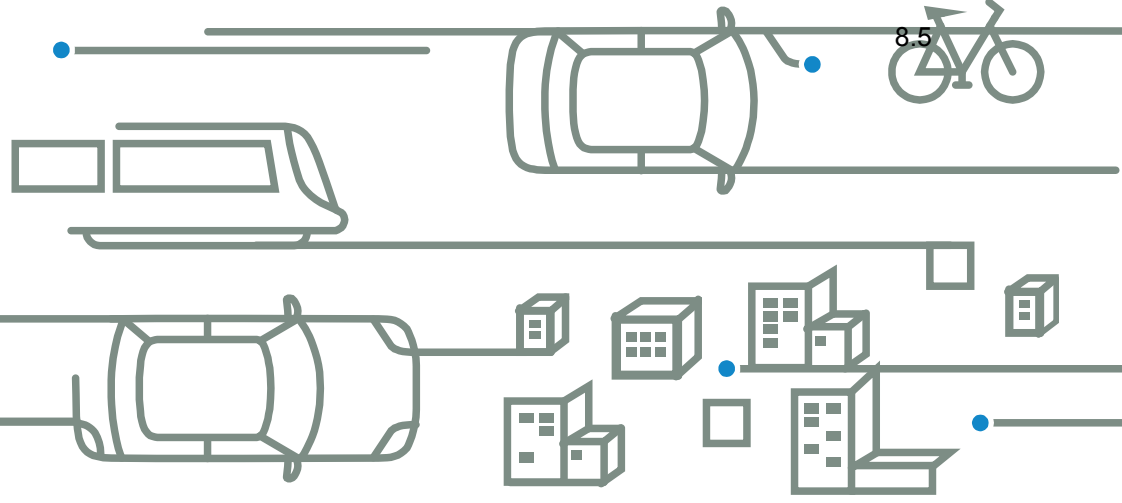


---

### 1.2.8 SUMMARY

Many jurisdictions around Mississauga and elsewhere have adopted the policy area approach to parking policy development. The planning structures found in Official Plans combined with the following six criteria are commonly used to determine the area (or precinct) boundaries:

- Transit Accessibility and Service Frequency
- Vehicle Ownership
- Availability of Alternative Travel Modes
- Public Parking Facilities
- Land Use
- Walkability



## *PARKING MATTERS*



# APPENDIX 2-2 THE CASE IN PRECINCTS IN MISSISSAUGA

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

# 1 THE CASE FOR PRECINCTS IN MISSISSAUGA

## 1.1 CITYWIDE REVIEW OF PRECINCT CRITERIA

### 1.1.1 TRANSIT

#### EXISTING TRANSIT USAGE

Exhibit 1-1 – Travel Mode Share - 2011 to 2016

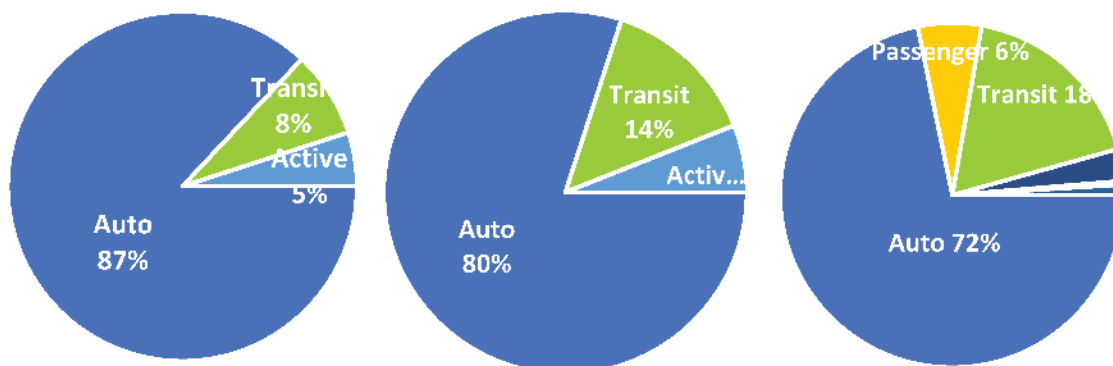


Exhibit 1-2 shows the transit percentage by traffic zone in 2016 based on TTS data. Several zones in the follow areas had an exceptionally high transit ridership (30 percent or more):

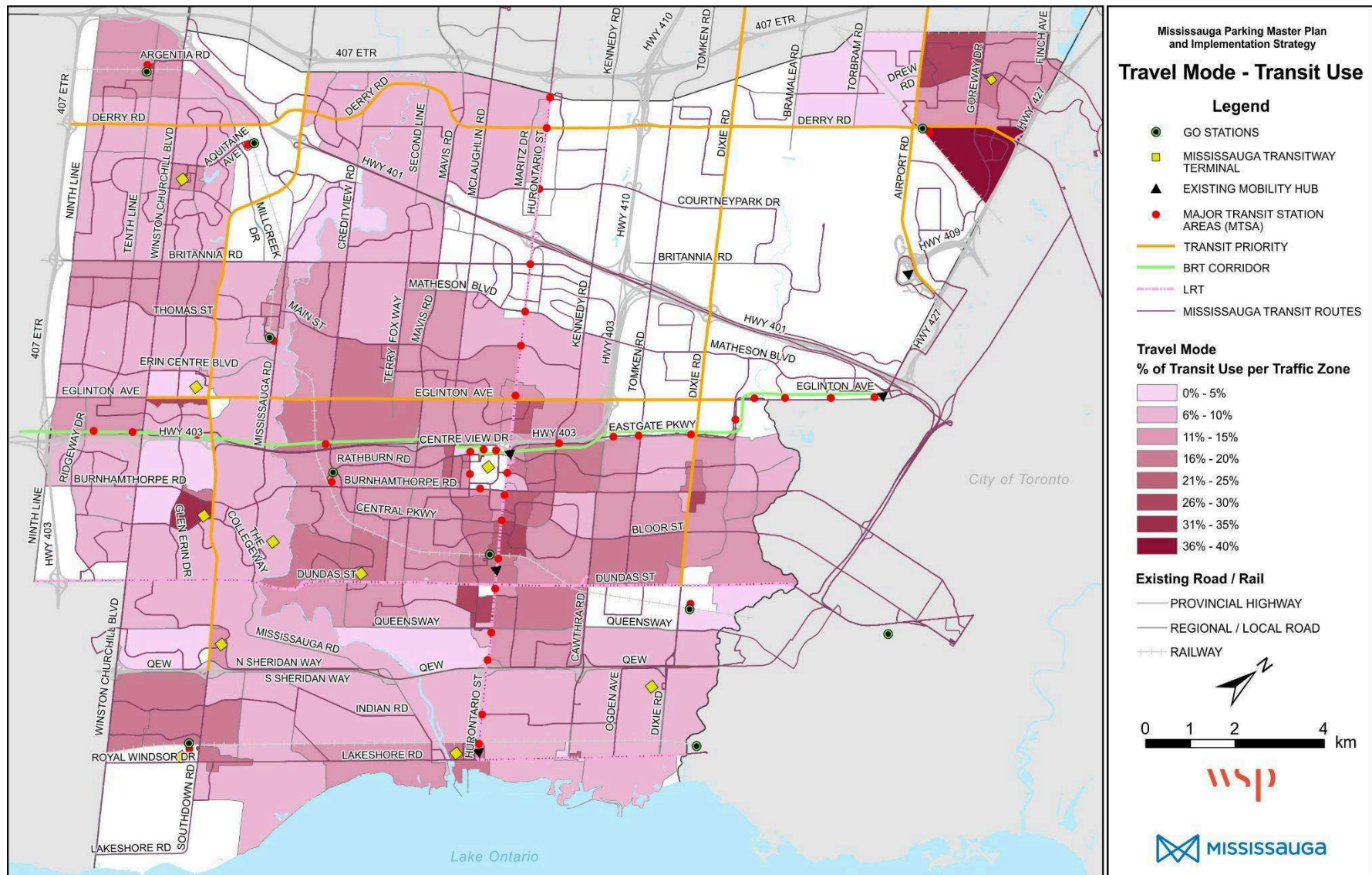
- Meadowvale
- Applewood-Rathwood Community Node
- The Downtown
- Malton
- Port Credit
- South Common
- Sheridan Park Corporate Centre

These areas are clearly primary locations for lower parking requirements.

The planned transit improvements shown in Exhibit 1-3 will increase the convenience of transit use in these areas in the future and likely increase transit ridership.



## Exhibit 1-2 – Transit Mode Share by Traffic Zones - 2016



Source: Transportation Tomorrow Survey, University of Toronto, 2016. Transit rider data from Mississauga may differ.

## FUTURE TRANSIT SERVICE

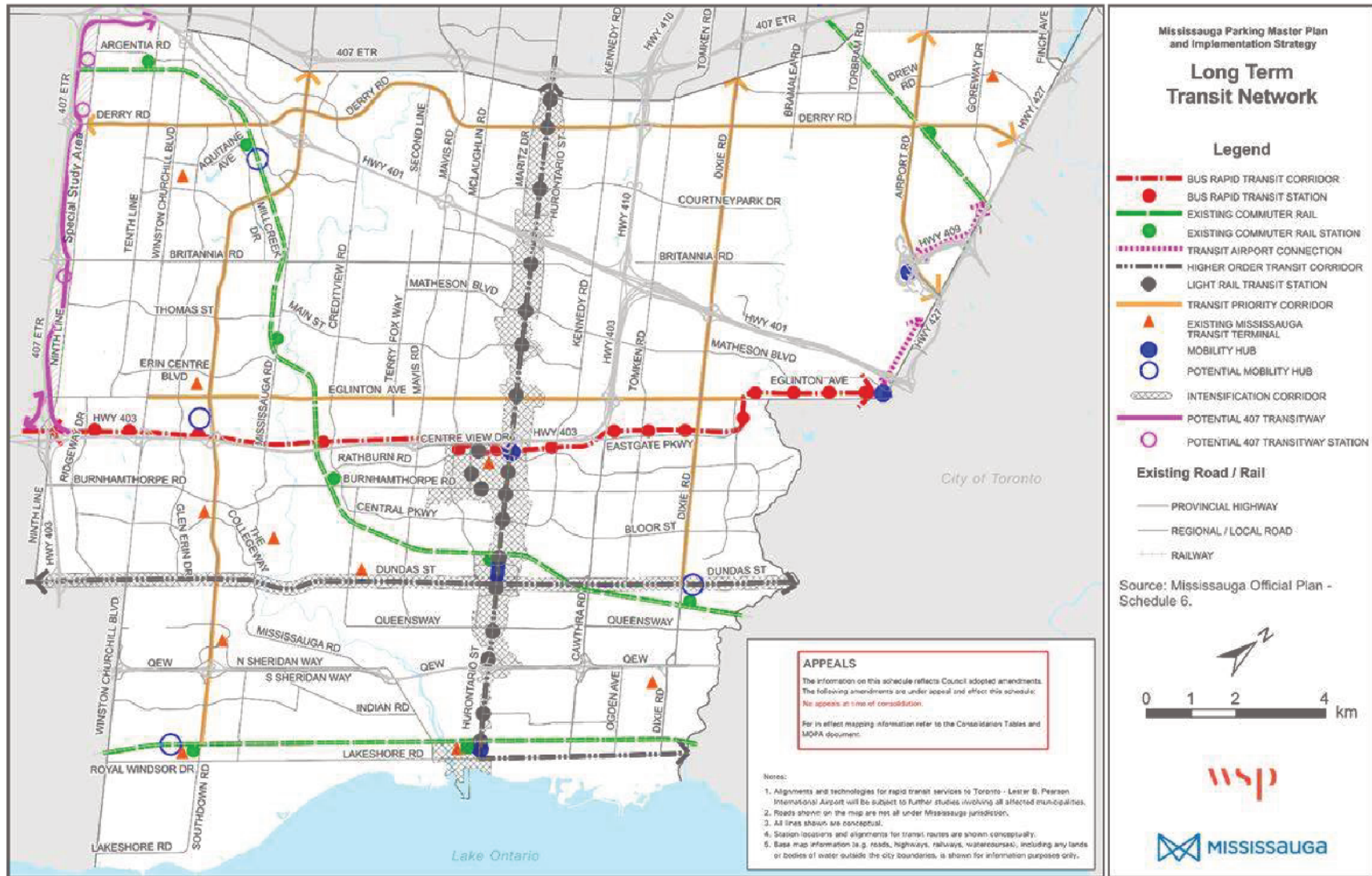
Exhibit 1-3 shows the planned Long-Term Transit service for the City. The plans include significant improvements in the number of transit routes, frequency, and reduced transit travel time.

Potential Improvements will include:

- Bus Rapid Transit on Highway 403.
- Hurontario Light Rapid Transit
- GO Regional Express Rail
- Higher-order transit on Dundas Street and Lakeshore Road East.
- MiWay 5 Strategy to improve transit service in next 5 years
- Transit Priority Corridor on north-south and east-west arterial roads.

Improved transit services including less transfers will allow residents and employees to travel to and from key areas of the City without the use of an automobile and will reduce parking demand in areas well served by transit.

### Exhibit 1-3 – MOP Long-Term Transit Network



---

### 1.1.2 VEHICLE OWNERSHIP

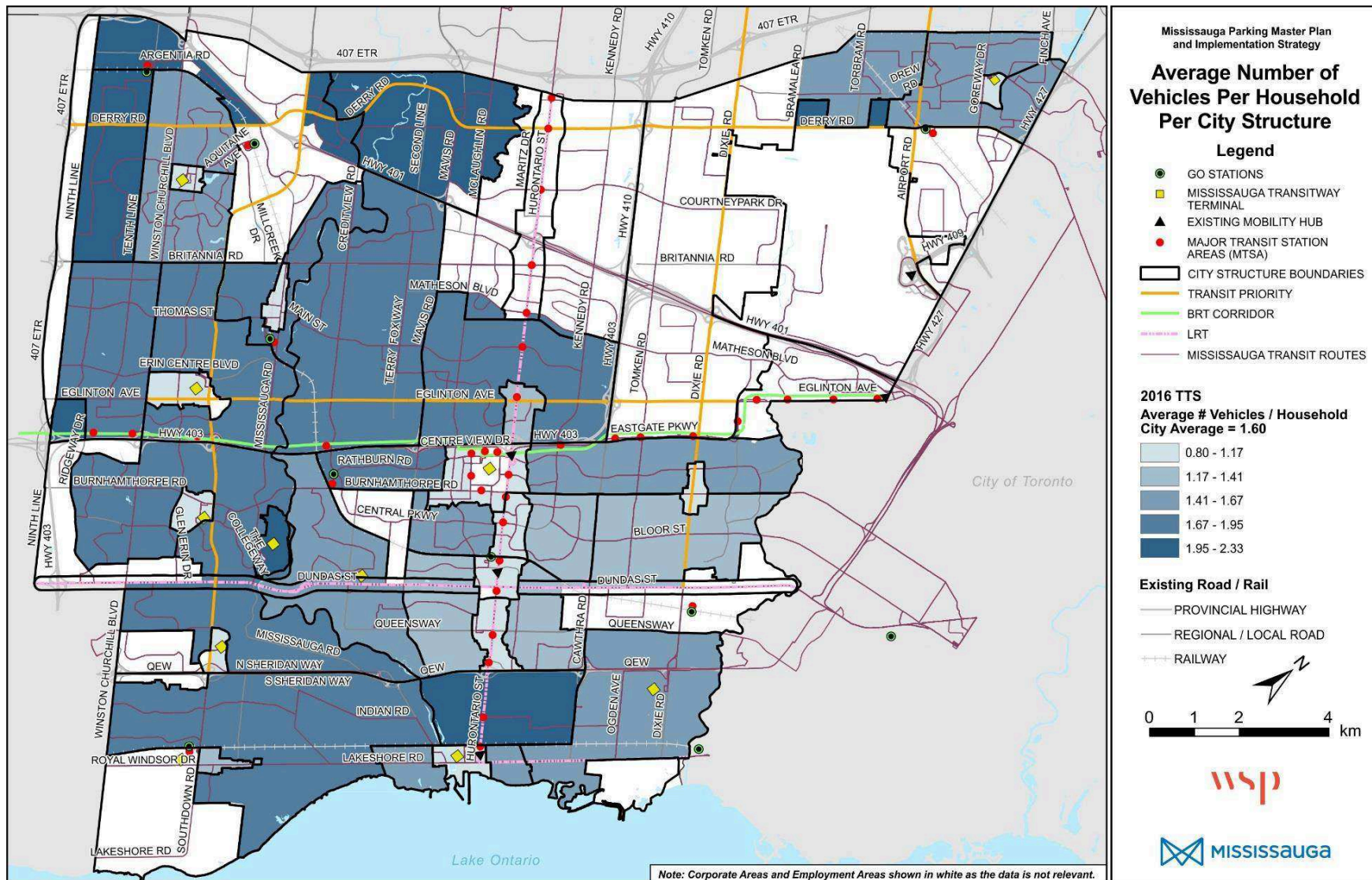
Vehicle ownership in Mississauga has been declining over the last five years. Exhibit 1-4, however, shows that most households still have more than one vehicle. Vehicle ownership per household averaged 1.6 in 2016.

Exhibit 1-5 also shows that vehicle ownership is low in the Downtown and the Community Nodes, the areas with the most frequent transit services. Such areas are likely to generate less demand for parking.

Areas farther from transit service or where transit service is less convenient have much higher vehicle ownership rates and consequently higher parking demand.



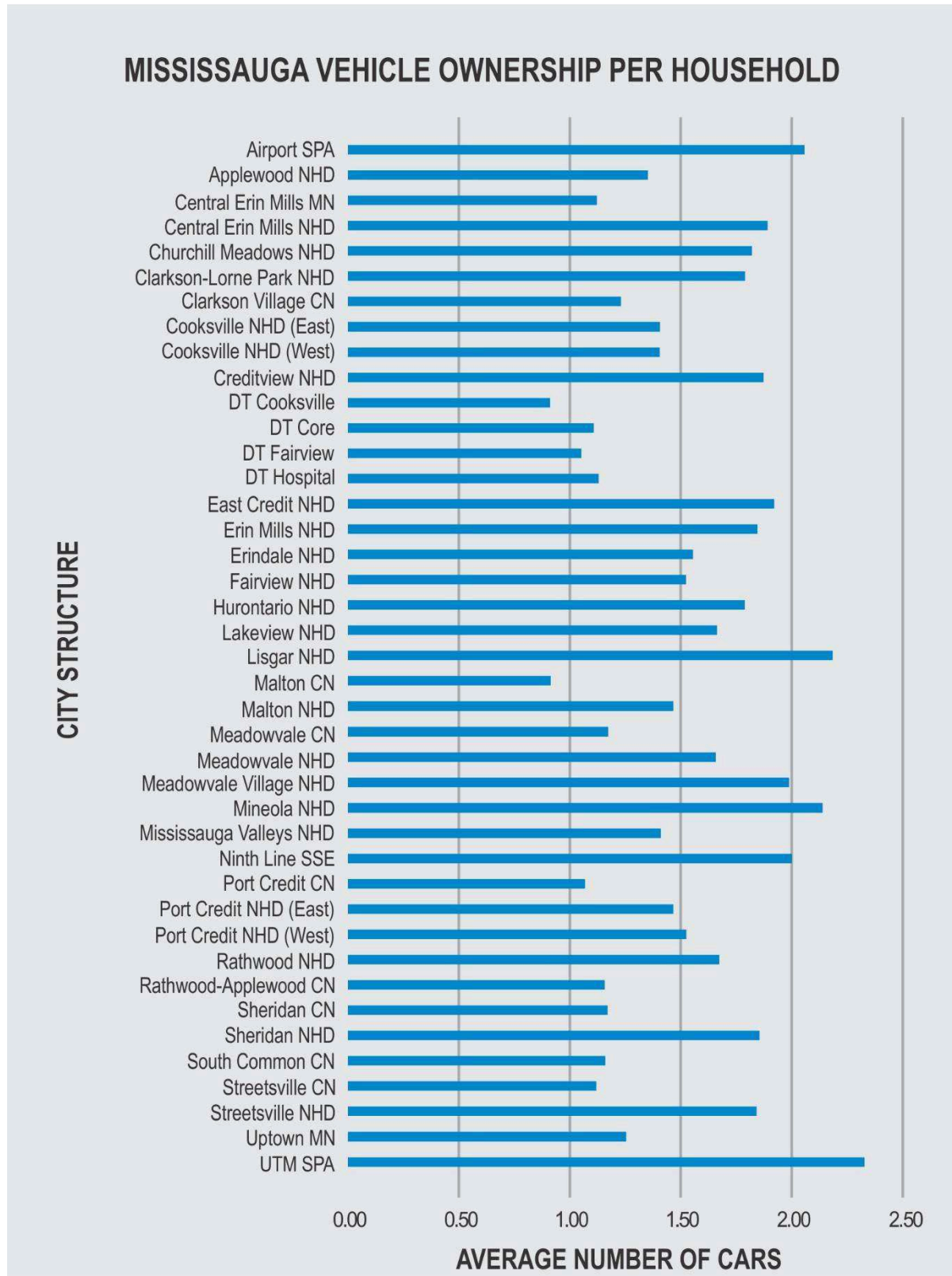
Exhibit 1-4 – Number of Vehicles per Household - 2016



Source: Transportation Tomorrow Survey, University of Toronto, 2016

Note: Data not available for uncolored areas.

Exhibit 1-5 – Vehicle Ownership per Household by Character Area – 2016



Source: Transportation Tomorrow Survey, University of Toronto, 2016

---

### 1.1.3 PUBLIC PARKING FACILITIES

The location and size of public parking facilities can be an important factor when considering parking policies. The availability of public parking facilities can reduce the need for on-site parking as multiple users can share the same parking facilities at different times of the day. For example, an office complex located next to a municipal parking lot can have reduced on-site parking with spill-over demand being accommodated in the public lot during office hours. The same public lot can serve nearby retail or restaurant land uses that typically experience peak parking demand in the evening hours. The same principle can be applied to residential buildings. Visitor parking can be accommodated in public parking. Subject to certain conditions, additional resident parking can also be accommodated in public parking in a mixed-use environment.

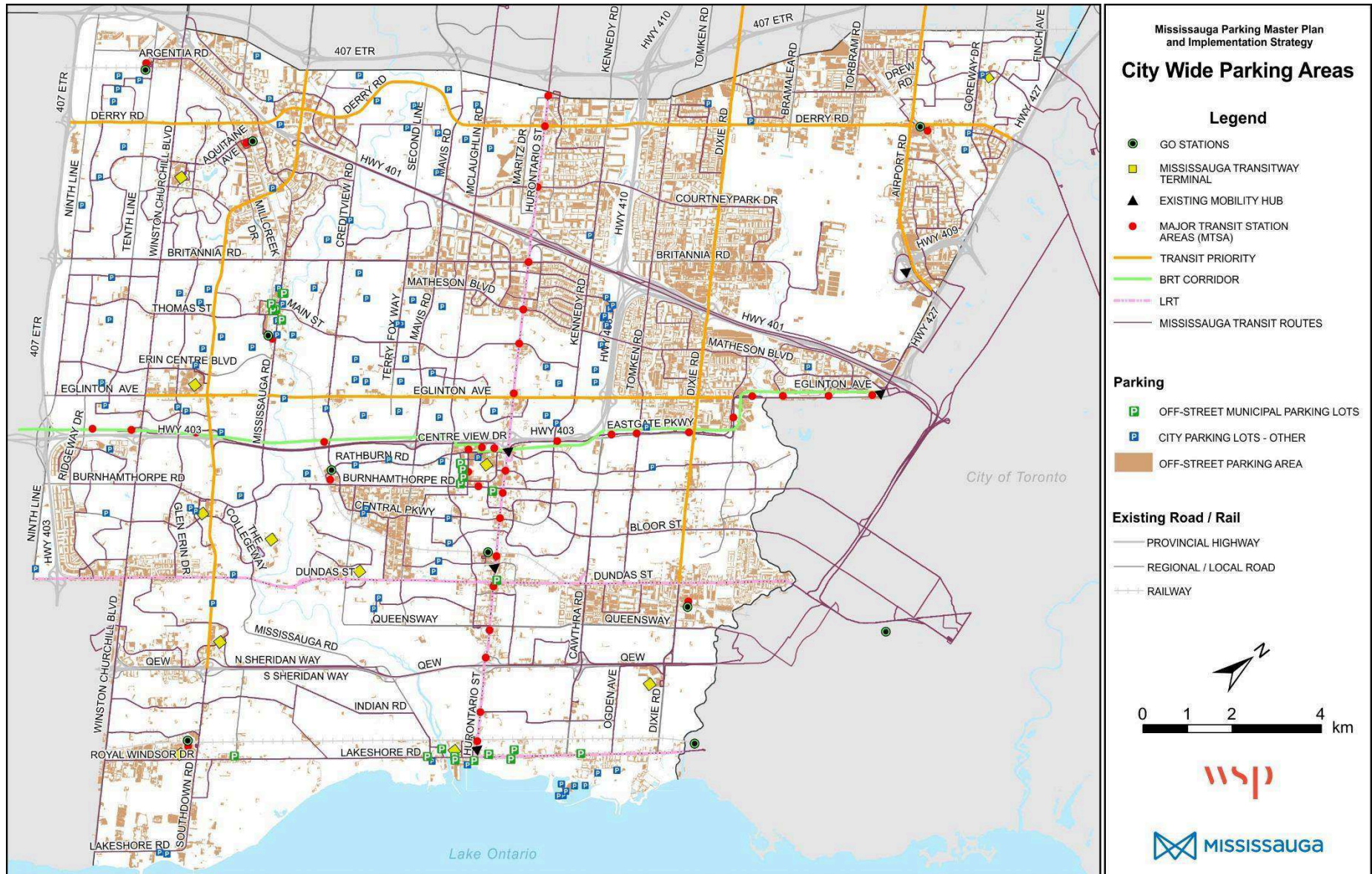
Exhibit 1-6 shows the location of parking facilities throughout the City. The green P indicates an off-street municipal parking lot. These lots cluster at certain locations especially:

- Streetsville Community Node
- Downtown Core
- Downtown Cooksville
- Port Credit Community Node

The location of municipal parking lots could support reduced on-site parking in a mixed-use environment.



## Exhibit 1-6 – City Wide Parking Areas





---

### 1.1.4 LAND USE

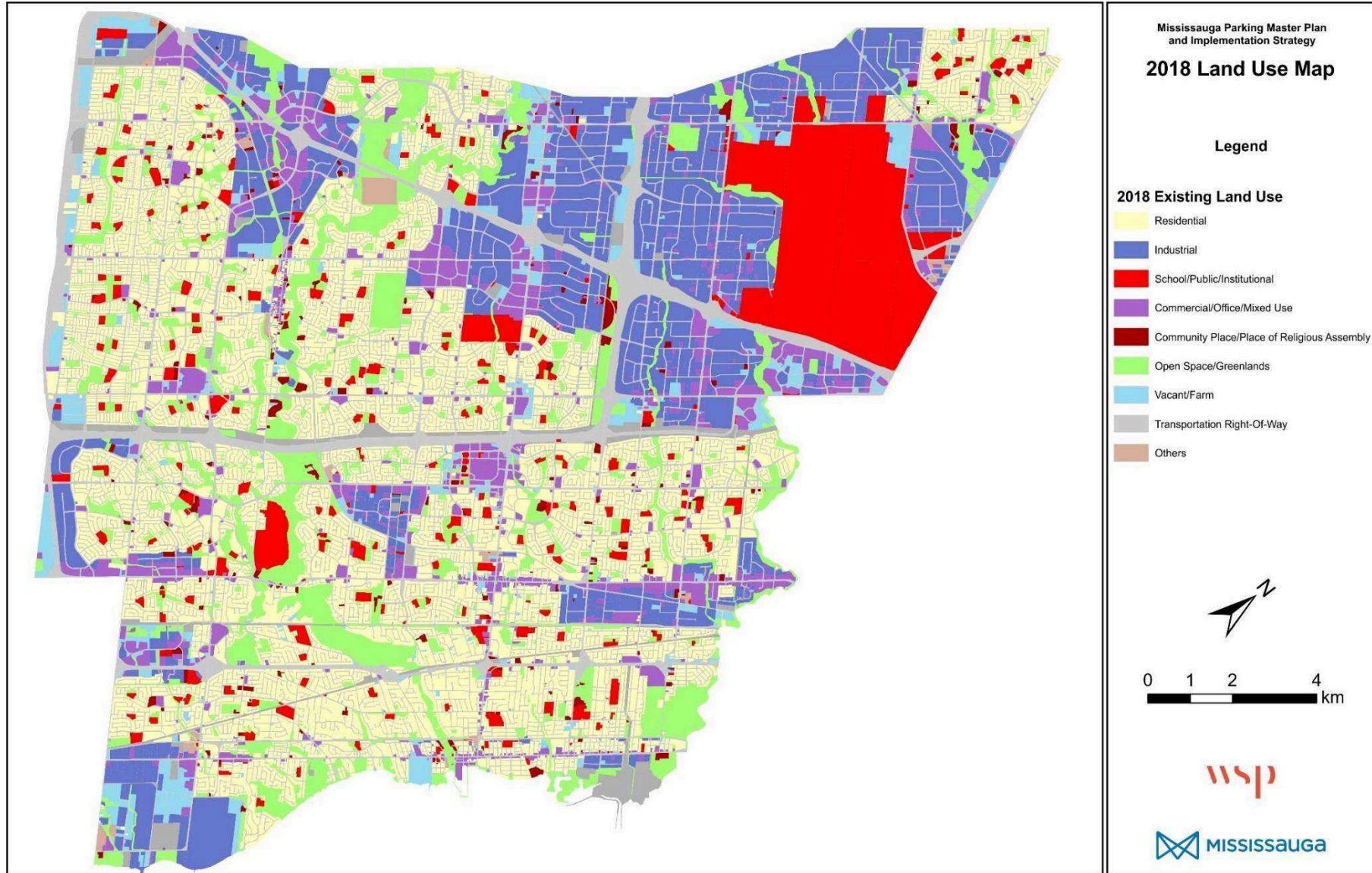
Land use is an important factor in determining and controlling parking demand. Mixed-use areas provide an opportunity for reduced on-site parking and the sharing of parking supply especially for linked trips (A trip made by an individual who visits more than one proximate establishment during a single trip).

Mixed-use areas have the most potential for reducing the need for automobile travel and the related demand for parking. In a mixed-use area where citizens can live, work and play, travel needs can be met by walking or transit trips.

Exhibit 1-7 shows the City's land use pattern in 2018. Single land uses dominate most areas, but there are mixed-use areas in:

- Downtown Core
- Downtown Cooksville
- Most Community Node
- Major Nodes
- Some Corporate Centres

# Exhibit 1-7 – City Land Use Map - 2018



---

### 1.1.5 DWELLING TYPE

As different dwelling types have traditionally had different levels of parking demand, dwelling types and their location can impact parking policies.

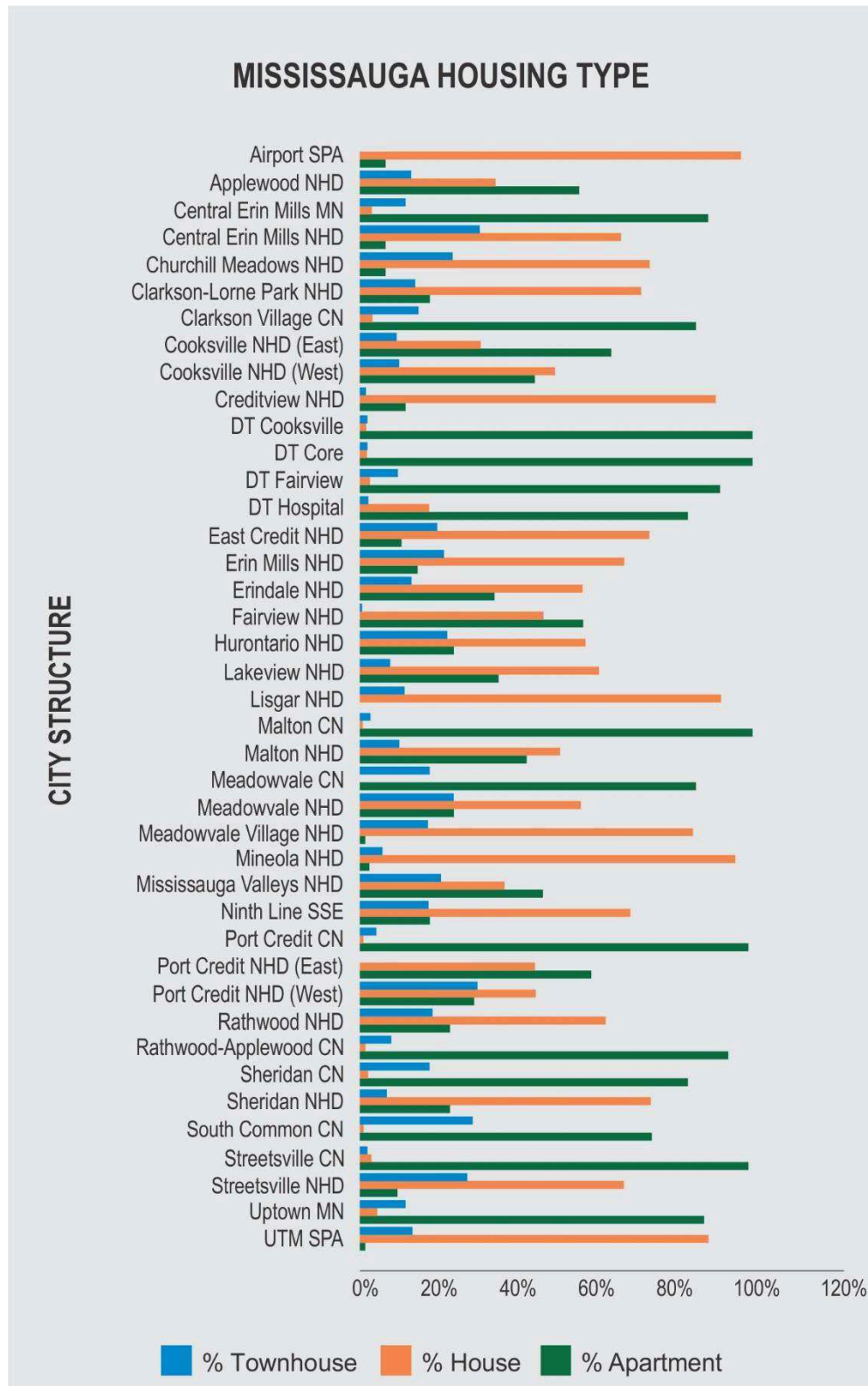
Exhibit 1-8 shows the percentage of houses, townhouses, and apartments by Character Area in 2016.

Exhibit 1-9 shows the percentage of Single-family and semi-detached units per City Structure based on 2016 Census data. 49 percent of the City's housing stock consist of single-family and semi-detached housing units. However, there are fewer single-family and semi-detached housing units in the:

- Downtown areas
- Most Community Nodes
- Major Nodes

This can indicate lower parking demand and the opportunities exist for lower parking requirements in these areas.

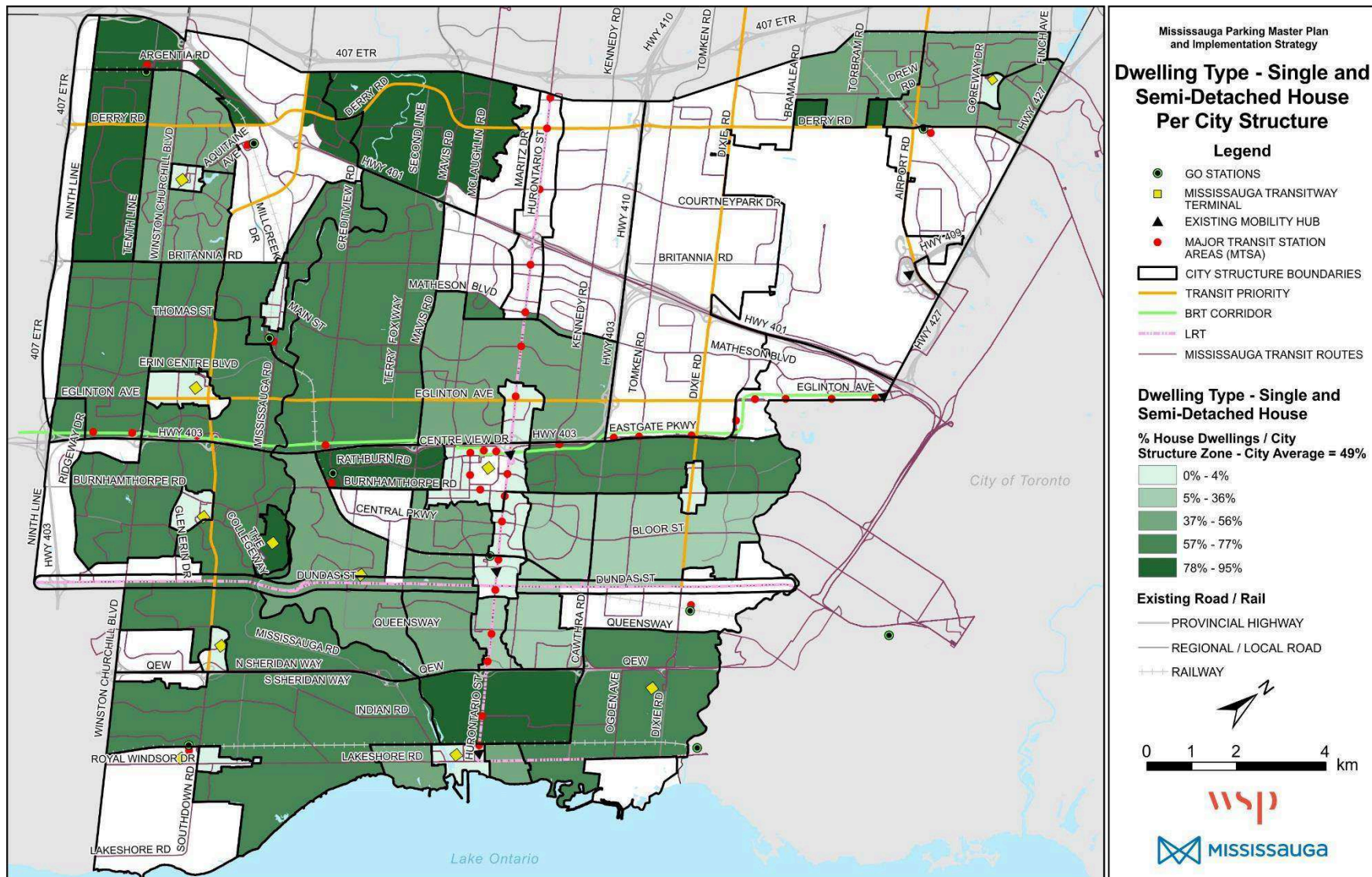
# Exhibit 1-8 – Housing Type by Character Area - 2016



Source: Transportation Tomorrow Survey, University of Toronto, 2016



### Exhibit 1-9 – Dwelling Type - Percentage of Single and Semi-detached Housing - 2016



Source: Census Profile, Statistics Canada, 2016

---

### 1.1.6 AVAILABILITY OF OTHER TRAVEL MODES

In recent years, the increased availability of non-personal vehicles has had an impact on the demand for parking spaces. With more people using these services, personal vehicle ownership is declining, especially among young people. Reduced vehicle ownership reduces the need for parking spaces both at the point of origin and destination.

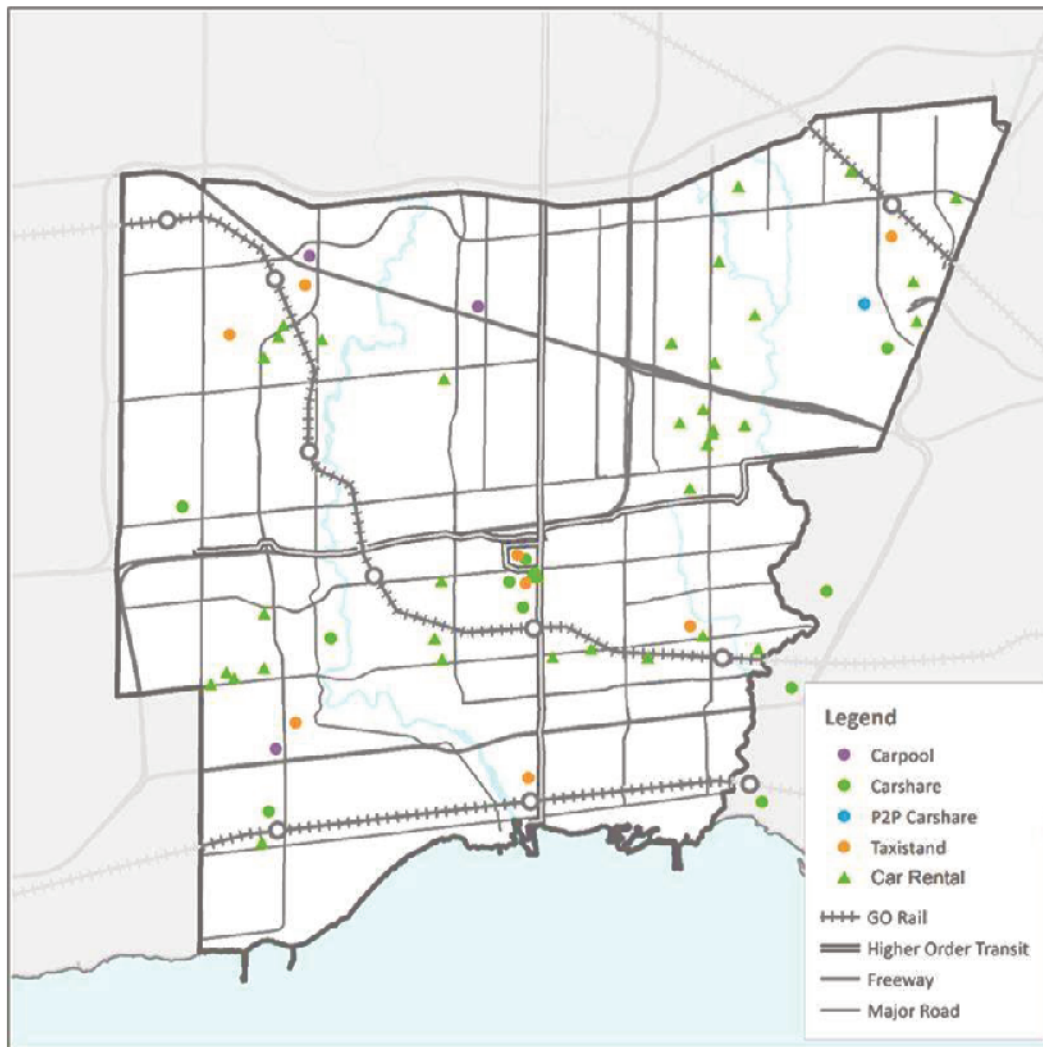
Exhibit 1-10 shows the location of carpool, carshare, taxi stand, and car rental facilities. The locations are scattered across the City with some clustering in the Downtown and at some Community Nodes. This Exhibit does not include Uber, but in March 2017 City of Mississauga staff estimates 60,000 Uber trips per week are occurring in the City. An estimated 25,000 individuals are registered with Uber as drivers and can conduct business in Mississauga.<sup>1</sup>

These services reduce the need for individual vehicle ownership and can reduce parking demand especially into the heavy destination areas such as the Downtown and some Major Nodes.

---

<sup>1</sup> City to Propose Terms for Legalization of Uber in Mississauga, Rachael Williams, 2017

Exhibit 1-10 – Taxi Stands and Shared Vehicle Locations





### 1.1.7 WALKABILITY

“Walkability” reflects overall walking conditions in an area. Walkability considers the quality of pedestrian facilities, roadway conditions, land use patterns, community support, security, and general comfort of walking. At the level of a specific community, the relative location of common destinations and the quality of connections between them (land use accessibility) is very important.<sup>2</sup>

Mississauga was designated a Silver WALK Friendly Community in 2014.<sup>3</sup>

Walk Score, a private company that provides walkability services, currently ranks Mississauga the fourth most walkable large city in Canada with a Walk Score of 59. Walk Score is a walkability index based on the distance to amenities such as grocery stores, schools, parks, libraries, restaurants, and coffee shops.<sup>4</sup>

**Error! Reference source not found.** shows that walkability varies across the City. Parts of the Downtown areas and Major Nodes have much higher scores, while other area is below the City average as shown in Exhibit 1-12.

The ability to walk conveniently and safely in the City is critical because almost all modes of travel begin and end with a walking trip. If appropriate walking facilities are not present, residents and employees will be less likely to take transit. If residents cannot walk short distances to shops and school, they will drive. Both sets of circumstances are likely to affect the demand for parking spaces with the more walkable area requiring fewer parking spaces.

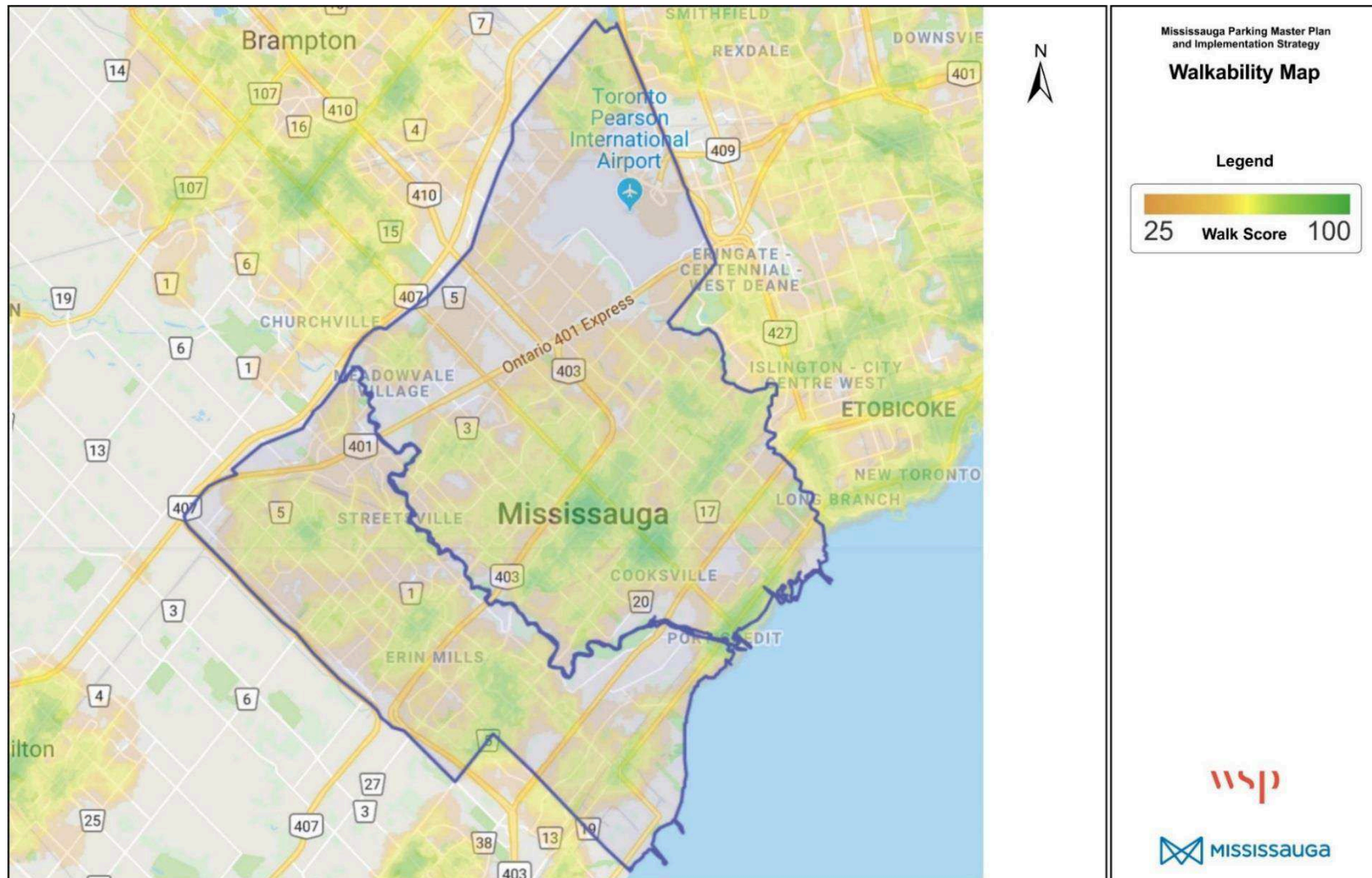
Many on-going city initiatives are designed to address current gaps in walkability in the City. The City has developed policies designed to improve walkability significantly for new developments and redevelopments. As result, improvements in walkability are anticipated for the City over the next five years.

<sup>2</sup> Walkability Improvements, Victoria Transport Policy Institute, 2017

<sup>3</sup> Mississauga, Walk Friendly Ontario, 2014

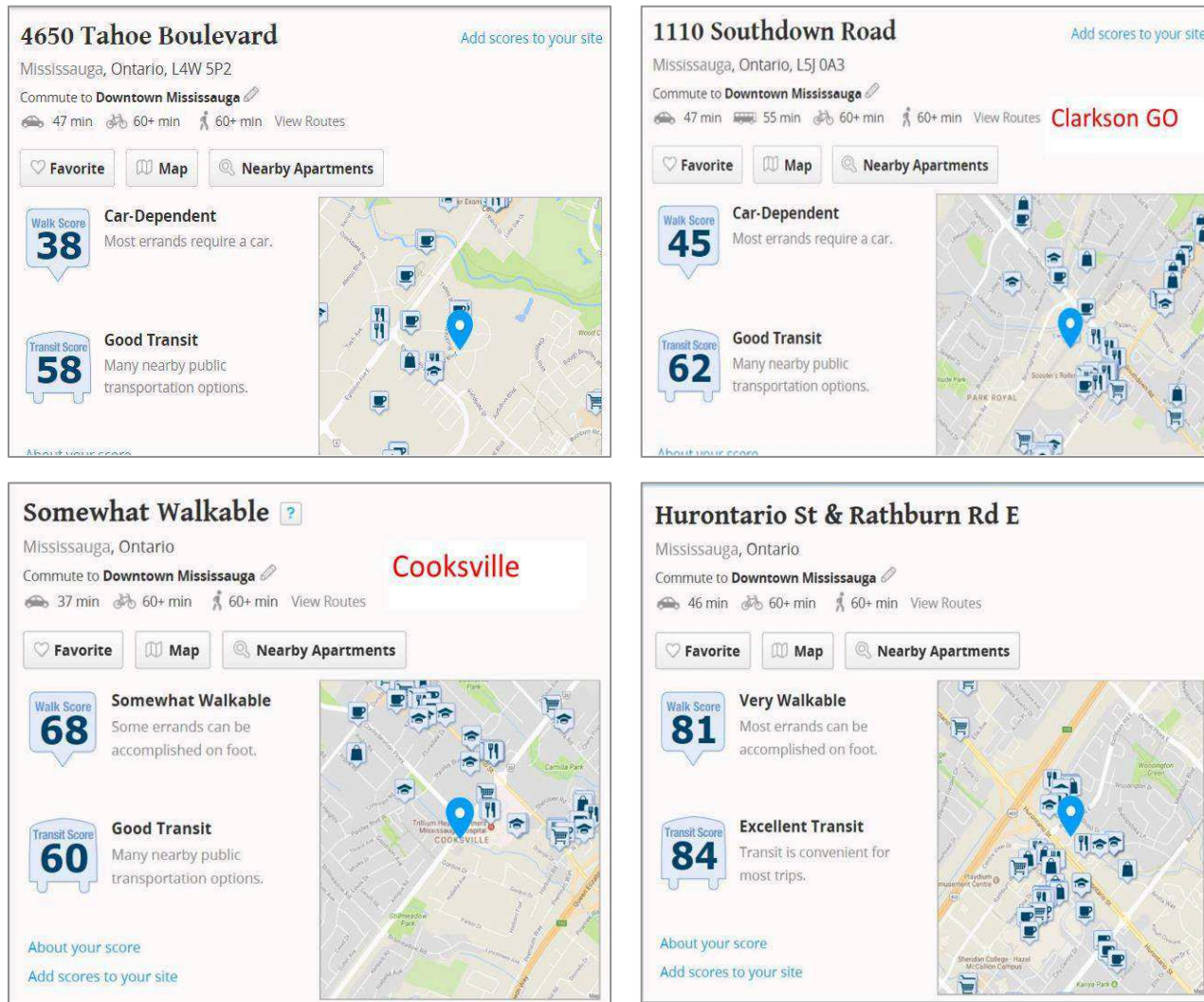
<sup>4</sup> Walking the Walk, CEO for Cities, 2009

### Exhibit 1-11 – Mississauga Walkability Index - 2018



Source: *Living in Mississauga, Walk Score, 2018*

### Exhibit 1-12 – Walkability Score-Select Locations - 2018



Source: Living in Mississauga, Walk Score, 2018

#### 1.1.8 SUMMARY

The review of precinct criteria shows a wide range of current and future transit, public parking, Transportation Demand Management (TDM) measures, environmental built form/land use, and walkability across the City. As the various elements discussed impact parking demand, supply, and management differently, recommendations for parking precinct areas must be based on careful consideration. The following sections discusses the recommendation for using Character Areas and the results of this analysis as the basis for defining the City's parking precincts.

---

## 1.2 PRECINCT BOUNDARIES AND POLICIES

This Section discusses how four parking precinct areas emerged from an analysis of the City's Character Areas. The four precincts are known as One, Two, Three, and Four. The Section discusses the precinct area boundaries, the rationale for each precinct, the parking policy targets for each precinct, and potential parking management strategies for each precinct.

The parking precincts were determined by examining the Character Areas' current and future:

- Land use
- Built form
- Transit availability
- Availability of public parking
- TDM measures
- MOP's planning objectives

The parking requirements within each Precinct will be determined by a future Zoning By-law requirements review conducted by the City.

## 1.2.1 PRECINCT ONE

### LOCATION

Precinct One comprises:

- Downtown Core
- Downtown Cooksville
- Port Credit Community Node

### RATIONALE

#### A. TRANSIT

- Precinct One areas are existing mobility hubs:
  - **Mississauga City Centre** – Mobility Anchor
  - **Cooksville GO** – Mobility Gateway
  - **Port Credit GO** – Mobility Gateway
- Precinct One areas have the highest current and future level of transit service with intersecting Transit Corridors and Commuter Rail:
  - **Downtown Core:** Hurontario LRT and Highway 403 BRT Corridor.
  - **Downtown Cooksville:** Hurontario LRT, Dundas BRT Corridor, and Commuter Rail Station.
  - **Port Credit Community Node:** Hurontario LRT and Commuter Rail Station. This node is also part of the potential Lakeshore transit service as identified in the Transit Strategy of the Lakeshore Connecting Communities Master Plan study which recommended starting with conventional or enhanced bus service and progressing to LRT or streetcar over time as growth increases along the Lakeshore Corridor. An additional factor is the planned improvement GO services using Port Credit GO Station. The Lakeshore West GO line will benefit from the Metrolinx RER Corridor Projects that will introduce a 15-minute, two-way service between Aldershot and Union Station.

#### B. PUBLIC PARKING

- Precinct One areas have the largest supply of publicly available parking facilities with:
  - Several municipal parking lots
  - Several privately operate parking facilities
  - Metered on-street parking spaces

#### C. MIXED LAND USE

- Precinct One areas contain the largest mix of complementary major land uses that foster the ability to live, work and play in the same area. The major land uses are:
  - Residential
  - Commercial
  - Office



#### **D. WALKABILITY**

- Precinct One areas have a significantly higher Walk Score than the City average. They are “very walkable” areas where most errands can be accomplished on foot.

#### **E. TRANSPORTATION DEMAND MANAGEMENT**

- Precinct One areas already have several TDM measures in place. These measures include:
  - Convenient and frequent transit service
  - Carshare locations
  - Taxi stands
  - Car rental locations
  - A mix of primary, secondary On-road, and off-road facilities
  - In the future, additional several TDM measures will be added through City initiatives such as those recommended in the City’s recent several TDM Strategy and Implementation Plan. Such initiatives include bicycle parking regulations and standards, transit passes, and on-road active transportation infrastructure.

#### **F. VEHICLE OWNERSHIP AND HIGH-DENSITY RESIDENTIAL**

- Precinct One areas currently have some of the lowest vehicle ownership rates per household in the City (typically lower than the City average of 1.6 vehicles per household). Precinct One areas also currently have the highest concentrations of high residential density in the form of multi-unit complexes (condominiums and apartments).

### **POLICY OBJECTIVES**

Precinct One areas have the City’s highest confluence of critical parking factors that result in the lowest parking demand. Precinct One areas are centered on transit, they have the largest supply of publicly available parking facilities, the most mixed-use areas, Walk Scores that are significantly higher than the City average, well established TDM measures, vehicle ownership rates that are lower than average, and the highest residential densities.

It is recommended that Precinct One areas should have the lowest parking requirements and the highest level of parking management strategies. It is recommended that parking maximums for most land uses should be considered in these areas.

A variety of parking management measures including Price Responsive approach should be adopted.

## 1.2.2 PRECINCT TWO

### LOCATION

Precinct Two comprises:

- Downtown Fairview
- Downtown Hospital
- Uptown Major Node
- Gateway Corporate Centre
- Major Transit Station Areas at:
  - Airport Corporate Centre
  - Clarkson
- Dixie Community Node
- Hurontario Intensification Corridor

### RATIONALE

#### A. TRANSIT

- Precinct Two locations have very good transit service. They are located on a higher-order transit corridor, BRT corridor and or commuter rail:
  - **Downtown Fairview, Downtown Hospital, Uptown Major Node and Gateway Corporate Centre and Hurontario Intensification Corridor:** Hurontario LRT.
  - **Major Transit Station Areas at the Airport Corporate Centre:** Highway 403 BRT.
  - **Dixie Community Node:** to be served by planned Dundas BRT Corridor. The Dundas Connects Master Plan was presented at the City's Planning and Development Committee meeting on April 30, 2018. The plan called for endorsement of BRT on Dundas Street with 20 bus stops one of which is Dixie.  
 Within five years, Metrolinx' s RER Corridor Projects will increase service to every 15 minutes or better between Milton and Toronto. The 30 percent increase in service will benefit all stops on the Milton line including Dixie Station.<sup>5</sup>  
 The City's Official Plan Schedule 6 identifies Dixie Road north of Dundas Street as a Transit Priority Corridor indicating that transit improvements are planned for Dixie Road. The service improvements will serve Dixie Station.
  - **Major Transit Station Areas Clarkson:** Like Port Credit Station (Precinct One), Clarkson Station is on the Lakeshore West GO line and will benefit from the planned 15-minute, two-way service between Aldershot and Union Station.

<sup>5</sup> Milton GO Line, Metrolinx, 2017



## B. PUBLIC PARKING

- Precinct Two areas currently lack public parking.
- The Clarkson GO station supplies almost 3,500 parking spaces and the Dixie GO station has approximately 1,000 parking spaces. The spaces at both stations are for GO patrons only.
- The nearest municipal parking lot to Clarkson GO station is located on Clarkson Road North and provides approximately 135 parking spaces, but the lot is approximately 1.5 km from Clarkson GO station and outside the 500m radius area designated as a Major Transit Station Area.

## C. MIXED LAND USE

- Precinct Two areas include some mixed-use developments. The main examples in Precinct Two are Downtown Fairview, Downtown Hospital, and Uptown Major Node. All three are on the Hurontario Intensification Corridor.
- Areas inside the Major Transit Station Area at Airport Corporate Centre and at Clarkson also have a good mix of commercial and office uses with some industrial land uses nearby. These locations are expected to continue to offer a good mix of land uses as they grow and redevelop.
- Dixie Community Node has a good mix of land uses, but the Dundas Connect Master Plan recommends that this area be one of the seven Focus Areas along Dundas. Each Focus Area will be increasing its mix of land uses and will have the greatest increase in population and jobs along the corridor.

## D. WALKABILITY

- Precinct Two areas (like Precinct One areas) have a significantly higher Walk Score than the City average.
- Walk Score rates the **Hurontario corridor** as “very walkable.” The corridor has a much higher ranking than the City average.
- Areas within **Highway 403 Major Transit Stations at Airport Corporate Centre** (Tahoe, Etobicoke Creek, Spectrum, Orbitor, and Renforth) and the **Clarkson GO Station** all receive better than average scores for transit service, but rate lower on walkability than the City average. These areas are “car-dependent” and most errands require a car.<sup>6</sup>
- Areas included in **Dixie GO Station** have the highest Walk Scores for locations around Major Transit Stations. The areas are “somewhat walkable.” This Walk Score is consistent with the City average and indicates that some errands can be accomplished on foot. The Dundas Connect Master Plan has proposed significant improvements in pedestrian connectivity for areas around **Dixie GO Station**.

## E. TRANSPORTATION DEMAND MANAGEMENT

- Precinct Two areas have limited TDM measures, but City initiatives are likely to introduce additional measures.

---

<sup>6</sup> Living in Mississauga, Walk Score, 2018

#### F. VEHICLE OWNERSHIP AND HIGH-DENSITY RESIDENTIAL

- Precinct Two areas' vehicle ownership rates are around the City average of 1.6 vehicles per household. Precinct Two areas do not have the highest residential density, but some areas are those the City's second highest densities.

#### POLICY OBJECTIVES

Precinct Two areas have higher parking demand that is higher than demand in Precinct one, but lower than the City average. Precinct Two parking demand is reduced by access to good transit service, the availability of some public parking, the presence of some mixed-use development, a range of walkability scores, and at least some TDM strategies already in place. Precinct Two areas have average vehicle ownership rates and most have average residential density.

It is recommended that parking maximums be considered for certain land uses in Precinct Two.

Similar to Precinct One a variety of parking management measures should be included but Area Management approach would best suit most areas.

### 1.2.3 PRECINCT THREE

#### LOCATION

Precinct Three comprises:

- Major Nodes:
  - Erin Mills
  - Lakeview
- Community Nodes:
  - Streetsville
  - Clarkson
  - Malton
  - Meadowvale
  - South Common
  - Sheridan
  - Rathwood-Applewood
- Airport Corporate Centre outside the Major Transit Stations
- Dundas Intensification Corridor
- Other Major Transit Stations not included in Precinct One or Precinct Two. These include a possible Lakeshore Station on the Lakeshore corridor of Hurontario LRT between Hurontario Street and the Mississauga boundary.

#### RATIONALE

Precinct Three areas all have or will have reasonably good transit service, but the areas lack some of the other supporting elements that reduce parking demand.

##### A. TRANSIT

- Precinct Three areas have or will have a reasonably good level of transit service on a higher-order transit corridor, BRT Corridor and or commuter rail. Transit infrastructures in Precinct Three are very similar to Precinct Two. The key additional infrastructure for will be the future Dundas Street BRT and the possible Lakeshore BRT or LRT.

##### B. PUBLIC PARKING

- Precinct Three areas have only limited public parking. Streetsville is an exception.

### **C. MIXED LAND USE**

- Precinct Three includes varying levels of mixed-used development. Precinct Three areas with a high mix of land use include:
  - Dundas Corridor around Dixie Road
  - Erin Mills
  - Clarkson
  - Lakeshore east of Hurontario Street
  - Highway 403 corridor around Airport Corporate Centre
- As growth takes place, areas like the Dundas and Lakeshore corridors will intensify and more mixed-use development will occur.

### **D. WALKABILITY**

- Precinct Three areas have a range of Walk Scores. Locations like Streetsville, South Common and Malton are “very walkable,” areas like Meadowvale are “somewhat walkable” and areas like Lakeview remain “car-dependent.”

### **E. TRANSPORTATION DEMAND MANAGEMENT**

- Precinct Three areas have some TDM measures, but the measures are limited.

### **F. VEHICLE OWNERSHIP AND HIGH-DENSITY RESIDENTIAL**

- Precinct Three areas typically have higher than average vehicle ownership rates, but not the highest vehicle ownership rates in the City.

## **POLICY OBJECTIVES**

Precinct Three includes areas good transit service, parking demand that may be higher than the City average or reduced by the good transit, “very walkable” or “somewhat walkable” Walk Scores, limited TDM measures, and higher than average vehicle ownership rates.

It is recommended that an appropriate level of minimum parking requirements should be set for Precinct Three areas. The minimum parking requirements should not be the highest in the City.

It is recommended that appropriate parking management strategies be adopted for Precinct Three but Site-Focused approach will likely address most sites.

## 1.2.4 PRECINCT FOUR

### LOCATION

Precinct Four includes all areas of the City not included in Precincts One, Two or Three. It all includes the Special Purpose Areas.

Precinct Four includes:

- All Neighbourhoods
- Corporate Centres:
  - Meadowvale
  - Sheridan Park
- Employment Areas:
  - Churchill Meadows
  - Western Business Park
  - Southdown
  - Mavis-Erindale
  - Lakeview
  - Dixie
  - Gateway
  - Northeast

### RATIONALE

Precinct Four areas have limited transit service, the City's lowest transit ridership and Walk Scores, and the City's highest vehicle ownership. significant improvements in transit infrastructure are not expected in the near future for Precinct Four areas. Built form is not expected to change enough to result in a measurable reduction in parking demand. Precinct Four areas are expected to remain largely car-dependent.

As the City grows, however, some locations may develop to the point that they become mixed-use areas where walking is a real alternative mode and parking demand is reducing. In that case, some would take a while to be reclassified as Precinct Three or even Precinct Two.

### POLICY OBJECTIVES

Precinct Four includes the areas where parking demand could be among the highest in the City, due to limited transit service; inadequate Active Transportation infrastructure where walking to some errands is not convenient. Therefore, an appropriate level of minimum parking requirements is needed and appropriate parking management strategies.

It is recommended that appropriate parking management strategies be adopted for Precinct Four but Site-Focused approach will likely address most sites.

---

### 1.2.5 SPECIAL PURPOSE AREAS

#### LOCATION

MOP designates Toronto Lester B. Pearson International Airport and the UTM as Special Purpose Areas (See Section 3).

The City has no jurisdiction over the Special Purpose Areas, but works with the operators and key stakeholders to influence travel options and parking management at these locations. The areas are currently market responsive.

---

## 1.3 SUMMARY

This Section summarizes the parking policy framework and the proposal to establish four parking precincts, each precinct reflecting different circumstances and approaches to parking provision and management.

Exhibit 1-13 summarizes the main characteristics of the four proposed precinct areas.

Exhibit 1-14 shows the locations of the four parking precinct policy areas.

### Exhibit 1-13 – Parking Precincts (based on MOP Schedules 9 and 2)

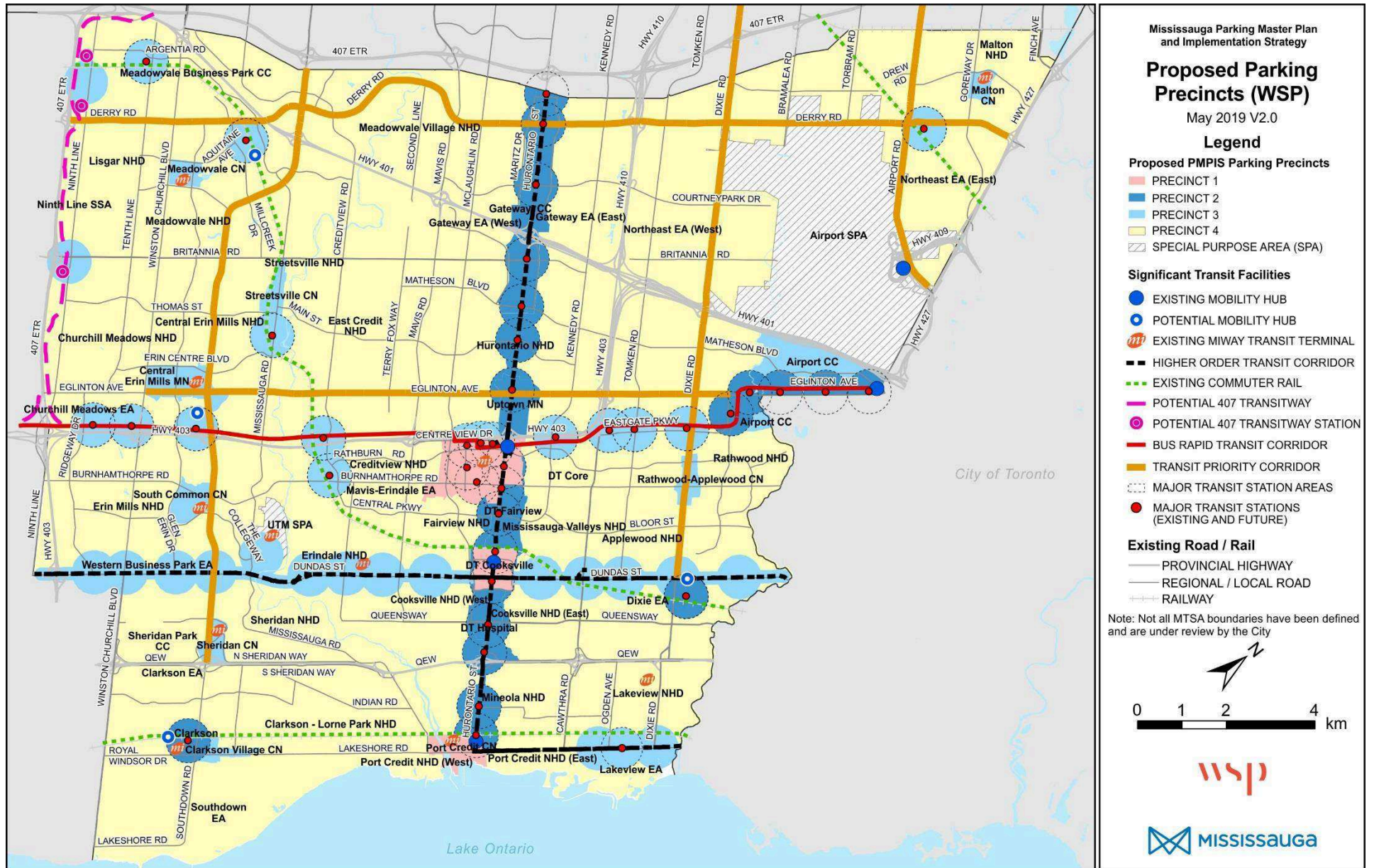
	Schedule 9							Schedule 2
Precinct	Downtown	Major Node	Community Node	Neighbourhood	Corporate Centre	Employment Area	Special Purpose Area <sup>4</sup>	Intensification Corridors and MTSAs <sup>2</sup>
ONE	<ul style="list-style-type: none"> <li>•DT Core</li> <li>•DT Cooksville</li> </ul>		<ul style="list-style-type: none"> <li>•Port Credit</li> </ul>					
TWO	<ul style="list-style-type: none"> <li>•DT Fairview</li> <li>•DT Hospital</li> </ul>	<ul style="list-style-type: none"> <li>•Uptown</li> </ul>	<ul style="list-style-type: none"> <li>•Dixie</li> </ul>		<ul style="list-style-type: none"> <li>•Gateway</li> </ul>			<ul style="list-style-type: none"> <li>•MTSAs inside Airport Corporate Centre</li> <li>•Huronario Intensification Corridor (outside Precinct One)</li> <li>•MTSA in Clarkson</li> </ul>
THREE		<ul style="list-style-type: none"> <li>•Erin Mills</li> <li>•Lakeview<sup>1</sup></li> </ul>	<ul style="list-style-type: none"> <li>•Streetsville</li> <li>•Clarkson</li> <li>•Malton</li> <li>•Meadowvale</li> <li>•South Common</li> <li>•Sheridan</li> <li>•Rathwood-Applewood</li> </ul>		<ul style="list-style-type: none"> <li>•Airport (outside MTSAs)</li> </ul>			<ul style="list-style-type: none"> <li>•Dundas Intensification Corridor<sup>3</sup></li> <li>•Other MTSAs, including Lakeshore<sup>3</sup></li> </ul>
FOUR				<ul style="list-style-type: none"> <li>•All</li> </ul>	<ul style="list-style-type: none"> <li>•Meadowvale</li> <li>•Sheridan Park</li> </ul>	<ul style="list-style-type: none"> <li>•Churchill Meadows</li> <li>•Western Business Park</li> <li>•Southdown</li> <li>•Mavis-Erindale</li> <li>•Lakeview</li> <li>•Dixie</li> <li>•Gateway</li> <li>•Northeast</li> </ul>		
Special Purpose Area							<ul style="list-style-type: none"> <li>•University of Toronto Mississauga</li> <li>•Airport</li> </ul>	

**Notes:**

1. Lakeview Major Node: Pending Council Approval. The proposed land use plan is expected to be approved by Council on July 4.
2. City has a Major Transit Station Area (MTSA) review underway; other areas may be identified
3. Subject to other ongoing City studies (i.e.: Lakeshore Connecting Communities, MTSA review)
4. Special Purpose Areas: locations where the City has very little influence and parking is already subject to market pricing



# Exhibit 1-14 – Locations of Proposed Precinct Policy Areas for Parking



---

### 1.3.1 GUIDING POLICY

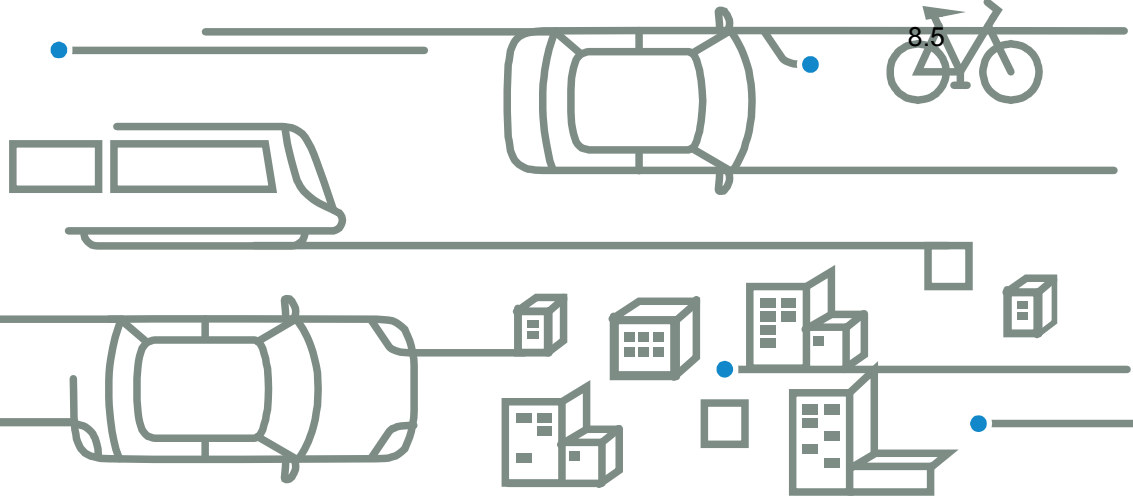
The City should adopt a robust citywide parking policy framework that reflects the role and influence of parking in city building. The policy framework should define the parking precincts and the approaches to parking provision and management in each precinct.

---

### 1.3.2 RATIONALE

A parking policy framework is required for four main reasons:

- To adopt a unified overview of citywide parking provision and management in Mississauga.
- To take into account the variety of different areas in the City especially the differences in transit and municipal parking availability.
- To align decisions about land use, transit, parking provision, and management strategies with the City's vision for a multimodal city.
- To regard city-managed parking facilities as a valuable resource that should be managed proactively.



*PARKING MATTERS*



# APPENDIX 2-3 PARKING DEMAND MANAGEMENT AND OUTREACH

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

# 1 PARKING DEMAND MANAGEMENT AND OUTREACH

This section explores and defines how parking demand management can improve transportation and land use outcomes in Mississauga. It suggests that demand management is often overlooked and increasingly important aspect of parking. Outreach activities and programs help to raise awareness of and give effect to the parking demand management measures explored in this Section.

Historically, municipalities and other tiers of government have been heavily involved in supply-side solutions to parking issues. This supply-side involvement has included both the direct provision of parking and the indirect provision of parking. Demand management represents a deliberate break from supply-based transportation practices towards a new policy paradigm that involves a wide range of disciplines including behavioural economics, social marketing and more comprehensive and sustainable development planning practices.

The Institute for Transportation and Development Policy (ITDP) defines demand management as a “series of strategies aimed at changing people’s travel behaviour (how, when, and where people travel) in order to increase the efficiency of transportation systems and achieve specific sustainable development public policy.”

Transportation Demand Management (TDM) is an umbrella term that is typically used to refer to the full suite of demand management strategies at a whole-of-transportation system level. Recently, the City has made important inroads into identifying a number of TDM measures for implementation through a new TDM Plan. Parking demand management – on the other hand – is a term that is sometimes used to specifically refer to a subset of TDM measures that target parking demand at an individual site or district level.

The determinants of parking demand, which are discussed in further detail in this Section, mean that targeted, localized parking demand management measures, can have far-reaching knock-on TDM benefits for the City as a whole. For example, a strategy that successfully reduces parking demand at a particular site can also help to reduce traffic congestion across multiple parts of the city, particularly where the peak periods for parking demand and road-use either overlap or happen in quick succession.

As confirmed through the public engagement conducted during the PMPIS project, it is clear that Mississauga’s parking needs are changing, particularly as the population grows and new transportation alternatives for people and goods are developed and implemented. To reflect changing parking needs over time, it is important to ensure that City parking policy and practices are fully aligned with the broader objective of providing real transportation choices for residents, workers and visitors. This contemporary approach to parking policy goes beyond simply considering the supply of off-street and on-street parking places. It is predicated on more seriously examining how managing parking demand can contribute to the City’s transportation objectives and the PMPIS policy framework.

Section 1.1 discusses the existing context for parking demand management, Section 1.2 explores the opportunities presented by parking demand management, Section 1.3 explores future directions, and Section 1.1 provides a summary of the discussion and recommendations for the parking policy framework.

## 1.1 EXISTING CONTEXT

The existing context for parking demand management in Mississauga is discussed under three headings: general background; opportunity cost; and the transportation demand management strategy.

### 1.1.1 GENERAL BACKGROUND AND PREMISE

Most people readily appreciate why parking demand does not always match the available parking supply for a given location. They recognize that when existing parking supply is exhausted, it is not always easy to find or create additional parking supply to meet additional demand.

The provision of additional parking typically involves an increasing marginal cost for each space added. For example, the cost of adding each parking spaces increases as each new space is added. Surface parking requires large tracts of land, which is often expensive to purchase. Decked or underground parking requires is more space-efficient from a capacity perspective, however on a per space added basis; that is the *marginal cost*, the costs of physical structures are several magnitudes higher than surface parking. These costs can escalate quickly as spaces are added, making expansions time-intensive and cost-prohibitive.

It is useful to consider the question of how to increase parking supply from the perspective of the parking facility owner. Adding parking at a location depends on three factors:

- identifying a source of funding (capital).
- finding and allocating additional space or land for the new parking spaces.
- engaging appropriate personnel to design, construct and maintain the additional parking.

As noted above, as the City becomes more ‘built out’ capital costs for new parking tend to increase. Depending on where a parking facility is in the asset management cycle, the operating costs can also compound. As this scenario is increasingly common in Mississauga, property owners have to weigh up what to do when existing parking capacity reaches its limits.

Decisions made by parking facility and land owners under current policy settings create a situation where increases in parking tend to occur infrequently and unevenly. The City applies the standard approval process to individual development applications when a site is considered for development, but the process tends to focus on a relatively narrow set of site-specific considerations rather than the broader impacts on the transportation system. As noted in the introduction, greater consideration of parking demand management measures at the development application level potentially has knock-on effects to the transportation system as a whole.

The central premise of demand management is straightforward: if workable alternatives such as making more efficient use of existing supply or improving transportation alternatives can be shown to cost less money and provide a greater level of benefit than expanding parking supply, it is clear that the City should adopt the relevant demand management policies for the benefit of the whole community.



Demand management is therefore an important tool. The extent to which City policy responds to evolving parking needs and aligns these needs with the City's broader goals and objectives effectively becomes a public statement of the relative importance of parking demand management as a tool for dealing with future transportation challenges.

### 1.1.2 PARKING SPACES AND OPPORTUNITY COSTS

To avoid a parking “supply shortage,” the development planning process of many municipalities triggers statutory compliance with by-laws that require a generous amount of off-street parking. Parking “oversupply” describes a situation where the available parking is used to full capacity for only for a fraction of the day, and “underutilized” for the remainder for the day, week or even the year.

In locations where adjacent or nearby properties supply all their own parking with no sharing, the result is often more parking than necessary for the overall location. The surplus spaces represent development decisions that prioritize parking above other possible uses. The direct cost and the ‘opportunity cost’ of such decisions require careful analysis (see sidebar on Opportunity Costs and Parking).

Many cities continue to use minimum parking requirements (certain number of parking spaces per unit of development) with a view to ensuring sufficient on-site parking, and many cities still base their parking requirements on a site’s “peak of the peak” (highest peak use parking demand in a given day, week or longer period). The objective is to avoid the problem of parking in surrounding streets, but the approach has been criticized as being a “set it and forget it” attitude that ignores the opportunity cost associated with dedicating significant amounts of land or significant parts of a building to parking.

## Opportunity Costs and Parking

To illustrate how opportunity cost can work in parking, consider the following simple example: in order to improve the level of access to (in terms of number of people accessing and utilizing) a MiWay Transit Terminal and increase ridership of the connecting MiExpress bus, the City has the choice between increasing the frequency of MiLocal buses that service the Transit Terminal, or alternatively constructing additional park and ride parking spaces to allow more people to commute by private vehicle to the transit terminal and then transfer to the MiExpress bus.

The opportunity cost of choosing to construct park and ride spaces can be expressed in terms of the foregoing the potential increased MiLocal ridership achievable through extra buses, the additional MiExpress ridership boost that could have been achieved above and beyond the ridership generated by the park and ride facility by running more MiLocal buses, as well as other land use benefits that could have been derived from increasing the frequency of feeder buses to the transit terminal on the land where the parking would be located.

Broadly speaking, these opportunity costs include: improved transit-oriented development opportunities, greater levels of walking and cycling and associated health benefits and a lower level of ongoing subsidies required to operate for park and ride. This example shows that the opportunity cost of any decision to prioritize parking over pursuing other alternatives can be high and should be carefully considered.

In Mississauga, the City uses a ‘regularly reoccurring peak parking demand’ (rather than an extreme peak such as Christmas shopping) to set the minimum parking requirement. The peak demand requirement can vary widely from location to location.

Regulations that require landowners to plan for peak demand (or a variation) often ignore the cost of providing the parking and how the parking area is used (or not used) at other times of the day. Land set aside exclusively for parking may be underused for significant portions of the day, week or year. The costs of providing and maintaining the parking are passed on to patrons, consumers and employers, particularly where parking is provided ‘free’ of charge to the end user.

The simple example in the sidebar on Opportunity Costs and Parking highlights many key issues and questions in parking demand management:

- Supply-side policy approaches to parking have wider transportation and land use implications that go beyond considering only the capital and operational costs of providing parking.
- Demand management provides an alternative approach to the narrowly framed question “How much parking is needed for this development?” Demand management expands the discussion to include:
  - “How much parking is suitable for this entire area?”
  - “What role could demand management play to ensure parking is utilized throughout the day and not just in the peak periods?”
  - “What other transportation alternatives (transit, walking and cycling, carpooling, ridesharing, etc.) could be promoted as part of this development to ease parking demand, particularly during peak periods?”
- Surface parking is a major land use in Mississauga where it is estimated that 15 per cent estimate of the city’s total land area is currently used for parking. This high percentage indicates the need to make greater use of demand management policy and its potential as a catalyst for creating a more efficient transportation and land use system.

These issues and questions are highly relevant to Mississauga’s current concerns and future directions. They are explored in greater detail in the next Sections.



### 1.1.3 TRANSPORTATION DEMAND MANAGEMENT STRATEGY

The Mississauga TDM Strategy and Implementation Plan (TDM Plan) was completed in early 2018. The TDM Plan outlines a TDM vision based on four policy objectives. The plan also provides a range of short, medium, and long-term TDM measures to be implemented during the coming years. The TDM measures are designed to help the City to achieve the location-specific modal split targets being considered by the Transportation Master Plan (TMP) due in 2019.

To monitor progress, the TDM Plan also includes a monitoring program. The monitoring program is designed to establish a benchmark of current-day performance for the transportation system in Mississauga and also to provide the basis for establishing longitudinal trends, including the ability to link the performance of TDM measures to 'hard data.'

An accompanying Action Plan provides additional guidance on how and when to implement each of the TDM measures recommended. The guidance outlines the key benefits of each measure for the transportation system and provides a high-level estimate of the resources likely to be required to implement each measure.

To ensure a coordinated response to demand management in Mississauga, the PMPIS policy framework was designed from the outset to be consistent with the objectives of the TDM Plan. For example, the TDM Plan and the PMPIS share the 'integration and efficiency' policy objectives.

Exhibit 1-1 summarizes the TDM measures recommended in the TDM Plan. The Plan has four main categories of measures: 1) changes to travel times, 2) workplace measures, 3) TDM supportive infrastructure and policy, and 4) municipally-delivered programs.

1. **Changes to Travel Times:** measures that vary the departure and arrival times for journeys.
2. **Workplace Measures:** policies that lower the barriers for organisations wishing to embrace TDM, especially where it involves win-win solutions
3. **TDM Supportive Infrastructure and Policy:** measures that provide the best physical conditions for TDM by enhancing and promoting alternatives to driving, such as the Mississauga Transitway, bike parking, pedestrian connections, and carpool parking space
4. **Municipally-Delivered Programs:** support community-based social marketing to promote TDM.

Exhibit 1-1 shows details of each measure, the body responsible, and the primary objectives. Responsibility for implementing and monitoring each TDM measure will be assigned to the City, community organizations and employers, and will depend on the location and type of measure. For example, under the Plan the City is given responsibility for monitoring the impact of the TDM measures by using both data available to the City and establishing arrangements to collect and analyze data with participating organizations. Further details on the likely effectiveness of the measures and why they were chosen can be found in the TDM Plan.

Exhibit 1-1– TDM Measures Recommended in the 2018 TDM Plan

What is the measure?		Who will deliver?	Primary Objectives			
			Reduce demand for travel	Reduce parking demand	Reduce peak network demand	Mode shift
Changes to Travel Times	Change in Work Arrangements	Public and Private Sector Employers	✓	✓	✓	✓
Workplace Measures	Carpooling (Ride matching, Guaranteed Ride Home)	Smart Commute Mississauga, Smart Commute Pearson Airport Area, Region of Peel, Metrolinx		✓	✓	
	Transit Passes	Developers, Property Owners		✓	✓	✓
	Bicycle Parking	City, Property Owners		✓	✓	✓
	Pricing Parking	Property Owners, City	✓	✓		✓
TDM-Supportive Infrastructure and Policy	Park and Ride Facilities at Transit Stations	MiWay, GO Transit			✓	✓
	Accessible connections and amenities	City of Mississauga, Property Owners		✓		✓
	On-road Active Transportation Infrastructure	City, Region of Peel			✓	✓
	Change Parking Demand Through Supply and Restrictions	City	✓	✓	✓	✓

What is the measure?	Who will deliver?	Primary Objectives			
		Reduce demand for travel	Reduce parking demand	Reduce peak network demand	Mode shift
Transit Priority Lanes	City				✓
Bicycle Parking Regulations and Standards	City		✓	✓	✓
Development Application Requirements and TDM Plan Outline as part of Transportation Impacts Study (TIS)	City	✓	✓		
Municipally Delivered Programs and Policy	Community Outreach and Engagement	✓	✓		
	School Travel Planning and Support	✓		✓	
	Youth Initiatives	✓			✓
	Land Use Policy	✓	✓	✓	✓

***The following recommendations from the TDM Plan should be incorporated as part to the Parking Demand Management Measures of the PMPIS:***

- should work with its departments, community organizations and local
- employers to assign responsibility for implementing and monitoring each of the parking demand management measures recommended in the TDM Plan.
- As recommended in the TDM Plan, the TDM Working Group should be given responsibility for coordinating the timing and programming of parking demand management measures in each Precinct.
- The City should commit to periodic reporting of TDM measures to measure their performance over time and allow for adjustments where necessary.

---

## 1.2 PARKING DEMAND MANAGEMENT: THE OPPORTUNITY

Before outlining the City's parking demand management opportunities, it is helpful to briefly consider parking demand management's two goals.

The two goals are:

1. To integrate parking with broader transportation and land use aspirations in Mississauga
2. To improve the efficiency with which space devoted to parking is used

Recommendations pertaining to the implications of integrating parking with the City's transportation and land use aspirations, and the importance of considered analysis of land use policy and existing transportation patterns in order to make an informed assessment of the role that parking can take in shaping Mississauga as the city continues to urbanise.

The discussion below examines three areas of opportunity in parking demand management: using TDM measures to increase urban mobility with less infrastructure (Section 1.2.1), using parking management to consider parking supply holistically (Section 1.2.2), and using policy and strategy to influence parking demand (Section 1.2.3).

### 1.2.1 USING TDM MEASURES TO INCREASE URBAN MOBILITY WITH LESS INFRASTRUCTURE

Various North American cities have shown that robust land use policy coupled with strong TDM measures is an important prerequisite and catalyst for adding capacity to the transportation system with existing or less infrastructure. The ability to add more urban capacity to cities is often broadly equated with increased urban mobility.

Through the success of their targeted policies and actions, some cities have demonstrated that the ability of the transportation system to become more efficient over time is often dependent on a strong land use plan. To common features of these cities are regulations and policy incentives that promote and support land uses and mobility to be built and facilitated at a human-scale. Regulations that restrict or prevent excessive road and parking space dedicated to private vehicles play an important role in allowing urban mobility to increase over time.

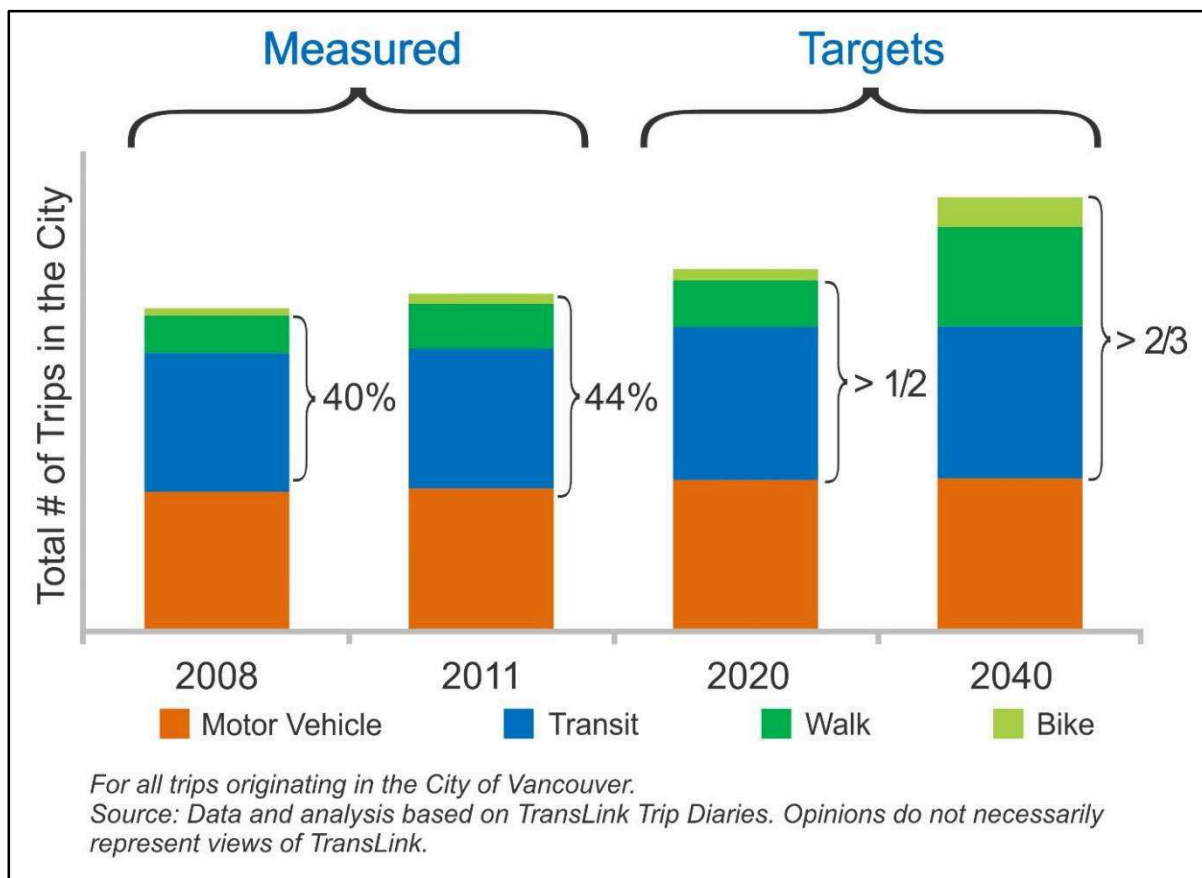
Well known examples of “doing more with less” in North America include the “bullseye smart growth concept” in Arlington, VA, the “Blueprint Denver” in Denver, CO and “Vancouverism” in Vancouver, BC. In each case, the cities have clearly demonstrated that it is possible to move more people and goods in, out and around urban areas with fewer resources.

Exhibit 1-2 shows modal split estimations for the City of Vancouver in 2018 and 2011. The exhibit shows that transit, walking and cycling accounted for 40 percent of trips in 2008 and this grew to 44 percent of all trips in 2011. Exhibit 1-2 also shows modal split targets for 2020 and 2040, with targets in place to expand sustainable modes and limit auto trips.

The City of Vancouver’s 2014 Transportation Monitoring Report Daily found that real progress is being made towards these targets with automobile trips declining to 918,000 in 2014 (from 980,000 in 2013). Transit, walking and cycling transit trips rose to 905,000 in 2014 (from 893,000 in 2013). Not illustrated but quoted in this report is the volume of total motor vehicle travel, which has declined 16.5 percent since 2007. Per capita reductions are even larger: average annual vehicle-kilometers per resident declined 26 percent, from 6,340 in 2004 to 4,680 in 2014.

The City of Vancouver’s increase in non-motorized trips is attributed to the success of sustained demand management policies which have accommodated more trips without expanding road space or significantly increasing parking supply. TDM policies such as revisions to off-street parking requirements, the reallocation of road space for traffic calming purposes and accommodate protected cycling infrastructure, the introduction of paid parking, and the promotion of alternative modes (walking, cycling, transit) have seen the automobile mode share decline to about half of all trips originating within the City of Vancouver. (In most North American cities, the automobile mode share varies with the characteristics of the city, but it is usually about 80 percent.)

**Exhibit 1-2 – Modal Split (2008 and 2011) and Modal Split Targets (2020 and 2040) for City of Vancouver**



Source: 2014 Transportation Monitoring Report, City of Vancouver, 2015

### 1.2.2 USING PARKING MANAGEMENT TO CONSIDER PARKING SUPPLY HOLISTICALLY

The primary function of parking is simply to store a vehicle until it is used again. If all parking is considered part of the same transportation system, parking supply and demand issues must clearly expand beyond the type of ownership (public/private) or the location (off-street or on-street) to encompass all parking within the transportation system.

In dense urban mixed-use environments, parking space competes with many other land uses. The prioritization of uses for space needs to be deliberate, clear, fair, consistent, and transparent. Modern parking management needs make the effective use of strategies that consider and address all aspects of parking demand and supply and not regard site-based off-street parking regulations as de-facto parking policy. There is a real need to afford greater respect for and attention to real-world commercial imperatives and hidden parking subsidies that distort parking demand in the planning process. Parking policy and regulations that change the basis on which parking is planned and operated can assist with removing barriers to managing parking supply holistically.

---

### 1.2.3 USING POLICY AND STRATEGY TO INFLUENCE PARKING DEMAND

Land use and transportation policies and strategies that are designed to influence parking demand possess two characteristics:

- The demand for parking is a derived demand, i.e., it is a consequence of the demand for something else. At its core, parking demand is indicative of demand for access to a particular location. This then manifests itself in what we can observe at a location: a common desire to find a place to store a vehicle while the vehicle is not in use.
- The total demand for parking is not a constant; it varies by location and time of day.

Understanding these characteristics is essential to developing appropriate incentives and policies to promote effective and cost-efficient alternatives that can decrease parking demand. Where parking demand can be reduced in absolute terms, public and private resources become available for other purposes, for example, additional disposable income or additional investment in infrastructure.

At a finer level of detail, parking regulations such as shorter time limits can have effects such as: increasing turnover which in turn allows a greater number of users to access the same amount of parking. Drivers may also be inclined to switch to transit if the alternative exists.

These examples suggest that relatively simple changes may open powerful opportunities to use TDM measures to affect the demand for parking at a given location and or time of day.

As people may not think of their individual decisions as making a significant impact on the overall transportation network, outreach and education will be important to the success of the new approach. The need for change must be easily understood and clearly relatable to people's own travel decisions.

---

## 1.3 FUTURE DIRECTIONS

This Section outlines selected future TDM measures in more detail. The selected measures are: dynamic pricing (Section 1.3.1), carsharing (Section 1.3.2), bicycle parking (bicycle parking requirements; design standards and guidelines) (Section 1.3.3), examples of other parking demand management measures (transit passes/parking cash out; shuttle service; bicycle facilities and programs (Section 1.3.4), and communications and outreach (Section 1.3.5).

As noted in the introduction, given that the City is involved in parking both directly and indirectly, the City may decide to implement TDM measures alone or in collaboration with other organizations. Section 13 discusses the Implementation Plan.



### 1.3.1 DYNAMIC PRICING

Dynamic pricing (also known as performance pricing) in parking management refers to a strategy that aims to use pricing to keep parking utilization as close as possible to 85 per cent throughout the day to ensure parking facilities are being used as efficiently as possible at all times. The strategy uses changes in the price for parking to achieve the desired utilization. Prices are set to reflect observed demand and then periodically adjusted (in defined increments, typically between 25 cents and \$1) to reflect consumer responses.

A dynamic pricing strategy is considered particularly useful for high demand areas such as Precinct One and Two where it can help to spread peak parking demand and encourage the use of cost-effective alternatives particularly in peak periods.

Time Period	Price per Hour
Midnight - 9am	3.00
9am - Noon	4.00
Noon - 3pm	4.50
3pm - 6pm	3.50
6pm - Midnight	1.00

#### **Recommendation:**

- It is recommended that the City undertakes an analysis to determine the benefits and costs of implementing dynamic or escalating on-street pricing in each precinct.

### 1.3.2 CARSHARING

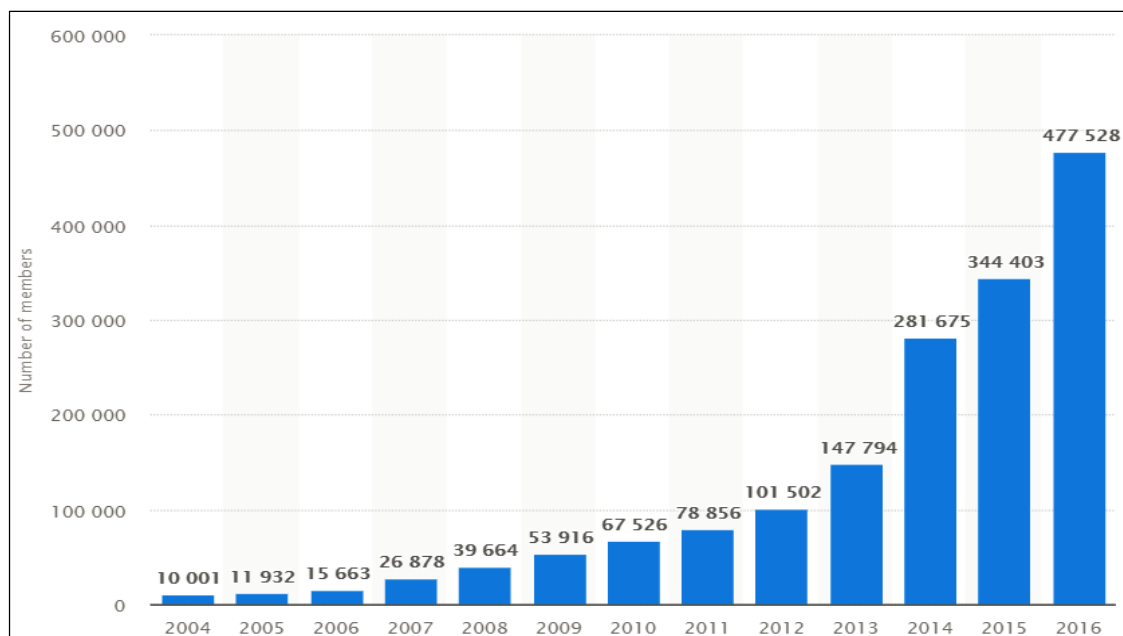
Carsharing is a form of short-term car rental used primarily for incidental trips, but also for some planned journeys by motor vehicle. To allow customers keyless access, carsharing vehicles are equipped with electronic systems usually a fob or a mobile phone app. Carshare vehicles are typically rented by the minute or hour and include fuel and insurance costs.

Various carsharing business models operate in Canada and elsewhere. Zipcar and Enterprise Carshare vehicles are typically owned by the company and must be used for a round-trip. For example, the vehicle must be returned to its initial parking location. Car2GO vehicles are also owned by the company, but Car2GO offers one-way rentals as part of its “floating” model. For example, the vehicle may be picked up at one designated parking area and returned to a different one. The Zipcar/ Enterprise Carshare model and the Car2GO all require an agreement to use a landowner’s parking area. The business model offers competitive pricing when compared to traditional private vehicle ownership.

Turo and Getaround use a different model: peer-to-peer carsharing. Both businesses have developed platforms that connect car owners with renters.

Exhibit 1-3 shows the exponential growth in carsharing in Canada from 2004 to 2016. In 2016, nearly half a million Canadians were members of a carsharing program.

### Exhibit 1-3 – Growth in Carsharing Membership in Canada 2004-2016



Source: Number of Carsharing Members in Canada from 2004 to 2016, Statista, 2016

Shaheen and Martin (2011) showed that households that North American households participating in a survey about their car ownership habits owned an average of 0.47 vehicles per household prior to joining. After joining the carsharing system, the average dropped to 0.24. Other benefits reported included a sizeable shift towards a carless lifestyle and more efficient use of fuel (carsharing vehicles were on average 10 miles per gallon more efficient than the vehicles the carsharers' had owned). Although the results start from a low base of ownership, they nonetheless demonstrated the power of carshare to successfully substitute for car ownership, helping to reduce residential demand for parking.

A worldwide review of carsharing by Deloitte (2015) found that most carsharers' area niche transportation option for certain demographic groups, but carsharing was nonetheless assisting households to forego vehicle purchases. It also noted that the congestion-relief potential of carsharing rises with the number of carsharing services. According to one estimate, each carsharing vehicle reduces the need for 9 to 13 private automobiles. It is expected that changing consumer preferences will facilitate continued growth of carsharing services into the future and potentially reduce parking demand, particularly in the residential context.

**Recommendations:**

- The City should negotiate arrangements with various carshare providers to allow carsharing in locations throughout the City including municipal parking lots and on-street parking spaces. To encourage residents to use the carsharing vehicles, the City could offer incentives such as waiving the parking fee for short-term parking.
- The City should encourage additional carsharing providers, and should consider additional business models such as one-way “floating” services.
- As part of the upcoming Zoning By-law review, the City should consider replacing some conventional parking spaces with on-site carshare spaces in all large-scale retail, office and residential developments. The City should determine the appropriate ratios between conventional and carsharing parking spaces. The highest level of carsharing incentives should apply to Precincts One and Two.

**1.3.3 BICYCLE PARKING**

Bicycle parking can provide a convenient and cost-effective alternative to vehicle parking. Bicycle parking may be long-term or short-term. Long-term bicycle parking is generally reserved for residents of buildings. Facilities may include enclosed and secure bicycle racks or bicycle storage lockers. Short-term bicycle parking is generally considered for visitors to locations with easily accessible bike racks available to the public. Such locations provide a measure of passive surveillance.

The following Section summarises many key considerations when planning and designing bicycle parking, including the bicycle parking requirements recommended as part of the TDM Plan.

**BICYCLE PARKING REQUIREMENTS**

Each Precinct will require appropriate minimum bicycle standards. Minimum bicycle parking requirement should consider, but not be limited to:

- Long-term bicycle parking spaces (for residents) and short-term bicycle parking spaces (for visitors)
- Showers and change facilities

The Zoning By-law review should consider parking rates for bicycle parking.

#### Exhibit 1-4 – Bicycle Parking Requirements Recommended by the TDM Plan

Land Use	Recommended Bicycle Parking Requirements	
	Class “A” (Secure Long-Term)	Class “B” (Racks, Short-Term)
Residential – Multi-Unit	0.8 space / unit	Minimum of 6 spaces
Retail	0.5 / 500 m <sup>2</sup> (GFA)	1 / 500 m <sup>2</sup> GFA
Business Office	0.5 / 500 m <sup>2</sup> (GFA)	0.5 / 500 m <sup>2</sup> (GFA)
Medical Office	0.5 / 1000 m <sup>2</sup> (GFA)	1/ 1000 m <sup>2</sup> (GFA)
Employment	0.5 / 1000 m <sup>2</sup> (GFA)	Minimum 2 spaces
School, Post-secondary	1/15 students	1 / 10 students
School, Elementary and Secondary	1/15 students	1/15 students
Institutional	0.5 / 1000 m <sup>2</sup> (GFA)	0.5 / 1000 m <sup>2</sup> (GFA)

#### DESIGN STANDARDS AND GUIDELINES

On-site bicycle parking facilities need to consider several issues. Indoor facilities should address bike rooms, lockers, cages, change facilities, showers and signage. Outdoor facilities should address racks, covered parking and signage.

Additional issues include:

- Minimum space sizes (minimum length 1.8 metres; minimum width 0.6 metres; vertical clearance of at least 1.9 metres)
- Location (maximum of 15 metres from a main entrance in a well-lit area)
- Points of contact. Single bicycle racks and racks that can accommodate multiple bicycles should have two points of contact. Single racks, for example, may use an inverted “U” or post-and-ring style.
- Long-term bicycle parking. Long-term bicycle parking should be in a bicycle locker or in a secure cage/bike room with facilities for locking the bicycles.



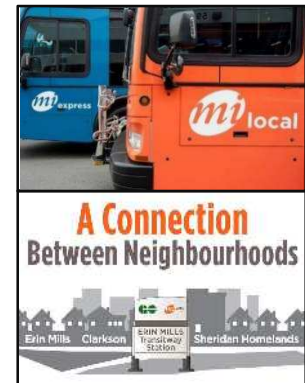
### 1.3.4 OTHER PARKING DEMAND MANAGEMENT MEASURES

This Section discusses three additional parking demand management measures: transit passes/parking cash out, shuttle service and bicycle facilities and programs. These three demand management measures are outside of the direct control of the Municipal Parking staff, but considered to have potential. The measures will require collaboration and coordination with other departments.

#### TRANSIT PASSES/PARKING CASH OUT

Increased transit ridership is a critical part of reducing parking demand. The City should continue to work with transit agencies to increase transit service and connections to major hubs, transit stations and employment nodes.

As an incentive for commuters to use transit, the City could investigate a parking cash-out program that allows employees to opt out of being offered a 'free' employer-subsidized parking space and instead receive the equivalent benefit in cash.



#### SHUTTLE SERVICE

Both Sheridan College and the University of Toronto offer a shuttle service between campuses. In some cases, there is only 20 minutes between services. Some services are free and others are offered at a subsidized price that is attractive when compared to the cost of parking on-site. To reduce parking demand at high demand locations, the City should help Sheridan College and the University of Toronto to expand their shuttle services, and should encourage other organizations to offer similar services where possible.

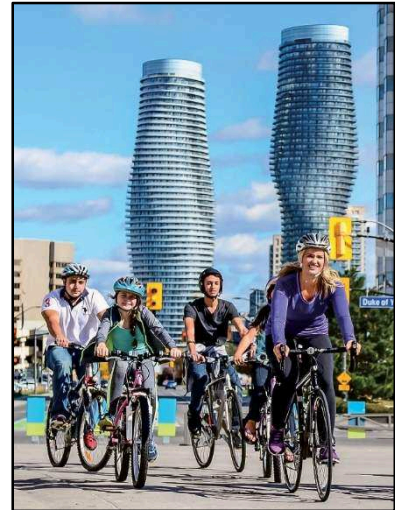


## BICYCLE FACILITIES AND PROGRAMS

Encouraging cycling (and other alternatives modes of transportation) can reduce the demand for vehicle parking particularly for single occupant vehicle trips over short distances. Active transportation infrastructure needs to be safe, comfortable, connected, and convenient to encourage more travel by bicycle.

Cycling uptake is closely related to factors such as on- and off-street bicycle route facilities that cater to all ages and abilities, and the availability of secure bike storage options particularly at employment areas and popular destinations.

The success of bikeshare in Hamilton and Toronto and the rapid pace of technological change and reduction in transportation costs to users and to society has demonstrated that there is significant potential for bikeshare in Mississauga.



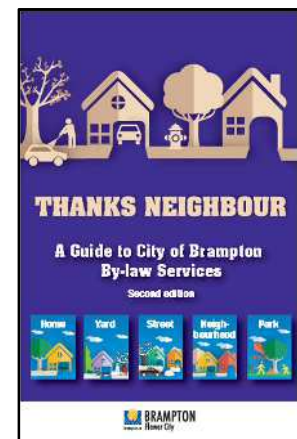
Fourth generation bikeshare systems now offer designated pick-up and drop-off areas without the need for docking stations ('geofencing').

Integrated bike share access and fares with conventional transit can assist with journeys from a transportation hub to a final destination to and from the home ('last mile' journeys). As Mobility as a Service (MaaS) monthly subscription operating models that offer access to a range of last mile offerings are now becoming more widespread, this can assist with reducing the demand for parking. MaaS is being increasingly offered at competitive prices relative to the costs of automobile ownership and this offers significant potential to replace existing private vehicle trips.

### 1.3.5 COMMUNICATIONS AND OUTREACH

The feedback from residents during the consultation phases of the PMPIS project included comments about the need for the City to improve its processes and tactics for communicating information about parking-related policies, bylaws and procedures to residents and businesses. As the PMPIS is proposing a considerable number of changes, the City should create a parking communications and outreach program to inform and educate citizens and businesses about the PMPIS principles and proposed changes.

It is recommended that the City develop communications material similar to that developed by the City of Brampton developed to explain Brampton's Zoning By-law and various typical issues faced by residents. The front cover of Brampton's "Thanks Neighbour" guide is shown on the right.





---

## 1.4 SUMMARY

---

### *1.4.1 GUIDING POLICY*

Mississauga parking policy should be consistent with the parking policy framework presented in Section 4 and TDM measures recommended in the TDM Plan and summarized in Exhibit 1-5. The new policy should use a phased approach for implementation.

Successful implementation of the TDM Plan's parking demand management measures requires policy alignment with the goals of the TDM Plan and PMPIS. The goals are: 1. to improve the efficiency of the transportation system, and 2. to integrate transportation with land use. It is clear that the City needs to make demand management a formal part of the City's parking policy framework with clear incentives and mandates for private organizations and other community partners to work together and with the City to achieve the parking vision for each parking policy precinct.

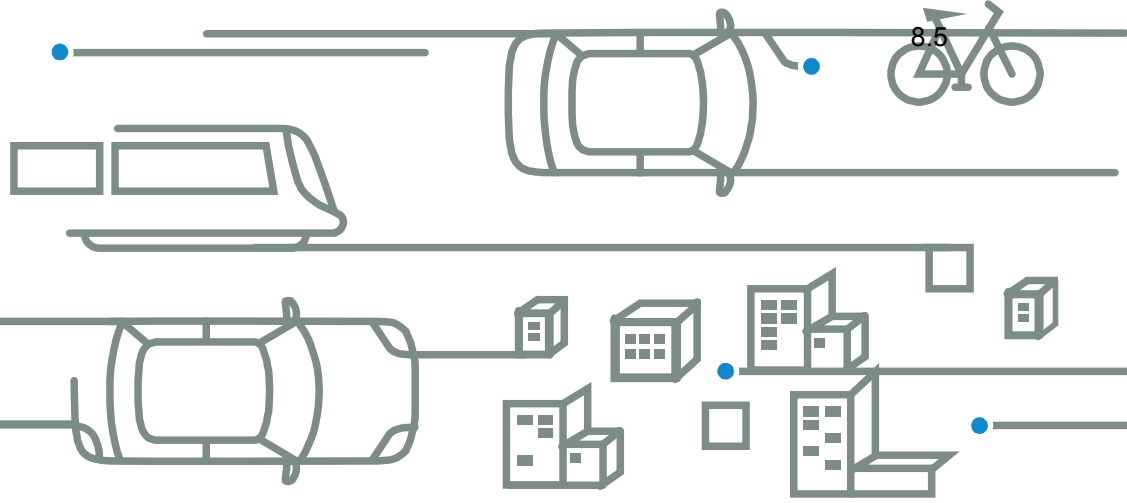
Exhibit 1-5 shows that almost all the TDM measures are expected to be most effective in Precincts 1 and 2. Most are expected to have medium effectiveness in Precinct 3, and most are expected to have low effectiveness in Precinct 4. The expected effectiveness of the measures varies considerably in the Special Purpose Areas.

Implementation also requires prioritization of the proposed measures. Insofar that an high-level assessment of each of the individual TDM measures can be made on a precinct-by-precinct basis, Exhibit 1-5 also prioritizes these using three-point scale (1, 2, 3) for each Precinct and the Special Purpose Areas. It should be noted however that implementation of each of the TDM measures in each the precincts is likely to be guided by PMPIS parking policy framework priorities than the measures themselves, as the need for a suite of TDM measures to assist with parking management is more likely to be apparent in those precincts with the most pressing parking issues.



**Exhibit 1-5 – Estimated Effectiveness of Parking Demand Management Measures by Precinct**

TDM Measure			Ranked 1, 2, 3	Parking Policy Precinct				
				Precinct 1	Precinct 2	Precinct 3	Precinct 4	Special Purpose Areas
TDM Objectives	Changes to Travel	Changes in Work Arrangements	2	High	High	Medium	Low	Low
	Workplace Measures	Carpooling incl. Ride matching	1	High	High	High	Low-Medium	Medium
		Transit Passes	2	High	Medium	Medium	Low	High
		Bicycle Parking	2	High	High	Medium	Low	Low
		Pricing Parking	2	High	High	Medium	Low	High
	DM-Supportive Infrastructure and Policies	Accessible Connections and Amenities	2	High	High	Medium	Low	Low
		Bicycle Parking Regulations and Standards	1	High	High	High	Low	Low
		Development Application Requirements and TDM Plan Outline as part of Transportation Impact Study (TIS)	1	High	High	High	Low	Medium
	Municipally Delivered	Community Outreach and Engagement	3	Medium	High	Medium	Low	Low
		Land Use Policy	1	High	High	Medium	Medium	Low-Medium



# *PARKING MATTERS*



## **APPENDIX 3-1 BENCHMARKING EXERCISE – COMPARING PARKING STANDARDS IN MISSISSAUGA AND OTHER MUNICIPALITIES**

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

# 1 BENCHMARKING EXERCISE: COMPARING PARKING STANDARDS IN MISSISSAUGA AND OTHER MUNICIPALITIES

---

## 1.1 EXISTING CONTEXT

The City of Mississauga's *Zoning By-law 225-2007* "regulates the use of land, buildings, and structures and directs how to implement the relevant Section of the Mississauga Official Plan". Part 3 of the by-law is concerned with parking, loading, and stacking lane regulations. The Zoning By-law prescribes standards for the provision, location and dimension of parking spaces, parking supply requirements for a range of land uses, shared parking standards for mixed-use developments, and accessible parking requirements.

The last comprehensive review of zoning by-law parking standards was completed in the 1980's. In 2007, when the by-law was last consolidated, a benchmarking exercise was completed and some standards underwent minor changes. Other standards have been updated on a piecemeal basis over time.

The Zoning By-law specifies parking supply requirements for 14 residential land use categories and 51 non-residential land and mixed-use developments (office, retail, service, restaurant, overnight accommodation, and or residential components). The Zoning By-law also provides a shared use parking formula for sites that can share parking between various activities on the site. The shared use parking formula considers parking occupancy for each activity in the morning, noon period, afternoon, and evenings for weekday and weekends.

Section 1.1 is divided into seven main subsections:

- Zoning By-law Motor Vehicle Parking Standards (Section 1.1.1)
- Accessible Parking Requirements (Section 1.1.2)
- Bicycle Parking Standards (Section 1.1.3)
- Parking Design Standards (Section 1.1.4)
- Shared Parking (Section 1.1.5)

### 1.1.1 ZONING BY-LAW MOTOR VEHICLE PARKING STANDARDS

The Existing Policy and Best Practices Review conducted for the PMPIS, parking provision regulations have historically required a certain minimum number of parking spaces per land use for new development projects and expansion projects. The details in the Zoning By-law that sets out the City's motor vehicle parking standard are commonly known as "minimum parking requirements."

Parking requirements are typically expressed as a ratio (For example, 1 parking space per dwelling or 1 parking space per 100 sq.m. of the Ground Lease Agreement.

Section 1.1.1 discusses four topics:

- Benchmarking exercise: comparing parking standards in Mississauga and other municipalities.
- Lowering the minimum number of required parking spaces.
- Parking requirements in areas with mature transit service.
- Minimum and maximum parking requirements.

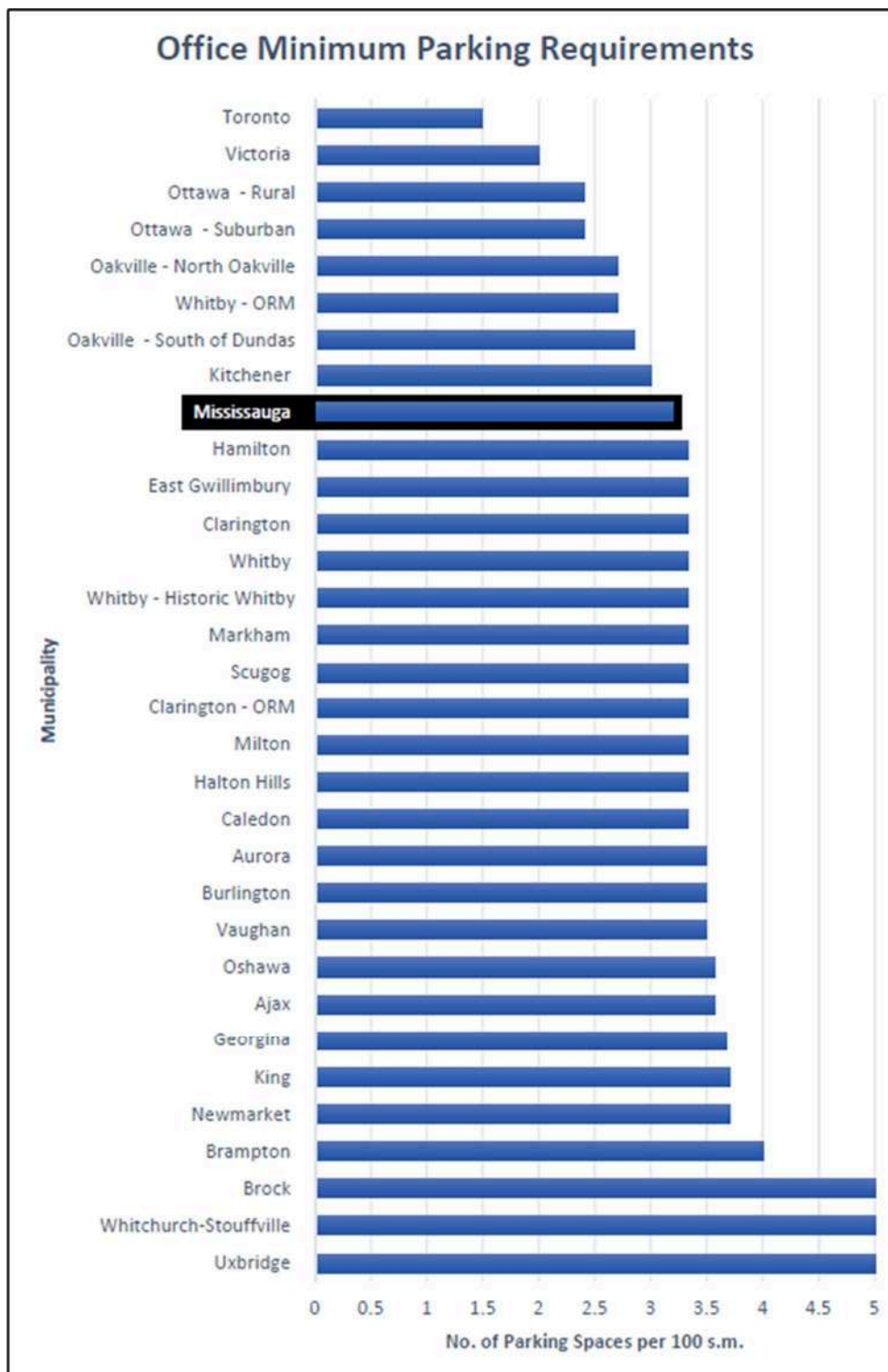
### BENCHMARKING EXERCISE: COMPARING PARKING STANDARDS IN MISSISSAUGA AND OTHER MUNICIPALITIES

Mississauga's current parking requirements generally covers the entire City with some exceptions such as:

- The Downtown Core has separate residential apartment rates as well as some non-residential like retail and restaurant are lower than the rest of the City.
- Some non-residential uses like retail and restaurant has a lower rate in mainstreets areas such as Streetville, Port Credit and Clarkson.

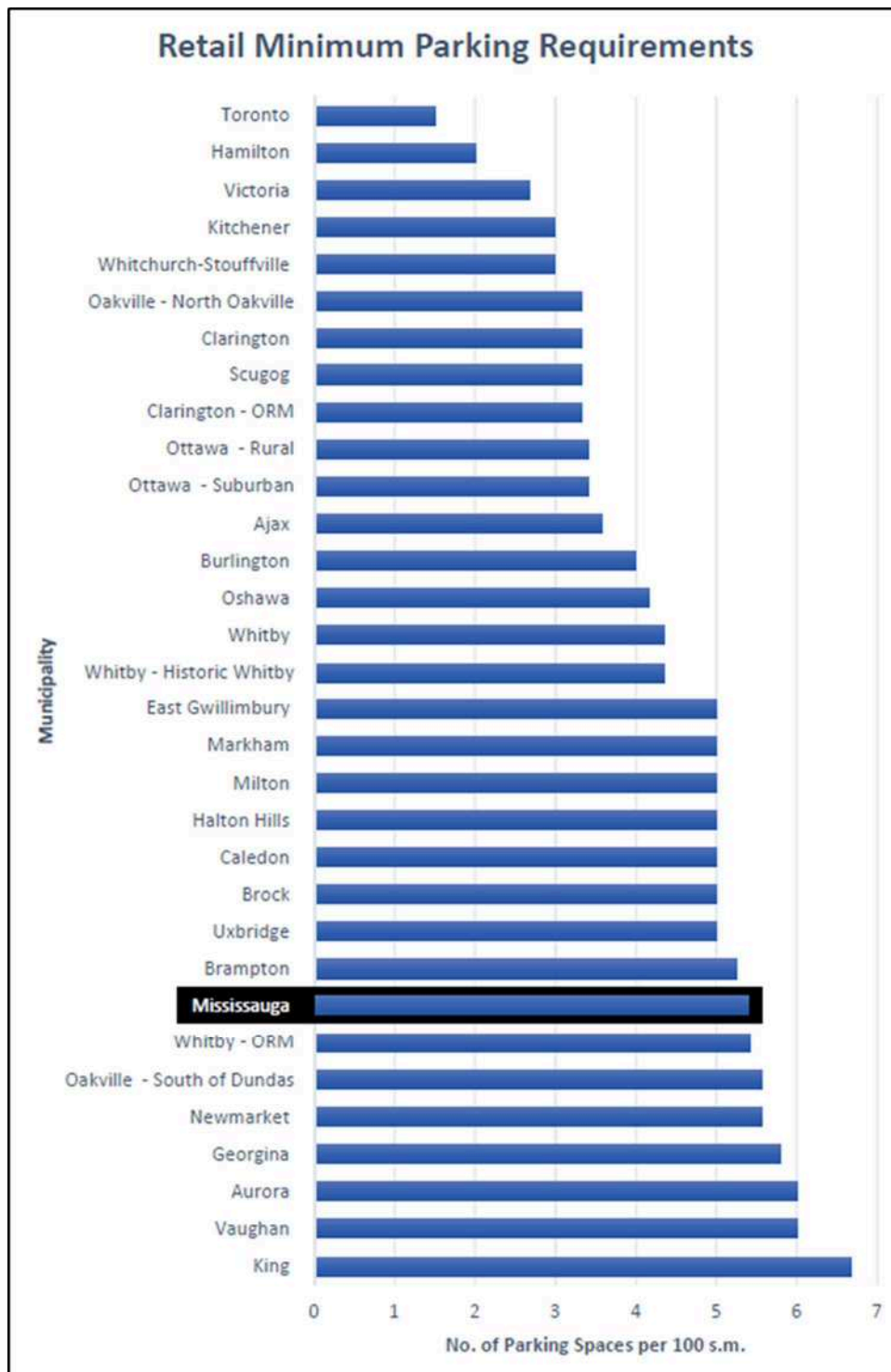
Exhibit 1-1 to Exhibit 1-10 show the results of a comprehensive benchmarking exercise that compares the zoning by-law parking requirements in Mississauga, other Greater Toronto Hamilton Area (GTHA) municipalities, Ottawa, Vancouver and Victoria. The Zoning By-laws of each jurisdiction are available online. The comparison includes downtown by-laws and citywide by-laws for office, retail, industrial, residential apartment, medical offices, and restaurants uses.

**Exhibit 1-1 – Benchmarking of General (non-downtown) Office Minimum Parking Requirement in GTHA, Ottawa, Vancouver, and Victoria**



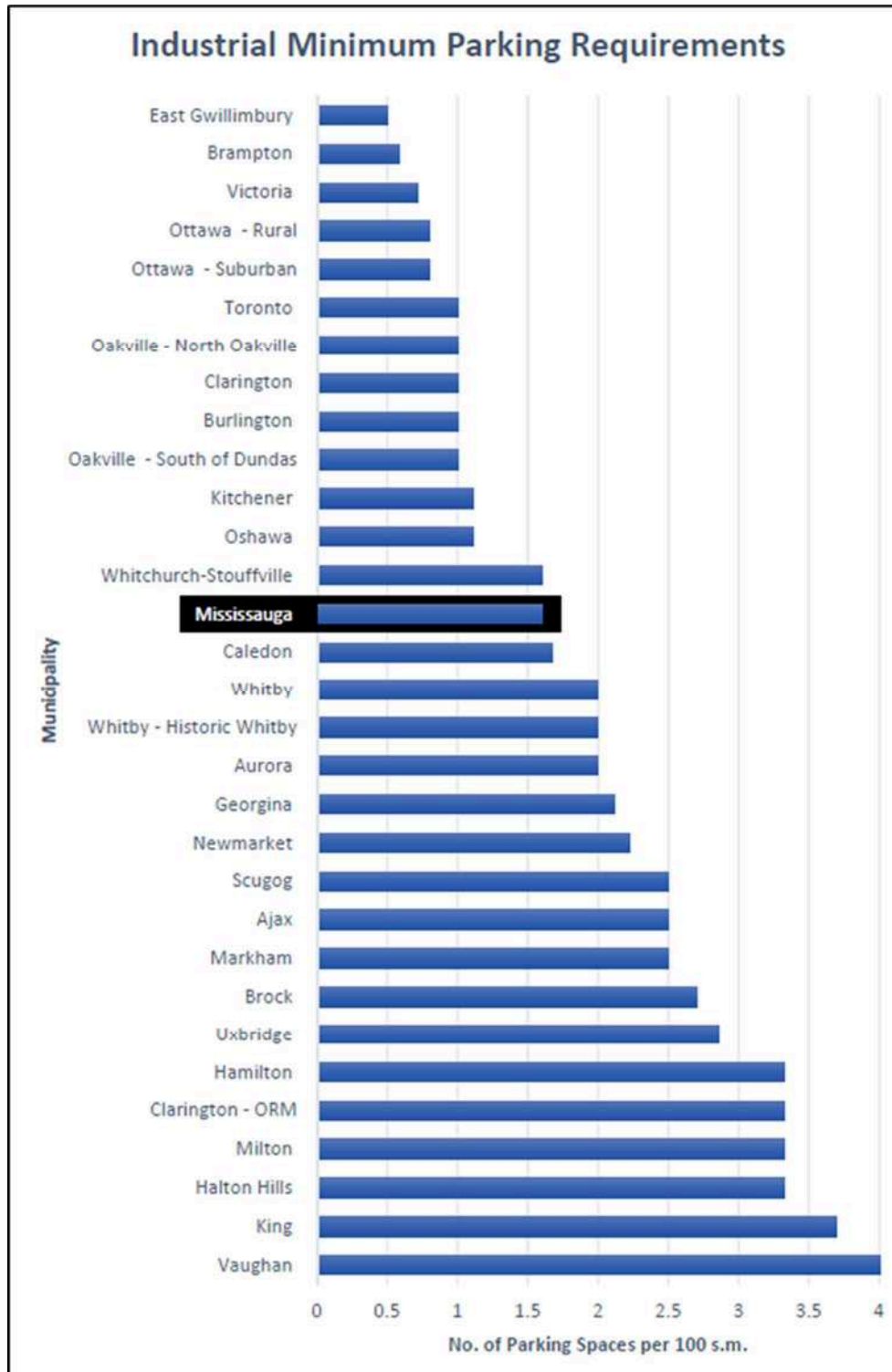
Source: Parking Requirement from Each Municipal Zoning By-law

**Exhibit 1-2 – Benchmarking of General (non-downtown) Retail Minimum Parking Requirement in GTHA, Ottawa, Vancouver, and Victoria**



Source: Parking Requirement from Each Municipal Zoning By-law

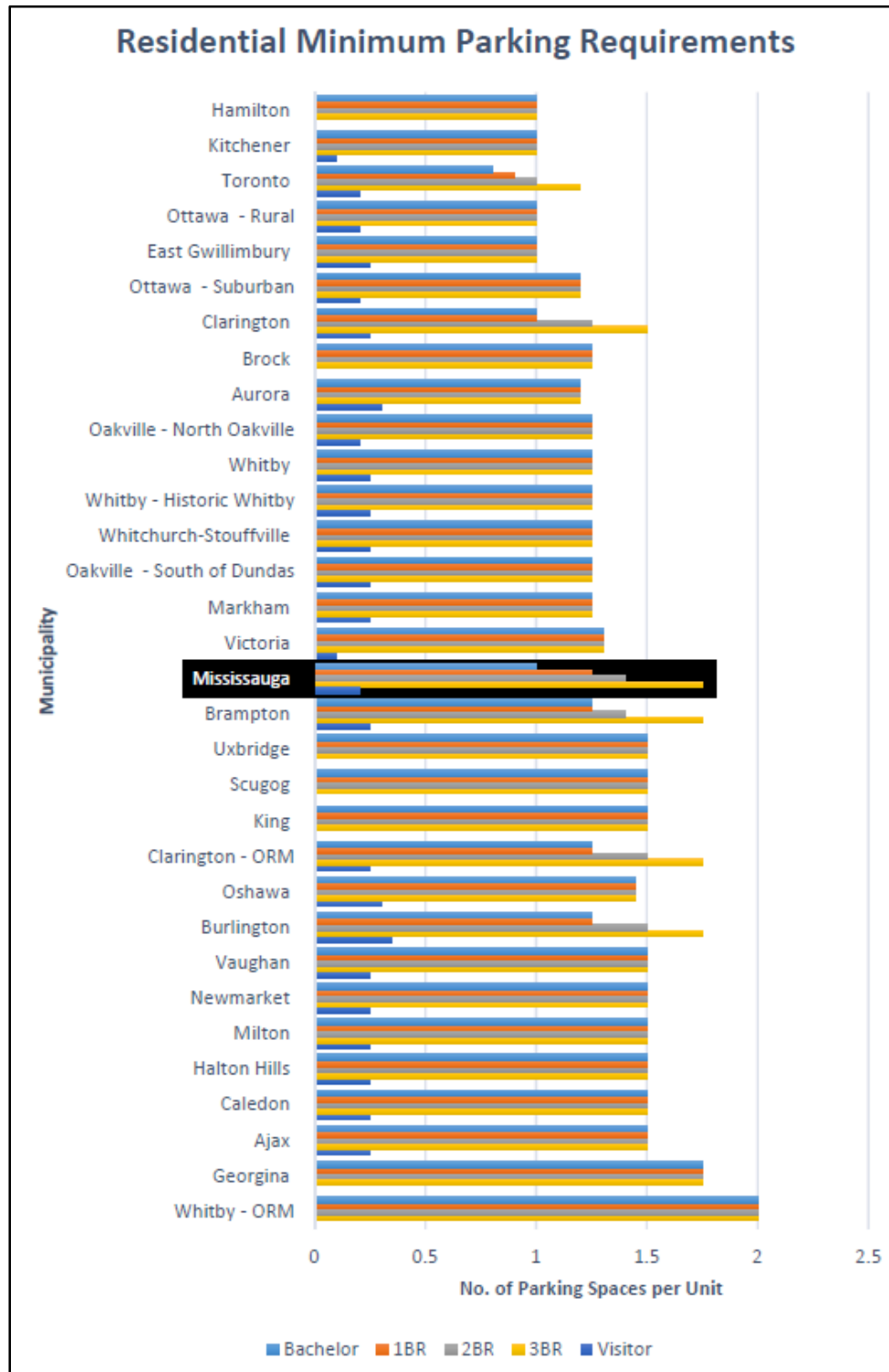
**Exhibit 1-3 – Benchmarking of General (non-downtown) Industrial Minimum Parking Requirements in GTHA, Ottawa, Vancouver, and Victoria**



Source: Parking Requirement from Each Municipal Zoning By-law

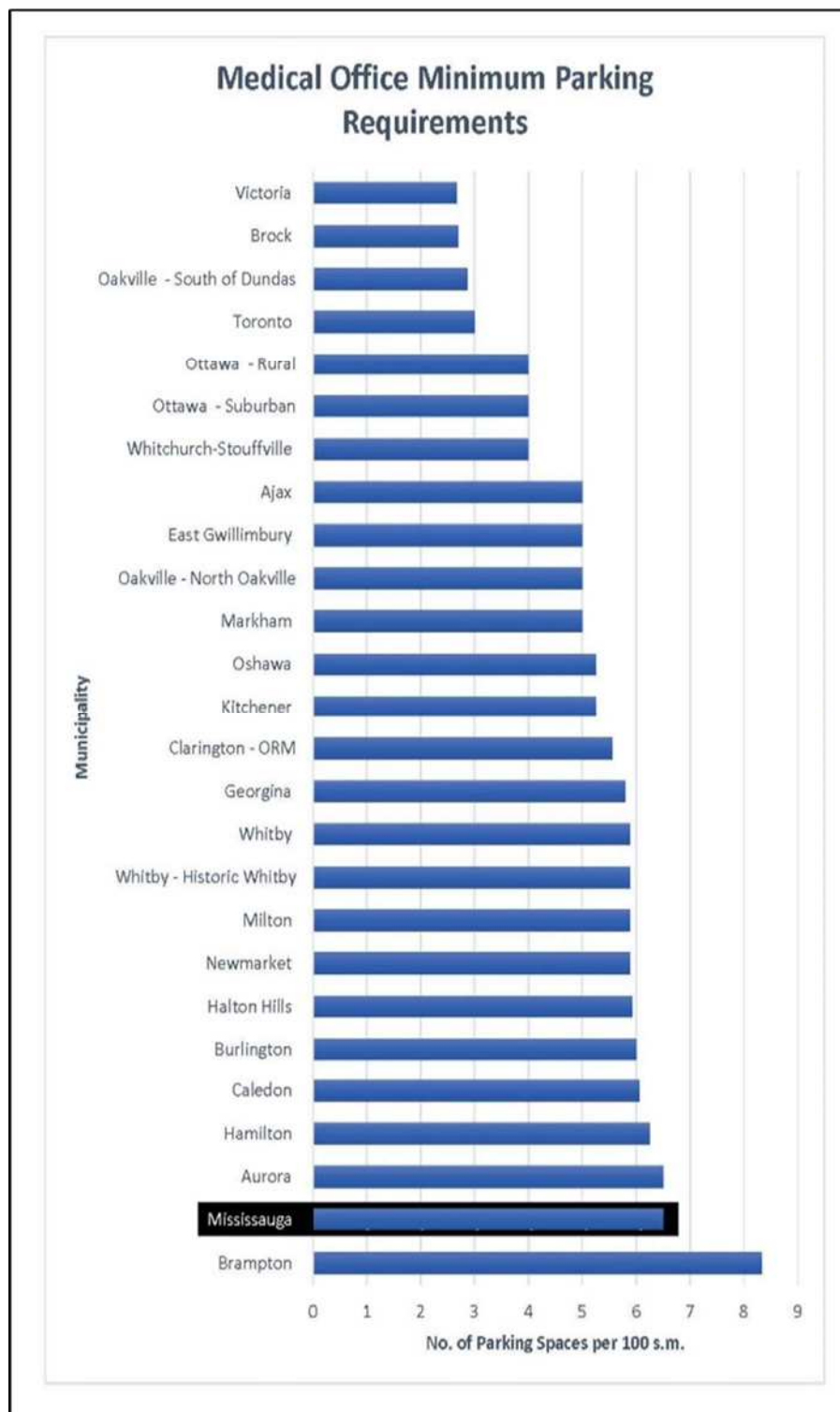


**Exhibit 1-4 – Benchmarking of General (non-downtown) Residential Minimum Parking Requirements in GTHA, Ottawa, Vancouver, and Victoria**



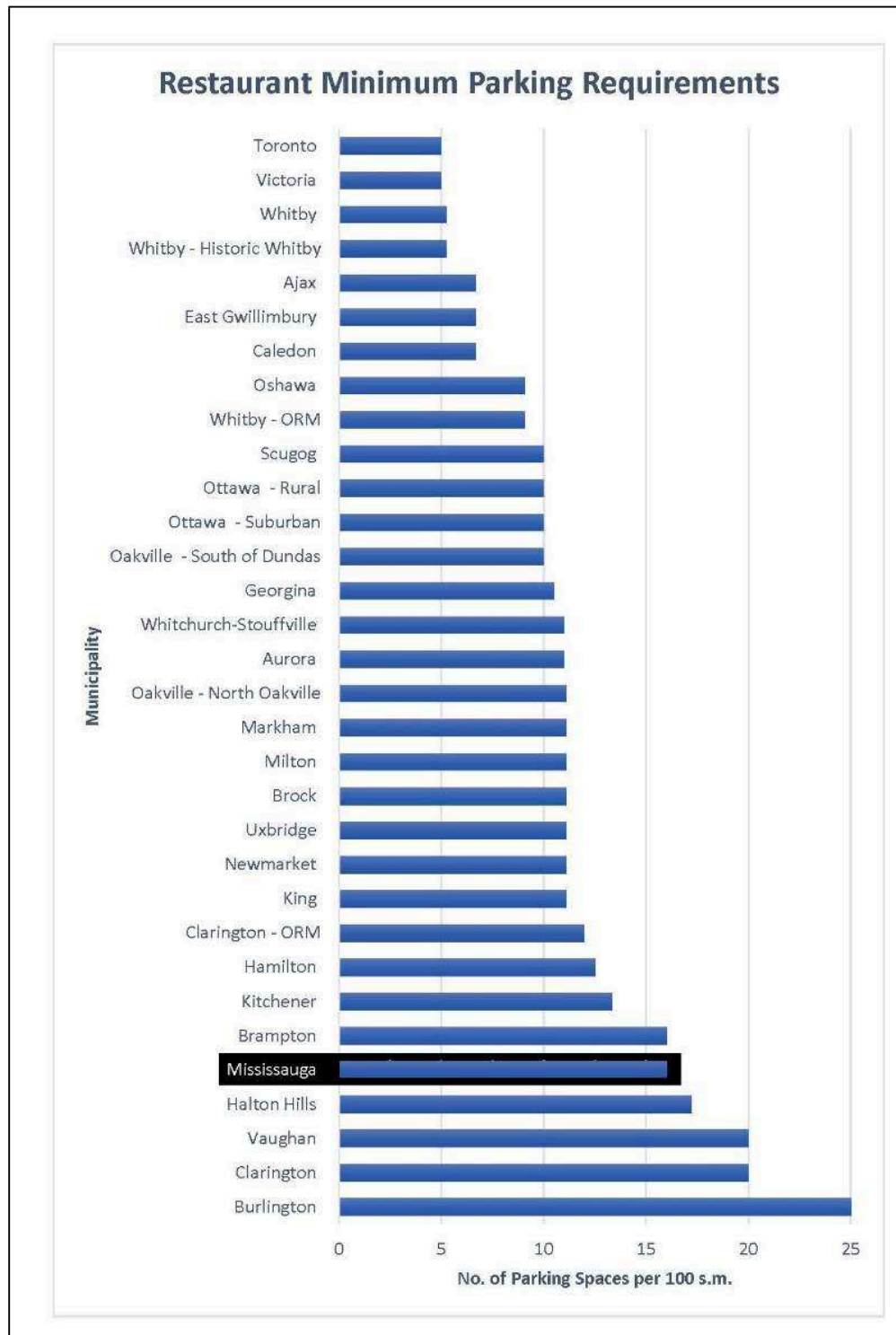
Source: Parking Requirement from Each Municipal Zoning By-law

**Exhibit 1-5 – Benchmarking of General (non-downtown) Medical Office Minimum Parking Requirements in GTHA, Ottawa, Vancouver, and Victoria**



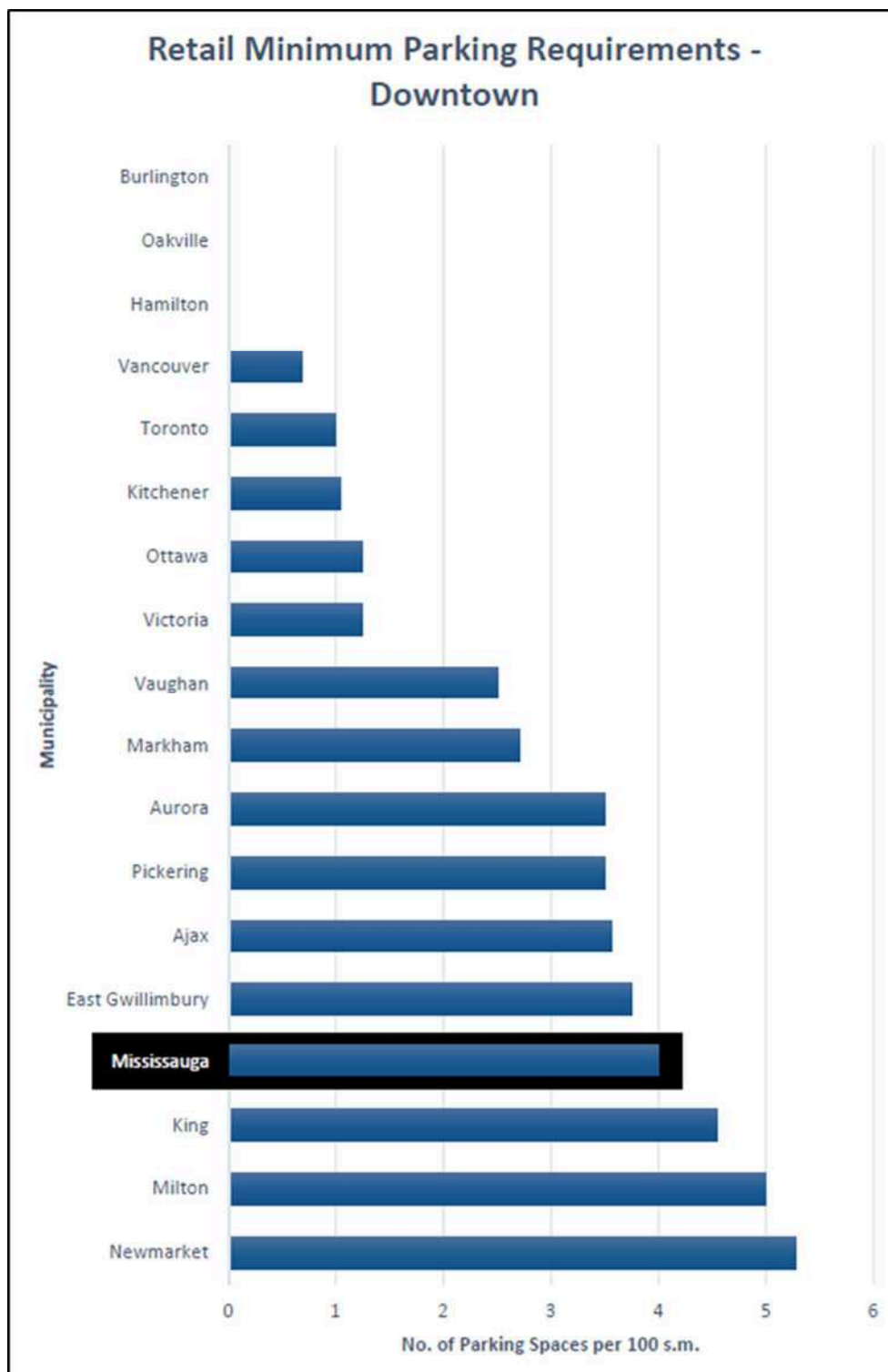
Source: Parking Requirement from Each Municipal Zoning By-law

**Exhibit 1-6 – Benchmarking of General (non-downtown) Restaurant Minimum Parking Requirements in GTHA, Ottawa, Vancouver, and Victoria**



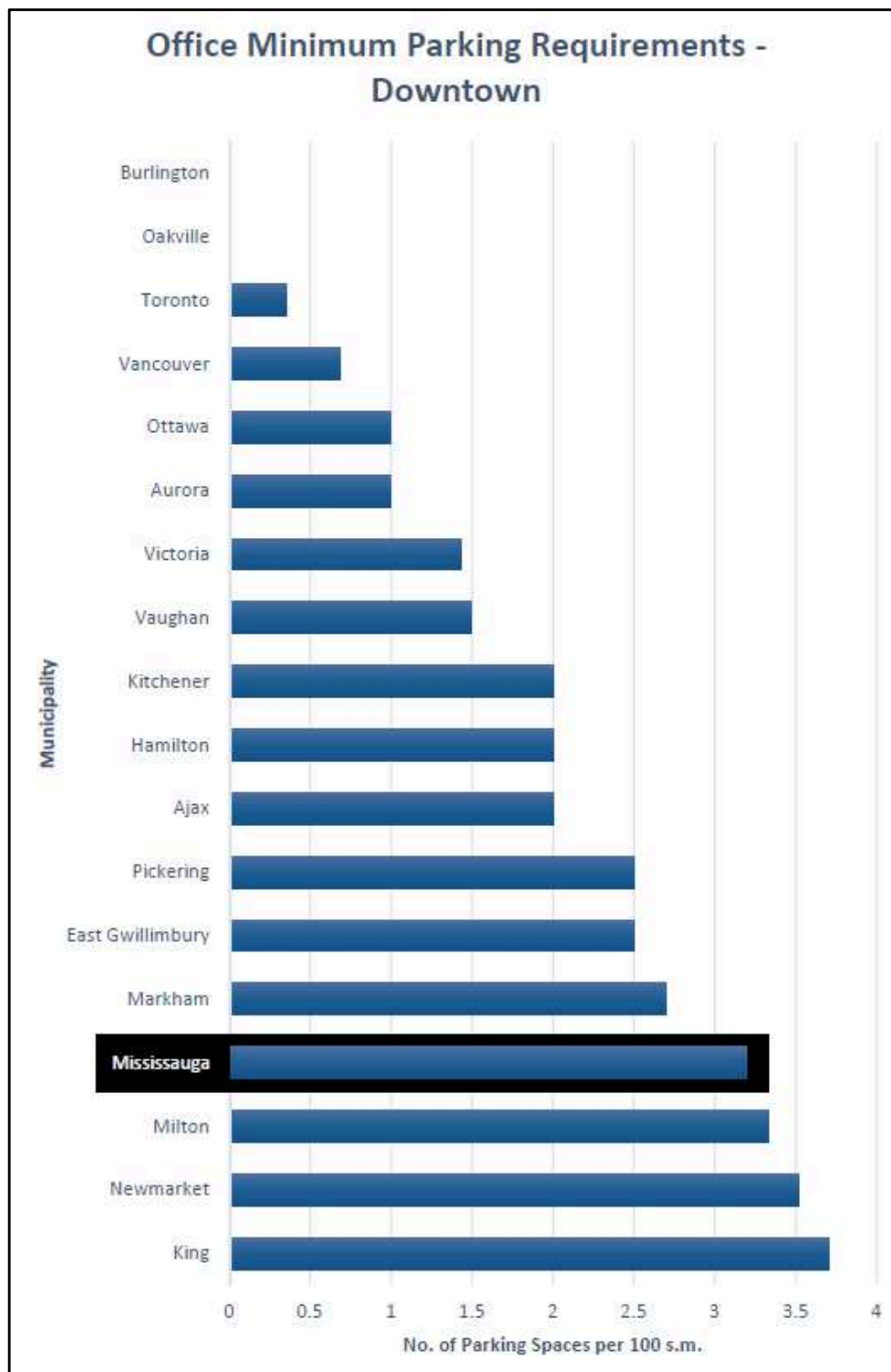
*Source: Parking Requirement from Each Municipal Zoning By-law*

**Exhibit 1-7 – Benchmarking - Downtown Minimum Parking Requirements for Retail in GTHA, Ottawa, Vancouver, and Victoria**



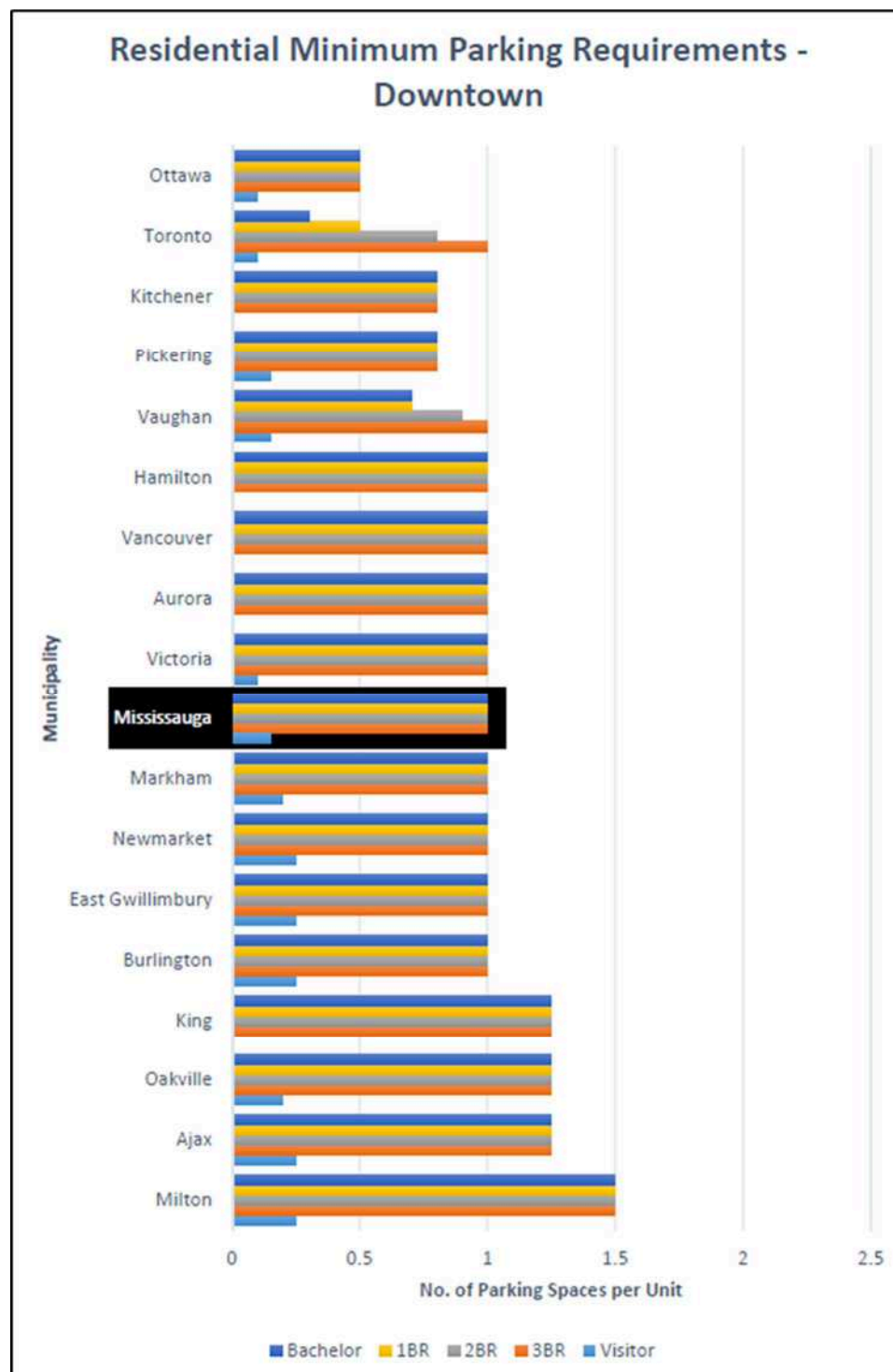
Source: Parking Requirement from Each Municipal Zoning By-law

**Exhibit 1-8 – Benchmarking - Downtown Minimum Parking Requirements for Office in the GTHA, Ottawa, Vancouver, and Victoria**



Source: Parking Requirement from Each Municipal Zoning By-law

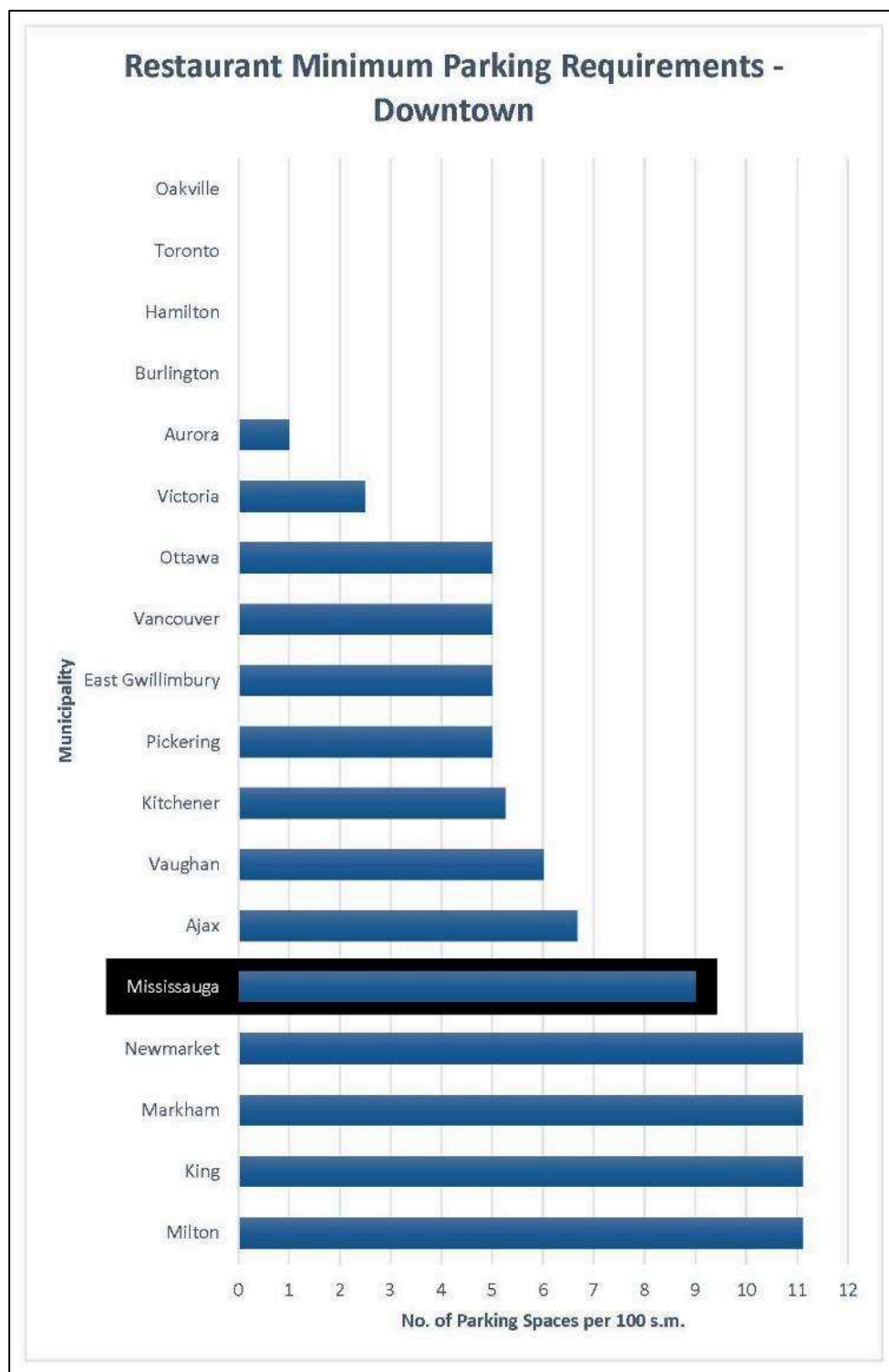
**Exhibit 1-9 – Benchmarking - Downtown Minimum Parking Requirements for Residential in GTHA, Ottawa, Vancouver, and Victoria**



Source: Parking Requirement from

Each Municipal Zoning By-law

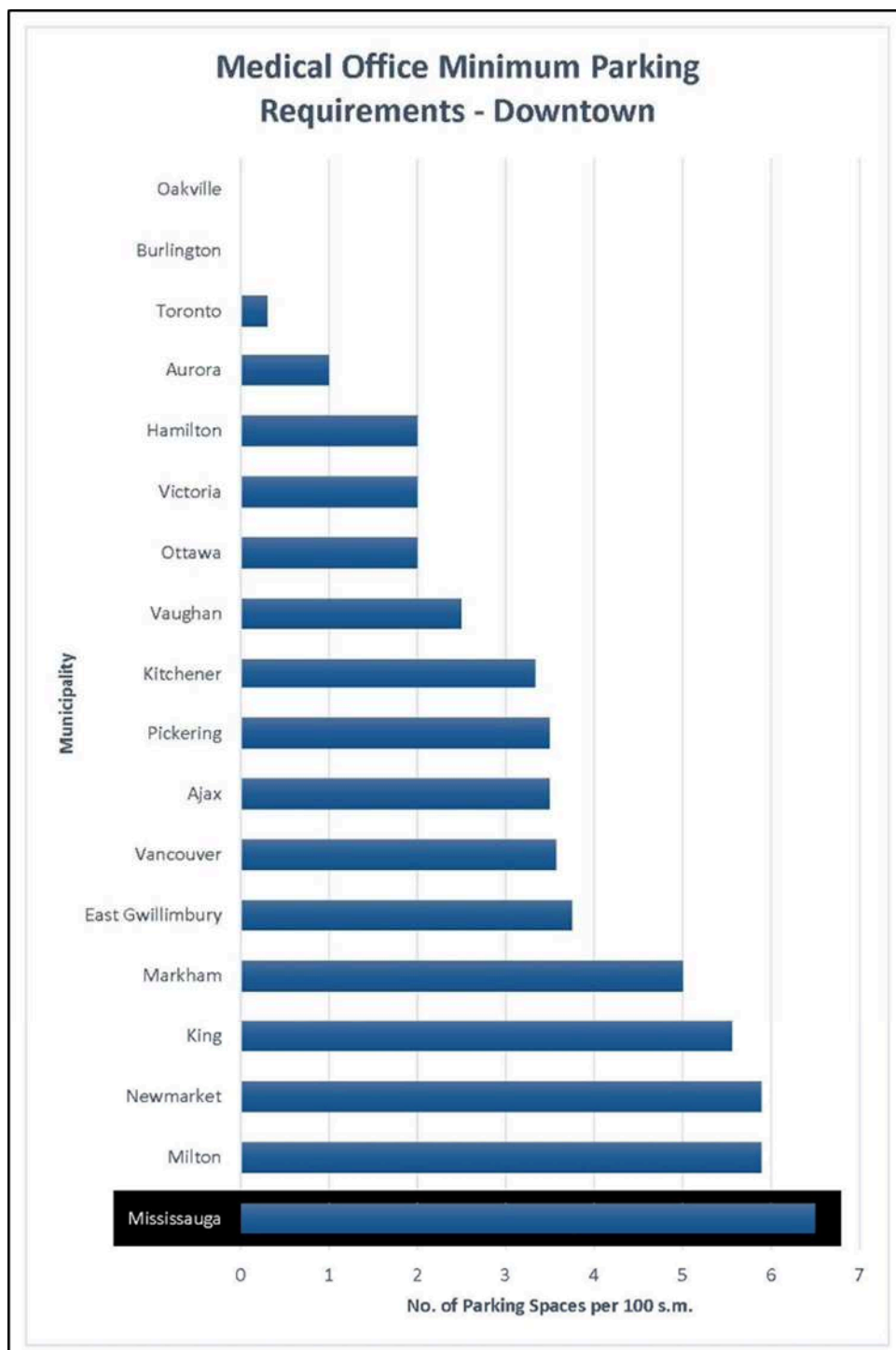
**Exhibit 1-10 – Benchmarking - Downtown Minimum Parking Requirements for Restaurants in GTHA, Ottawa, Vancouver, and Victoria**



Source: Parking Requirement from Each Municipal Zoning By-law



**Exhibit 1-11 – Benchmarking - Downtown Minimum Parking Requirements for Medical Office in GTHA, Ottawa, and Vancouver**



Source: Parking Requirement from Each Municipal Zoning By-law

Exhibit 1-1 to Exhibit 1-11 how that Mississauga's minimum parking requirements are generally typical of those adopted in the GTHA, Ottawa, Vancouver, and Victoria, but some municipalities have consistently lower parking requirements than those of Mississauga. The municipalities with lower parking requirements are typically urban in character and in the process of implementing significant transit infrastructure improvements.

Different areas of the City have different characteristics which create different parking demands. In addition, the City's vision for the different areas may differ. Rather than distinguishing between only the Downtown and the rest of Mississauga, the role, function and supply of parking should clearly reflect the differences between the various areas of the City.

### LOWERING THE MINIMUM NUMBER OF REQUIRED PARKING SPACES

The City has already noted the need and desirability of lowering the minimum number of parking spaces in certain areas depending on the proposed land use, proximity to transit, other available parking supply, and TDM measures adopted for a site. Reductions have been implemented in the main street areas of Port Credit, Streetsville and Clarkson with land uses such as residential apartment, retail and restaurant. As these reductions occurred in response to developers' applications for parking reductions, they occurred on a piecemeal and random basis.

Exhibit 1-12 provides an example of lowered parking rates for apartments. The rates were proposed by City staff who conducted a detailed review of parking. The average reduction from the current Zoning By-law rates is 26 percent.

#### Exhibit 1-12 – The City's Staff Recommendations for Lowered Parking Requirement for Condominium Apartments for MTSA's along the Hurontario LRT

Apartment	Bachelor		1-Bedroom		2-Bedroom		3-Bedroom	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Parking Typology Range	0.70 -0.90	1.05-1.12	0.8-1.0	1.20-1.25	0.9-1.20	1.35-1.5	1.10-1.50	1.65-1.85
<b>Recommended Rate</b> (Midpoint of Minimum Range selected)	0.8		0.9		1.0		1.3	
Current City of Mississauga Zoning By-Law	1.0		1.25		1.4		1.75	
Percent Reduction	20%		28%		29%		26%	

Source: City of Mississauga Memorandum, June 12, 2015

In addition, City staff has also recommended, for the Hurontario LRT corridor outside the Downtown Core, a visitor parking standard of 0.15 spaces per unit or a shared parking approach for condominium apartment development with non-residential uses; whichever, is greater.

Parking rates may also be lowered as the result of an application to the Committee of Adjustment for a variance. This Committee has reduced parking requirements for numerous developments and a variety of land uses.

For parking variances which are deficient by 10 percent or less a satisfactory Letter of Justification is required by the City. However, for variances greater than 10 percent the application must include a satisfactory Parking Utilization Study.

The examples of piecemeal changes to current parking standards are an indication that parking standards require a systematic review.

#### PARKING REQUIREMENTS IN AREAS WITH TRANSIT SERVICE

Outside the Downtown area, the current Zoning By-law does not consider transit availability although transit availability could result in lower parking demand.

Exhibit 1-13 compares Mississauga's city-wide and downtown parking requirements (parking space per residential unit) with the parking requirements for transit areas in eight other municipalities. The Exhibit shows that the parking requirements for the transit areas are lower than Mississauga's current parking requirements. For parking variance application which are deficient 10% or less, a satisfactory Letter of Justification is required. If the variance is for greater than 10% deficiency, the applicant must provide a satisfactory "Parking Utilization Study".

### Exhibit 1-13 – Comparison of Mississauga's City-Wide and Downtown Parking Requirements with Parking Requirements for Transit Areas in Eight Other Municipalities

Zoning By-Law		Bachelor	1 BR	2 BR	3+ BR	Resident (Blend)	Reduction from Mississauga
Vaughan	VMC	0.85	0.85	0.95	1.15	0.95	5-30%
Toronto	Policy Area 4	0.70	0.80	0.90	1.10	0.88	12-35%
Edmonton	TOD (with LRT)	0.70	0.80	1.00	1.25	0.94	6-30%
Hamilton	Transit Oriented Corridor					1.00	0-26%
Markham	Markham Centre					1.00	0-26%
East Gwillimbury	500m of GO Station					1.00	0-26%
Waterloo (Draft)	Uptown and Station Areas (with LRT)					0.78-0.87	22-36%
Ottawa	Inner City, 400-800 walk from Rapid Transit					0.50	50-63%
	Suburban, 400-800m walk from Rapid Transit					1.0-1.2	0-15%
Mississauga	City Wide	1.0	1.25	1.4	1.75	1.35	
	Downtown					1.00	

### MINIMUM AND MAXIMUM PARKING REQUIREMENTS

The City of Mississauga's current parking standards are based on a minimum parking requirement. The original reason for municipalities' setting of minimum parking requirements was to ensure that parking spaces were available to satisfy the peak demand for free parking. However, in recent years, there is a shift towards reducing or eliminating minimum parking requirements in certain areas. It is recognized that parking requirements add substantially to development costs, limit development potential, disproportionately impose costs on non-users and the disadvantaged, and often run counter to efforts to promote sustainable measures such as transit availability, Active Transportation facilities and off-site parking facilities.

The most vocal critic of minimum parking requirements is Prof. Donald Shoup at UCLA in California. He has provided substantial research and empirical analysis to support his views. He points out that "Parking requirements enable everyone to park free at

everyone else's expense, and no one knows that anyone is paying anything. Parking is free, however, only because everything else costs more. Parking requirements are well-intentioned, but good intentions don't guarantee good results or compensate for unintended harm."<sup>1</sup>

The City's existing Zoning By-law regulates minimum parking requirements on a site basis and does not stipulate a maximum number of parking spaces for any land use. Many municipalities have adopted maximum parking requirements for some land uses. The maximum depends on a site's location, transit availability, travel demand management measures, Active Transportation facilities, and public parking supply.

Exhibit 1-14 below lists municipalities with maximum parking requirements for non-residential land uses and or residential land uses. The table also shows additional detail about specific land uses/areas with maximum parking requirements.

---

<sup>1</sup> Shoup, D. *Parking, and the City*, 2018, Planners Press, p. 6

**Exhibit 1-14 – Municipalities with maximum parking requirements for non-residential land uses**

Non-residential Land Uses	Residential Land Uses
Ajax - Downtown Central Area	Ajax - Downtown Central Area
Burlington - Mixed Use Corridor	Burlington - Intensification Areas (IBI Recommended)
Burlington - Intensification Areas	Markham - Markham Centre
Markham - Markham Centre	Newmarket - Urban Centre Zones
Newmarket - Urban Centre Zones	Newmarket - Historic Downtown Urban Core Zone
Newmarket - Historic Downtown Urban Core Zone	Newmarket - Urban Centres
Newmarket - Urban Centres	Oakville - North Oakville
Oakville - North Oakville	Toronto - PA2/Bicycle Zone 2
Oakville - Midtown	Toronto - PA3
Toronto - PA2/Bicycle Zone 2	Toronto - PA4
Toronto - PA3	Toronto - PA1/Bicycle Zone 1
Toronto - PA4	Vaughan - Vaughan Metropolitan Centre
Toronto - PA1/Bicycle Zone 1	Vancouver - General
Vaughan - Vaughan Metropolitan Centre	Ottawa - Area A - Central
Vancouver - I-3	Ottawa - Area A - Central, 600m of a Rapid Transit Station
Vancouver - Downtown	Ottawa - Area B - Inner City, 400-800m walk from Rapid Transit
Vancouver - General	Ottawa - Area C - Suburban, 400-800m walk from Rapid Transit
Ottawa - Area A - Central	Ottawa - Area D - Suburban, 400-800m walk from Rapid Transit
Ottawa - Area A - Central, 600m of a Rapid Transit Station	Hamilton - Mixed Use Zone
Ottawa - Area B - Inner City, 400-800m walk from Rapid Transit	Hamilton - Transit Oriented Corridor
Ottawa - Area C - Suburban, 400-800m walk from Rapid Transit	Kitchener - Urban Growth Centre
Ottawa - Area D - Suburban, 400-800m walk from Rapid Transit	Kitchener - General
Kitchener - Urban Growth Centre	Kitchener - Mixed Use Zone
Kitchener - General	
Kitchener - Mixed Use Zone	



### 1.1.2 ACCESSIBLE PARKING REQUIREMENTS

Table 3.1.3.1 of the City of Mississauga Zoning By-law 0225-sets out the number of accessible parking spaces required by land use and location. The By-law table is summarized in Exhibit 1-15. Exhibit 1-15 compares the City's requirements with the requirements of the Accessibility for Ontarians with Disabilities Act (AODA). As shown there is no difference in the Table indicating the City's requirements matches the AODA requirements.

It is important to note that the AODA requirements are minimum standards, but additional accessible spaces are encouraged in developments where a higher than average number of accessible users is anticipated. Examples of such developments include seniors' housing, seniors' facilities and hospitals.

#### Exhibit 1-15 – Accessible Parking Spaces Requirements

Total Number of Required Parking Spaces	Minimum Number of Accessible Parking Spaces (Mississauga)	Minimum Number of Accessible Parking Spaces (AODA)
12 or less	1	1
13 – 100	4% of the total <sup>1&amp;2</sup>	4% of the total <sup>1&amp;2</sup>
101 – 200	1 space plus 3% of the total <sup>2</sup>	1 space plus 3% of the total <sup>2</sup>
201 – 1000	2 spaces plus 2% of the total <sup>2</sup>	2 spaces plus 2% of the total <sup>2</sup>
More than 100	11 spaces plus 1% of the total <sup>2</sup>	11 spaces plus 1% of the total <sup>2</sup>

Notes:

1. Where only 1 accessible parking space is required, a Type A accessible parking space shall be provided.
2. Where more than 1 accessible parking space is required:
  - if an even number of accessible parking spaces is required, an equal number of Type A and Type B accessible parking spaces must be provided.
  - if an odd number of accessible parking spaces is required, an equal number of Type A and Type B accessible parking spaces must be provided and the odd space may be a Type B accessible parking space.

Source: Zoning By-law 0225-2007, City of Mississauga, 2007

---

### 1.1.3 BICYCLE PARKING STANDARDS

Mississauga currently has no enforceable bicycle parking standards.

Bicycle parking requirements were recommended in the first Mississauga Cycling Master Plan (2010) and in the recently completed 2017 Mississauga TDM Strategy and Implementation Plan. As the mandatory provision of bicycle parking and end of trip facilities for cyclists is considered a contribution to encouraging cycling and can reduce the demand for vehicular parking, the City should adopt a provision for bicycle parking and end of trip facilities for cyclist.

**It is recommended that:**

- The current Zoning By-law be revised to include bicycle parking requirements for relevant land uses. The requirement should be differentiated by location as per the proposed Precinct system.

---

### 1.1.4 PARKING DESIGN STANDARDS

Part 3 of the City's Zoning By-law 225-2007 sets out parking design standards for minimum parking space and aisle width. Exhibit 1-16 compares the By-law's standards to the standards set out by the Transportation Association of Canada (TAC), AODA and the City's 2015 Facility Accessibility Design Standard.

Exhibit 1-16 shows that the City's By-law standards are the same as the other standards except for minimum parking space dimensions and minimum dimensions for parallel parking space. The 2015 Facility Accessibility Design Standard for minimum parking space dimensions are 5.2m by 2.4m which is slightly narrower in width than AODA and the minimum dimensions for parallel parking space is 5.75m by 4.6m, which is wider in width but shorter in length compared to AODA.

As the City's current parking design standards for parking spaces comply with typical industry recommendations and government specifications or guidelines, revisions are not necessary at this stage.

### Exhibit 1-16 – Parking Design Standards Review

	Mississauga By-law 225-007 provision Dimension(s)	TAC	AODA	2015 Facility Accessibility Design Standard
<b>Minimum Parking Space Dimensions</b>	5.2m x 2.6m <sup>1</sup>	5.2m x 2.6m <sup>1</sup>	5.2m x 2.6m <sup>1</sup>	5.2m x 2.4m (Accessible)
<b>Minimum Dimensions for Parallel Parking Space</b>	6.7m x 2.6m	6.7m x 2.6m	6.7m x 2.6m	5.75m x 4.6m <sup>2</sup> (Accessible)
<b>Parking Space Aisle Width</b>	7.0m	7.0m	7.0m	N/A
<b>Parking Space Aisle Width (One-way, parking angle not exceeding 60°)</b>	5.5m	5.5m	5.5m	N/A
<b>Type A Accessible Parking Space Dimensions</b>	5.2m x 3.4m <sup>2</sup>	5.2m x 3.4m <sup>2</sup>	5.2m x 3.4m <sup>2</sup>	5.2m x 3.4m <sup>2</sup>
<b>Type B Accessible Parking Space Dimensions</b>	5.2m x 2.4m <sup>2</sup>	5.2m x 2.4m <sup>2</sup>	5.2m x 2.4m <sup>2</sup>	5.2m x 2.4m <sup>2</sup>

Notes:

1. Width increased to 2.75m if the length of one side of parking space abuts a structure that extends 1m or less into the front and or rear of the parking space, 2.9m if both sides
2. A 1.5m wide access aisle abutting the entire length (or width for parallel parking spaces) of the accessible parking spaces need to be maintained

Source: Zoning By-law 0225-2007, City of Mississauga, 2007

The Zoning By-law requires parking spaces be provided and clearly identified and marked by permanent lines and markings painted on the paved surface. Parking spaces must also be maintained.

#### 1.1.5 SHARED PARKING

Where peak parking time periods for the same, adjacent or nearby parking spaces vary due to the mix of land uses, it may be possible to implement Shared Parking to reduce the total number of parking spaces required at the site. For example, land uses such as offices, restaurants, retail, and institutional may be able to share the parking supply if the peak parking demand for the different land uses occurs at different times of the day. The parking requirements of office and institutional land uses may peak for the 9 a.m. and 5 p.m. (Monday to Friday) period, restaurants may peak in the evening with a smaller increase at mid-day, and retail may peak in the evening and on weekends with increases in the afternoon. In such situations, parking requirements can be determined by examining the peak parking demand of each land use and then calculating peak parking demand if shared parking is implemented. The number of parking spaces required is reduced compared with applying the minimum requirement for each land use.

Exhibit 1-17 shows peak parking occupancy rates for ten major land uses for three time periods on weekdays and at weekends.

**Exhibit 1-17 – Peak Parking Occupancy Rates per Land Use**

Land Use	Monday to Friday	Monday to Friday	Monday to Friday	Saturday & Sunday	Saturday & Sunday	Saturday & Sunday
	8am-5pm	6pm-12am	12am-6am	8am-5pm	6pm-12am	12am-6am
Residential	60%	100%	100%	80%	100%	100%
Office/Warehouse /Industrial	100%	20%	5%	5%	5%	5%
Commercial	90%	80%	5%	100%	70%	5%
Hotel	70%	100%	100%	70%	100%	100%
Restaurant	70%	100%	10%	70%	100%	20%
Movie Theatre	40%	80%	10%	80%	100%	10%
Entertainment	40%	100%	10%	80%	100%	50%
Conference/Convention	100%	100%	5%	100%	100%	5%
Institutional (non-church)	100%	20%	5%	10%	10%	5%
Institutional (church)	10%	5%	5%	100%	50%	5%

*Source: Shared Parking Facilities Among Multiple Users, Victoria Transport Policy Institute, 2015*

However, *Shared Parking by the Urban Land Institute* (ULI) provides a comprehensive list of peak parking periods for different land uses, this is the typical industry standard for shared *parking*. The list is reproduced in Attachment 1.

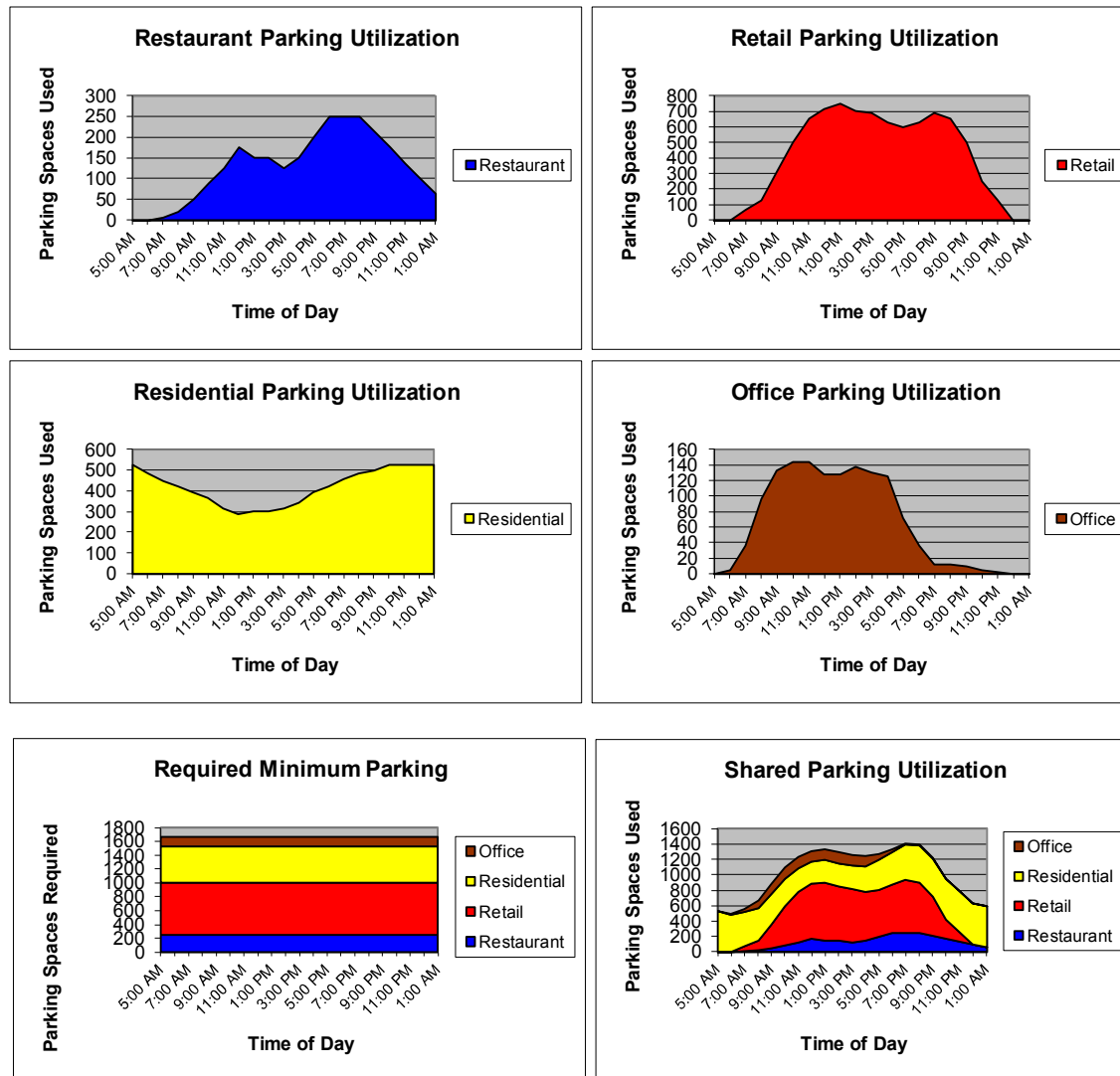
Exhibit 1-18 is an example showing daily parking for patterns for restaurant, retail, residential, and office land uses, the minimum number of parking spaces according to the standard for each land use, the combined demand for parking through the day, and the calculations for determining the number of shared parking spaces required to satisfy the demand.

The example indicates that applying typical Zoning By-law minimum parking standards for each land use results in a site parking requirement of 1,670 spaces. The shared parking approach requires 1,409 spaces, a saving of 261 spaces or 16 percent.

Exhibit 1-18 shows that shared parking achieves an estimated reduction in impervious cover of 7,747 sq. m, a significant saving and reduction in the environmental impact of parking. Such savings can be achieved on-site or on an area-wide basis.

## Exhibit 1-18 – Calculating Shared Parking

### How and When Each Use Type Utilizes Required Parking



	Size of Project	Parking Requirement	Spaces Required
Retail	300,000 (sq. ft. GFA)	2.50 (per 1000 sq. ft. GFA)	750
Restaurant	50,000 (sq. ft. GFA)	5.00 (per 1000 sq. ft. GFA)	250
Office	50,000 (sq. ft. GFA)	2.89 (per 1000 sq. ft. GFA)	145
Residential	350 (# bedrooms)	1.50 (per bedroom)	525

#### Results:

**Total Spaces following Minimum Requirements:** 1,670  
**Total Spaces if Shared Parking is Permitted:** 1,409  
**Total Reduction in Spaces using Shared Parking:** 261  
*(Estimated Reduction in Impervious Cover: 7,747 Sq. M)*

Source: <https://metrocouncil.org/Communities/Services/.../Shared-parking-calculator.aspx>

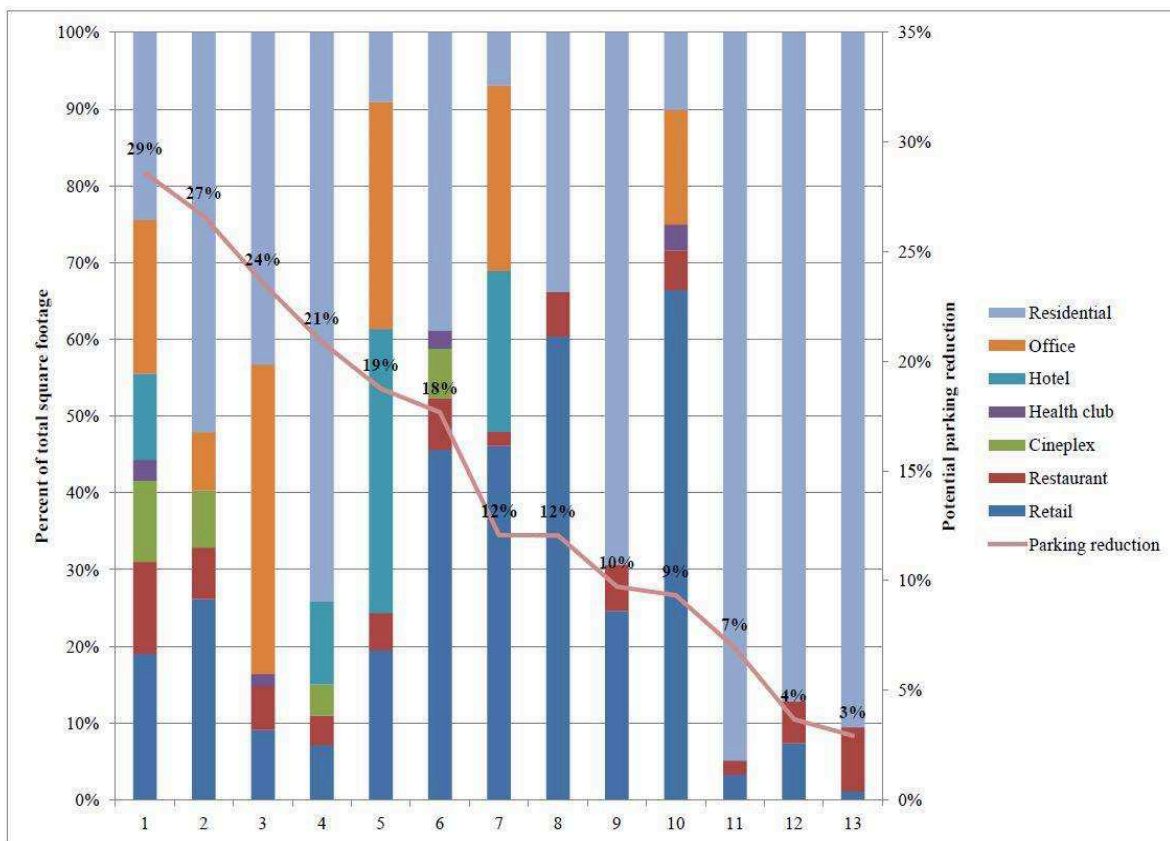
Exhibit 1-19 provides 13 case study examples of how shared parking can reduce the number of parking spaces required. The example is based on the ULI shared parking values. Each case study is based on different land use combinations.

The left vertical axis shows the percentage of total square footage. The right vertical axis shows the potential percentage reduction in parking space achieved by using a shared parking approach rather than a minimum parking standard approach.

There is great variation in the savings achieved in the different case studies. For examples, Case study 1 achieves a 29 percent reduction whereas Case study 13 achieves a reduction of 3 percent.

The case studies suggest that a diverse mix of uses can significantly reduce the number of parking spaces required in a development.

#### Exhibit 1-19 – Case studies Comparing Parking Requirements and Savings Achievable with 13 Land Use Combinations



Source: *Parking Strategies for Suburban Mixed-Used Developments*, Erin Michelle Puckett, 2013

The City of Mississauga understands the importance of shared parking and includes shared parking in the City's Zoning By-Law 0225-2007. Exhibit 1-20 shows the City's current shared parking table. The table identifies peak parking occupancy and is used to allow sites where the parking demand of different land uses peaks at different times to share parking spaces.

**Exhibit 1-20 – Shared Parking Table, Zoning By-Law 0225-2007**

Column	A	B	C	D	E
Line 1.0	TYPE OF USE	PERCENTAGE OF PEAK PERIOD (WEEKDAY)			
		Morning	Noon	Afternoon	Evening
1.1	Office / Medical Office / Financial Institution	100	90	95	10
1.2	Retail Centre / Retail Store / Personal Service Establishment (0379 – 2009)	80	90	90	90
1.3	Restaurant / Convenience Restaurant / Take-out Restaurant	20	100	30	100
1.4	Overnight Accommodation	70	70	70	70
1.5	Residential – Resident Residential - Visitor	90 20	65 20	90 60	100 100

Source: Zoning By-law 0225-2007, City of Mississauga, 2007

Retail areas are commonly involved in requests for shared parking in mixed-use developments. Exhibit 1-21 compares Mississauga's shared parking retail space occupancy rates for four weekday time periods with the rates adopted by seven other municipalities. The Exhibit also shows the eight municipalities' average occupancy rate for each time period and the industry standard ULI Shared Parking occupancy rate. Exhibit 1-22 presents the same data in a set of bar graphs.

Exhibit 1-22 show that the City's shared parking rate for retail is generally higher than the rate adopted by the other municipalities (especially in the case of the morning and noon hours. The City's rates are, however, 5 to 10 percent lower than the ULI rates.

Further studies and investigations are needed to explain the reason(s) for the differences. These studies could be conducted during the Zoning By-law review. One possible reason is different definitions of individual land uses. It is clearly important to define land uses and land use categories clearly to avoid uncertainty in applying the parking rates. Fortunately, the City's is generally clear on parking percentages and shared parking for different land uses and land use categories. Some other municipalities are less clear.

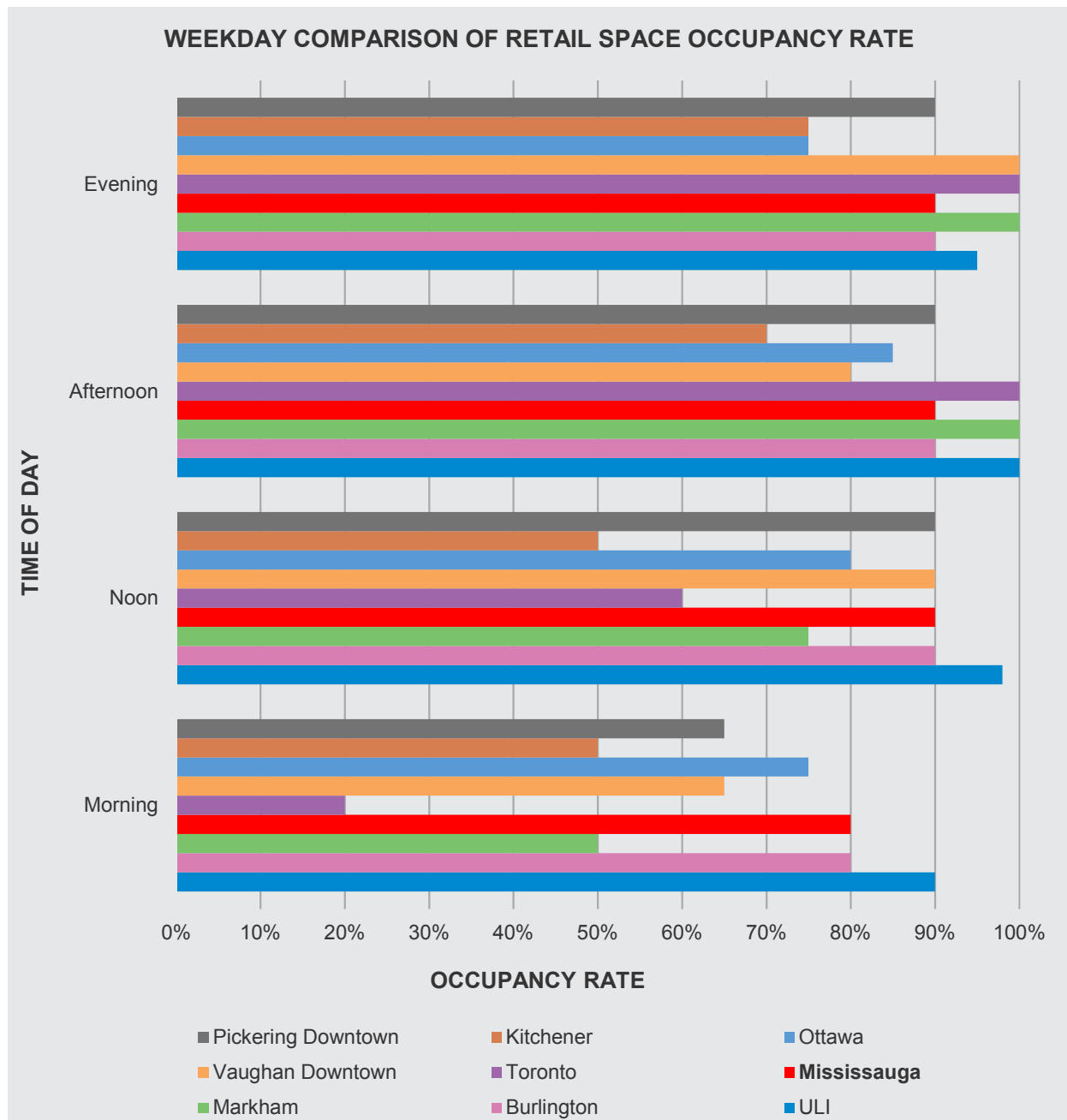


**Exhibit 1-21-Retail Space Parking Occupancy Rates for Four Weekday Time Periods: Comparison of Mississauga, seven Other Municipalities, and ULI Standard**

Weekday Comparison of Retail Space Occupancy Rate				
Municipality	Morning (7:00-11:59am)	Noon (12:00-12:59 pm)	Afternoon (1:00-4:59pm)	Evening (5:00-9:00pm)
ULI	90%	98%	100%	95%
Burlington	80%	90%	90%	90%
Markham	50%	75%	100%	100%
<b>Mississauga</b>	<b>80%</b>	<b>90%</b>	<b>90%</b>	<b>90%</b>
Toronto	20%	60%	100%	100%
Vaughan Downtown	65%	90%	80%	100%
Ottawa	75%	80%	85%	75%
Kitchener	50%	50%	70%	75%
Pickering Downtown	65%	90%	90%	90%
Municipal Average	58%	76%	88%	90%

Source: *Municipal Zoning By-law*

Exhibit 1-22 – Retail Parking Weekday Utilization Comparison - Graph



### Recommendations:

- The City's Zoning By-law review should examine current shared parking categories to determine whether additional land uses and land use categories should be added.
- The City should review current parking occupancy percentages to determine whether the percentages should conform to ULI percentages or be based on local rates derived from proxy surveys and or other local sources.

### 1.1.6 PAYMENT-IN-LIEU OF PARKING PROGRAMS

Payment-in-lieu (PIL) of parking refers to a program that relieves developers from building a portion of the parking supply stipulated in the Zoning By-law. Instead of providing the parking spaces, developers contribute to a fund intended to support the development of a centralized public parking lot or garage, or possibly other transportation improvements within the area. PIL is common in many cities' downtown and other urban areas where opportunities for building off-street parking are limited.

Payment-in-lieu policy is designed to support intensification by promoting modes of transportation that are more environmentally sustainable than driving. The intention is to reduce the need for parking spaces by encouraging people to take transit, walk, cycle or use ride-share services instead of driving to businesses and other destinations in the PIL area.

The key principle underlying PIL is the transfer of the responsibility to provide parking from the property owner to the municipality.

The factors considered when determining whether PIL is appropriate generally include one or more of the following:

- PIL will allow key planning objectives to be realized for the development and for the area.
- On-site parking is not physically possible or less desirable than shared public parking facilities.
- The local parking supply can accommodate the on-site parking deficiency without undue adverse impacts and without spill-over into residential areas.
- The municipality has developed a strategy to increase the supply of publicly accessible short-term parking in the area.
- The onus is on the applicant to justify PIL.
- The payment reflects an agreed portion of the cost of public parking assumed by the municipality.

A PIL program requires three elements to operate effectively:

- A PIL policy that lays out and adopts a consistent approach.
- A formal stipulation of the appropriate financial contribution from the body that administers the policy and collects the funds. An example might be a cost per parking space.
- A clear decision mechanism for the municipality's acceptance or rejection of each PIL application. The PIL application is usually part of the development application.

The following discusses PIL programs under four headings:

- Payment-in-lieu in Mississauga.
- Payment in lieu approaches in other Canadian municipalities.
- Comparison of Mississauga's payment-in-lieu fees with true cost of parking spaces.
- Application of payment-in-lieu in Mississauga and other Canadian municipalities.

## PAYMENT-IN-LIEU IN MISSISSAUGA

The City's Payment-In-Lieu of Parking Program (effective April 2016) "permits a building owner or tenant to make an application to the City to provide payment-in-lieu of parking, exempting the owner or tenant from providing or maintaining parking facilities in accordance with the applicable Zoning By-law." The policy also states that "Monies accepted through the PIL program will be placed in the respective PIL reserve accounts and will be used for the acquisition, establishment and or maintenance of municipal parking facilities in the area from which funds were collected." The PIL Program is applicable in all areas of the city where municipal (on and or off-street) parking is provided. The City uses two evaluations schemes for PIL applications:

- Under **Part A**, an application for PIL is evaluated using criteria that assess the appropriateness of the proposed development and the adequacy of the existing public parking supply to offset the proposed on-site parking deficiency.
- Under **Part B**, the City may request PIL where limited or no municipal parking facilities are available. In this case, the evaluation will have regard for the City's interest in providing municipal parking, the viability of the site and its surrounding area during the interim before municipal parking becomes available, and the timing and adequacy of the future municipal parking supply to address the public parking needs to be created by the application of PIL.

The Planning and Building Department and its Commissioner are responsible for processing PIL applications, preparing the terms and conditions of PIL approval, and executing agreements for PIL of ten parking spaces or less. Authority from Council is required for the execution of agreements for PIL of more than 10 parking spaces. For applications not supported by the Planning and Building Department, a report from the Commissioner is prepared for consideration by the Planning and Development Committee and Council.

Exhibit 1-23 shows the PIL contribution formula for three categories of development.

#### Exhibit 1-23 – PIL Contribution Formula

Development Related to PIL Application		Developer/Proponent Contribution
Change in land use or conversion of an existing building/structure or part thereof.	Category 1: Up to 50 <sup>2</sup> GFA	12.5% of the estimated cost of parking
	Category 2: Up to 200 <sup>2</sup> GFA	25% of the estimated cost of parking
	Category 3: Over 200 <sup>2</sup> GFA	50% of the estimated cost of parking
New development, redevelopment, and addition to existing building/structure		50% of the estimated cost of parking
The estimated cost of parking is based on the Planning Act Processing Fees and Charges By-law, and the Surface Parking Formula and Standard Parking Formula Contained in Appendix A of the Corporate Policy		

*Note: GFA-Gross Floor Area*

Mississauga's Planning Act Processing Fees and Charges By-Law 0160-2017, Schedule A to By-law 0160-2017 provides the required fee per parking space. The fee depends on the Category shown in Exhibit 1-23 and the location within the city.

The cost is estimated using formulae that consider: the construction cost of a surface or structured parking space; provisions for driveways, aisles, columns, and ramps; the estimated land value in the subject area; and the number of parking spaces for which PIL is sought.

Exhibit 1-24 summarizes the applicant's PIL contribution for a change in land use application.

Exhibit 1-25 summarizes the developer or proponent's PIL contribution for a new development application.

### Exhibit 1-24 – Cost of Payment-In-Lieu per Parking Space in Land Use Applications

Payment-In-Lieu (PIL) of Parking (including Delegation)						
Processing Fee		\$800.00/application				
(A) A Change in Land Use or the conversion of an Existing Building or Structure or part thereof:						
	Amount Payable Per Surface Parking Space		Amount Payable Per Above Grade Structured Parking Space		Amount Payable Per Below Grade Structured Parking Space	
Category 1: Where the gross floor area equals or is less than 50 m <sup>2</sup> , 1.5% of the estimated cost of parking spaces	City Centre	\$1,776	City Centre	\$3,538	City Centre	\$4,788
	Port Credit	\$2,675	Port Credit	\$3,798	Port Credit	\$5,048
	Clarkson	\$2,365	Clarkson	\$3,708	Clarkson	\$4,958
	Streetsville	\$2,210	Streetsville	\$3,663	Streetsville	\$4,913
	Cooksville	\$2,055	Cooksville	\$3,618	Cooksville	\$4,868
	Other Areas	\$1,776	Other Areas	\$3,538	Other Areas	\$4,788
Category 2: Where the gross floor area exceeds 50 m <sup>2</sup> but equals or is less than 200 m <sup>2</sup> , 25% of the estimated cost of parking spaces	City Centre	\$3,552	City Centre	\$7,075	City Centre	\$9,575
	Port Credit	\$5,350	Port Credit	\$7,595	Port Credit	\$10,095
	Clarkson	\$4,730	Clarkson	\$7,416	Clarkson	\$9,916
	Streetsville	\$4,420	Streetsville	\$7,326	Streetsville	\$9,826
	Cooksville	\$4,110	Cooksville	\$7,237	Cooksville	\$9,737
	Other Areas	\$3,552	Other Areas	\$7,075	Other Areas	\$9,575
Category 3: Where the gross floor area exceeds 200 m <sup>2</sup> , 50% of the estimated cost of parking spaces	City Centre	\$7,104	City Centre	\$14,150	City Centre	\$19,150
	Port Credit	\$10,700	Port Credit	\$15,191	Port Credit	\$20,191
	Clarkson	\$9,460	Clarkson	\$14,832	Clarkson	\$19,832
	Streetsville	\$8,840	Streetsville	\$14,653	Streetsville	\$19,653
	Cooksville	\$8,220	Cooksville	\$14,473	Cooksville	\$19,473
	Other Areas	\$7,104	Other Areas	\$14,150	Other Areas	\$19,150

### Exhibit 1-25 – Cost of Payment-In-Lieu per Parking Space in New Development Application

Payment-In-Lieu (PIL) of Parking (including Delegation)					
(B) New Developments, Redevelopments, and Additions to Existing Buildings and Structures, 50% of the estimated cost of parking spaces					
Amount Payable Per Surface Parking Space		Amount Payable Per Above Grade Structured Parking Space		Amount Payable Per Below Grade Structured Parking Space	
City Centre	\$7,104	City Centre	\$14,150	City Centre	\$19,150
Port Credit	\$10,700	Port Credit	\$15,191	Port Credit	\$20,191
Clarkson	\$9,460	Clarkson	\$14,832	Clarkson	\$19,832
Streetsville	\$8,840	Streetsville	\$14,653	Streetsville	\$19,653
Cooksville	\$8,220	Cooksville	\$14,473	Cooksville	\$19,473
Other Areas	\$7,104	Other Areas	\$14,150	Other Areas	\$19,150
<b>Full Payment</b>	Lump sum payment as calculated with PIL Agreement, in accordance with the <i>Planning Act</i>				
<b>Installment Payments</b>	Upfront payment and a Letter of Credit with PIL Agreement, in accordance with the <i>Planning Act</i> : <ul style="list-style-type: none"> <li>• Minimum upfront payment</li> <li>• A Letter of Credit to include the remaining payment(s) plus interest payment (based on prime rate plus 1.5% per annum)</li> <li>• Maximum payment period – three years</li> <li>• Maximum number of installments – three</li> </ul> See Corporate Policy and Procedure, Policy No. 07-09-01 for details				

PIL payments up to \$15,000 are paid in one lump sum prior to the execution of the PIL agreement. For larger payments, requests for instalment payments are considered. PIL contributions are tracked by property in the City's Mississauga Approvals Express (MAX) system. Funds collected are placed in the respective PIL reserve accounts for use in the areas from which they were collected.

### PAYMENT IN LIEU APPROACHES IN OTHER CANADIAN MUNICIPALITIES

PIL is not used by all municipalities in Canada, but many have adopted a PIL option. Examples of the various approaches include:

- **City of Barrie, ON:** Barrie has increased its PIL fees from \$2,500 to \$15,000 per space to cover 50% of the construction costs of each parking space. The fees are reviewed every five years. The income from the fees is intended to fund the construction of parking structures when parking occupancy rates approach 85% of existing parking supply.



- **City of Cambridge, ON:** Cambridge's PIL fees apply to commercial developments in the downtown core areas. (Cambridge has three downtown core areas: Galt, Preston and Hespeler). However, the PIL option is generally not applied as the City's zoning does not require parking in most of the core areas and the outer limits of the core area are permitted a 25% reduction in parking requirements. When the PIL option is applied, the City uses a fixed fee of \$10,000 per space. The PIL option is administered by the Planning Services Department and is not regularly reviewed. The City's Zoning By-law is under review and the PIL option will be included in the review.
- **City of Hamilton, ON:** Hamilton has a PIL option, but the option has not been exercised since 2004. Between 1989 and 2004, there were only ten applications. The PIL option has been only rarely used in the downtown core. Most developers/builders go through the Committee of Adjustment or rezoning applications to ask for variances (likely because costs are less). The City generally quotes approximately \$10,000 per parking space and charges the applicant half of the quote. Payments can be made in instalments. PIL funds are accumulated in a reserve fund, which can be used anywhere in the City (not just the area where the development has occurred).
- **City of Ottawa, ON:** Ottawa adopted a PIL policy in 1968. The goal of Ottawa's PIL option was not to increase the number of parking spaces, but to support alternative forms of transportation. Payment-in-Lieu applications were approved by staff if (1) the surrounding area could support the on-site parking deficiency; (2) site constraints legitimately limited the ability to provide parking; (3) the proposed development was not considered excessive for the site; (4) there was no negative impact on the liveability of adjacent residential areas; and (5) application was in line with other planning objectives. The City repealed its PIL By-law in 2013. A staff report in 2013 noted that it was more common for Ottawa to agree to reductions in parking through minor variances granted by the Committee of Adjustment or by Zoning By-law Amendments rather than through Payment-in-Lieu of parking options.

- **City of Calgary, AB:** Calgary had a PIL program until 2017. The City has a maximum planning requirement for downtown commercial parking of one space per 1,500 square feet/140 m<sup>2</sup> of gross floor area. The maximum is higher elsewhere in the City. Developers were only permitted to construct one-half of the required spaces. PIL for the remaining 50 percent were paid to the City to fund public parking spaces. The rate was increased from time to time by the City to reflect increasing costs. The PIL program was very effective as it guaranteed PIL income for many years during the downtown area's substantial growth. Public parking in Calgary is managed by the Calgary Parking Authority (CPA). (In 1994, the CPA was also empowered to enforce parking regulations.) Using PIL funds accumulated by the CPA since 1979, the City constructed more than 4,500 shared-use parking spaces (in three major parking facilities). These spaces are about 18 percent of the overall downtown supply.<sup>2</sup> There are no further plans to increase the downtown public parking supply.<sup>3</sup> More than 10,000 park and ride spaces have been constructed in suburban areas as Calgary strives to encourage the use of higher order transit. A new parking policy adopted in 2017 as part of the Integrated Downtown – Transit Oriented Development Parking Strategy, abolished the PIL program.
- **City of Vancouver, BC:** Vancouver approves PIL of parking spaces under its Parking By-Law. PIL started in 1986 for industrial/commercial uses. Residential uses were added in 2009. Since 2015, the City has accepted \$20,200 per space, a fee “based on the present value cost to construct and maintain a parking space in City facilities less the present value of future revenue from the space.”<sup>4</sup> The funds collected are placed in a Pay-in Lieu Parking Reserve until allocated to off-street parking or sustainable transportation infrastructure projects in support of walking and cycling. Vancouver sets parking minimums and maximums, and has also proposed a commuter parking ceiling 34,000 spaces in the downtown.<sup>5</sup>
- **City of Regina, SK:** Regina's Zoning By-law (Section 14; Section 3.15) includes PIL provisions which permit the City, at its own discretion, to waive all or part of the parking requirements in the Downtown Zone and the Dewdney Avenue Warehouse Zone. The PIL fees were stated in 1992 dollars: \$7,000 per waived space in the Downtown Zone, and \$2,500 per waived space in the Dewdney Avenue Warehouse Zone. With inflation adjustments, the 1992 values rose to \$11,000 and \$3,900 respectively. Parking requirements have been reduced by 50% in the Dewdney Avenue Warehouse Zone (mainly because of lack of space).<sup>6</sup>

<sup>2</sup> The city of Calgary, A Parking Policy Framework for Calgary, 2011, p. 6-6-7.

<sup>3</sup> Calgary Parking Authority, “Is the CPA planning to add more parking spaces to the downtown core?” About the CPA Frequently Asked Questions, Online.

<sup>4</sup> The city of Vancouver, “Application for Payment-In-Lieu of Parking at 219 East Georgia Street,” Administrative Report, April 27, 2015

<sup>5</sup> Wali Memon, M.Eng., P. Eng, City of Vancouver Parking By-Law – A Recital of Sustainable Parking Policies, Paper presented at the 2009 Annual Conference of the Transportation Association of Canada Vancouver BC

<sup>6</sup> City of Regina, *Official Community Plan - Part B.13 Warehouse District Neighbourhood Plan*, 2014, p. 9n.

## COMPARISON OF MISSISSAUGA'S PAYMENT-IN-LIEU FEES WITH TRUE COST OF PARKING SPACES

The above Section's discussion suggests that most Canadian municipalities charge PIL fees that cover only a fraction of the full cost incurred when a municipality assumes the cost of providing public parking, but the PIL literature's view is that the fee charged should reflect the true cost.

Mississauga is unusual. The City has a robust PIL policy and PIL fees that vary with the type of parking facility and location to reflect the land value in the development for which the relief is sought.

However, Exhibit 1-26 suggests that the City's current PIL fees are well below the cost of a space in an above or below ground structure. This may be due to underestimation of the land value. In the case of surface lot parking, current PIL fees appear to be higher than the cost of a parking space.

### Exhibit 1-26 – Comparison Between Mississauga's Payment-In-Lieu Fees and Typical Capital and Operating Costs for Parking Spaces by Parking Type

Type	Mississauga PIL 50%	Mississauga PIL (100%)	Cost (\$ per space for capital)	Annual Operating Fee
Above Ground Structure	\$14,575	29,150	\$44,000	\$250-\$350
Above Ground Pre-Fab Steel	N/A	N/A	\$20,000	\$250-\$350
Below Ground Structure	\$19,575	\$39,150	\$62,500	\$350-\$500
Surface Lot Space	\$8,571	\$17,150	\$6,250	\$150-\$250

Source: Transform

## APPLICATION OF PAYMENT-IN-LIEU IN MISSISSAUGA AND OTHER CANADIAN MUNICIPALITIES

The City of Mississauga currently applies PIL only to non-residential land uses. This is typical of the approach followed by other municipalities, but several jurisdictions now include residential parking in their PIL programs. The addition of residential parking would be particularly beneficial in mixed-use areas, locations where the City encourages non-auto trips, and locations where the opportunity cost of using land for parking is high especially when total societal costs are fully considered. To gain the benefits of PIL for residential parking, the City should consider adding residential land use to its PIL program. The issue can be investigated during the Zoning By-Law review.

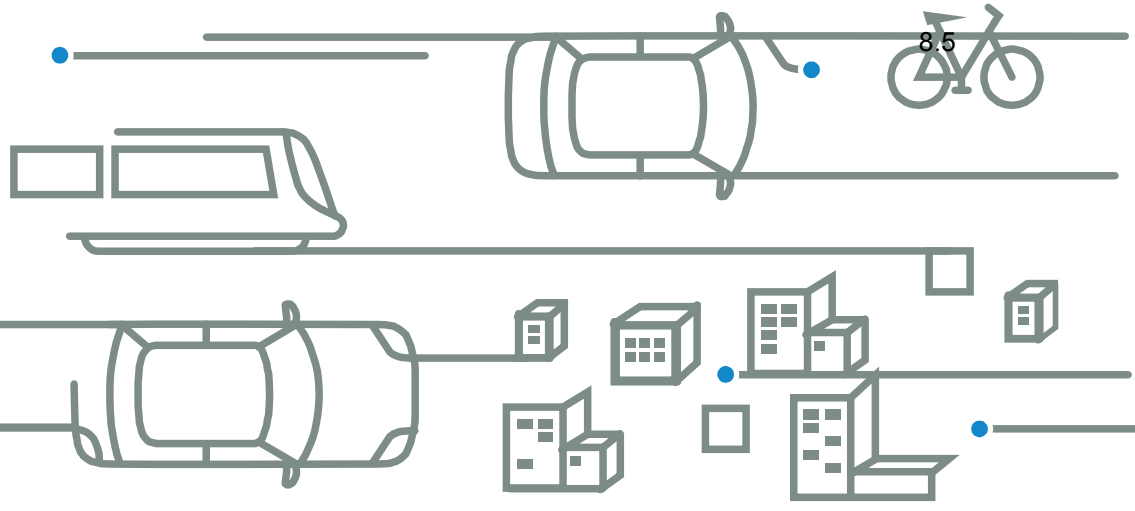
### 1.1.7 SUMMARY

Apart from downtown, Mississauga's current Zoning By-law for minimum parking requirements applies to the entire city. Existing requirements do not reflect the City's vision for a city that is more multimodal and less dependent on car travel. The By-law's requirements do not account for:

- Availability and frequency of transit.
- Available off-site parking supply.
- Transportation Demand Management measures within an area.
- Maximum parking provisions for relevant land uses.
- Implementation of parking provisions based on a Precinct approach recommended.
- All these issues should be addressed.

#### **Recommendations:**

- If the Precinct approach is adopted, the City needs to incorporate the Precinct approach into the current Zoning By-law by making the appropriate revisions. The revisions should include updated parking rates for each land use on a Precinct basis. The City should also consider adjusting parking rates to take into account:
  - Locations with high transit service, good walkability, a good Active Transportation network, and public parking available.
  - Parking maximum be established for all Precincts.
- When reviewing and updating the Zoning By-law, the City should consider information sources such as:
  - Policy and Best Practices Review Mississauga Parking Master Plan and Implementation Strategy.
  - High Cost of Free Parking (Donald Shoup).
  - Mobility Hub Guidelines for the Greater Toronto and Hamilton Area, Metrolinx. 2011.
  - Parking Management, Strategies, Evaluation and Planning (Victoria Transport Policy Institute (2016).
  - Review of cities reforming minimum parking and introducing maximums (WSP, September 9, 2017).
- The City should review and revise the PIL program by:
  - incorporating current construction cost and land cost.
  - Including residential land use.
- The City should conduct:
  - Best Practice reviews of jurisdictions that are similar and have undertaken a comprehensive Zoning By-Law review of their parking requirements and implemented changes.
  - A series of proxy surveys to identify actual parking demand rates. The surveys should be conducted at key locations in Mississauga and jurisdictions with similar with mature transit service.



*PARKING MATTERS*



# APPENDIX 4-1 ON-STREET PARKING REGULATIONS REVIEW

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

# 1 ON-STREET PARKING REGULATIONS

---

## 1.1.1 ON-STREET PARKING

On-street parking is a critical part of addressing parking needs in the City. Three different sections of the Transportation and Works department manage on-street parking:

- Parking Enforcement administers short-term, long-term, blanket commercial, blanket residential, and accessible parking permits. Parking enforcement also generally takes the lead in relation to citywide By-law changes affecting parking on, for examples, holy days, holidays and overnight restrictions.
- Municipal Parking administers on-street paid parking, Public Daytime Parking Permits and the Industrial Permit Parking Program.
- Traffic Management administers the Traffic By-law and the Resident Parking Petition process (For example, Lower Driveway Boulevard Parking and 15-hour Exceptions)).

The spreading of on-street parking administration among multiple sections makes a balanced, consistent, coordinated, and holistic approach difficult to achieve.

Section 1.1.1 discusses on-street parking under three headings: The Traffic By-law, the resident parking petition process, and parking permits.

### TRAFFIC BY-LAW

The City of Mississauga Traffic By-Law 555-00 governs all aspects of on-street parking including parking restrictions and enforcement, heavy vehicle parking, meter parking, and boulevard parking. The boulevard is defined as the portion of the driveway between the property line or sidewalk and the road.

The parking time limit on city streets is currently five hours unless otherwise stated, but the City can waive the five hours limit for maintenance activities or special considerations. The City can also temporarily remove signs prohibiting parking and stopping.

Accessible parking for disabled persons is provided in designated on-street parking spaces where a valid Disabled Persons Parking Permit issued by the Ministry of Transportation must be displayed in or on the vehicle. The maximum parking time for these spaces is 24 hours, and fees are waived for on-street meter parking during regular hours.

Heavy vehicles are not allowed to park on residential streets. The restriction is in the interest of safety, traffic flow, protection of the road pavement, and aesthetics. Any vehicle weighing more than 3,000 kg is defined as a heavy vehicle. School buses are an exception to the heavy vehicle restrictions.

Traffic By-law 555-00's regulations cover the following parking and curbside management topics:

- Standard Parking Prohibitions on City roads
- Standard Stopping Prohibitions on City roads
- Statutory Holiday Exceptions to Parking Prohibitions
- Permit Parking Regulations
- Angle Parking Regulations
- Off-Street Parking Lot Regulations
- Parking Meter Control and Parking Machines
- Commercial Motor Vehicle and Heavy Vehicle Parking Regulations
- Loading Zone Regulations (For example, Taxi, School Bus, Commercial Vehicle)
- Accessible Parking Regulations.

The Traffic By-law makes the following general provisions unless over-ridden by local signs:

- Parking for more than five hours is not allowed on City roads.
- Parking beyond the 5-hour limit is allowed between 8am and midnight and on all statutory holidays.
- Parking between 2am to 6am is prohibited year-round on City roads.
- Parking is prohibited in the boulevard.

## RESIDENT PARKING PETITION PROCESS

Residents may request exceptions to the general provisions of the Traffic By-law and specific changes to the parking regulations on their street. The City's Traffic Management Section's Resident Parking Petition process administers the process.

To apply for a change in the existing by-law, a resident must obtain signatures of support from more than half of residents of the homes on the affected street. After receiving the petition and undertaking a detailed technical review of the request, the Transportation and Works Department advises the resident whether City staff support the request in which case the request can be processed. The process includes a formal questionnaire mailed to the homeowners. If at least 66% of the homeowners support the change, and if the Ward Councilor also approves the change, the Transportation and Works Department submits a report recommending the change to City Council.<sup>1</sup>

Residents' requests typically include changes such as:

- Extending the 5-hour parking limit to 15 hours
- Allowing lower driveway boulevard parking
- Reducing local parking prohibitions

<sup>1</sup> [https://www7.mississauga.ca/documents/tw/Parking\\_Petition\\_Information\\_Apr\\_2018.pdf](https://www7.mississauga.ca/documents/tw/Parking_Petition_Information_Apr_2018.pdf)



## EXTENDING THE 5-HOUR PARKING LIMIT TO 15 HOURS

For 15-hour parking to be allowed, Traffic Management advises residents that to maintain two-way traffic, it may be necessary to prohibit parking on one side of the roadway. This restriction applies to most residential streets seeking 15-hour parking. To maintain proper sightlines, it may also be necessary to prohibit parking on curves and at intersections.

The City notes that 15-hour parking may:

- Be difficult to enforce.
- Impede snow removal, road maintenance and waste collection.
- Attract residents from adjacent streets which do not have 15-hour parking<sup>2</sup>.



Source/Location: WSP/Mississauga

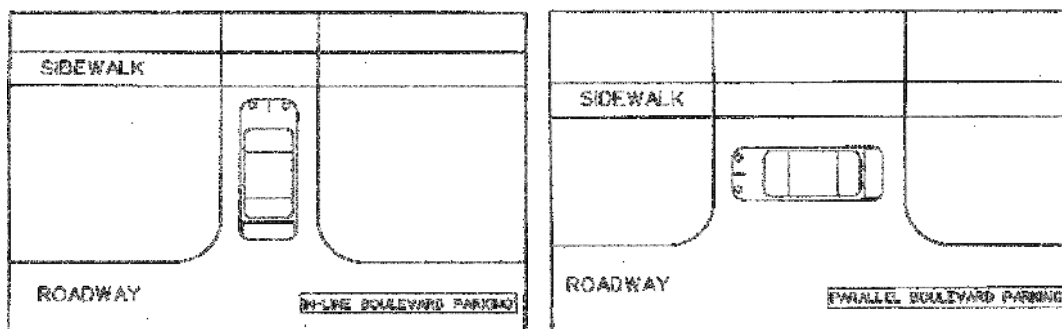
## ALLOWING LOWER DRIVEWAY BOULEVARD PARKING

Traffic By-law 555-00 currently states that no person may park a vehicle on the paved or grassed portion of the city boulevard, and no person may park a vehicle in a manner that obstructs the sidewalk from pedestrian traffic. (The boulevard is defined as the portion of the driveway between the property line or sidewalk and the road.)<sup>3</sup>

An exception to Lower Driveway Boulevard Parking (LDBP) refers to allowing parking on the lower portion of the driveway located between the sidewalk and the roadway curb. A lower driveway must generally be 1.8m (6 feet) by 4.0m (13 feet) to ensure that a parked vehicle does not overhang the sidewalk, grassed boulevard or road. Major collector and arterial roads are not eligible for the LDBP prohibition exception.

Exhibit 1-1 shows correct and safe in-line and parallel vehicle positions in a lower driveway boulevard.

### Exhibit 1-1 – Correct In-line and Parallel Parking in a Lower Boulevard



Source: Resident Parking Petition, City of Mississauga

<sup>2</sup> [https://www7.mississauga.ca/documents/tw/Parking\\_Petition\\_Information\\_Apr\\_2018.pdf](https://www7.mississauga.ca/documents/tw/Parking_Petition_Information_Apr_2018.pdf)

<sup>3</sup> [http://www7.mississauga.ca/documents/bylaws/traffic\\_definitions\\_2013.pdf](http://www7.mississauga.ca/documents/bylaws/traffic_definitions_2013.pdf) (Traffic By-law 555-00)

Exhibit 1-2 compares correct and parking in a lower driveway boulevard. Vehicles that extend into the roadway can be a safety hazard.

#### **Exhibit 1-2 – Incorrect and Correct Parking in a Lower Boulevard**



*Source/Location: WSP/Meadowvale, Mississauga*

### **REDUCING PARKING PROHIBITIONS**

Residents can request the implementation or removal of parking on one or both sides of a roadway. The process is described earlier in the Resident Parking Petition Section.

### **PARKING PERMITS**

The City of Mississauga issues six types of on-street parking permit:

- Temporary parking permits
- Public daytime parking permits
- Overnight permits
- Industrial parking permits
- Carshare parking permits
- Accessible parking permits

## TEMPORARY PARKING PERMITS

Mississauga's temporary parking permits allow parking on an unsigned portion of a City street beyond the limits set by the Traffic By-law.

Exhibit 1-3 summarizes the validity period, number of vehicles permitted to park, reasons for permit request, approval time and fee for the City's various temporary parking permits.

Temporary parking permits are not available for heavy vehicles (vehicles weighing more than 3,000 kg), vehicles without license plates, vehicles with expired license plate stickers, trailers that are not attached to motor vehicles, vehicles displaying "For Sale" signs, vehicles that are not mechanically functional, school buses, and commercial coaches.

### Exhibit 1-3 – Temporary Parking Permits

Type	Validity (from date of issue)	Number of Vehicles	Reasons	Approval time	Fee
<b>Short Term Temporary Residential*</b>	1 - 5 days	Maximum of 5	Overnight guests, driveway repairs, funerals, parties. License plate number of each vehicle required	Same day (where prohibited parking signs are not present)	No fee
<b>Long-Term Residential</b>	More than 5 days	Maximum of 5	Extended visitor stays, driveway repairs, renovations, etc. License plate number of each vehicle required	1-3 days depending on parking signs and whether an inspection of the proposed area is required	\$62.00 + HST
<b>Blanket Commercial</b>	Any	No maximum	Large commercial renovations, parking lot resurfacing, underground garage sweeping, parking lot resurfacing.	1-3 days Area is subject to inspection	\$124.00 + HST
<b>Blanket Residential*</b>	Greater than 5 days	No maximum	Large residential renovations, etc.	Within 2 weeks Area is subject to inspection	\$62.00 + HST
<b>Carshare Permit</b>	One month	One	Public use of car share	Within 2 weeks Staff approval required	\$65 + HST

Note: \*Maximum of 14 per calendar year for a municipal address

## **PUBLIC DAYTIME PARKING PERMITS**

The City offers Public Daytime Parking Permits as a monthly alternative to daily parking fees at the City Centre paid municipal parking facilities. A permit is \$65 a month and valid at the following locations at the following times:

- Civic Centre, Central Library and Living Arts Centre Garages, Monday to Friday 7am to 6pm.
- Sheridan College Hazel McCallion Campus Surface Lots, Monday to Sunday 7am to 11:59pm<sup>4</sup>.

The City also offers Bulk Parking as a monthly alternative to daily parking fees at the Living Arts Centre (LAC), City Centre and Sheridan College paid municipal parking facilities. The program offers a discounted daily rate of \$3 per visit.<sup>5</sup>

The Multi-Visit Card program is a third alternative to daily parking fees at municipal parking garages. The Multi-Visit Card is a pre-paid, reloadable card that can be loaded with a balance of up to 250 visits. The card is tapped on a Pay and Display machine to obtain an all-day parking receipt. The program operates in the Celebration Square North (Civic Centre underground), Celebration Square South (Central Library underground) and Living Arts Centre parking garages. The program is not available for on-street parking.

## **OVERNIGHT PERMITS**

Overnight Permits are a monthly alternative to nightly parking fees at the City Centre's Sheridan College Hazel McCallion Campus (HMC) surface parking lots. The fee is \$65 per month, and the permit is valid during the following times:

- Monday to Thursday, 6 pm to 7 am
- Friday, 6 pm to Monday, 4 am<sup>6</sup>

## **INDUSTRIAL PARKING PERMITS**

The Industrial On-street Permit Parking Program is available to businesses located in the City's Business Parks. Exhibit 1-4 shows the locations where the permits are valid. A limited number of permits is available for each Section of approved roadway. Permits are granted on a first-come, first-serve basis.

A business applies to the Municipal Parking Section which consults with Traffic Management and decides whether to grant a permit. The monthly fee is \$25, and the annual fee is \$250.

<sup>4</sup> [http://www7.mississauga.ca/documents/FormsOnline/Paid\\_Parking\\_Public\\_Daytime\\_Permit\\_and\\_Card\\_Purchase\\_2570.pdf](http://www7.mississauga.ca/documents/FormsOnline/Paid_Parking_Public_Daytime_Permit_and_Card_Purchase_2570.pdf)

<sup>5</sup> [http://www7.mississauga.ca/documents/FormsOnline/Paid\\_Parking\\_Bulk\\_Purchase\\_2571.pdf](http://www7.mississauga.ca/documents/FormsOnline/Paid_Parking_Bulk_Purchase_2571.pdf)

<sup>6</sup> [http://www7.mississauga.ca/documents/FormsOnline/Paid\\_Parking\\_Public\\_Overnight\\_Parking\\_Permit\\_Purchase\\_2601.pdf](http://www7.mississauga.ca/documents/FormsOnline/Paid_Parking_Public_Overnight_Parking_Permit_Purchase_2601.pdf)

#### Exhibit 1-4 – Locations where Industrial Parking Permits are Valid

Highway	Side	Location	Times of Day
Brunel Road	North	A point 260 meters (853 feet) east of Whittle Road to a point 90 meters (295 feet) easterly thereof	Any time
Brunel Road	South	A point 295 meters (968 feet) east of Whittle Road to a point 60 meters (197 feet) easterly thereof.	Any time
Century Avenue	West	A point 315 meters east of the North leg of Argentina Rd to a point 75 meters southerly thereof	Any time
Commerce Boulevard	East	A point 25 meters north of Citation Place to a point 75 meters northerly thereof	Any time
Explorer Drive	South	Explorer Drive from a point 70 meters east of Satellite Drive to a point 175 meters easterly thereof	Any time
Shuttle Drive	West	Explorer Drive and Matheson Boulevard East	Any time
Shuttle Drive	East	Explorer Drive and Matheson Boulevard East	Any time
Skymark Avenue	North	A point 115 meters east of Orbiter	Any time

#### CARSHARE PARKING PERMITS

Carsharing services have a fleet of vehicles that members can use on an hourly basis. Members reserve a vehicle online or by phone and can pick up the vehicle at a variety of locations. Carshare vehicles may include cars, pick-up trucks and vans.

- Numerous studies in the United States and Canada point to the following benefits of car sharing:
- Carsharing provides an effective way for people to have access to a vehicle without the obligations and ongoing costs of owning and maintaining a vehicle.
- Some households and businesses reduce their number of vehicles when shared vehicles are available.
- Carsharing could encourages the use of sustainable modes of transportation such as walking, cycling and transit for most everyday trips as a vehicle is available when needed.
- Transport Canada calculates that car-sharing members emit an average of 0.32 metric tonnes of carbon dioxide equivalents, about one-tenth of the emissions of an average driver.



Source/Location:  
WSP/Mississauga City Centre



Two Carshare models currently operate in the Greater Toronto Area:

- **Round trip car sharing**, a car-sharing model that allows its members to undertake trips beginning and ending at the same location
- **Free-floating car sharing**, a car-sharing model that allows its members to undertake one-way trips that begin in one location, but end at a different location. The model is also known as point-to-point.

The City of Mississauga currently allows on-street parking for round trip carsharing models. The City offers nine on-street Carshare spaces (four for Zipcar and six for Enterprise). The Carshare services are charged \$65 a month for each Carshare space.

Exhibit 1-5 shows the location of Carshare spaces in Mississauga.

### Exhibit 1-5 – On-street Carshare Locations





## ACCESSIBLE PARKING PERMITS

Ministry of Transportation Ontario (MTO) issues accessible parking permits after a review of the application for eligibility. Anyone with an MTO issued permit can park in an accessible parking space or paid parking area without paying any parking charges, but permit holders cannot park on-street for more than the 5-hour limit.

The City can issue an Accessible Parking Permit to an individual with a valid provincial Accessible Parking Permit if that individual is unable to access his/her home due to driveway access restrictions such as the slope of the driveway and trees preventing a ramps). The City issued Accessible Parking Permit allows parking on the street in front of the individual's home.

### Exhibit 1-6 – On-street Accessible Parking Spaces



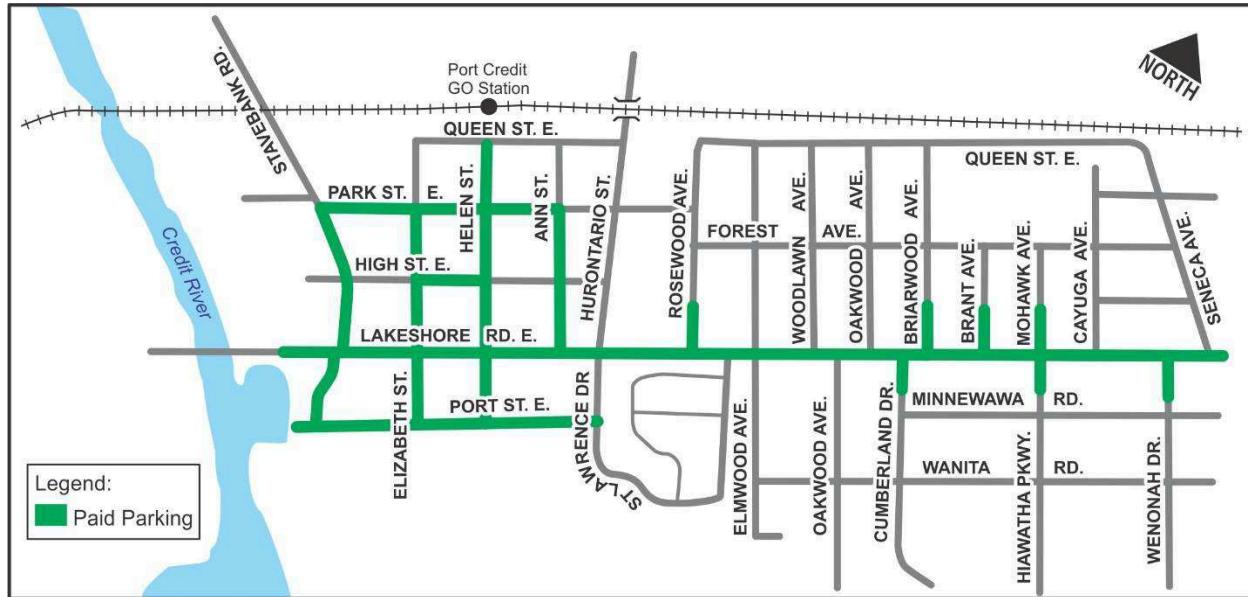
Source: City of Mississauga

### 1.1.2 ON-STREET PAID PARKING

Municipal Parking oversees public on-street paid parking in Port Credit, the Downtown, Streetsville, Clarkson, and Cooksville. This Section provides details of on-street paid parking in Port Credit and the Downtown (Exhibit 1-7 to Exhibit 1-11). The Section then summarizes on-street paid parking in Streetsville, Clarkson and Cooksville in Exhibit 1-11.

Exhibit 1-7 shows on-street paid parking areas in Port Credit. Exhibit 1-8 shows parking fees in Port Credit.

#### Exhibit 1-7– On-street Paid Parking Locations in Port Credit



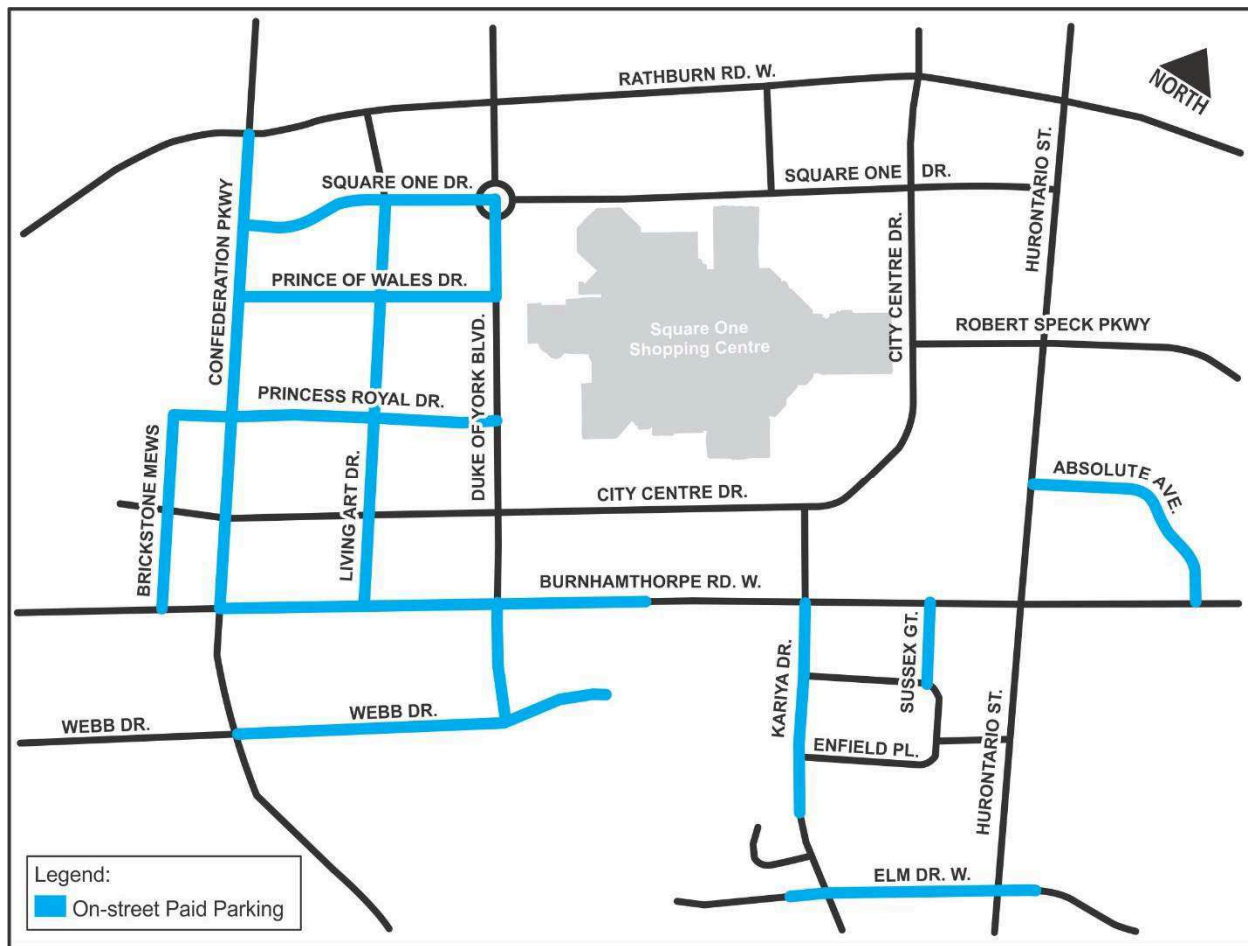
Source: Paid street parking, City of Mississauga, 2017

#### Exhibit 1-8 – On-street Parking Fees in Port Credit

Timing	Fees	Daily Fee
<b>Monday to Saturday, 10am to 9pm</b>  <b>Sunday, 10am to 6pm</b>	\$1.50/hour for the first two hours \$2.00 for the third hour (3-hour maximum)	\$18/day (Monday to Saturday)  \$13/day (Sunday)

Exhibit 1-9 shows the Downtown on-street paid parking areas. Exhibit 1-10 shows the parking fees in the different Downtown areas.

#### Exhibit 1-9 – On-street Paid Parking Locations in Downtown



Source: Paid street parking, City of Mississauga, 2017

**Exhibit 1-10 – On-street Parking Fees in the Downtown**

Location	Timing	Fees	Daily Fee
<b>All locations except Brickstone Mews, Grand Park Drive, and Parkside Village Drive</b>	Monday to Friday, 8am to 6pm  Saturday and Sunday, 10am to 6pm	\$1.00 per hour (2-hour maximum)	\$15/day (Monday to Friday)  \$13/day (Saturday and Sunday)
<b>All locations</b>	Overnight on-street Sunday to Thursday from 6pm to 8am and Friday and Saturday 6pm to 10am	\$1.00 per hour (5.00 maximum)	
<b>Brickstone Mews, Grand Park Drive, Parkside Village Drive</b>	Monday to Friday, 8am to 6pm  Saturday and Sunday, 10am to 6pm	\$1.50/hour for the first two hours  \$2.00/hour for the third hour (3-hour maximum)	\$21.50/day (Monday to Friday)  \$18/day (Saturday and Sunday)
<b>Brickstone Mews, Grand Park Drive, Parkside Village Drive</b>	Monday to Friday, 8am to 6pm  Saturday and Sunday, 10 a.m. to 6 p.m.	\$1.50/hour (4-hour maximum)	\$21.50/day (Monday to Friday)  \$18/day (Saturday and Sunday)

Exhibit 1-11 provides details of on-street parking fees in Streetsville, Clarkson and Cooksville.

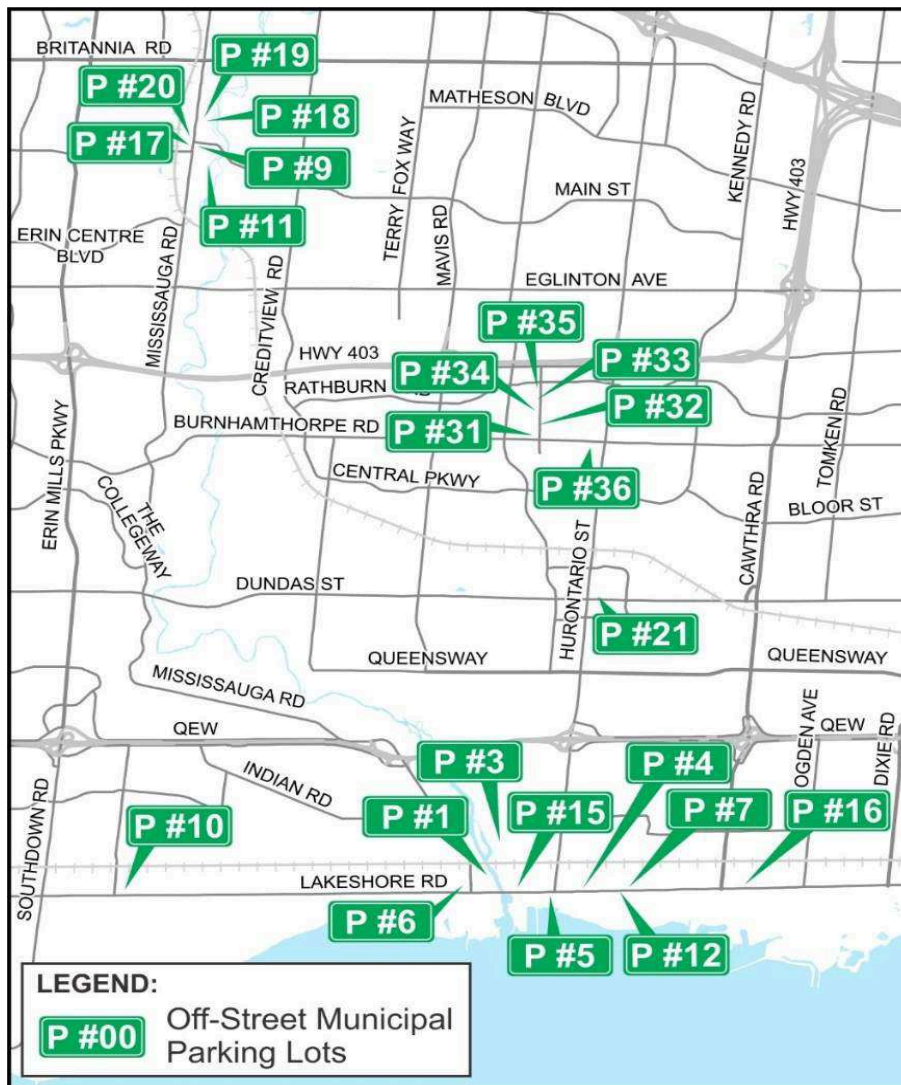
**Exhibit 1-11 – On-street Paid Parking in Streetsville, Clarkson, and Cooksville**

Location	Timing	Fees	Daily Fee
<b>Streetsville (Queen St.)</b>	Monday to Saturday, 10am to 9pm  Sunday, 12pm to 6pm	\$1.50/hour for the first 2 hours  \$2.00/hour for the third hour (3-hour maximum)	\$18/Day (Monday to Saturday)  \$13/Day (Sunday)
<b>Clarkson (Lakeshore Rd.)</b>	Monday to Saturday, 10am to 5pm  Except for Holidays	\$1.00/hour (2-hour maximum)	\$7/Day
<b>Cooksville (Hurontario)</b>	Monday to Saturday, 10am to 5pm  Except for Holidays	\$1.00/hour (2-hour maximum)	\$7/Day
<b>Cooksville (Sherobee Rd.)</b>	Monday to Friday, 8am to 6pm  Saturday and Sunday, 10 am to 6pm	\$2.00/hour (No maximum)	\$20/Day (Monday to Friday)  \$16/Day (Saturday and Sunday)

### 1.1.3 OFF-STREET MUNICIPAL PARKING LOTS

Municipal Parking is responsible for the operation of 23 municipal parking lots with a total of 2,328 parking spaces. Exhibit 1-12 shows the location of the 23 lots in the Downtown, Port Credit, Streetsville, Cooksville, and Clarkson.

**Exhibit 1-12 – Off-street Municipal Parking Lots**



Source: Municipal parking lots and garages, City of Mississauga, 2017

---

#### **1.1.4 OTHER MUNICIPAL OFF-STREET LOTS**

The City also provides public parking at municipally owned facilities such as: parks and recreation areas; arts, culture and tourism centres; MiWay Transitway lots; fire stations; and the City Courthouse. Operation and maintenance of the parking lots varies by facility. (The lots are not the responsibility of Municipal Parking.)

The parking lots shown in Exhibit 1-13 are relevant to Mississauga parking policy as they are part of the total parking supply and the questions involved in establishing an appropriate number of parking spaces throughout the City.



### Exhibit 1-13– Other Municipally-Provided Off-street Parking Locations

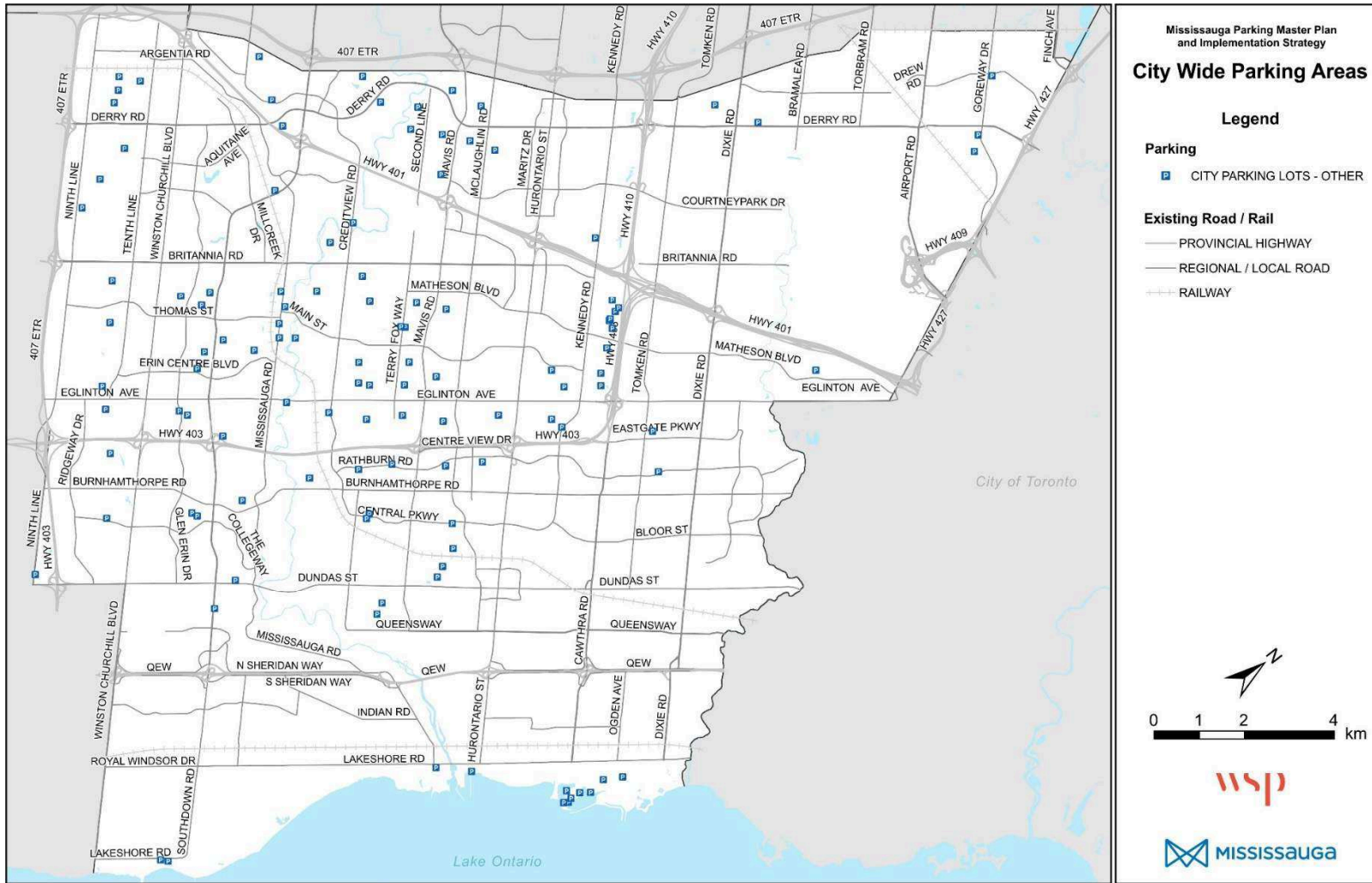




Exhibit 1-14 shows parking lots at Port Credit arena, and Exhibit 1-15 shows parking lots at Port Credit library.

#### **Exhibit 1-14 – Parking Lots at Port Credit Arena**



*Source/Location: WSP/Port Credit Arena Parking Lot*

#### **Exhibit 1-15 – Port Credit Library**



*Source/Location: WSP/Port Credit Library Parking Lot*

### 1.1.5 NON-MUNICIPAL PARKING FACILITIES

Various agencies also provide parking facilities in the City. These agencies are not parking operators, but some provide a large number of spaces as part of their operation. GO Transit is a good example. GO Transit is a regional transit agency, but it owns and operates nearly 70,000 parking spaces including 10,000 in Mississauga.

Other examples in Mississauga include the Peel School Boards, Trillium Health Partners (Credit Valley Hospital and Mississauga General), the Greater Toronto Airports Authority (GTAA), large retail establishments (For example, the malls), and large private parking operators.

Once a non-municipal parking lot is built, the City has limited influence on the lot's management.

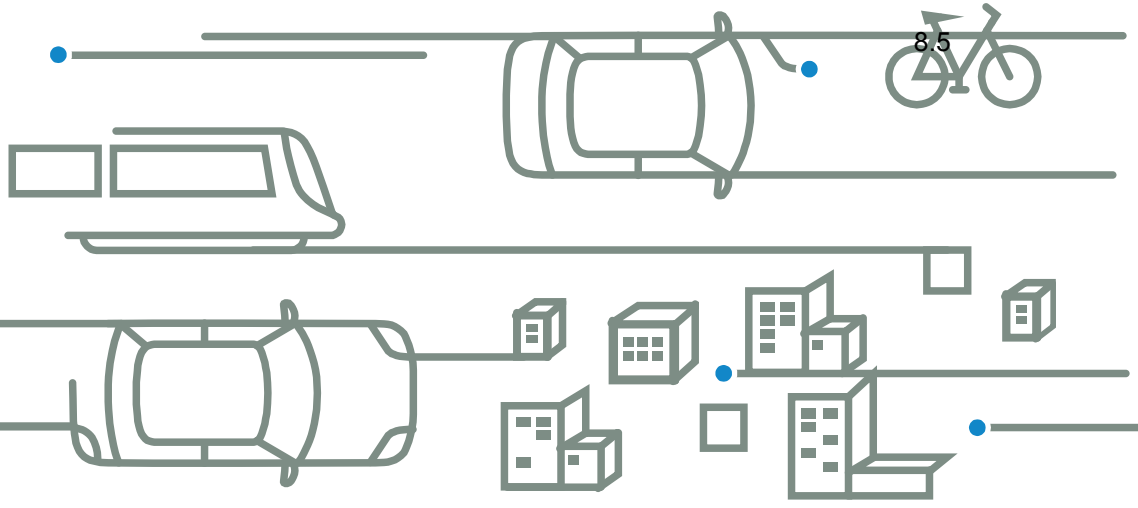
Exhibit 1-16 shows the GO Transit parking structures at Erindale GO station. Exhibit 1-17 shows the GO Transit parking structures at Clarkson GO station.

**Exhibit 1-16 – Erindale GO Transit Parking Structures, Mississauga**



**Exhibit 1-17 – Clarkson GO Transit Parking Structures, Mississauga**





*PARKING MATTERS*



# APPENDIX 4-2 LOWER DRIVEWAY PARKING MEMORANDUM

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

## MEMO

## INTRODUCTION

## MISSISSAUGA LOWER DRIVEWAY BOULEVARD PARKING

## REVIEW OF LOWER DRIVEWAY BOULEVARD PARKING IN SELECTED ONTARIO MUNICIPALITIES



Table 1: Comparison of LDBP Policies in Reviewed Municipalities

No.	Municipality	Landmass (square kilometres)	Population	Region	Average No. of Cars per household (TTS 2016)	Percentage of Single Family Units	(A) LDBP Permit Required	(B) LDBP Prohibited	(C) LDBP Allowed	Overnight On-Street Parking
1	Woodstock	48.97	40,902	Oxford	N/A	57.83	x			Yes (not in winter)
1	London	420.35	383,822	Middlesex	N/A	56.03	x			Yes
3	Caledon	688.16	66,502	Peel	2.31	89.43			x	Yes(parking permit)
4	Wilmot	263.78	20,545	Waterloo	2.10	88.53			x	Yes(not in winter)
5	Clarington	611.40	92,013	Durham	2.06	82.75			x	Yes(parking permit)
6	Milton	363.22	110,128	Halton	1.94	69.21			x	Yes (parking exemption)
7	Pickering	231.55	91,771	Durham	1.93	72.41			x	Yes (not in winter)
8	Newmarket	38.45	84,224	York	1.87	67.72	x			Yes (parking exemption)
9	Ajax	67.00	119,677	Durham	1.86	71.42			x	No
10	Cambridge	113.01	129,920	Waterloo	1.86	66.04	x			Yes (not in winter)
11	Orangeville	15.61	28,900	Dufferin	1.81	72.07			x	Yes (not in winter)
12	Brampton	266.36	593,638	Peel	1.81	68.98			x	Yes (parking permit)
13	Markham	212.35	328,966	York	1.77	66.4			x	Yes (parking permit)
14	Burlington	185.66	183,314	Halton	1.77	55.91			x	Yes(parking exemption)
15	Waterloo	64.02	104,986	Waterloo	1.63	60.04		x		Yes (parking exemption)
16	Mississauga	292.40	721,599	Peel	1.61	49.22	x			Yes (parking permit)
17	Kitchener	136.77	233,222	Waterloo	1.57	54.43			x	Yes (not in winter)
18	Oshawa	145.64	159,458	Durham	1.56	64.09	x			Yes (not in winter)
19	Hamilton	1117.29	536,917	Hamilton-Wentworth	1.29	53.54	x			Yes (specific roadways)
20	Toronto	630.20	2,731,571	Toronto	1.05	30.84	x			Yes (parking permit)
	N/A: Not Available									
	Sources: Transportation Tomorrow Survey 2016, Statistics Canada 2016									



## A) LOWER DRIVEWAY BOULEVARD PARKING WHERE A PERMIT IS REQUIRED

This group includes jurisdictions that allow LDBP with specific restrictions. It includes the Cities of Cambridge, Hamilton, London, Oshawa, Woodstock, Toronto, and the Town of Newmarket.

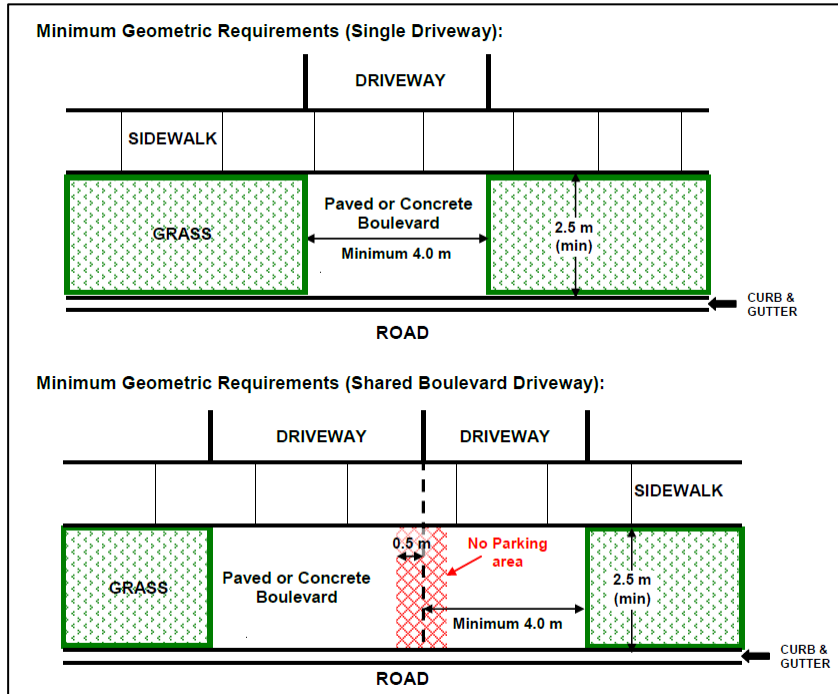
### City of Cambridge

The City of Cambridge allows LDBP, with certain restrictions. Various streets are part of the Registered Residential Parking Program. This program utilizes a permit system that allows residents to park on a boulevard, a cul-de-sac, or have on-street parking extended to a maximum of 24 hours. Overnight on-street parking, during the early morning hours from 2:30 a.m. to 6:00 a.m. is not permitted between January 1 to March 15, and no exemptions are available.

Below are the criteria which the roadway must meet to allow for lower driveway parking:<sup>4</sup>

- Vehicles must park parallel to the road facing the direction of traffic.
- Vehicles must not park on the grass portion of the boulevard.
- 0.5 m of clearance must be maintained from the extension of the property line when parking on shared driveway aprons.
- Residents with corner properties with a driveway located on a side street are not eligible.
- Residences with driveways immediately adjacent to intersections, where parked vehicles may be a sight line obstruction, are not eligible.

Below is a diagram illustrating geometric requirements in the City of Cambridge regarding lower driveway boulevard parking.<sup>5</sup>



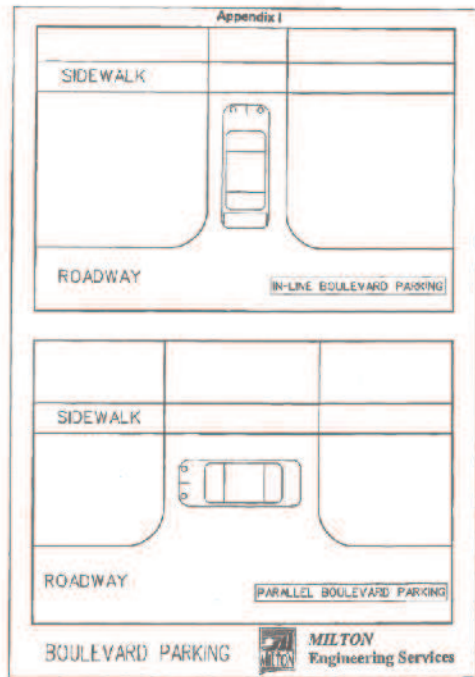
Source: City of Cambridge<sup>5</sup>

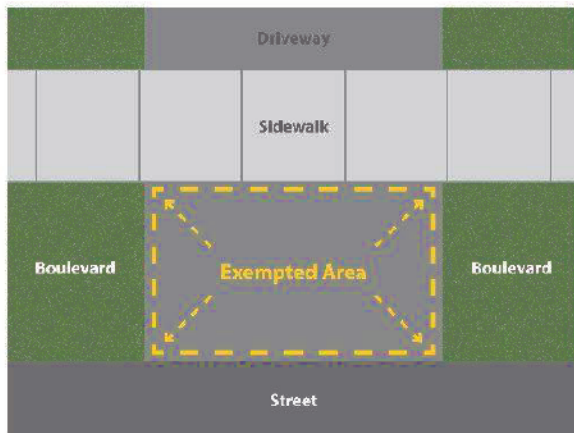
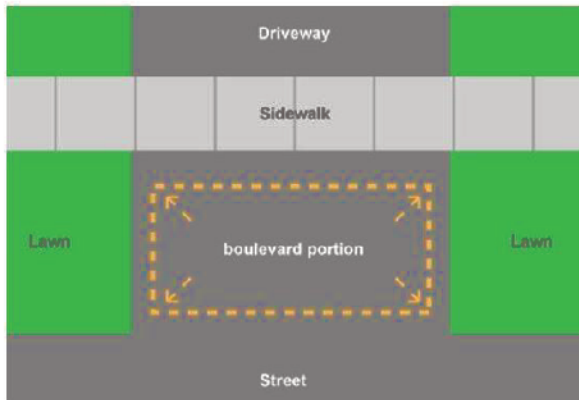
<sup>4</sup> <https://www.cambridge.ca/en/learn-about/Parking.aspx>

<sup>5</sup> <https://www.cambridge.ca/en/learn-about/resources/Lower-Driveway-Boulevard-Parking-Diagram-New.pdf>













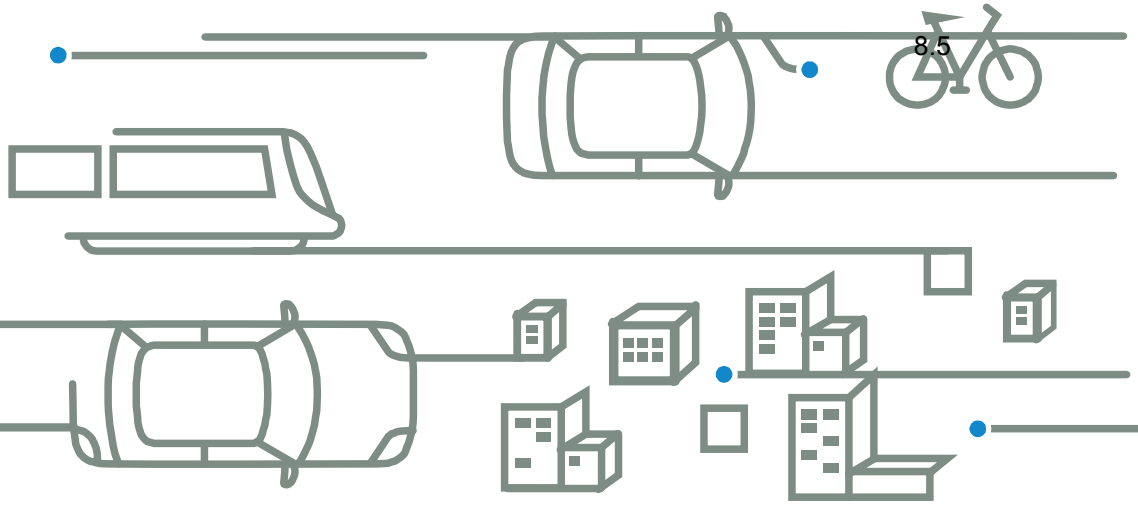




## ASSESSING LOWER DRIVEWAY BOULEVARD PARKING OPTIONS FOR MISSISSAUGA



## CONCLUSIONS



*PARKING MATTERS*



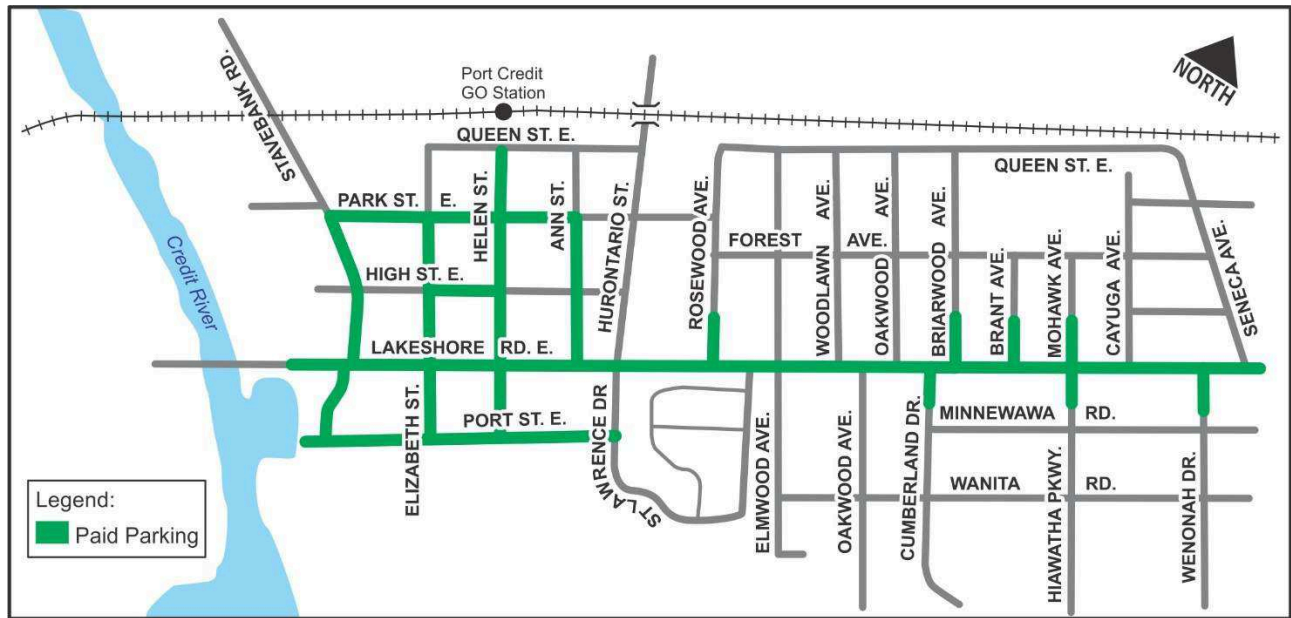
# APPENDIX 4-3

## ON-STREET PAID PARKING LOCATIONS

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

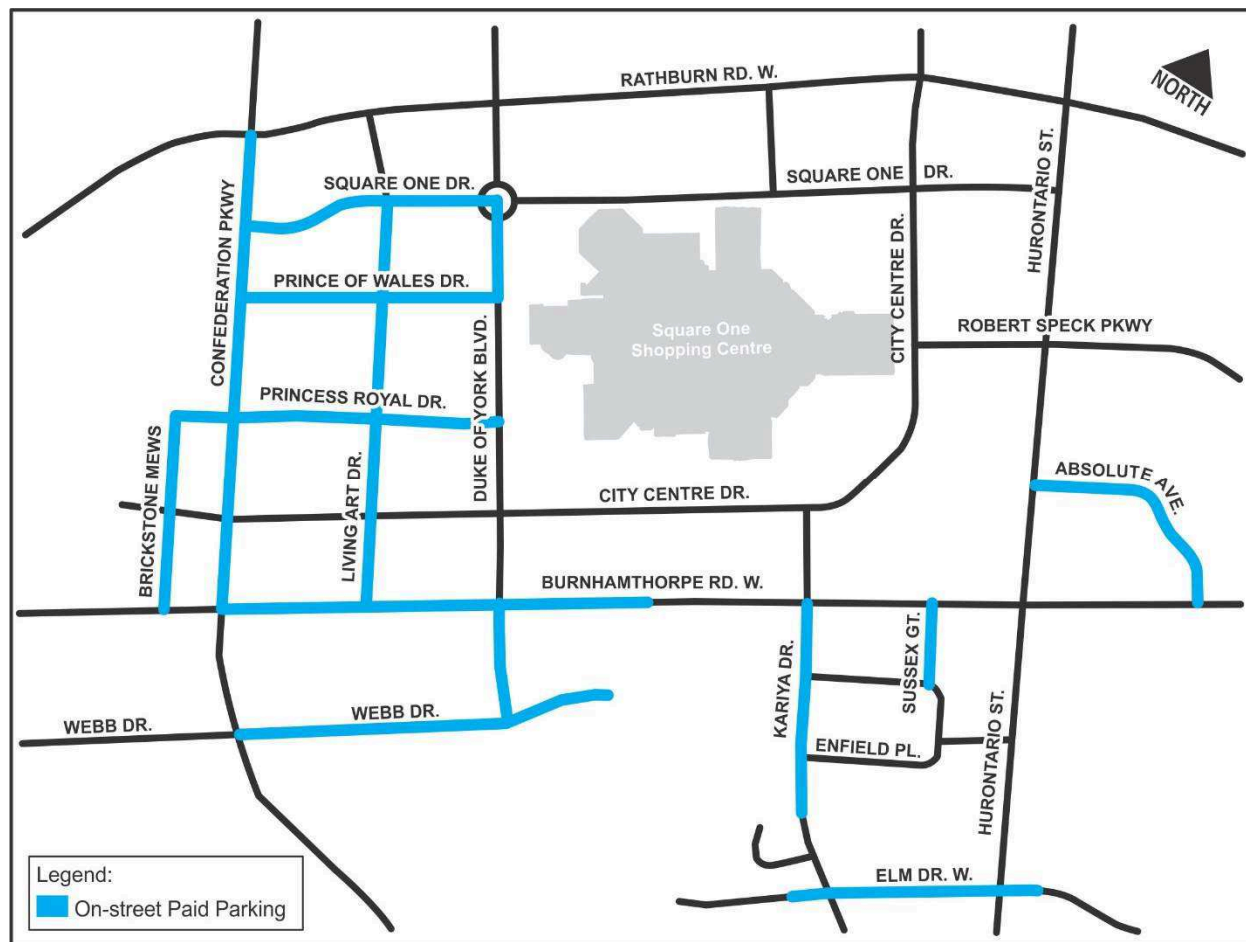
# 1 ON-STREET PAID PARKING LOCATIONS

Exhibit 1-1- On-street Paid Parking Locations in Port Credit



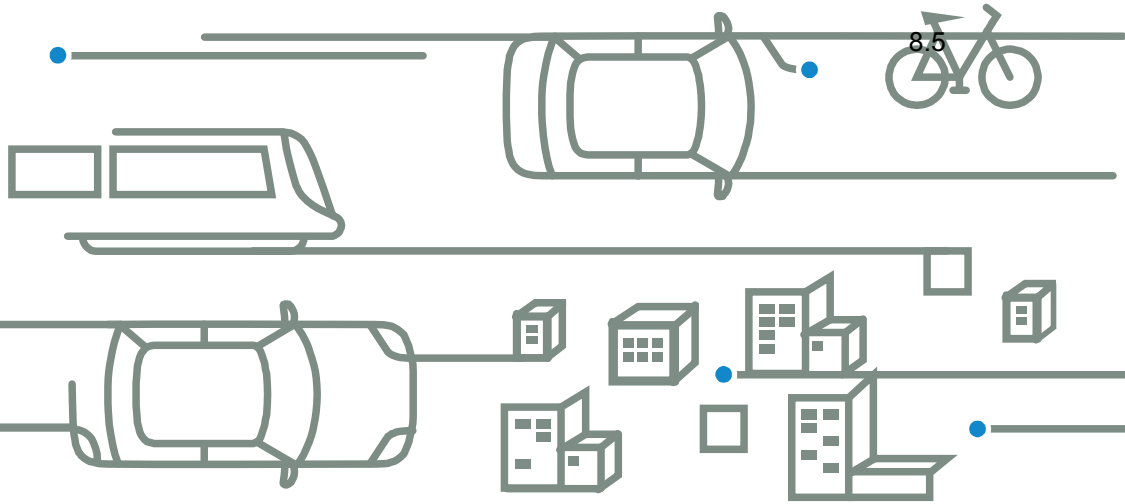
Source: Paid street parking, City of Mississauga, 2017

### Exhibit 1-2- On-street Paid Parking Locations in Downtown



Source: Paid street parking, City of Mississauga, 2017





*PARKING MATTERS*



# APPENDIX 4-4 SAFETY DESIGN REVIEW FOR PARKING LOTS AND GARAGES

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

# 1 SAFETY DESIGN REVIEW FOR PARKING LOTS AND GARAGES

---

## 1.1 FUTURE DIRECTIONS – SAFETY

The Mississauga Official Plan (MOP) provides policies to safeguard the safety of the City's built environment and infrastructure and the Zoning By-law and building code are also concerned with safety, but there is little specific direction regarding the safety of parking facilities. City staff, however, expressed a desire to improve pedestrian and bicycle safety in parking facilities.

The Institute of Transportation Engineers (ITE) has published a report on pedestrian and bicycle safety in parking facilities (Pedestrian and Bicyclist Safety in Parking Facilities, 2017). The Chapter summarizes the report's best practices for pedestrian safety, bicycle and design standards for pedestrian and bicycle safety in parking facilities.

---

### 1.1.1 PEDESTRIAN SAFETY IN PARKING FACILITIES

The ITE report highlights slips, trips and falls in parking facilities as significant causes of injury. The report notes that research indicates that pedestrian injuries due to slips, trips and falls in parking facilities are far more common than injuries due to conflicts with moving vehicles. The design of pedestrian routes in parking facilities must clearly consider tripping hazards in addition to measures such as the separation of pedestrian and vehicular movements.

The ITE findings are discussed separately for parking lots and parking garages.

#### PARKING LOTS

Exhibit 1-2 to Exhibit 1-10 summarize the ITE findings regarding pedestrian safety issues and best practices for improving pedestrian safety in parking lots. The details in the Exhibits are presented under six headings: access into parking lot; ring roads; circulation roads; aisles; building frontage roads (BFRs); and slips, trips and falls.

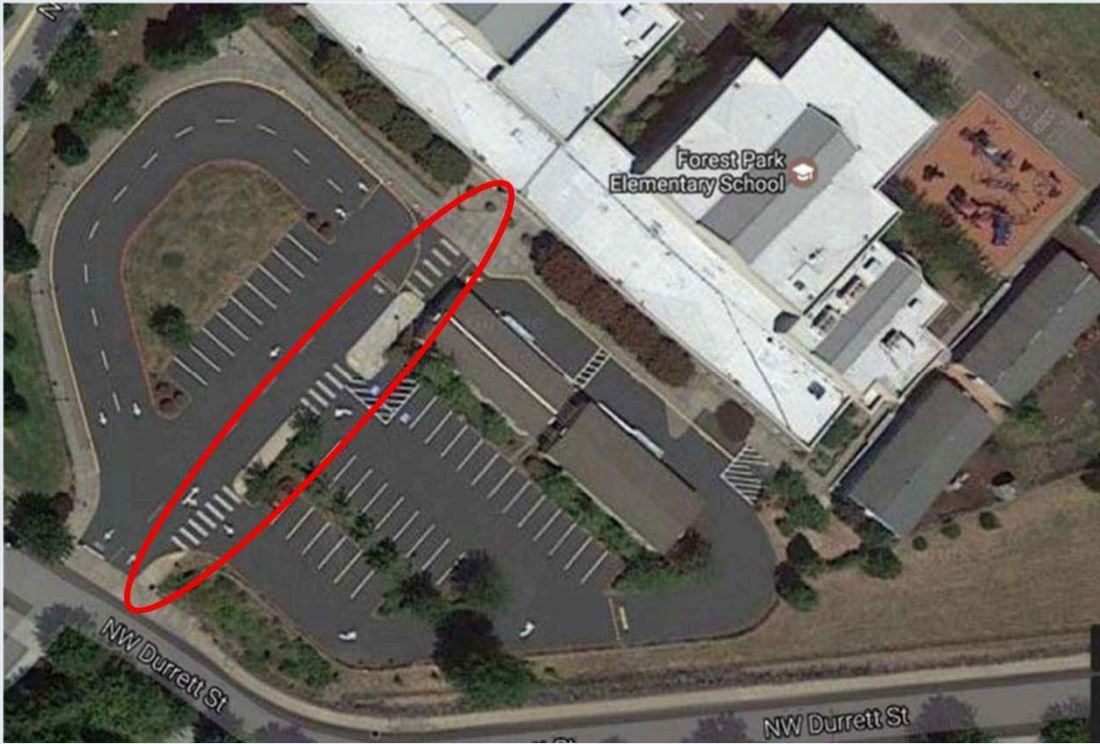
Exhibit 1-2 provide examples of best practices for non-continuous building frontage road, pedestrian access along extended driveways Exhibit 1-3), separated pedestrian paths (Exhibit 1-4), pedestrian access along centrewalks (Exhibit 1-5), circulation roads (Exhibit 1-6), aisle orientation (Exhibit 1-7), centrewalks with wide setbacks (Exhibit 1-8), decorative crosswalks across building frontage roads (BFRs) (Exhibit 1-9) and end island setbacks (Exhibit 1-10).

### Exhibit 1-1 Best Practices for Enhancing Pedestrian Safety in Parking Lots

	Issue	Best Practice for Enhancing Pedestrian Safety
Overall Layout	Building Frontage Roads (BFRs) experience high pedestrian volumes (i.e. people walking between the building and parking area). To avoid potential conflicts, BFRs should not be the primary circulation route for vehicular traffic.	<p>Provide a circulation road (90 to 100m from the building) for motorists entering and exiting a facility.</p> <p>Provide a ring road with access to parking aisles.</p> <p>Design non-continuous BFRs to make them less convenient for site circulation. (See Exhibit 1-2)</p>
	Land use design impacts pedestrian and bicycle travel. Site design should aim to create walkable environments.	<p>Place buildings fronting onto the adjacent street.</p> <p>In a multi-building development, minimize the distance between buildings to facilitate pedestrian movement.</p>

### Exhibit 1-2 Non-Continuous Building Frontage Road




	Issue	Best Practice for Enhancing Pedestrian Safety
Access into Parking Lot	Pedestrians need safe access across parking areas.	<p>Provide direct, visible pedestrian path(s) from the public street to the building. (See Exhibit 1-3)</p> <p>Design pedestrian paths that are separated from vehicular traffic (For example, by a raised surface) or clearly demarcated (For example, with distinctive paving). (See Exhibit 1-4)</p>
<p><b>Exhibit 1-3 Pedestrian Access Along an Extended Driveway</b></p> 		

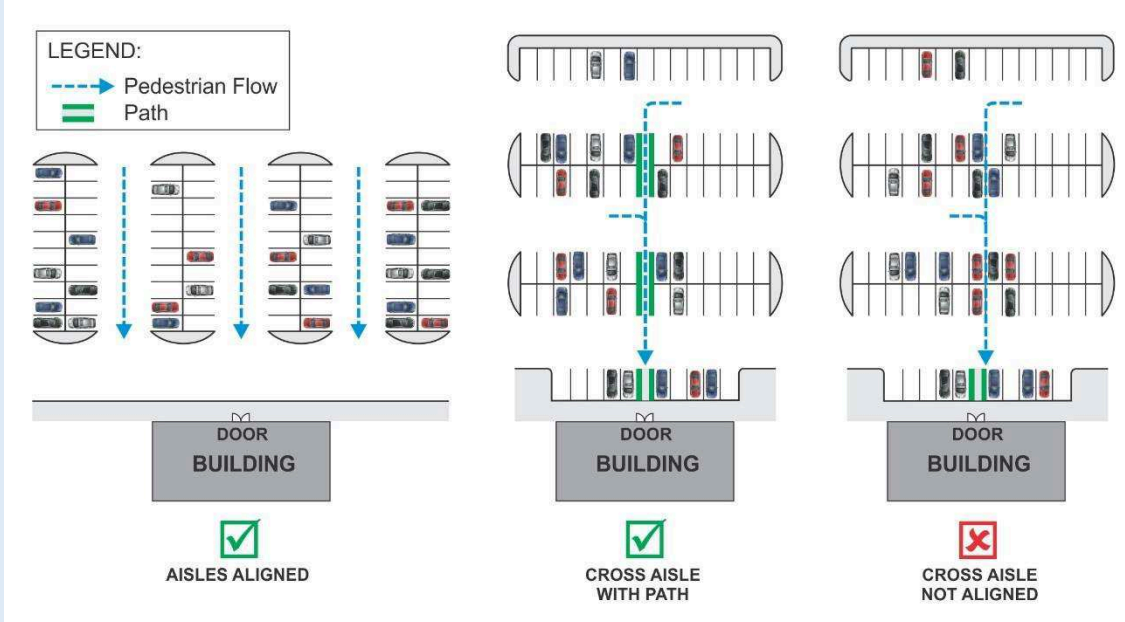



	Issue	Best Practice for Enhancing Pedestrian Safety
	<p><b>Exhibit 1-4 Separated Pedestrian Path</b></p> 	
	<p>Avoid exposing pedestrians to high turning movements at internal intersections.</p>	<p>Consider providing a centrewalk (pedestrian path in the middle of a parking bay) instead of along an extended driveway. (See Exhibit 1-5)</p>
<p>Access into Parking Lot (Continued)</p>	<p><b>Exhibit 1-5 Pedestrian Access Along Centrewalk</b></p> 	

	Issue	Best Practice for Enhancing Pedestrian Safety
Ring Roads	Ring roads associated with shopping centres and larger land uses are typically multi-lane roads with vehicle travel speeds that put pedestrians at increased risk when crossing a ring road.	<p>Install high-visibility crosswalks across the ring road at appropriate intervals. Use rectangular rapid flashing beacons (RRFB) at crossings.</p> <p>On multi-lane ring roads, install advance stop markings 6 to 15m from the crosswalk to improve sight distance by motorists. Supplement advance stop markings with “Stop (Yield) Here for Pedestrians” sign.</p> <p>Use physical barriers (islands with landscaping or fencing) to funnel pedestrians to marked crossings.</p>
Circulation Roads	In commercial centres with buildings on outparcels or buildings flanking the main structures, circulation roads should be designed to accommodate pedestrian movement.	<p>Where appropriate, place pedestrian facilities such as sidewalks or other dedicated paths along circulation roads. (See Exhibit 1-6)</p> <p>In retrofit situations, pedestrian paths can be marked within the circulation road if there is adequate width.</p>


	Issue	Best Practice for Enhancing Pedestrian Safety
	<p><b>Exhibit 1-6 Circulation Road</b></p> 	
Aisles	<p>Most pedestrian/vehicle crashes involve motorists backing from a space or moving forward in an aisle.</p> <p>Consider 90-degree versus angled parking.</p>	<p>In parking lots with high turnover, give preference to 90-degree parking over angled parking. Advantages of 90-degree parking include lower conflicts with traffic in BFR, wider aisle width permitting greater separation between pedestrians and vehicles, and better visibility when exiting a parking stall in a forward motion (instead of backing out).</p>
	<p>Consider aisle orientation in relation to building from the pedestrian perspective.</p>	<p>Design drive aisles perpendicular to building frontage to aid pedestrian movement toward the building.</p> <p>When aisles are parallel to buildings, designate a path through the aisles to the buildings. (See Exhibit 1-7)</p>



	Issue	Best Practice for Enhancing Pedestrian Safety
<p><b>Exhibit 1-7 Aisle Orientation</b></p> 		
<p><b>Aisle width</b></p> <p>Aisles serve multiple users including vehicles, pedestrians and cyclists.</p>	<p>For retail uses with high pedestrian and traffic volumes, design slightly wider aisle (For example, 8.5m) to provide greater separation between pedestrians, cyclists and vehicles. Wider aisles are appropriate only for the highest-use aisles directly in front of store entrances.</p>	

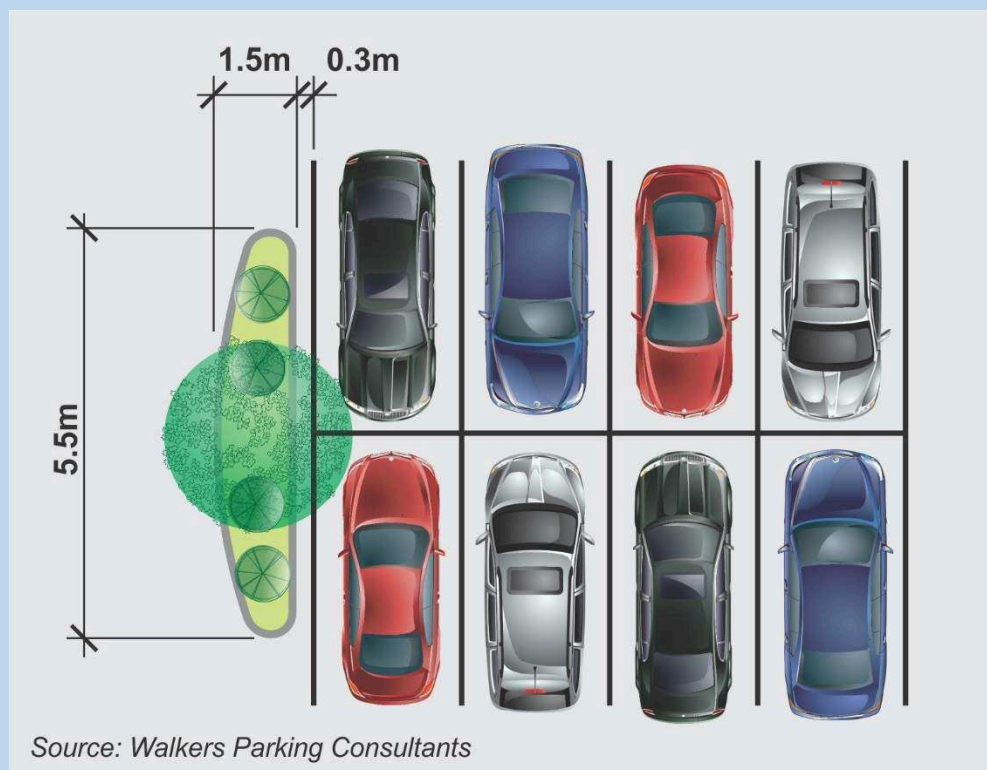
	Issue	Best Practice for Enhancing Pedestrian Safety
Aisles (Continued)	<p><b>Centrewalks</b></p> <p>Centrewalks are dedicated pedestrian paths along the centre alignment of a parking bay. While centrewalks remove conflicts between pedestrians and vehicles backing out of parking stalls, concerns include tripping on wheel stops, increased installation and maintenance costs, and practicality on sites with shopping carts.</p>	<p>In new developments, evaluate centrewalks on a case-by-case basis. Consider the benefits in pedestrian access and landscape enhancements against the costs, increase in impervious space, and maintenance requirements.</p> <p>Minimize the risk of tripping when designing pedestrian walkways. For example, favour surface treatments over vertical deflections along pedestrian routes.</p> <p>The centrewalk width is normally 1.2 to 1.5m. For centrewalks without wheelstops, add clearance for 0.6m of vehicular overhang on each side. (See Exhibit 1-8)</p>
	<p><b>Exhibit 1-8 Centrewalk with Wide Setback</b></p> 	

	Issue	Best Practice for Enhancing Pedestrian Safety
	Landscape divider strips	Consider landscape divider strips to break up large parking lot expanses so drivers cannot cut across empty aisles. The dividers also reduce conflicts with pedestrians.
BFRs	Higher traffic volumes on a BFR increase the potential for conflicts with pedestrians crossing the BFR.	Where a BFR may accommodate high traffic volumes, incorporate designs to minimize pedestrian-vehicular conflicts.
Building Frontage Roads (BFRs Continued)	A wide BFR encourages curbside stopping or standing and leads to sight distance problems, additional vehicular manoeuvres, and long pedestrian crossing distances.	Establish BFR width between 7.9 and 8.5m.
	Pedestrians take the shortest route to their car and do not always use crosswalks on the BFR.	<p>Position crosswalks strategically to provide a clear path to a parking aisle.</p> <p>At shopping centres with numerous entrances, stripe crosswalks at doors with high pedestrian activity, and at regular intervals in-between. Consider wider crosswalks that span more than one aisle for high-volume pedestrian crossing areas.</p> <p>Consider a crosswalk, preferably with high visibility markings, at the intersection of a BFR and an extended driveway or circulation road.</p> <p>Consider special treatments such as raised or decorative crosswalks to help motorists identify the designated crosswalk. (See Exhibit 1-9)</p> <p>Avoid speed bumps as they are a tripping hazard.</p>

	Issue	Best Practice for Enhancing Pedestrian Safety
	<b>Exhibit 1-9 Decorative Crosswalk across BFR</b> 	
Building Frontage Roads (BFRs Continued)	Sidewalks	<p>Provide a clear walking width (free of streetscaping and other obstructions) of at least 1.5m for all commercial uses, and at least 2.4m for large stores particularly where there may be shopping carts. Wider sidewalk widths may be considered where retail displays are present in the front of the building.</p> <p>Provide a sidewalk around the building to protect pedestrian movement to the different parking areas.</p> <p>Provide a raised sidewalk, but consider street level alternatives for settings with shopping carts.</p>

	Issue	Best Practice for Enhancing Pedestrian Safety
	<p><b>End islands</b></p> <p>When curbs are placed on stall lines, a pedestrian stepping from a car may trip or fall on an unnoticed curb.</p> <p>Landscaping on curbed islands may obstruct sightlines.</p>	<p>Place end islands at the intersection of BFRs and design aisles and circulation roads to reduce conflicts. Consider painted islands as an alternative.</p> <p>Where parking stalls are less than 3m wide, consider providing extra space from the nominal stall line to the curb. (See Exhibit 1-10)</p> <p>Maintain shrub heights of no more than 0.6 to 0.75m and tree canopy clearance of at least 1.8m above the surface to ensure adequate site distance.</p>

**Exhibit 1-10 End Island Setback**



	Issue	Best Practice for Enhancing Pedestrian Safety
Slips, Trips and Falls	Slips, trips and falls	<p>Reduce slips, trips and falls by incorporating:</p> <ul style="list-style-type: none"> <li>– Lighting</li> <li>– Slip-resistant walking surfaces</li> <li>– Changes in elevation in compliance with requirements for accessible routes</li> <li>– Smooth speed humps marked with reflective and slip resistant strip (in accordance with MUTCD) and warning signs.</li> </ul> <p>Reduce slips, trips and falls by avoiding:</p> <ul style="list-style-type: none"> <li>– Use of wheel stops</li> <li>– Use of speed bumps</li> <li>– Use of other vertical deflections</li> </ul>
Source: <i>Pedestrian and Bicyclist Safety in Parking Facilities, ITE, 2017</i>		

## PARKING GARAGES

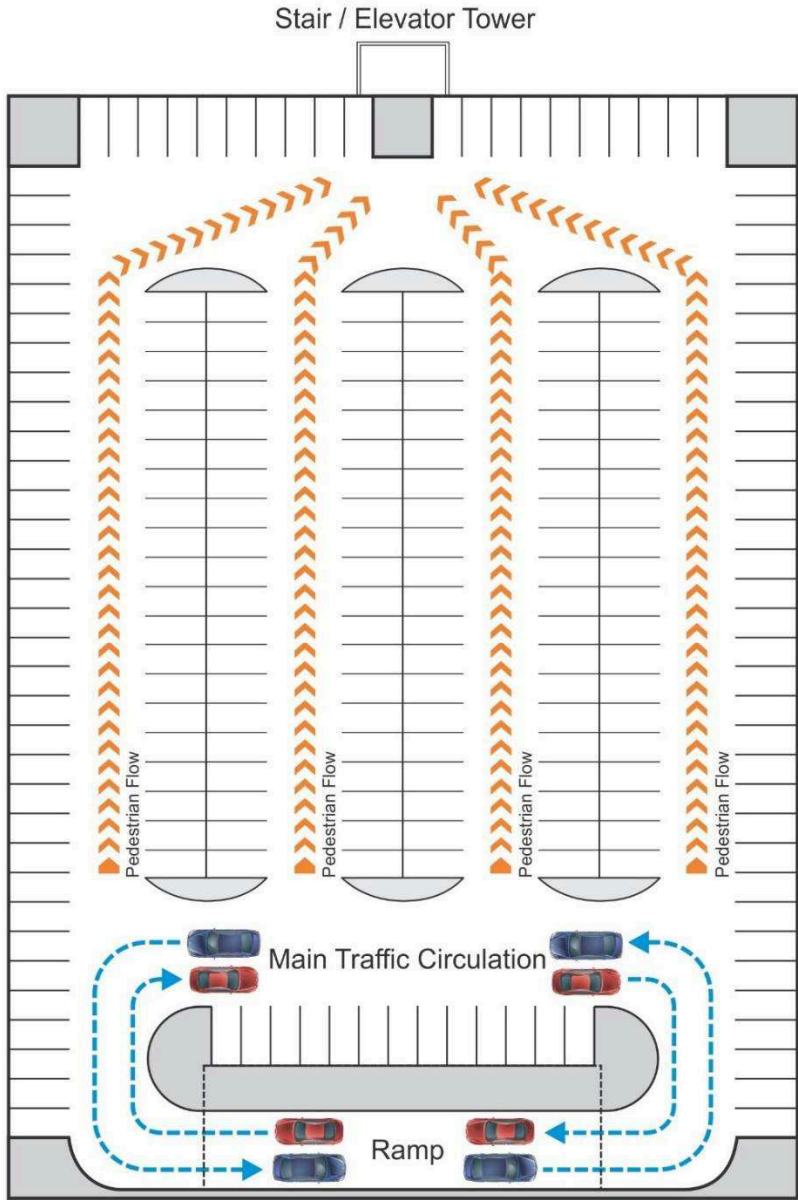
Exhibit 1-12 to Exhibit 1-13 summarize the ITE findings regarding pedestrian safety issues and best practices for improving pedestrian safety in parking garages. The exhibits consider four issues: wayfinding; layout; crime prevention; and trips and falls.



Exhibit 1-12 is an example of parking garage floor layout designed to reduce pedestrian-vehicle interaction Exhibit 1-13 is an example of gaps in the shear walls of a parking garage, and Exhibit 1-14 shows bollards in a parking garage.

### Exhibit 1-11 Best Practices for Enhancing Pedestrian Safety in Parking Garages

	Issue	Best Practice for Enhancing Pedestrian Safety
Garages	Wayfinding	<p>On the exterior of garages, provide signs to direct pedestrians and cyclists to appropriate entrances.</p> <p>Inside garages, to avoid confusion with emergency exits, consider using the term “out” for vehicular direction, and the terms “elevators,” “stairs,” etc. for pedestrian direction.</p>
	Layout	<p>Consider parking garage layouts that separate vehicles and pedestrians. (See Exhibit 1-12)</p> <p>Provide flat floors that give pedestrians good visibility of destinations from all parking spaces.</p> <p>Provide a protected pedestrian walkway in parking areas with high pedestrian volumes or high traffic volumes. Collector walkways should be visible and located on the most convenient pedestrian path to encourage use.</p> <p>Avoid pedestrian walkways behind parked cars.</p>



	Issue	Best Practice for Enhancing Pedestrian Safety
Garages (Continued)	<p><b>Exhibit 1-12 Parking Garage Floor Layout to Reduce Pedestrian-Vehicle Interaction</b></p>  <p>The orange chevrons indicate the pedestrian path to the elevator. Source: Walker Parking Consultants</p>	
Garages	<p>Crime Prevention through Environmental Design (CPTED)</p>	<p>Provide large gaps in shear walls to ensure visibility throughout the garage. (Exhibit 1-13)</p>

	Issue	Best Practice for Enhancing Pedestrian Safety
		Design elevator cores with adequate visibility between pedestrians and passing vehicles.
<b>Exhibit 1-13 Gaps in Shear Walls</b> 		
	Trips and Falls	<p>Consider high contrast paint or railings at raised curbs where trips and falls may be a concern.</p> <p>Consider using bollards to define vehicular and pedestrian spaces instead of raised curbs. (See Exhibit 1-14)</p>
<b>Exhibit 1-14 Bollards in Garage</b> 		
<i>Source: Pedestrian and Bicyclist Safety in Parking Facilities, ITE, 2017</i>		

### 1.2.1 BICYCLE SAFETY IN PARKING FACILITIES

Like pedestrian safety, ITE's Pedestrian and Bicyclist Safety in Parking Facilities report's bicycle safety issues and best practices are discussed separately for parking lots and parking garages.

#### PARKING LOTS

The following summarize the ITE findings regarding pedestrian safety issues and best practices for improving bicycle safety in parking lots. The details in the Exhibits are presented under two headings: bicycle circulation, and bicycle parking.

#### Exhibit 1-15 Best Practices for Enhancing Bicycle Safety in Parking Lots

	Issue	Best Practices for Enhancing Bicycle Safety
Bicycle Circulation	A cyclist is most at risk when travelling along a parking aisle due to potential conflicts with vehicles fronting or backing out of parking stalls.	<p>Design a parking layout that provides for bicycle parking and circulation without requiring cyclists to travel in an aisle.</p> <p>As parking facilities are low speed in nature, cycling facilities such as bicycle lanes are not generally recommended.</p> <p>Do not stripe bicycle lanes behind vehicular parking spaces.</p>
Bicycle Parking	Bicycle parking location, design, and supply	<p>Design bicycle parking facilities using the following criteria:</p> <ul style="list-style-type: none"> <li>– Location near building entrances (See Exhibit 1-16)</li> <li>– Location near shopping cart return</li> <li>– Visible and secure location with adequate lighting</li> <li>– Protection from weather</li> <li>– Protection from bollards, vehicular traffic using curbs, etc.</li> <li>– Pedestrian access not blocked</li> <li>– Provision of clear, safe path to bicycle parking</li> <li>– Rack type approved by the Association of Pedestrian and Bicycle Professionals (APBP)</li> <li>– Adequate bicycle parking dimensions for a design bicycle of 284 x 84cm to accommodate bicycles with trailers and or child or cargo holders</li> <li>– Adequate bicycle parking spaces</li> </ul>

Issue	Best Practices for Enhancing Bicycle Safety
<p><b>Exhibit 1-16 Bicycle Parking Area</b></p>  <p><i>Source: Pedestrian and Bicyclist Safety in Parking Facilities, ITE, 2017</i></p>	

Exhibit 1-16 is an example of a bicycle parking area.

## PARKING GARAGES

The following summarizes the ITE findings regarding bicycle safety issues and best practices for improving bicycle safety in parking garages.

### Exhibit 1-17 Best Practices to Enhance Bicycle Safety in Parking Garages

	Issue	Best Practices to Enhance Bicycle Safety
Garages	Conflicts between bicycles and motor vehicles	<p>Consider providing a separate entrance for cyclists.</p> <p>Eliminate gates and other barriers for cyclists.</p> <p>Place bicycle parking in areas that would not be blocked by vehicle queues.</p> <p>Ensure good visibility between motorists and cyclists.</p>
	Security	<p>Ensure that bicycle parking areas are well lit and within range of security cameras.</p>

### Exhibit 1-18 Secure Bicycle Parking



Source: *Pedestrian and Bicyclist Safety in Parking Facilities*, ITE, 2017

Exhibit 1-18 is an example of a secure bicycle parking area.

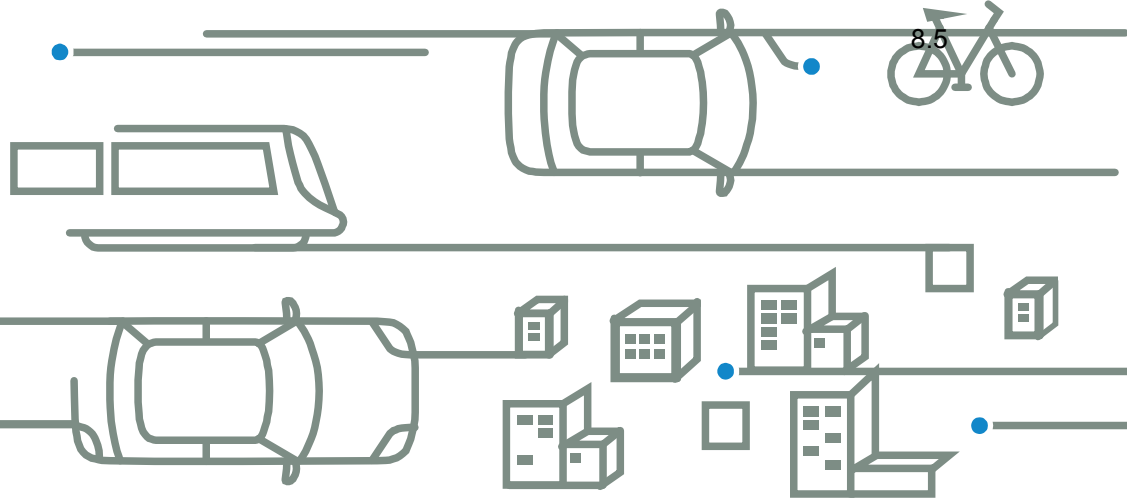
---

### *1.2.2 DEVELOPING DESIGN STANDARDS FOR SAFETY*

Given the lack of detailed guidelines and standards for safety in parking facilities, the City seek to develop safety standards for parking facilities. The work required can be integrated into the upcoming zoning by-law update, the Cycling Master Plan, and other relevant projects.

As it is important for the City's safety policies, guidelines, regulations, and standards to be consistent and well-organized so they can be easily accessed, interpreted and applied, there are advantages to developing integrated, consolidated policy documents. These advantages may indicate the development of a standalone safety design standards document. If a series of standalone safety documents appears more appropriate, the documents may include a common introduction to the overall safety policy context and then use cross-references to other documents.





*PARKING MATTERS*



# **APPENDIX 5-1 BENCHMARKING OF PARKING IN 15 CANADIAN MUNICIPALITIES - 2015**

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)



# 1 BENCHMARKING OF PARKING IN 15 CANADIAN MUNICIPALITIES – 2015

Exhibit 1-1 lists the 15 benchmark municipalities and shows the abbreviation used for each municipality. The abbreviation for Mississauga is MISS, and the abbreviation for the median is MED.

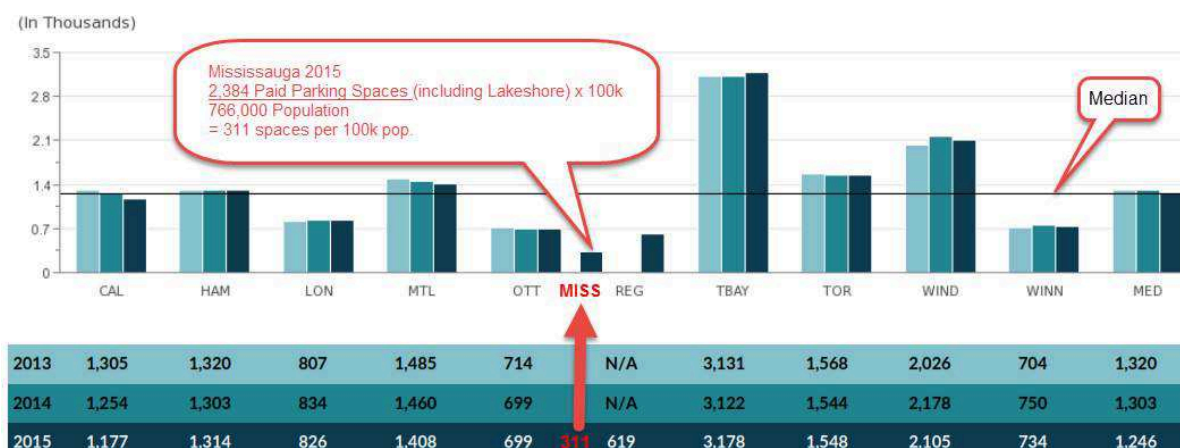
As the regional municipalities (Durham, Halton, Niagara, Waterloo and York) do not operate municipal public pay parking, they are not included in the graphs that summarize the benchmarking (Exhibit 1-1 to Exhibit 1-5). The benchmark graphs compare Mississauga with the remaining ten cities.

Exhibit 1-1 to Exhibit 1-5 show data for 2013, 2014 and 2015 for each MBN Canada city (except Regina for which only 2015 data is shown). The equivalent Mississauga 2015 data was obtained from City staff.

## **Exhibit 1-1 – Municipal Benchmarking Network Canada (MBN Canada)’s Benchmark Municipalities and Abbreviations**

Benchmark Municipalities and Abbreviations			
City of Calgary	CAL	City of Regina	REG
Region of Durham	DUR	City of Thunder Bay	TBAY
Halton Region	HAL	City of Toronto	TOR
City of Hamilton	HAM	Region of Waterloo	WAT
City of London	LON	City of Windsor	WIND
City of Montreal	MTL	City of Winnipeg	WINN
Niagara Region	NIAG	York Region	YORK
City of Ottawa	OTT		

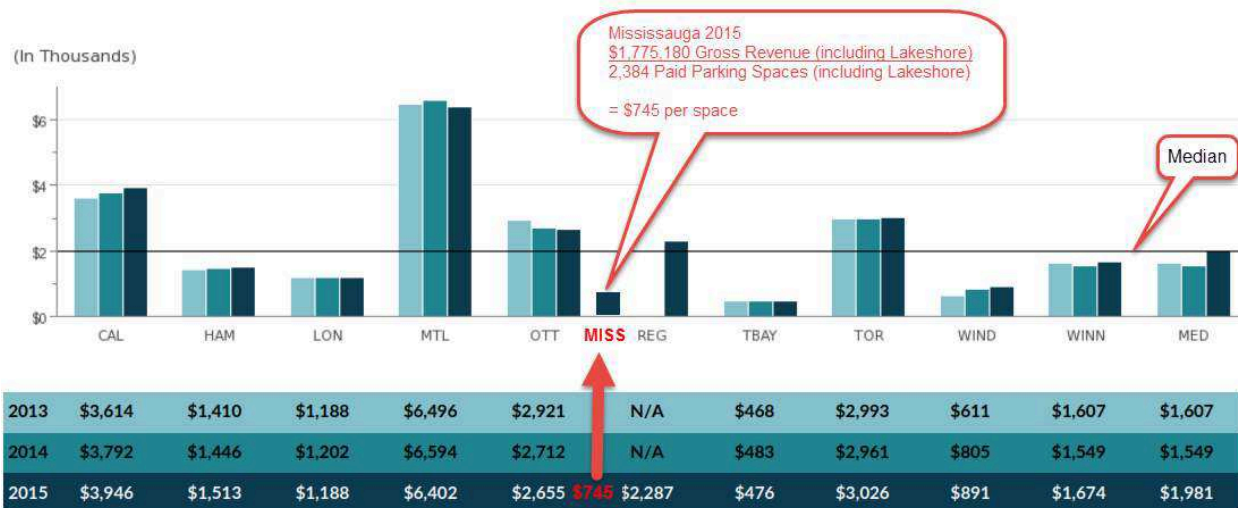
### Exhibit 1-2 – Number of Paid Parking Spaces Managed per 100,000 Population



Source: Performance Measurement Report, Municipal Benchmarking Network Canada, 2015

Mississauga has the lowest number (311, less than half the median) of paid parking spaces per 100,000 population among the benchmark cities. The benchmark cities all have traditional well-established downtowns and pay parking operations whereas Mississauga has a relatively new and growing downtown where pay parking was introduced about 10 years ago.

### Exhibit 1-3 – Gross Parking Revenue Collected per Paid Space



Source: Performance Measurement Report, Municipal Benchmarking Network Canada, 2015

Montreal collects by far the highest gross parking revenue per paid parking space (\$6,402). This is because Montreal has an efficient system for collecting parking ticket revenue thanks to its web application (pay by cell phone) which has noticeably helped to increase revenues and reduce the non-payment rate.

Mississauga has the second lowest revenue per parking space (\$745). Only Thunder Bay collects less revenue per parking space (\$476).

### Exhibit 1-4 – Total Cost per Paid Parking Space Managed

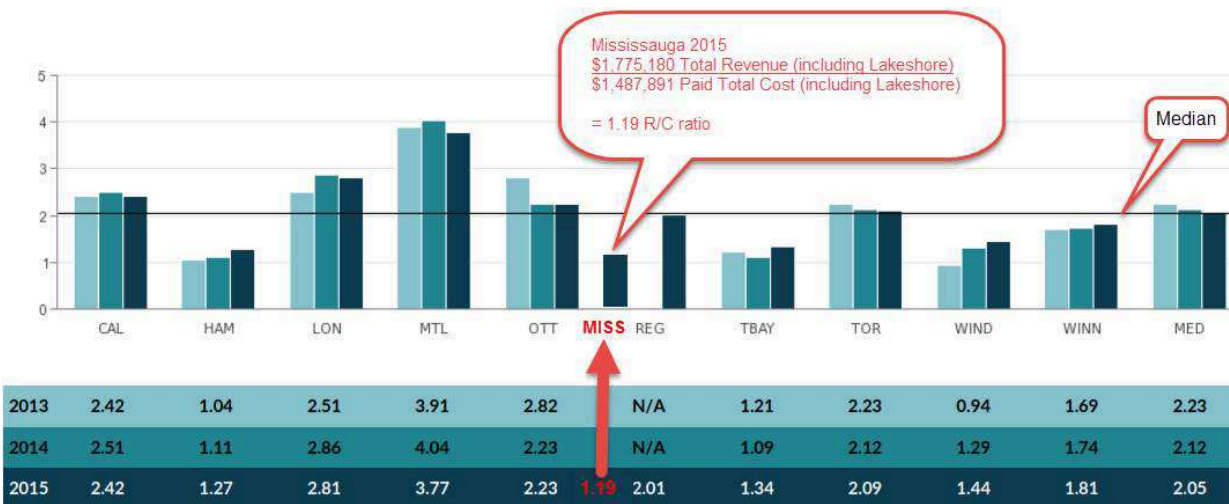


Source: Performance Measurement Report, Municipal Benchmarking Network Canada, 2015

The largest parking operations generally have the highest cost per parking space. Calgary has the highest cost (\$2,129) followed by Montreal (\$1,849), Ottawa (\$1,778), and Toronto (\$1,613).

Mississauga has the third lowest cost per paid parking space (\$624). Only London (\$461) and Thunder Bay (\$440) have lower costs. It is, however, possible that Mississauga's cost is an underestimate as the integrated organizational structure of Mississauga, with multiple sections and departments involved in parking, may have the effect of underestimating total operating costs.

### Exhibit 1-5 – Parking Services Revenue to Cost Ratio



Source: Performance Measurement Report, Municipal Benchmarking Network Canada, 2015

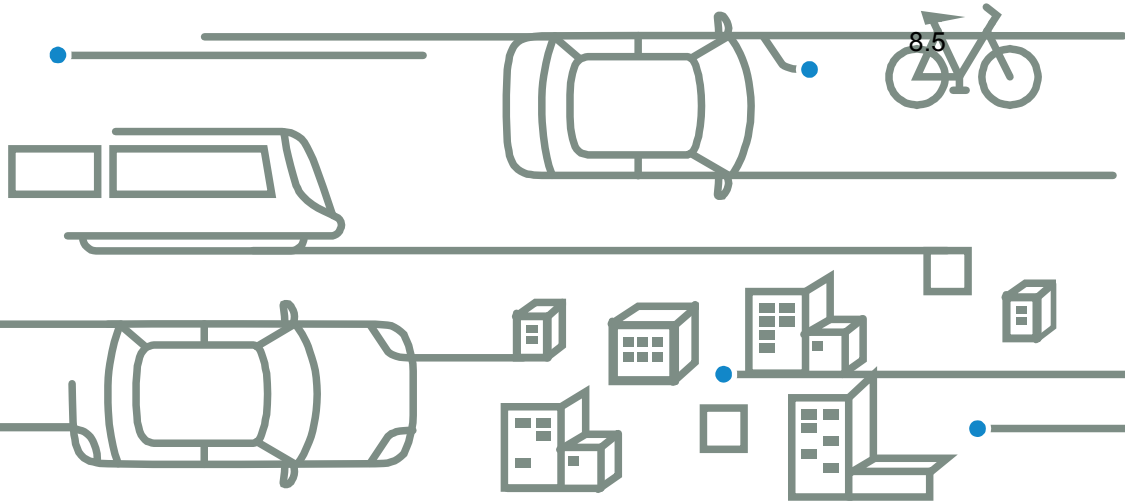
The revenue to cost (R/C) ratio is an indicator of the financial performance of the parking operation. An R/C ratio of 1.00 means that the parking operation is breaking even. An R/C ratio greater than 1.00 indicates a surplus (or profit). The surplus may be reinvested into the operation through a capital reserve fund or serve as a contribution to the municipality (except in the case of privatized models).

In 2015, all the cities made a surplus. Montreal had the highest R/C ratio (3.77).

Mississauga's R/C ratio was the second lowest (1.19). This was slightly lower than Hamilton's 1.27, and clearly lower than the R/C ratio of other eight cities. As Hamilton has a much larger parking operation (3,700 spaces) than Mississauga (2,000 spaces), the benchmarking comparison suggests that, compared to Hamilton, Mississauga's downtown spaces are less used or Mississauga's spaces face greater competition from private parking operators in the downtown. If Mississauga's costs are underestimated, as suggested above it is possible that Mississauga has a smaller surplus than suggested by the R/C ratio.

In summary, although the ten benchmark cities have well-established downtowns and well-established pay parking operations, the comparison with Mississauga is still informative. Mississauga has:

- the lowest number of paid parking spaces (311) per 100,000 population.
- the second lowest gross parking revenue per paid parking space (\$745).
- the third lowest cost per paid parking space (\$624).
- with a revenue to cost ratio of 1.19, Mississauga has the second lowest surplus from parking operations.



# *PARKING MATTERS*



## **APPENDIX 5-2 COMPARISON OF MISSISSAUGA'S ORGANIZATIONAL STRUCTURE WITH ORGANIZATIONAL STRUCTURE OF FOUR CANADIAN CITIES**

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

# 1 COMPARISON OF MISSISSAUGA'S ORGANIZATIONAL STRUCTURE

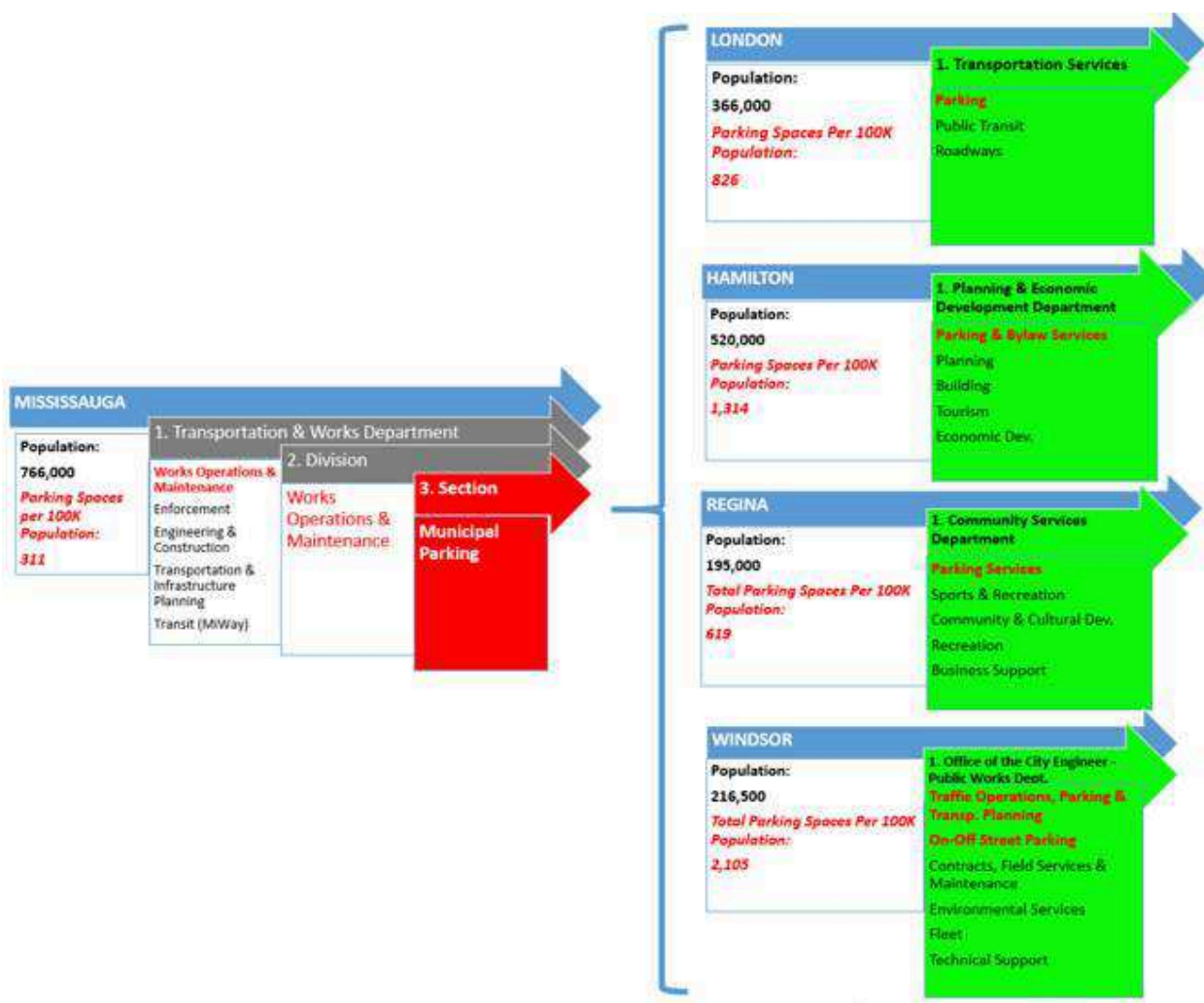
---

Exhibit 1-1 shows that Mississauga's Municipal Parking Chapter is a third layer Chapter under the Work Operations & Maintenance Division which is under the Transportation and Works Department.

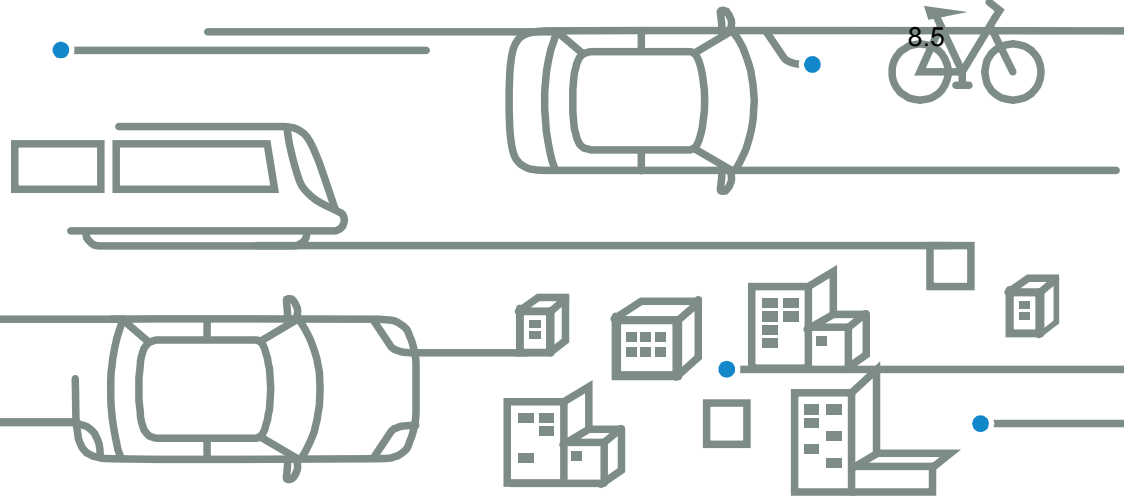
The Department name and details vary in Hamilton, London, Regina, and Windsor, but Exhibit 1-1 shows that parking in each city has a high-profile position in the first layer of a Department. In Hamilton, parking is at the same high level as Planning, Building, Tourism, and Economic Development. In London, parking is at the same high level as Public Transit and Roadways. It is clear that parking has a less prominent position in Mississauga.

The parking function within the organizational structures of the other four Canadian cities has a higher profile and clearer responsibility for delivering parking services than in Mississauga. This is because the other cities have fewer layers of management than does Mississauga. The implementation of a vertically integrated organizational structure will raise the profile of parking in Mississauga and help to meet the City's goals using parking policy and provision as both a service and a tool for city building.

### Exhibit 1-1 – Parking Organizational Structures of Select Canadian Cities







*PARKING MATTERS*



# APPENDIX 6-1 PARKING DATA COLLECTION AND MANAGEMENT

Mississauga Parking Master Plan and  
Implementation Strategy (PMPIS)

# TABLE OF CONTENTS

1	OVERVIEW AND INTENT .....	1
2	MISSISSAUGA'S EXISTING DATA COLLECTION AND REVIEW .....	2
2.1	MUNICIPAL PARKING .....	2
2.2	OTHER CITY OWNED PARKING .....	5
2.3	PRIVATELY OWNED PARKING .....	5
2.4	OTHER OFF STREET PARKING .....	7
2.5	COMMERCIAL/INDUSTRIAL PERMIT PARKING.....	7
2.6	OFFICE PARKING.....	7
2.7	ELECTRIC VEHICLE (EV) CHARGING LOCATIONS .....	7
2.8	VIOLATIONS.....	7
3	TYPICAL PARKING DATA COLLECTION AND ANALYSIS.....	11
3.1	PARKING OPERATIONS.....	11
3.2	CUSTOMER SATISFACTION SURVEYS AND SUMMARIES	17
3.3	FINANCIAL REVIEW .....	19
3.3.1	REVENUE AND COSTS.....	19
3.3.2	CAPITAL RESERVES AND RESERVE FUNDS .....	22
3.4	ENFORCEMENT .....	23
3.4.1	PAID COMPLIANCE.....	23
3.4.2	PARKING BY-LAW VIOLATION .....	24
3.4.3	BY-LAW ENFORCEMENT .....	26
4	SUMMARY OF PARKING DATA COLLECTION AND MANAGEMENT FRAMEWORK .....	27

---

## ***APPENDICES***

**A** GLOSSARY

**B** SAMPLE CUSTOMER SERVICE SURVEY

# 1 OVERVIEW AND INTENT

The City of Mississauga has provided WSP team with various parking data in the form of reports, maps and spreadsheets. This data was reviewed by our team to establish a new data collection and management framework which would serve as a base for future parking data collection and analysis in the municipality.

The consolidation of this spatial and non-spatial data and other information is intended to more precisely identify the existing supply and location of parking across the City, its operations and financial stability, and provide a more comprehensive understanding of existing parking conditions across Mississauga. This will form the foundation for more up-to-date, real-time 'business intelligence' for the City and assist with greater organizational capacity for effective parking management.

Consistent with the ideas advanced in the Best Practices Review, the data collection and management program is designed to assist with analysing the parking situation both at a site-by-site and a precinct level across the City. It will be used both as a standard reporting tool to analyse parking as a whole at the municipality level as well as an analysis tool to determine key parking issues in different areas ('parking precincts') of the City. A practical example of this is using the program to assist with establishing a current day scenario and then identifying the relevant parking management principles and developing associated rates, utilization targets and other operational issues to improve the existing situation.

The data collection and management program will allow the City to become more proactive in responding to emerging parking issues by reducing the time required for decision making and helping the City to be more responsive and agile to responding to parking issues as and when they occur. This comprehensive approach not only empowers the City to adopt a 'business intelligence' approach to parking management, but also help to analyse issues from an equity and fairness perspective as well by providing it with the information it needs to make informed decisions.

## 2 MISSISSAUGA'S EXISTING DATA COLLECTION AND REVIEW

The existing data provided was reviewed based on the known different types of parking in the City:

- 1 Municipal Parking
- 2 Other City-owned parking
- 3 Privately-owned parking
- 4 Major civic institutions
- 5 Residential Parking
- 6 Commercial/Industrial Parking
- 7 Office

### 2.1 MUNICIPAL PARKING

The data received on municipal parking includes information for on-street and off-street parking structures. Available information on off-street parking includes;

- Garages – Downtown Mississauga – name, rates, locations, supply and hours of operations
- Lots – Downtown Mississauga - name, rates, locations, supply and hours of operations

There is limited information on parking machines at these garages and lots, including machine number, address, tariff and installation date. This information should be saved and consolidated into a operational database. If parking machines are electronic, information such as utilization should be extracted and this should be added in the database. This would help in identifying which lots or garages are at capacity or under-utilized. Information on utilization could be collected once a month and inputted into the database to track parking trends.

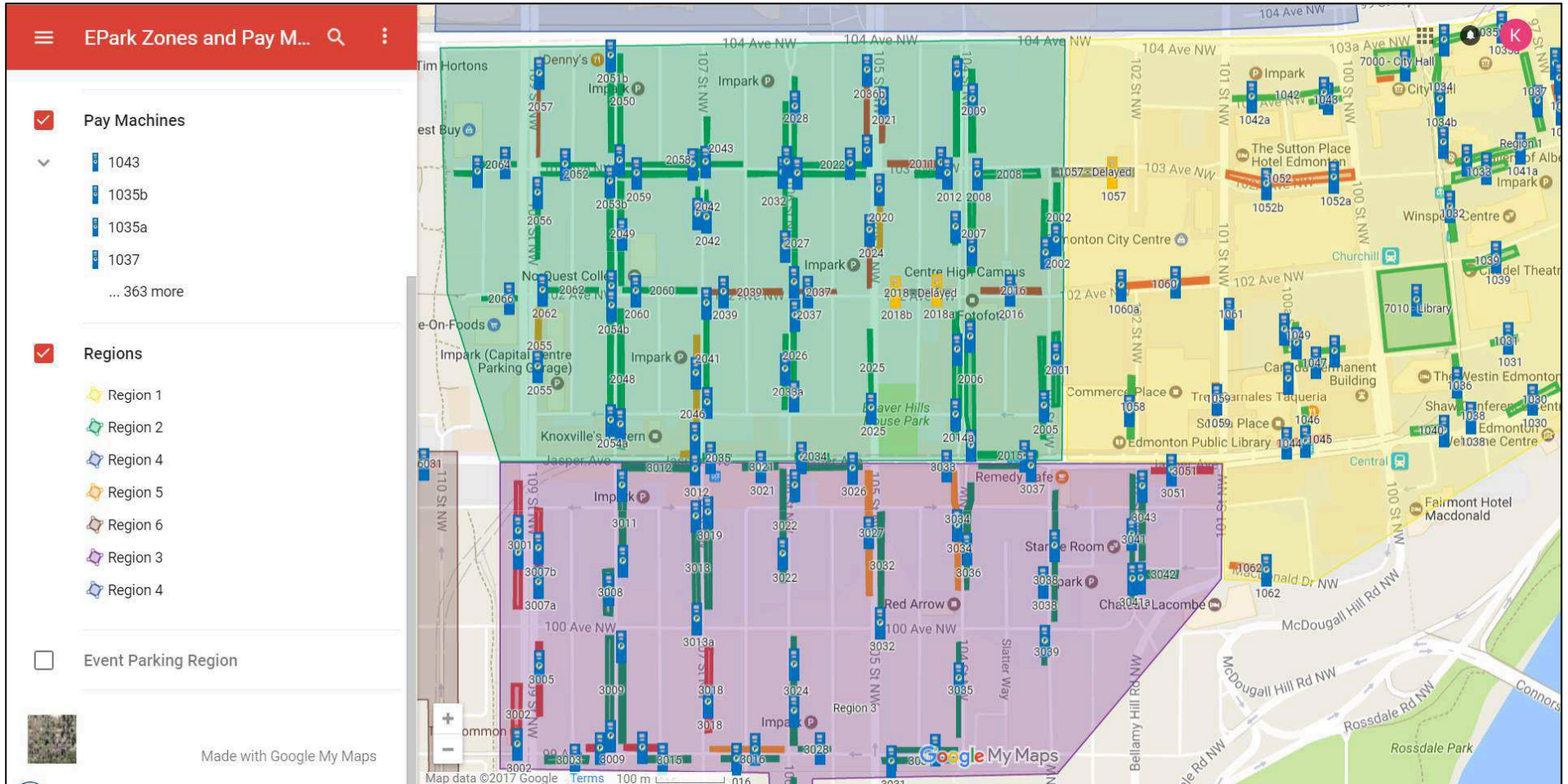
For on-street parking there is metered parking information available with machine number, location, fee and installation dates. This information lacks basic supply and would benefit from monthly utilization surveys as well.

In summary, this information should all be consolidated into a spatial database. GIS software allows lots, garages and parking machines to be geospatially referenced. Each parking structure should have their name, supply, rates, and hours of operation linked to them for quick and easy reference.

An example of how this information can be visually represented by blockface can be seen in Exhibit 1. This represents the parking location, quantity and prevailing tariff for on-street parking in Edmonton after the deployment of Calgary Parking Authority ePark technology in 2015.

Private providers such as Parkopedia are already crowdsourcing similar data for Mississauga (See Exhibit 2). Registered users can supply the company with fee data via their phones and this is uploaded to the parkopedia site, which allows searched based both on price by time of day. Partnerships are possible which allow for the display of real-time data via apps and the web

### Exhibit 1 Edmonton ePark on-street and off street parking locations



Parking locations including location of pay machines, tariffs and defined parking regions (areas or precincts)

(Source: Epark, City of Edmonton)



## Exhibit 2: Parkopedia Parking information for Mississauga

**Parkopedia** Reservations

Mississauga On Canada Now > 2 hours

Sort by: **Distance** Price

**Civic Centre**

Free  
2 hours  
3 min to destination

**Central Library**

Free  
2 hours  
4 min to destination

**Sheridan College - Hazel M...** 720 spots

Free  
2 hours  
4 min to destination

**Hasty Market**

Customers only  
5 min to destination  
2.10m

Ad closed by Google  
Stop seeing this ad  
AdChoices

Parkades Street Filter



---

## 2.2 OTHER CITY OWNED PARKING

There is limited information on Other City-owned parking which would include places such as parks, recreational centers and the Transitway. There was some data linked to MiWay which was extracted from the transit operator's website and substantial information on the GO Stations.

For the MiWay Station lots, their locations, operating hours and supply was readily available. Gaps in the table would be the rates at each lot and utilization surveys. Rates should be updated in the table and surveys should be done on a regular basis or extracted from the parking machines if these machines are not part of the Precise data warehouse.

The GO Station information was supplied to WSP in an excel file format and provided facility name, a description of each lot and the available supply. There were also comments provided on maximum utilization over the year in. WSP added the utilization rate as the capacity and a demand volume for each month was given. The City can adopted a similar format in tracking utilization of MiWay. The gaps for this information would be the rates at each lot.

---

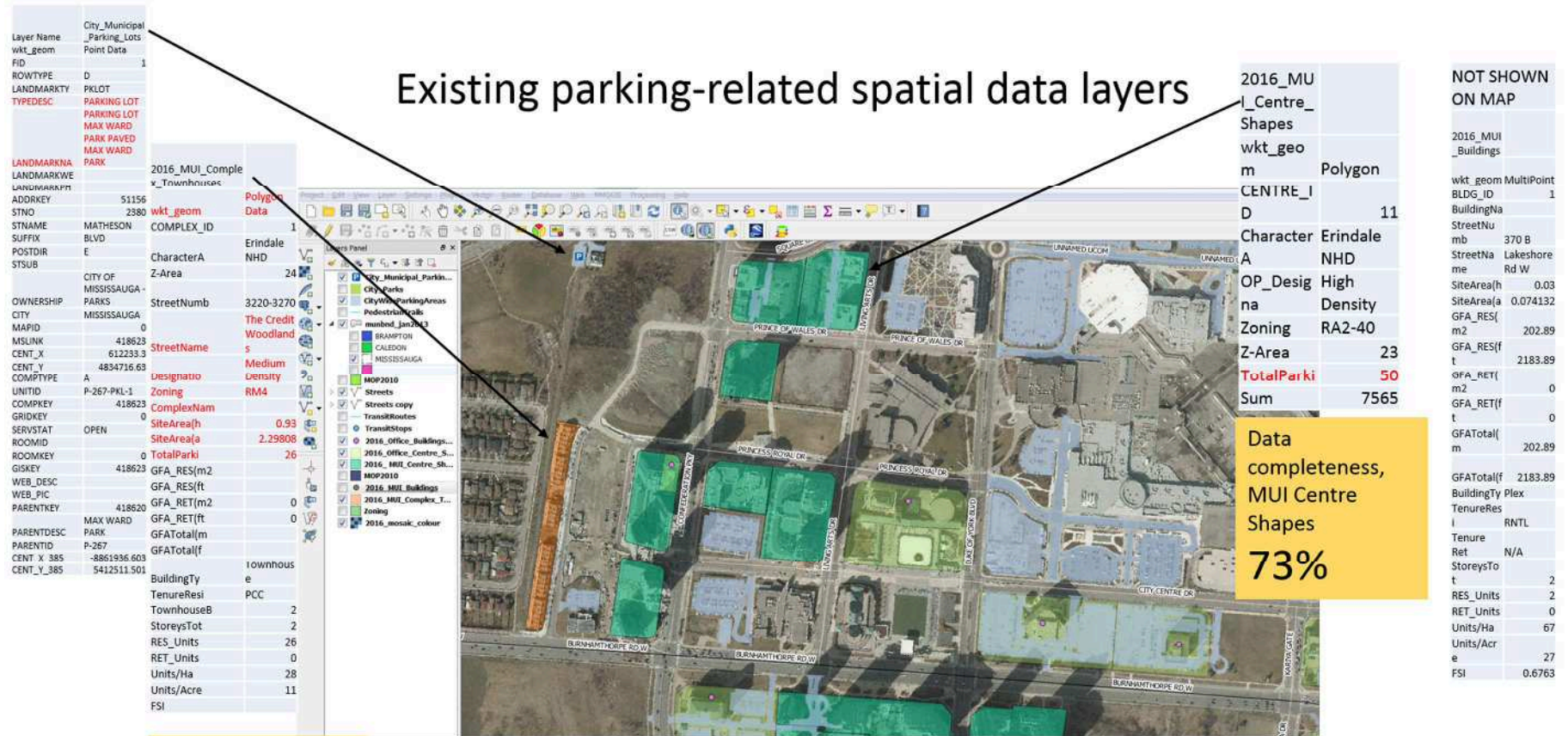
## 2.3 PRIVATELY OWNED PARKING

Privately-owned parking is present on some of the spatial data layers provided to us by the City which was used to develop a comprehensive map See Exhibit 3. The information is spatial (i.e. referenced to a specific location) but contains limited information on the quantity and form of parking, see Exhibit 4.

WSP recommends consolidating the existing data files and adding information at key locations of interest across the municipality (eg: Intensification Areas).

This data can be used to develop a more comprehensive understanding of the existing parking supply for both development and long range planning purposes.

**Exhibit 3: Map of Mississauga showing land dedicated to off-street parking (BLUE), sites with significant parking supply (GREEN) and, townhouses with parking (ORANGE)**



---

## 2.4 OTHER OFF STREET PARKING

There is spatial data layer (see Exhibit 3 BLUE layer), presumably captured using LIDAR data collection. This is currently a raw data layer that contains empty polygons and has not yet been processed to separate out the different parking areas captures at all paved areas. No other specific information was provided on major civic institutions.

Rates, supply and locations and survey information should be collected for other key sites and added to the database as well.

---

## 2.5 COMMERCIAL/INDUSTRIAL PERMIT PARKING

The City of Mississauga has several corporate reports which provide the employment parking rates in 2012, 2014 and 2015 in Downtown. They outline the permit type, current and proposed rates and the number of permits issued in the prior year. This information should be extracted and saved in the spreadsheet and should be updated yearly to track permits issued. This data is not available publicly like that of other municipalities such as Toronto, see Exhibit 5.

---

## 2.6 OFFICE PARKING

There is spatial data layer that has all parking in the City of Mississauga on it, however, it was captured using LIDAR data collection which has not been processed to separate out the different parking areas and captures all parking. No other specific information was provided on office parking.

Rates, supply and locations and survey information should be collected and added to the spreadsheet as well.

---

## 2.7 ELECTRIC VEHICLE (EV) CHARGING LOCATIONS

Information showing the location of existing and proposed EV charging stations are saved on a map which was taken from a City Corporate Report. These locations can be placed onto a separate GIS layer to be merged with current City information. There should also be an update to see if any of the proposed locations have been implemented and made available to the public where public parking is provided. Similar to that provided by the CAA, see Exhibit 5.

---

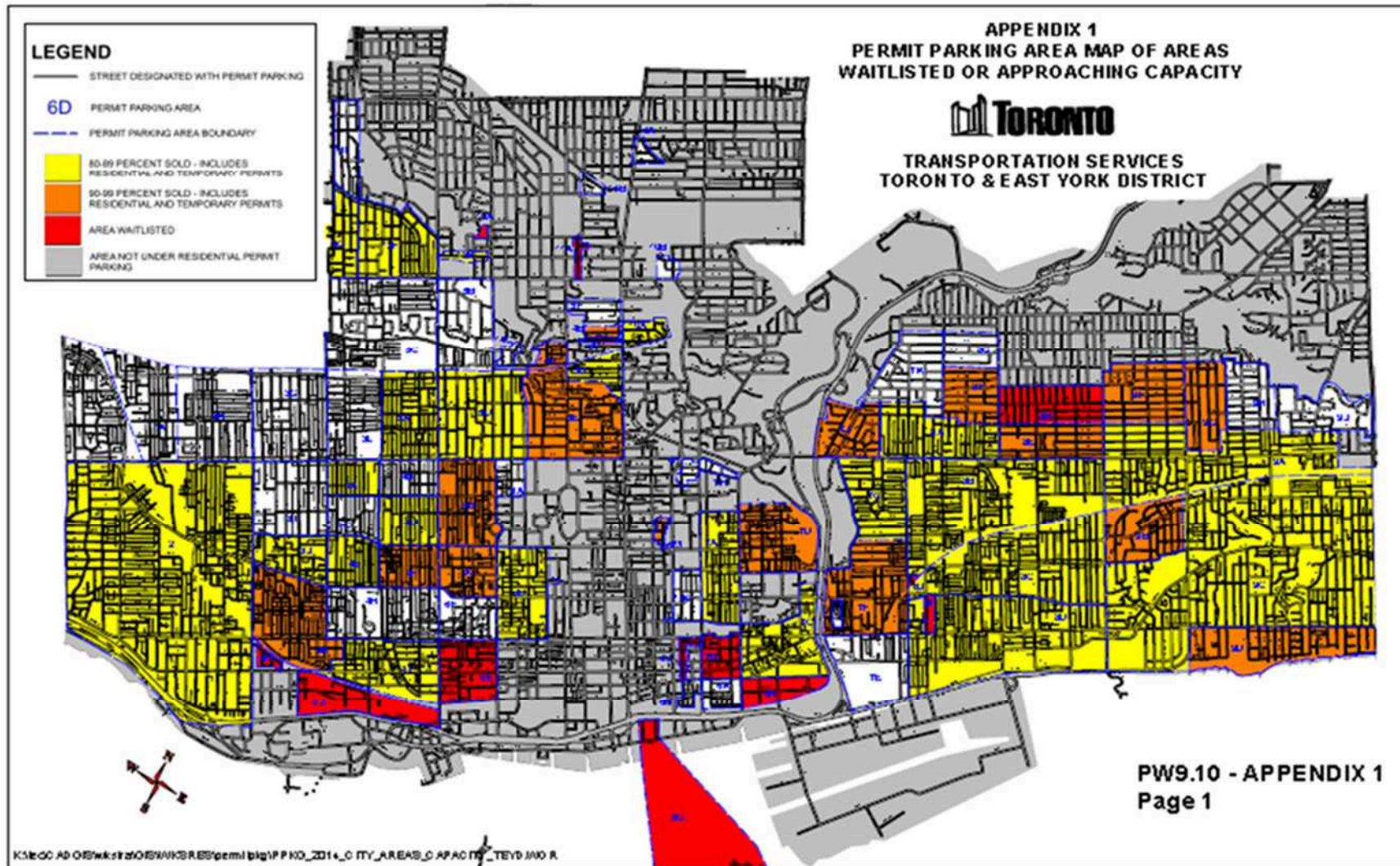
## 2.8 VIOLATIONS

Violation data was provided in two formats, spreadsheets and a word document. Spreadsheets give an account of types of infractions in 2014-2016 and associated fines but does not have any locations linked to them. Future data collection should incorporate the location/address of the infraction and the data mapped similar to the City of Toronto example provided in Exhibit 6.

The word documents summarize the top 10 streets with parking complaints and the top five offences. This type of information can be converted to a visual representation of hot spots on maps which could also help with enforcement.

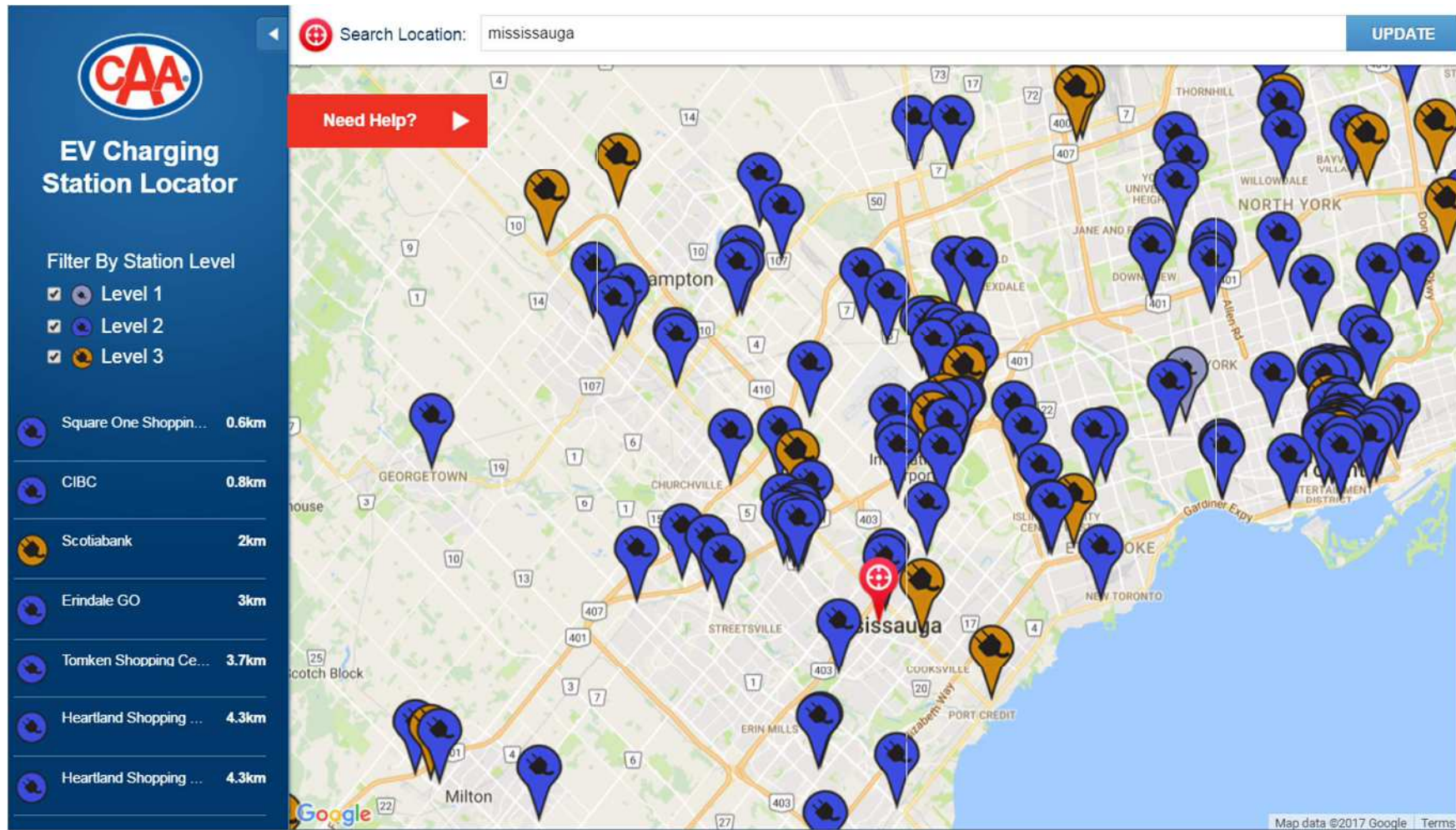


#### Exhibit 4: On-Street Parking Permit



(Source: City of Toronto Website)

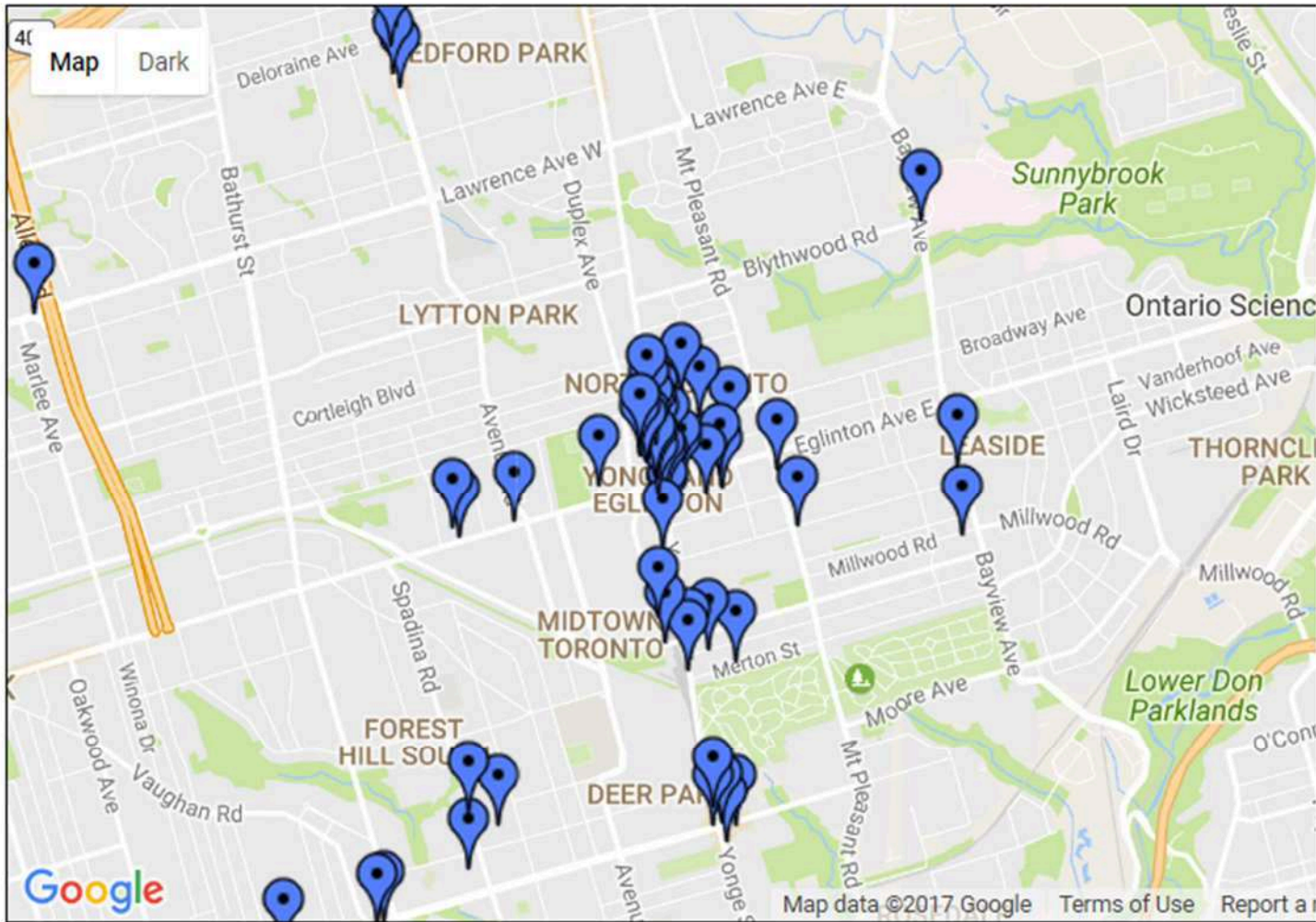
### Exhibit 5: Example of Electric Vehicle Location



(Source CAA Website)



### Exhibit 6: Hot Spot for Parking Tickets – City of Toronto



Locations with 500 or more parking tickets in 2010. Click on a point for details, or zoom in to see an area more clearly.

(Source: Web Lin)

## 3 TYPICAL PARKING DATA COLLECTION AND ANALYSIS

### 3.1 PARKING OPERATIONS

The existing Pay and Display (P&D) machines in use by the City in the City Core and Port Credit provide excellent financial and operational information for effective parking management. In March 2017, the City approved a contract renewal with Precise Parklink Inc. to continue a long term partnership and establish the Pay and Display Parking Management System Acquisition Agreement for 7 years (March 2017 – March 2024), which included service and maintenance, machine monitoring, hardware and optional upgrades, credit card processing, software services and access to the Company's data warehouse for the City's machines. The latter data warehouse will provide the City with ongoing data to measure parking utilization and revenue performance metrics such as those identified below and graphically shown in Exhibit 7 to Exhibit 11.

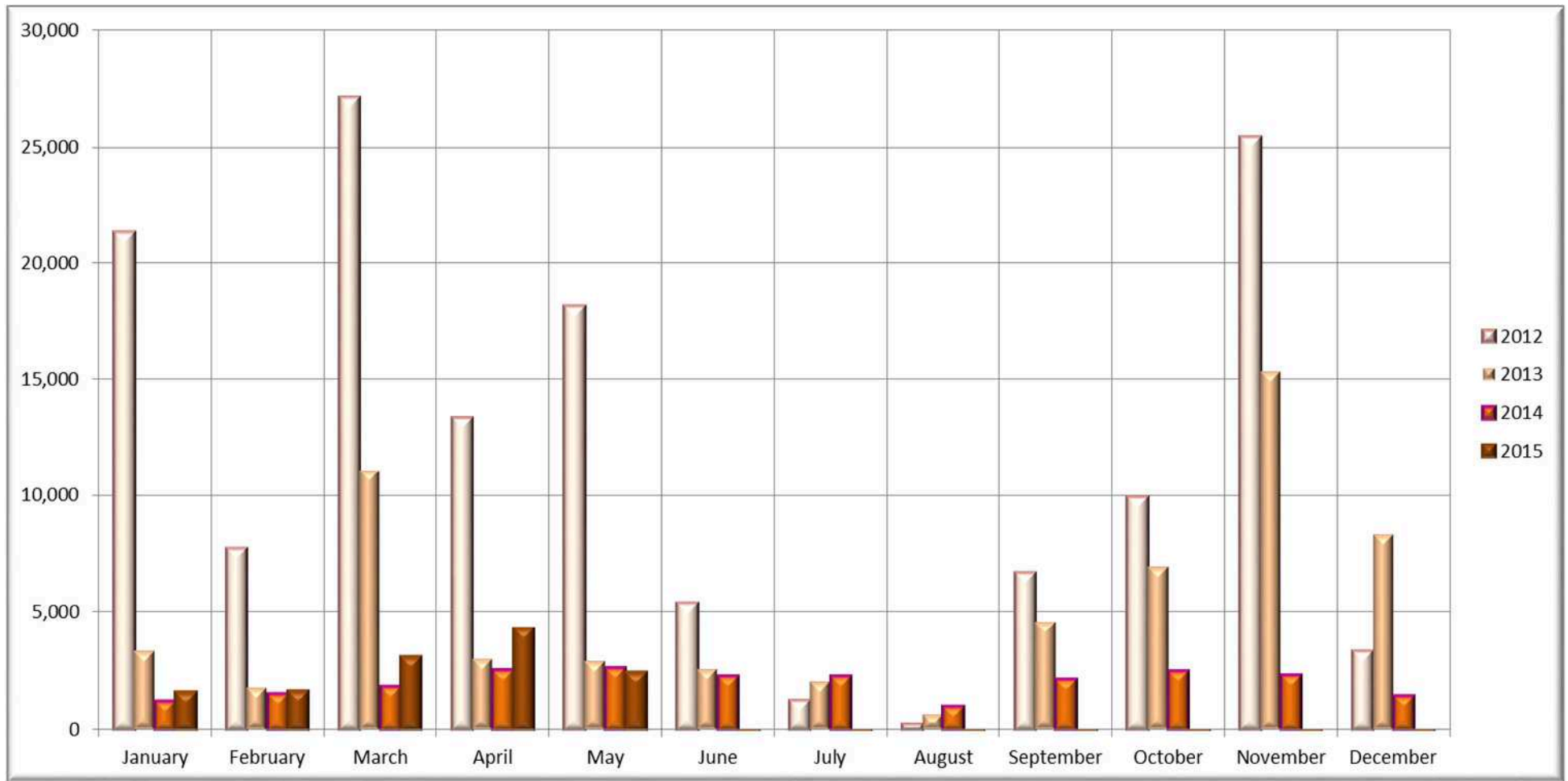
Pay and Display transactions by average length of purchase (in hours and minutes) by day, hour of the day, month (which reflect the volume of parked vehicles), quarter or year can be derived for analysis.

- With each P&D machine geocoded (i.e. longitude and latitude) the above may be provided by blockface, larger zone or district geographical areas and plotted on one of the City's GIS maps of paid parking locations.
- Pay and Display machines provide "purchased" or "paid occupancy" which is good for parking planning and determining dynamic parking fees.

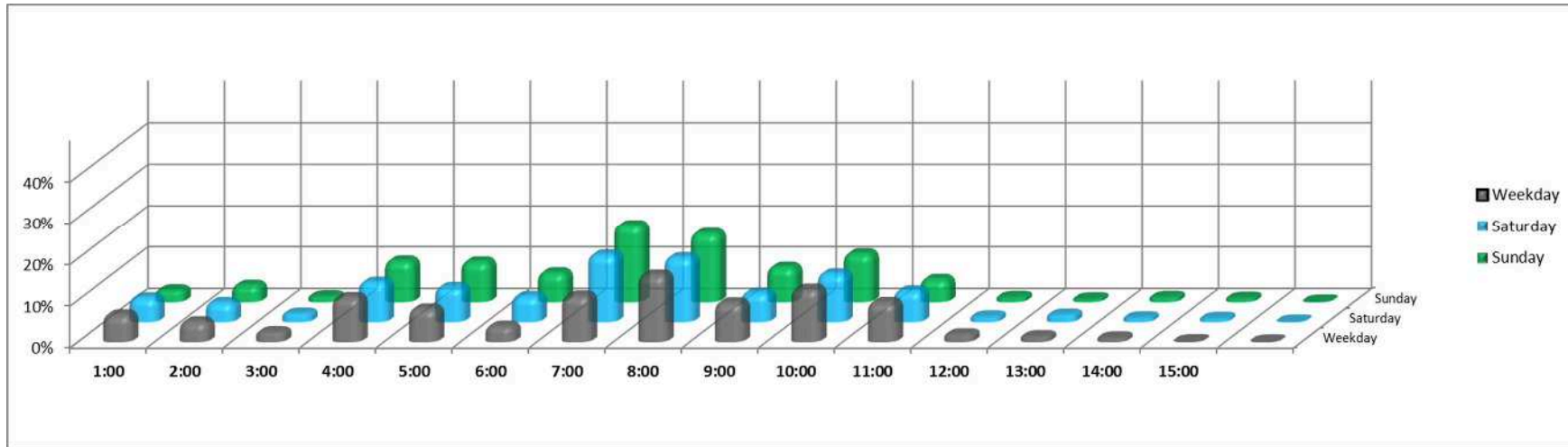
Unless vehicle detection sensors are placed in on-street surface parking spaces or in off-street parking lots to measure total parking occupancy, "paid occupancy" is missing those vehicles where motorists have not paid for parking or the P&D tickets have expired. To overcome this minor shortcoming, manual yearly "snapshot" samples of parking occupancy by surveyors can be used in conjunction with "paid occupancy" data from the P&D machines.

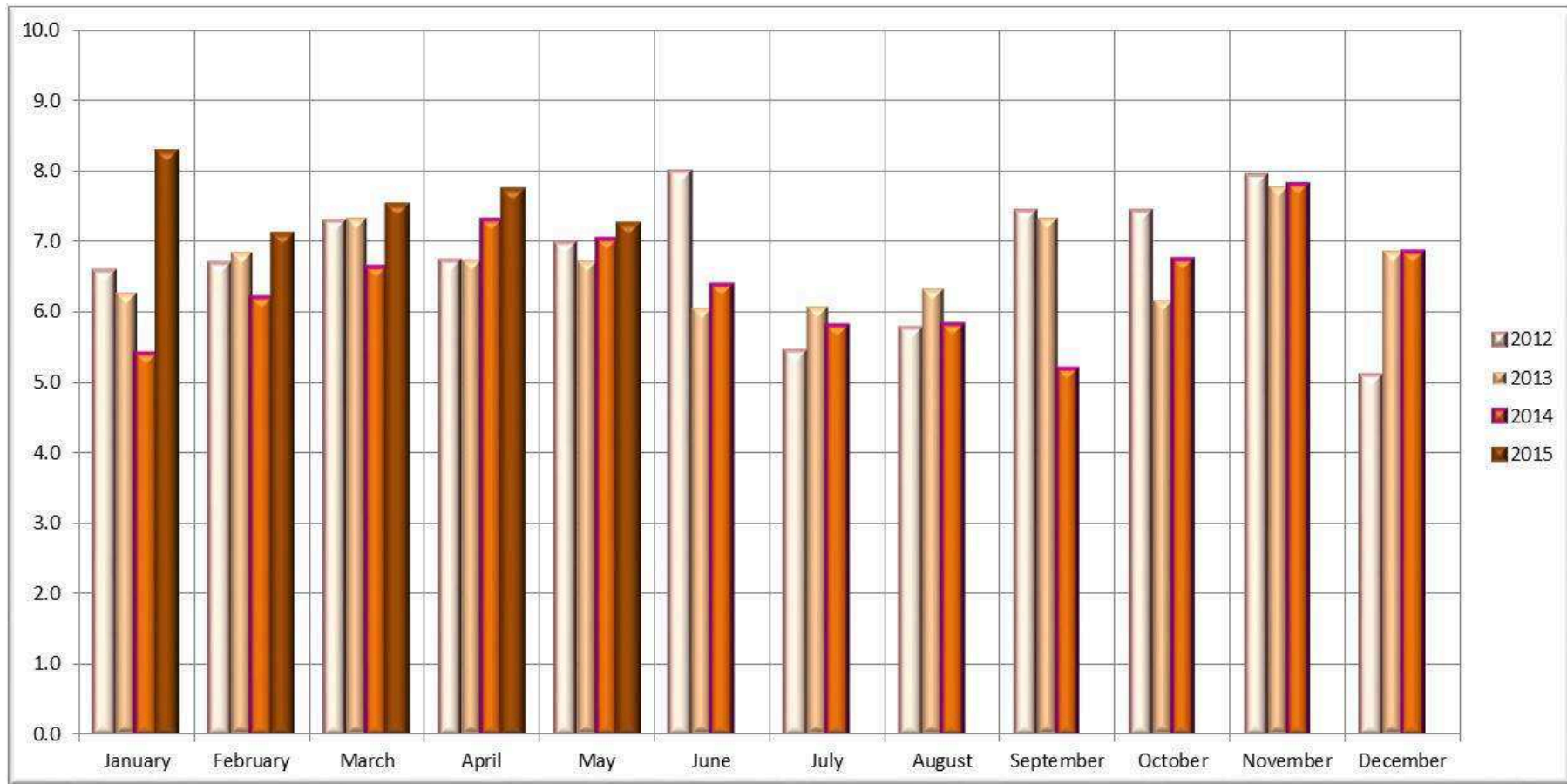
For any location where the Precise Parklink data is not available the City should conduct annual and seasonal Parking Utilization and Duration surveys to complete the database and identify trends, or parking issues.

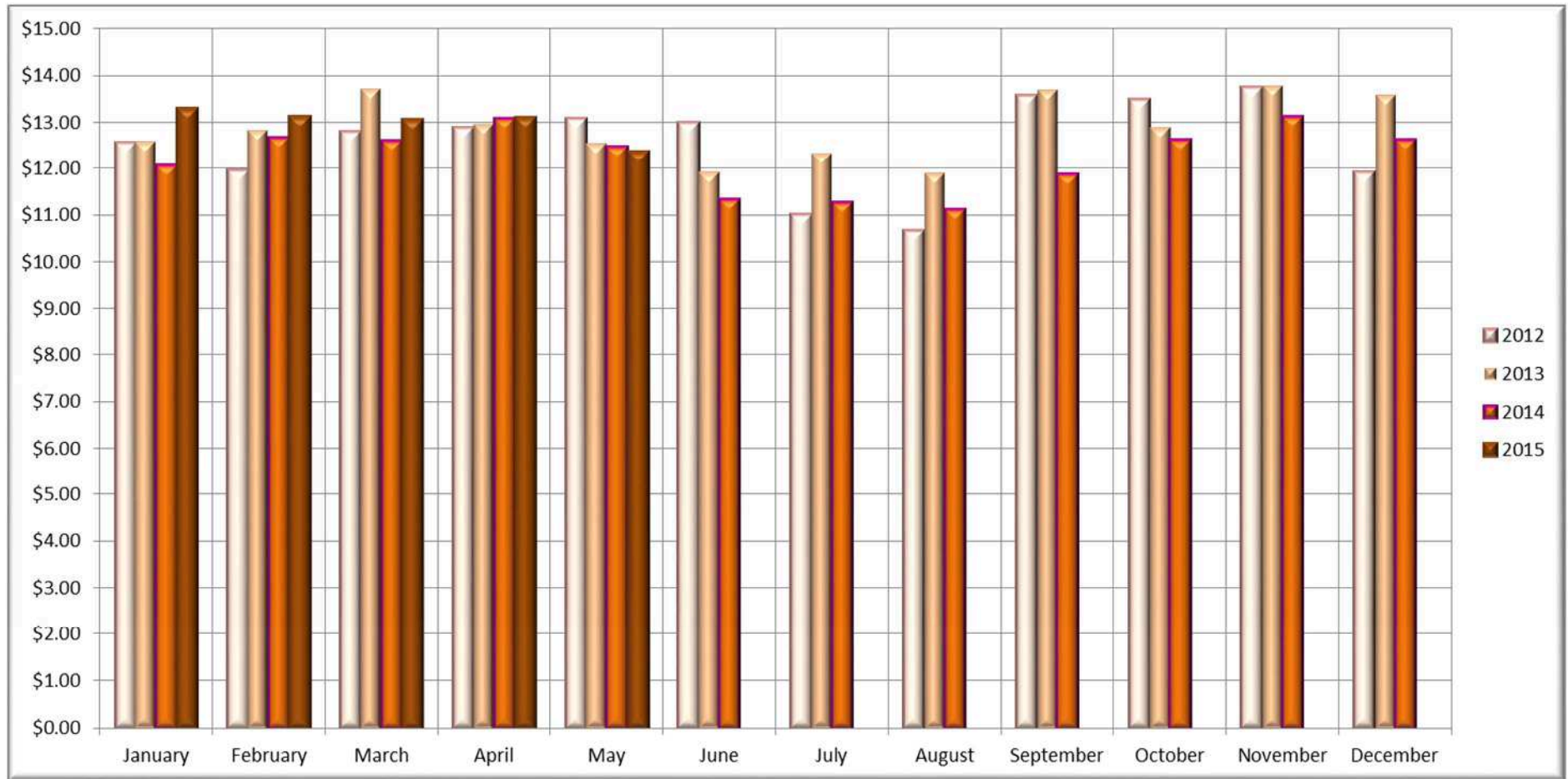


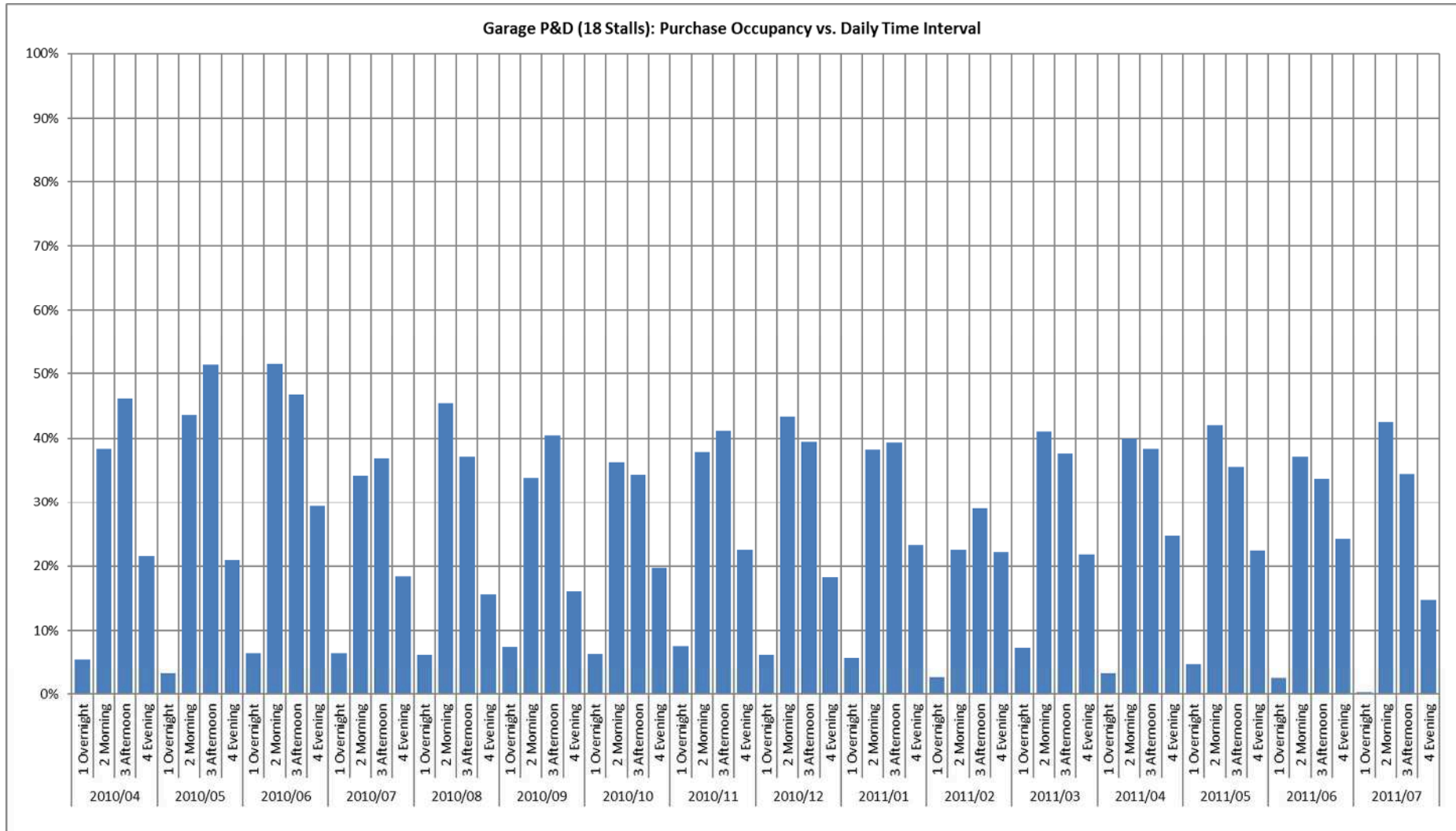
**Exhibit 7: Total Number of Cars Parked**

**Exhibit 8: Annual Duration per vehicle**



**Exhibit 9: Weekday Duration per Vehicle**

**Exhibit 10: Weekday Revenue per Vehicle**

**Exhibit 11: Purchased Occupancy vs Daily Time Interval**

---

## 3.2 CUSTOMER SATISFACTION SURVEYS AND SUMMARIES

Our review indicated no customer surveys were conducted by the City to understand the experience and satisfaction of users and businesses regarding City parking facilities and service. The City should conduct customer satisfaction survey on a regular basis (annually or bi-annually) to understand and address issues customers may have with their facilities and service.

The surveys can be posted on the City's website and advertise through City communication (i.e. digital information at key City locations including parking facilities directing customers to the web site; social media, survey cards at key locations excreta).

The survey should be short and user friendly, such as the examples provided in Appendix B.

The survey results should be summarized such as shown in Exhibit 12, and action taken to address issues identified or trends.

## Exhibit 12: Examples of Customer Satisfaction Survey Summary

### MEAN SATISFACTION SCORES/TREND DATA

The trend data pulls an average score from all the data and compares it to the prior years scores to see if there is any improvement from year to year.

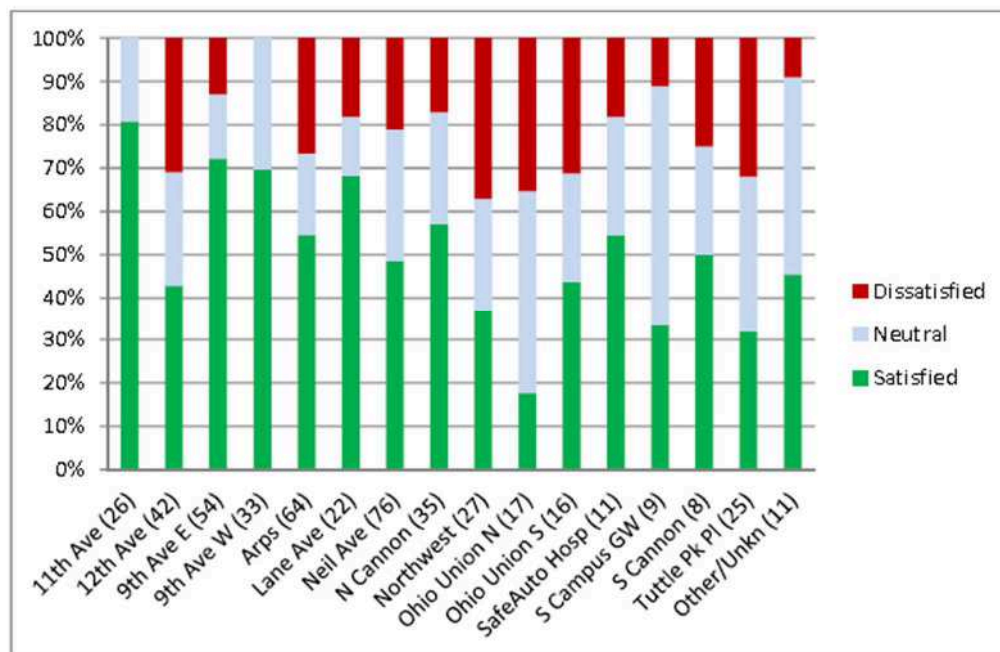
OVERALL SATISFACTION/TREND DATA RESULTS								
Please rate your level of satisfaction with the following:	Mean Satisfaction Scores:							
	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Ease of obtaining a parking permit (semester, long-term, short-term, one-day)	3.40	3.69	3.38	3.95	4.04	4.08	4.13	4.19
Satisfaction with permit sales	N/A	3.64	3.43	3.57	3.28	2.98	3.50	3.43
Parking lots are well-maintained (clean of debris, dirt, clear of cracks, potholes, etc.)	4.24	4.32	3.99	3.38	3.43	4.46	4.45	4.31
Emergency Telephones are easy to locate in and around parking areas	N/A	N/A	N/A	4.19	4.19	4.10	4.13	4.38
I feel safe in and around parking areas	3.76	3.92	3.76	4.05	4.11	4.08	4.19	4.35

### BREAKDOWN OF OVERALL SATISFACTION MEAN SCORES BY DEMOGRAPHICS

Please rate your level of satisfaction with the following:	Mean Satisfaction Scores:			
	Overall	Student	Faculty	Staff
Ease of obtaining a parking permit (semester, long-term, short-term, one-day)	4.19	4.17	3.92	4.37
Satisfaction with permit sales	3.45	3.18	4.00	4.28
Parking lots are well-maintained (clean of debris, dirt, clear of cracks, potholes, etc.)	4.31	4.24	4.58	4.46
Emergency Telephones are easy to locate in and around parking areas	4.38	4.35	4.52	4.45
I feel safe in and around parking areas	4.35	4.32	4.50	4.40

Key for Mean Scores	
	Above Target (4.0 and Above)
	Hitting Target (3.5 - 3.99)
	Below Target (3.49 and Below)

### Are you satisfied with the time it takes you to exit the garage?





## 3.3 FINANCIAL REVIEW

A baseline of parking operations and financial measures should be developed and compared to peer cities, as outlined in the benchmarking bar charts in the Best Practices document from Municipal Benchmarking Network Canada (MBN), formerly known as OMBI.

### 3.3.1 REVENUE AND COSTS

The City has good existing and historical data on monthly and annual parking revenue and costs, which are tracked using Excel spreadsheets in combination with the City's larger SAP financial management information system. The data warehouse (from Precise) of P&D revenue transactions will enhance the existing data by also providing:

- P&D Revenue by month, quarter or year
- P&D Annual Revenue per day of week (i.e. all transactions averaged over an entire year for a Monday, a Tuesday, Wednesday, etc.)
- P&D Transactions by month (which reflect the volume of parked vehicles), quarter or year.
- P&D Revenue Per Transaction by month, quarter or year
- P&D Revenue Per Payment Type: Coins, Credit card & Multi-Visit card.

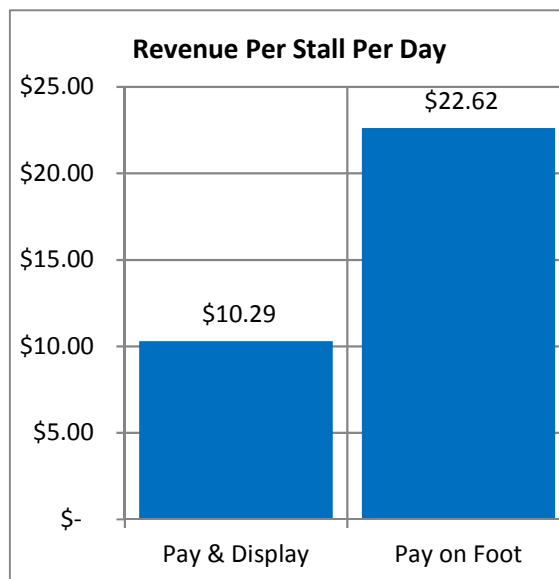
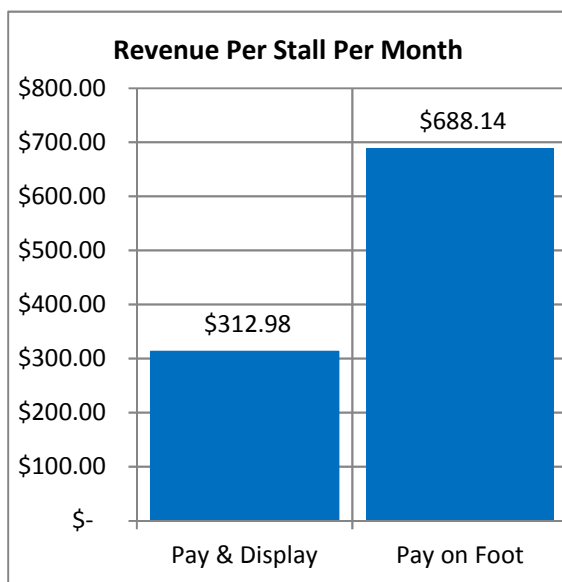
With each P&D machine geocoded (longitude & latitude) all of the above may be provided by blockface, larger zone or district and imported into a GIS map of the City's paid parking locations.

The City currently tracks monthly parking permits and this data should be merged to provide revenue KPIs as described in the subsequent sections of this report.

#### REVENUE PER STALL PER MONTH (AND PER DAY)

A Key Performance Indicator (KPI) that may also be extracted from the P&D Data Warehouse is Revenue Per Stall Per Month (often referred to "RSM"). In our review of the existing reports there were no reference to this common KPI. A sample graph is shown in Exhibit 13 showing both RSM for revenue from P&D and comparing it to other technology, Pay-on-foot, which the City does not currently use, but is common in parking garages, such as Pearson Airport. If and when the City deploys Pay-on-foot and Pay by Phone technology additional RSM bars may be added to this type of graphic. This data should be integrated with monthly parking permit revenue that is collected separately from the P&D revenue.

All paid parking facilities managed by the City should include RSM as part of monthly, quarterly and annual reporting.

**Exhibit 13: Revenue Per Stall****OPERATING COST PER STALL PER MONTH**

Similar to the Revenue Per Stall Per Month (TSM), the Operating Cost Per Stall Per Month should be calculated using cost data from the City's SAP financial management system.

## REVENUE TO COST RATIO

The revenue to cost (R/C) ratio of a paid parking service is the fraction of operating costs which are met by the parking fees paid by parkers. It is calculated by dividing the parking services total parking revenue by its total operating expenses. Parking facilities that have R/C ratios that are equal to or greater than 100% are breakeven or generate surplus, while those with R/C ratios below 100% are not profitable. The City's Regulatory Services group, which includes parking enforcement, does use the R/C ratio in their annual budget submission, as shown in Exhibit 14: Mississauga's Revenue to Cost Ratio.

**Exhibit 14: Mississauga's Revenue to Cost Ratio**

Measures for Regulatory Services	2013 (Actual)	2014 (Actual)	2015 (Actual)	2016 (Plan)	2017 (Plan)	2018 (Plan)	2019 (Plan)	2020 (Plan)
<b>Financial:</b>								
Revenue to cost ratio (%)	84.8%	88.4%	100%	92%	93%	94%	95%	96%
Revenue Target (%)	92%	93.6%	112%	100%	100%	100%	100%	100%
<b>Customer:</b>								
Parking Consideration Provided	27,168	31,872	44,855	33,000	34,000	35,000	35,000	36,000
Service Request Received	45,344	48,103	50,272	53,000	55,000	57,000	59,000	59,000
<b>Employees/Innovation:</b>								
Employee Engagement Survey/Job Satisfaction	N/A	N/A	58.8%	N/A	N/A	77%	N/A	N/A
Employee Engagement Survey/Employee Satisfaction with City	N/A	N/A	70.3%	N/A	N/A	74%	N/A	N/A
<b>Internal Business Process:</b>								
Licences Issued	36,522	38,298	41,353	39,000	39,000	39,000	39,000	39,000
Council Requests Meeting Turnaround Targets (%)	87.5%	86.3%	88.9%	92.5%	93%	94%	95%	96%

Exhibit 15 Revenue to Cost Ratio Review below shows an example of the financial performance of parking lots and on-street meters using the Revenue to Cost ratio KPI. Poor performing parking facilities may be reviewed with improvement plans and/or for possible disposal or sale. All paid parking facilities managed by the City should include R/C ratios as part of monthly, quarterly and annual reporting.

### Exhibit 15 Revenue to Cost Ratio Review

Parking Facilities	No. of Spaces	2015 Occupancy	Annual Revenue	Annual Expenses	Net Revenue	Revenue/Cost Ratio	Revenue Per Space Per Year
LOT A	45	na	\$ 14,290	\$ 8,080	\$ 6,210	177%	\$ 317.56
LOT B	84	27%	\$ 14,000	\$ 27,320	\$ (13,320)	51%	\$ 166.67
LOT C	142	52%	\$ 33,315	\$ 38,455	\$ (5,140)	87%	\$ 234.61
LOT D	22	23%	\$ 600	\$ 8,870	\$ (8,270)	7%	\$ 27.27
LOT E	212	27%	\$ 2,200	\$ 50,325	\$ (48,125)	4%	\$ 10.38
LOT F	35	41%	\$ 665	\$ 8,755	\$ (8,090)	8%	\$ 19.00
LOT G	68	na	\$ 26,785	\$ 9,665	\$ 17,120	277%	\$ 393.90
LOT H	132	50%	\$ 47,200	\$ 37,040	\$ 10,160	127%	\$ 357.58
LOT I	157	57%	\$ 2,500	\$ 33,990	\$ (31,490)	7%	\$ 15.92
LOT J	77	14%	\$ 100	\$ 14,565	\$ (14,465)	1%	\$ 1.30
On-street Meters	346	23%	\$ 165,100	\$ 110,175	\$ 54,925	150%	\$ 477.17
Sub-total	1320		\$ 306,755	\$ 347,240	\$ (40,485)	88%	\$ 232.39

Source: Example from other parking studies completed by consultant.

Through some software development or programming in Excel, all of these KPIs can be shown in a monthly dashboard report.

### OTHER KEY PERFORMANCE INDICATORS

There are a number of other basic parking service benchmarks relevant to municipal locations with paid parking that should be tracked on a monthly, quarterly and annual basis, they include:

- On-street parking spaces as a percentage of total parking spaces
- Surface parking spaces as a percentage of total parking spaces
- Structured parking spaces (i.e. City Hall garage) as a percentage of total parking spaces
- Administrative costs as a percentage of total operating costs
- Enforcement costs per metered space
- Maintenance costs as a percentage of total operating costs.

### 3.3.2 CAPITAL RESERVES AND RESERVE FUNDS

The City regularly tracks its capital reserves and reserve funds, including Cash In Lieu of Parking, as shown in Exhibit from the City's 2017 Budget, this should be continued.

### Exhibit 16: Mississauga's Capital Reserve Funds

RESERVE FUND	Balance January 01, 2016 (\$000)	2016 Projected Contributions (\$000)	2016 Projected Interest (\$000)	2016 Projected Expenditures (\$000)	Projected Balance December 31, 2016 (\$000)	2017 Projected Contributions (\$000)	2017 Projected Interest (\$000)	2017 Projected Expenditures (\$000)	Projected Balance December 31, 2017 (\$000)
Development Charges Reserve Fund	38,343	26,154	265	(46,818)	17,944	25,000	46	(40,040)	2,950
Cash In Lieu of Parkland	58,397	14,500	1,863	(5,136)	69,624	13,890	2,276	(1,807)	83,983
Cash In Lieu of Parking	5,594	329	147	(573)	5,498	495	118	(1,330)	4,781
Developer Contributions Reserve Fund	18,042	3,300	649	(4,015)	17,976	394	639	(1,670)	17,339
Bonus Zoning	646	5	18	0	669	0	19	0	688
Lot Levy Reserve Fund	44,083	0	1,212	0	45,295	0	1,262	0	46,557
<b>Total Development Related Reserve Funds</b>	<b>165,105</b>	<b>44,289</b>	<b>4,154</b>	<b>(56,542)</b>	<b>157,006</b>	<b>39,779</b>	<b>4,359</b>	<b>(44,847)</b>	<b>156,297</b>

Note: Numbers may not add due to rounding.

## 3.4 ENFORCEMENT

Regular and consistent enforcement is critical to the success of any municipal parking service in order to achieve paid compliance. The City's Parking Enforcement section currently tracks parking violations (tickets) by type of parking ticket, fine amount, number of voided tickets and valid tickets. From the City's Violation Summary Report for 2015, the City issued 190,613 parking tickets amounting to \$8.6 million in fine revenue.

### 3.4.1 PAID COMPLIANCE

Paid compliance refers to those motorists who have paid for the proper amount of time they use a parking space in accordance with the posted parking rates; that is, the P&D ticket was paid for, unexpired and properly displayed on the dashboard of the vehicle. Paid compliance excludes vehicles which park free-of-charge by displaying Accessible Parking Permits. Hence, paid compliance rates reflect the degree to which vehicles which are required to pay actually abide by the paid parking by-laws.

With P&D machines the only way to measure paid compliance is to deploy surveyors to observe whether vehicles have a valid permit displayed on the dashboard, the time has expired or there is no permit present. In our review, the parking violation data was available, however, there was no data on paid compliance and therefore the City may or may not be optimizing compliance levels.

Depending on the frequency of enforcement patrols, paid compliance rates may vary from 60% to 95% and therefore, it's important to measure paid compliance through sample "snapshot" surveys annually.

#### **SNAPSHOT SURVEYS – PAY AND DISPLAY**

In order to determine the effectiveness of compliance to parking fees and posted time limits, it is recommended that annual "snapshot" surveys be undertaken, particularly at high utilization locations. A "snapshot" survey is synonymous with sampling of parking utilization at various City on street and off street parking facilities over a period of time (i.e. 9 a.m. to 4 p.m.) on a selection of days (i.e. a Monday, Thursday and Saturday) normally in the peak season i.e. October or May.

With pay and display (P&D) machines compliance snapshot surveys are done as part of the same parking utilization surveys. For example, surveyors are deployed during the weekday and weekend periods (covering the AM, Noon and PM) when pay parking is in effect at core area on-street pay parking spaces controlled by P&D machines. Each surveyor walks a predetermined data collection route and logs the following data on a survey sheet that is subsequently added into a database for analysis:

- Whether or not a P&D machine was operational, out-of-service or hooded (e.g. due to road closures; construction, special events, etc.);
- Whether or not a P&D receipt was displayed;
- Whether or not the P&D receipt showed evidence of payment;
- The amount paid;
- Whether or not the P&D receipt had expired;
- Whether or not an Accessible Parking Permit was displayed;
- Whether or not a parking violation ticket was present (for those vehicles in violation).

Mobile LPR (Licence Plate Recognition) technology is a very efficient method of collecting pure parking occupancy data, however, it is not useful for determining compliance because the LPR cameras cannot pick up the information related to Pay and Display operations i.e. presence of a P&D receipt, expiry, violation ticket issued and presence of Accessible or Monthly Parking Permit or regular monthly parking permit. Each surveyor must approach each vehicle and check dashboards and windshields for such information.

### 3.4.2 PARKING BY-LAW VIOLATION

Another way of looking at paid parking compliance rate is via the paid violation rate – the additional percentage of paid compliance required to reach a total of 100% paid compliance. The paid violation rate excludes vehicles which park free-of-charge with Accessible Parking Permits. The violations observed may be vehicles which carry an expired P&D ticket, were parked at an expired meter, or had not purchased a P&D ticket at all. In our review of the City data, there was no data on the paid violation rate.

Depending on the frequency of enforcement patrols, paid violation rates may vary from 5% to 40% and therefore, it's important to measure violation rates through sample “snapshot” annual surveys performed by surveyors.

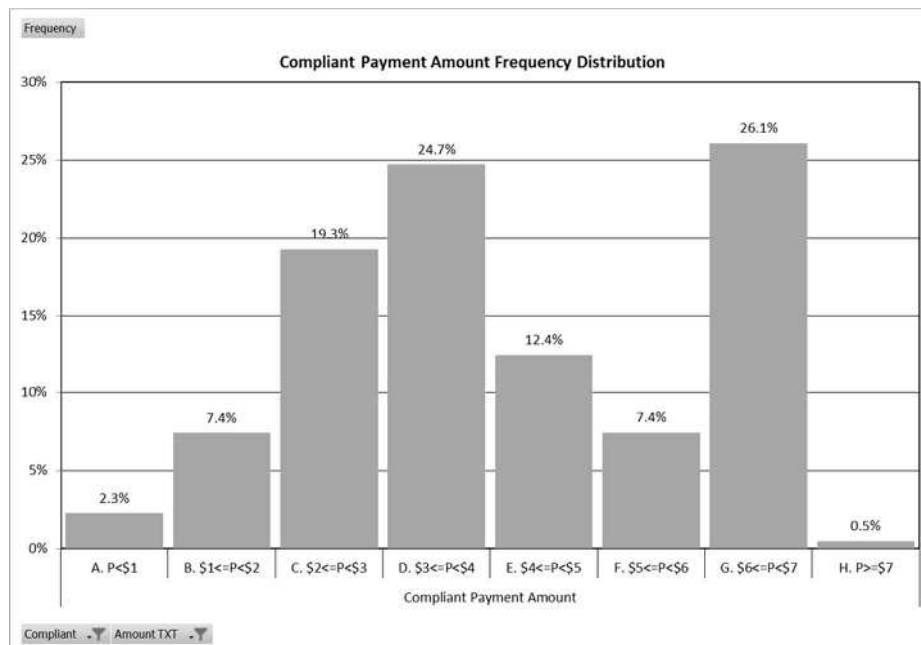
From the snapshot surveys and in addition to the parking utilization data tables and graphs previously outlined, the following are examples from various parking studies undertaken by our consulting team and how the data is used.

#### COMPLIANT PAYMENT AMOUNTS

The distribution of the compliant transactions is displayed in Exhibit 17.

In this example, of the compliant transactions, 2.3% were less than \$1.00, 7.4% were between \$1.00 and \$2.00 and over 90% exceeded \$2.00. Hence, the opportunity for potential abuse by motorists who purchase less than \$2 of parking time and exceed the time limit (with hopes of by-law violation ticket avoidance), represented less than 10% of the total.

**Exhibit 17: Compliant Payment Amount Frequency Distribution**

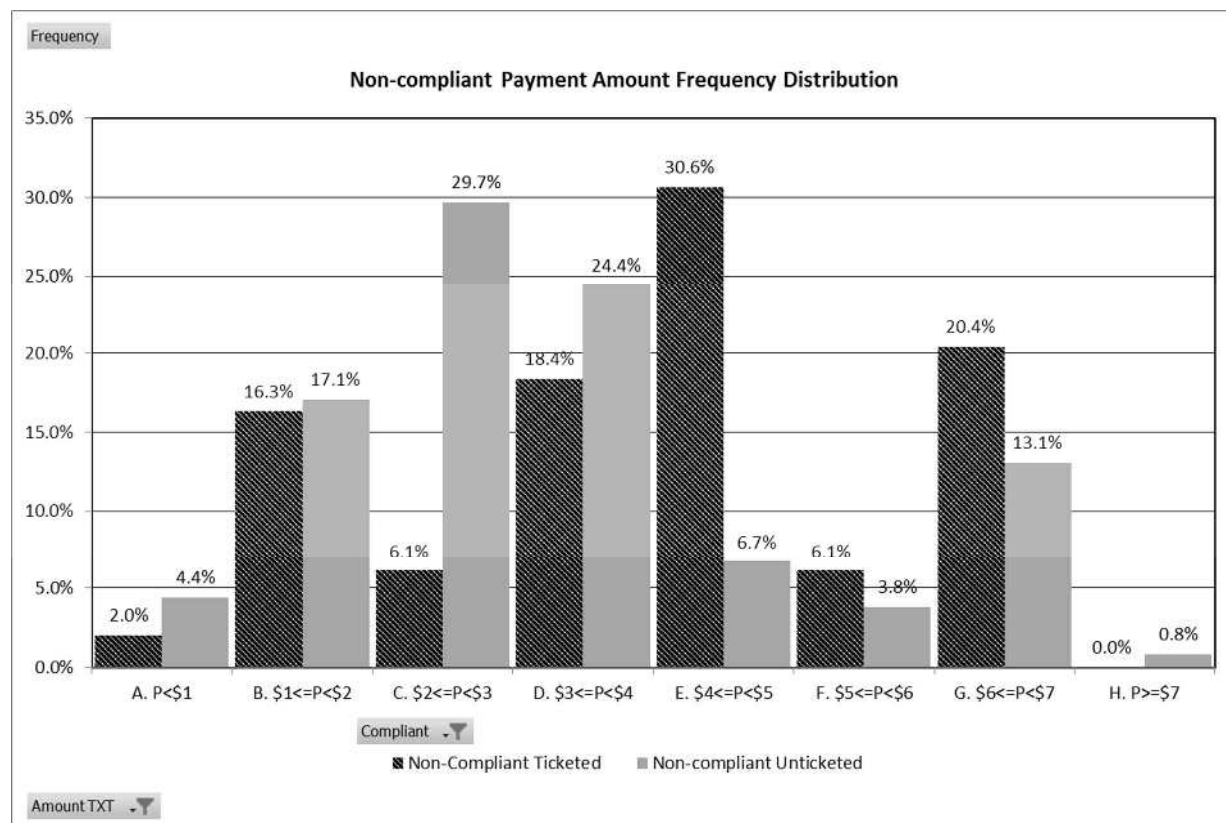


## NON-COMPLIANT PAYMENT AMOUNTS

Another example, the distribution of the compliant transactions is displayed in Exhibit .

The highest positive variance between un-ticketed parking incidents and ticketed parking incidents occurred between the \$2.00 and \$3.00 payment amounts, where 29.7% of non-compliant un-ticketed vehicles were observed, but only 6% of non-compliant ticketed vehicles were counted. This finding suggests that paying between \$2.00 and \$3.00 while parking longer would give a person the best chance of evading a ticket. The highest positive variance between ticketed parking incidents and un-ticketed parking incidents occurred between the \$4.00 and \$5.00 payment amounts, where 30.6% of non-compliant ticketed vehicles and 6.7% of non-compliant un-ticketed vehicles were counted. This finding suggests that paying between \$4.00 and \$5.00 while parking longer would give a person the greatest chance of being ticketed for non-compliance with parking by-laws.

**Exhibit 18: Non-compliant Payment Amount Frequency Distribution**





### 3.4.3 BY-LAW ENFORCEMENT

The parking violation ticket capture rate is the percentage of total parking infractions that are actually issued parking violation tickets by By-law enforcement officers. It is impractical to issue tickets to 100% of violators as every parking space would have to be enforced continuously over several hours throughout the day. This would be prohibitively expensive and inefficient with current technology. It is also unnecessary, as enforcement can be random (motorists unaware of the timing of enforcement patrols), yet reasonably frequent to encourage compliance. In our review, there was no City data on the violation ticket capture rate.

Parking violation ticket capture rates may vary widely depending on the frequency of enforcement patrols. In downtown cores, violation ticket capture rates are typically less than 20% i.e. out of the total violations, 20% are actually issued parking tickets. The City should conduct surveys to determine the violation ticket capture rate. The surveys would include, surveyors record the number of vehicles with expired P&D tickets (or no P&D tickets) and record on their survey sheet whether a parking violation ticket was issued by a By-law enforcement officer for each of the violation.

#### PARKING VIOLATION TICKET CAPTURE RATE

The parking violation ticket capture rate is the percentage of total parking infractions that are actually issued parking violation tickets by by-law enforcement officers. It is impractical to issue tickets to 100% of violators as every parking space would have to be enforced continuously over several hours throughout the day. This would be prohibitively expensive and inefficient with current technology. It is also unnecessary, as enforcement can be random (motorists unaware of the timing of enforcement patrols), yet reasonably frequent to encourage compliance.

Parking violation ticket rates from an example survey are shown in Exhibit 19.

The total parking violation ticket capture rates are relatively close across-the-board, ranging from 10% to 17%. Examination of specific on-street sub-zones in the table hints at the existence of parking violation ticket capture rates which are significantly greater than the average. Several sub-zones with ticket capture rates in excess of 20% can be identified. If the frequency of enforcement patrols were increased combined with careful observations by by-law enforcement officers of P&D receipts, paid compliance levels would increase substantially.

#### Exhibit 19: Parking Violation Ticket Capture Rates

On-Street Sub-Zone	Ticket Capture Rate		
	June 2013	Fall 2013	June 2014
4B	7%	20%	11%
4C	20%	18%	0%
5A	50%	49%	6%
5B	0%	7%	9%
5C	17%	22%	10%
6A	8%	0%	52%
6B	30%	22%	0%
6C	0%	0%	3%
6D	22%	10%	18%
8A	1%	0%	6%
8B	1%	3%	10%
9C	12%	61%	8%
9D	3%	23%	14%
9E	7%	0%	8%
<b>Sub-Zone Average Total</b>	<b>10%</b>	<b>17%</b>	<b>10%</b>

## 4 SUMMARY OF PARKING DATA COLLECTION AND MANAGEMENT FRAMEWORK

The proposed Parking Data Collection and Management Framework is inherently linked to the broader objectives of the PMPIS. The following provides the major element of a parking data management framework and the outline in data that should be collected and its subsequent analysis. The details must be updated over time to reflect changes in the system.

### DATA MANAGEMENT FRAMEWORK

- A. In the long term the City should invest in smart parking database and software program these system has the following benefits to the City:
  - Improved traffic flow / reduced congestion
  - Statistical and real-time information on parking vacancies
  - Intelligent usage of infrastructure
  - Simplified parking data collection at a reduced cost
  - Possibility of convenient cashless parking via automated up-to-the-minute billing
  - Safer traffic with efficient enforcement of illegal parking activities
  - Usage of smart parking infrastructure and data for multiple applications in and beyond traffic Management
  - Encourage the use of public transportation at times of congestion
- B. Prior to having a smart parking system in place the City should develop a database that houses the parking data provided through the Precise data warehouse for all its machine, supplement this data through parking surveys of the missing data in order to have a complete database.
- C. The database should have GIS capabilities that allow the addition of data attributes, including spatial information.
- D. The Database should be updated on very regular interval (monthly) and link with other key city database or information such as land use, zoning, building, transportation and transit.

### DATA COLLECTION

- A. The City should consider developing an annual parking data collection program. At a minimum the program should include the following:
  - ✓ Parking utilization and duration at all (not just those currently under the Parking Unit control) City Parking facilities where the Precise data is not available
  - ✓ Paid Compliance Surveys

The surveys should capture seasonal difference at key locations such as Port Credit.

- B. The City should update the database with planned and approved development and identify sites with parking variances.
- C. The City should conduct follow up parking surveys for at least three years at key locations where the approved parking supply is different than the By-law and conduct comparison with the By-law requirements
- D. The City should conduct annual parking utilization on private properties to understand actual parking demand trends and compare the results with By-Law requirements. The site to be selected should be representative of the City (rural, downtown, suburban, neighbourhood, and transit corridors). The land uses should also vary and include residential condo, townhouse, office, employment, retail, institutional (various religious Place of Worship).
- E. The City should conduct annual or bi-annual Customer Service Surveys that capture all its facilities.

## **DATA ANALYSIS**

- A. The City should conduct detail analysis of the database information on an annual basis to identify trends, changes in parking behaviours and parking problem by locations.
- B. The analysis should include:
  - a. Parking Utilization, duration and compliances
  - b. Customer Surveys
  - c. Financial Review of Key Performance Index and Compliance Rates

## **ACTION PLAN**

Based on the results of the annual review the City should develop an Action plan on how to address key issues. These action items should be coordinated with the PMPIS for consistency of the Vision and policies. This information must be shared with other City departments.

# APPENDIX

## A GLOSSARY



# APPENDIX

**Accessible Parking Permit** (also referred to as an APP or Handicap Permit): A provincially authorized parking permit for persons who have disabilities, which allows vehicles to park for free in certain municipalities, such as Ottawa.

**Accessible Permit Occupancy:** The proportion of operational paid parking spaces occupied by vehicles displaying Accessible Parking Permits (APPs).

$$\text{Accessible Permit Occupancy} = \frac{\text{Number of Vehicles with APPs}}{\text{Number of Operational Metered Spaces}}$$

**Blockface** The geographic area along one side of a street, from one intersection to a subsequent intersection upon which vehicles park either in parallel formation or angled (typically 45, 60 or 90 degrees) from the curb of the street.

**Capacity:** The maximum number of parking spaces available for use.

**Capture Rate** (also referred to as the Violation Ticket Rate or Ticketing Rate): The proportion of parked vehicles in violation (i.e. have an expired P&D ticket or no P&D ticket) which were issued a municipal parking ticket by a by-law enforcement officer.

$$\text{Capture Rate} = \frac{\text{Number of Parking Tickets Issued}}{\text{Number of Occupied Expired and/or Unpaid Parking Spaces}}$$

**Demand:** The number of vehicles seeking a parking space at a particular location during a specific time period. The demand indicator is the number of vehicles parked at any time. However, demand may exceed the number of parked vehicles, as once all of the parking spaces are full, vehicles must park elsewhere.

**Empty** (also referred to as Vacant): The total number of operational metered parking spaces which were not occupied by a vehicle during a survey period.

**Hooded:** A metered parking space controlled by a P&D machine fitted with a hood, a bag or other covering placed by authorized personnel to indicate that it not to be used.

**Occupancy** (also referred to as Utilization): The percentage of operational parking spaces occupied by parked vehicles at any one time. Occupancies in excess of 100% suggest overflow conditions.

**Operational Metered Spaces:** The total number of P&D machine controlled parking spaces which were considered operational during the survey period.

$$\text{Operational Metered Spaces} = \text{Total Metered Spaces} - \text{Out of Service spaces} - \text{Hooded Spaces}$$

**Out-of-Service:** A metered parking space with a defective P&D machine or a P&D machine rendered unusable due to construction activities, maintenance activities, special events or vendor activities.

**Paid Compliance Rate:** The proportion of parked vehicles in compliance (i.e. have time remaining on their P&D tickets) in relation to all parked vehicles which are required to pay to park. This rate excludes vehicles which park free-of-charge because they display Accessible Parking Permits.

$$\text{Paid Parking Compliance Rate} = \frac{\text{Number of Parked Vehicles in Compliance}}{\text{Total Number of Parked Vehicles Required to Pay (excludes APPs)}}$$

# APPENDIX

**Pay & Display Machine** (also referred to as a P&D Machine or Multi-space Meter): A type of parking permit issuance machine used for regulation of both on-street parking and/or off-street parking. A customer purchases a permit (referred to as a P&D ticket or receipt) from the machine and displays the ticket on the vehicle dashboard such that it is visible to parking by-law enforcement officers on patrol. One machine services multiple vehicle spaces. Purchases can be made by coins, credit cards and smart cards.

**Pay & Display Ticket:** A paper receipt (also referred to as a P&D permit) issued by a P&D machine which shows the location of the machine, its operator, the parking expiry time, the fee paid and the date/time stamp for the transaction.

**Paid Parking Occupancy Rate:** The proportion of operational paid parking spaces occupied by vehicles which are in paid compliance (i.e. have paid time remaining on their P&D tickets).

$$\text{Paid Parking Occupancy Rate} = \frac{\text{Number of Parked Vehicles in Paid Compliance (excludes APPs)}}{\text{Number of Operational Metered Spaces}}$$

**Parking Ticket** (also referred to as a Parking Violation Ticket): A metered parking space occupied by a parked vehicle with an expired P&D ticket or without a P&D ticket, which has been issued a parking violation notice by a municipal by-law enforcement officer.

**Pay-By-Phone:** A paid parking space occupied by a parked vehicle with a license plate validated as paid-for by an official pay-by-phone registry. Validation is conducted via handheld wireless devices operated by municipal by-law enforcement officers.

**Pay-By-Phone Occupancy Rate:** The proportion of operational paid parking spaces occupied by parked vehicles which are listed in the pay-by-phone registry.

$$\text{Pay by Phone Occupancy Rate} = \frac{\text{Number of Parked Vehicles which use Pay by Phone}}{\text{Number of Operational Metered Spaces}}$$

**Revenue to Cost Ratio:** The revenue to cost (R/C) ratio of a paid parking service is the fraction of operating costs which are met by the parking fees paid by parkers. It is calculated by dividing the parking services total parking revenue by its total operating expenses.

**Single Space Parking Meter:** A device used to collect money, usually coins, in exchange for the right to park a vehicle at a parking space for a for a specific amount of time. The most common application is one parking meter which serves one parking space.

**Total Metered Spaces:** The total number of metered parking spaces or P&D parking spaces surveyed during a survey period.

**Total Parking Occupancy Rate** (also referred to as the Utilization Rate): The proportion of operational paid parking spaces occupied by a parked vehicle.

$$\text{Total Parking Occupancy Rate} = \frac{\text{Number of Parked Vehicles}}{\text{Number of Operational Metered Spaces}}$$

**Zone:** A geographic area consisting of a cluster of sub-zones with an underlying rationale for the grouping.





# APPENDIX

## B SAMPLE CUSTOMER SERVICE SURVEY

## 'A Local Company with a Regional Presence Serving Yo...

# CUSTOMER SATISFACTION SURVEY

Dear Valued Customer:

As a measure of our service and as a commitment to our goal of continuous improvement, we would like to thank you for taking the time to submit this survey letting us know how we're doing.

At Landmark Parking, we take pride in the operation and appearance of all of our facilities, as well as the level of service provided to each of our clients and customers. We encourage feedback from everyone we serve at all times, whether it's a 'pat on the back' or a suggestion to improve our service delivery.

Thank you for choosing Landmark Parking and for taking the time to let us know how we are doing.

Management & Staff,  
Landmark Parking, Inc.

Name

Email Address (Optional)

Phone (Optional)

Would You Like us to Contact You?

☐ Yes

☐ No

**Parking Facility (If Applicable)**

Select ▼

**Please Select a Rating as Applicable**

(5) Excellent (4) Very Good (3) Good (2) Fair (1) Poor

**General Facility**

**1. Overall appearance of the facility (Sound structure, lighting, etc).**

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

**2. Accessibility to walkways, Stairways and elevators (inc. Handicap accommodations).**

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

**3. Condition of stairways, elevators, etc.**

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

**4. Signage (Parking areas, restrictions, directions, etc.)**

☐ 1

☐ 2

☐ 3

☐ 4☐ 5**5. Posting of rates, policies and regulations.**☐ 1☐ 2☐ 3☐ 4☐ 5**6. Overall cleanliness of facility.**☐ 1☐ 2☐ 3☐ 4☐ 5**Personnel****1. Overall appearance of staff.**☐ 1☐ 2☐ 3☐ 4☐ 5**2. Friendly service and assistance**☐ 1☐ 2☐ 3☐ 4☐ 5**3. Knowledgeable (Policies and procedures, rates, specials, general area, etc.).**☐ 1

☐ 2☐ 3☐ 4☐ 5

Other

**1. General security of facility (Staff awareness, controlled access vs. general access to the public).**

☐ 1☐ 2☐ 3☐ 4☐ 5

**2. Special Security (Onsite security staff).**

☐ 1☐ 2☐ 3☐ 4☐ 5

**3. Parking equipment ease of use (Ticket machines, payment centers, etc.).**

☐ 1☐ 2☐ 3☐ 4☐ 5

**4. Administrative Services (Obtaining monthly parking permits, payment reconciliation, problem resolution, etc.).**

☐ 1☐ 2☐ 3☐ 4☐ 5

## Additional Comments

# City of Mississauga

## Corporate Report



Date: 2019/05/21

To: Chair and Members of General Committee

From: Geoff Wright, P. Eng., MBA, Commissioner of  
Transportation and Works

Originator's files:  
MG.23.REP RT.10.Z-29

Meeting date:  
2019/06/12

### Subject

**Lower Driveway Boulevard Parking – Tea Garden Circle (Ward 4)**

### Recommendation

That a by-law be enacted to amend the Traffic By-law 555-00, as amended, to implement lower driveway boulevard parking between the curb and sidewalk, at any time on Tea Garden Circle, as outlined in the report from the Commissioner of Transportation and Works, dated May 21, 2019, entitled “Lower Driveway Boulevard Parking – Tea Garden Circle (Ward 4)”.

### Background

The Transportation and Works Department received a completed petition from an area resident with respect to the feasibility of implementing lower driveway boulevard parking on Tea Garden Circle. Lower Driveway Boulevard parking between the curb and sidewalk is currently prohibited and five-hour parking is permitted on Tea Garden Circle. A location map is attached as Appendix 1.

### Comments

To determine the level of support for lower driveway boulevard parking between the curb and sidewalk, a parking questionnaire was distributed to the residents of Tea Garden Circle.

A total of 131 questionnaires were delivered and 33 (25%) were returned; 28 (85%) supported the implementation of lower driveway boulevard parking and 5 (15%) were opposed. Since greater than 66% of the total respondents support lower driveway boulevard parking, the Transportation and Works Department recommends implementing lower driveway boulevard parking between the curb and sidewalk, at any time, on Tea Garden Circle.

The Ward Councillor supports the proposal for lower driveway boulevard parking. The existing on-street parking regulations will be maintained.



General Committee

2019/05/21

2

Originators files: MG.23.REP

RT.10.Z-29

## Financial Impact

Costs for the sign installation can be accommodated in the 2019 Operating Budget.

## Conclusion

Based on the results of the questionnaire, the Transportation and Works Department supports lower driveway boulevard parking between the curb and sidewalk on Tea Garden Circle

## Attachments

Appendix 1: Location Map - Lower Driveway Boulevard Parking – Tea Garden Circle.



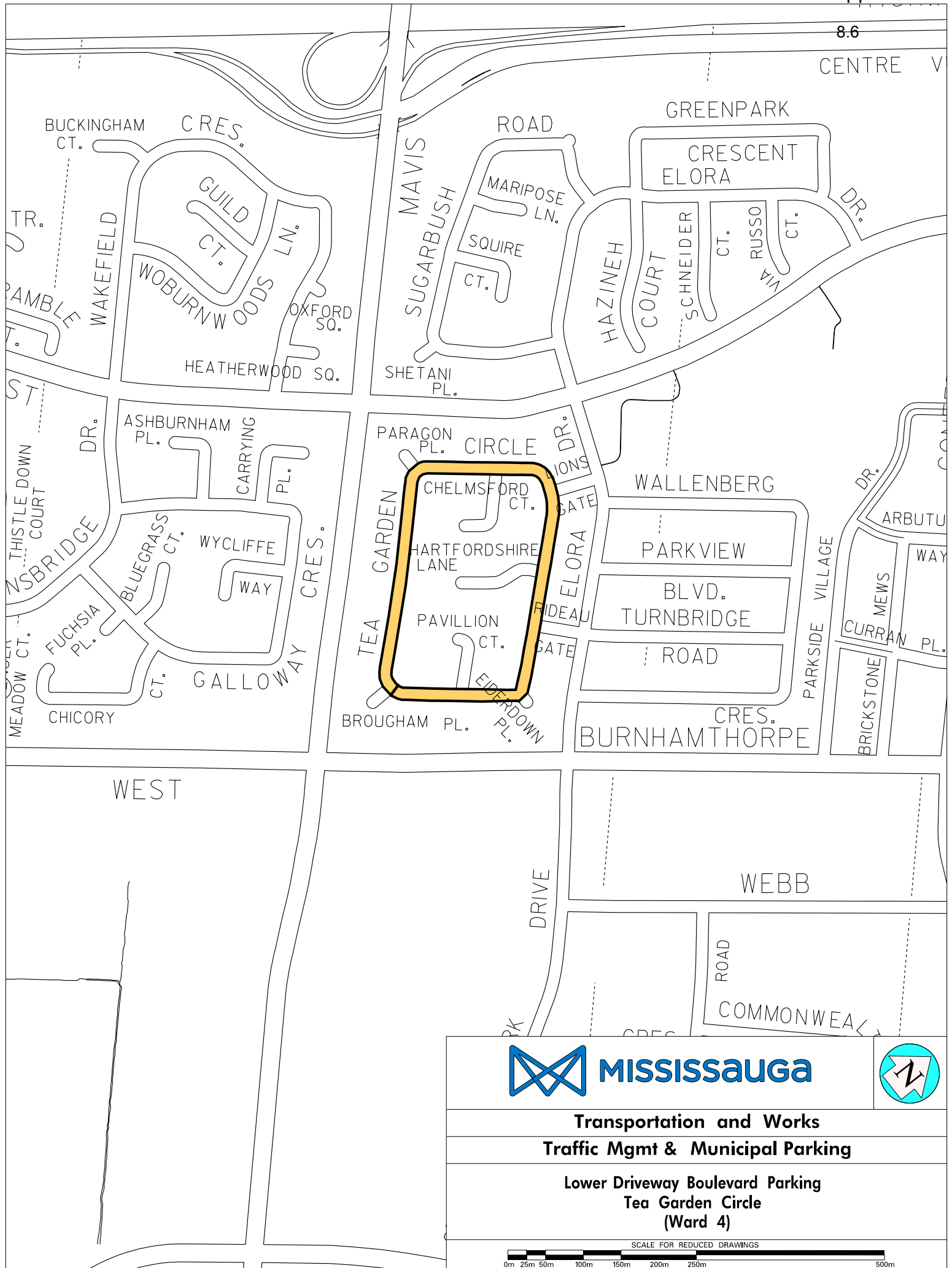
---

Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

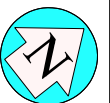
Prepared by: Wasan Yonan, C.E.T., Traffic Technician

8.6

CENTRE V



**MISSISSAUGA**



**Transportation and Works  
Traffic Mgmt & Municipal Parking**

**Lower Driveway Boulevard Parking  
Tea Garden Circle  
(Ward 4)**

SCALE FOR REDUCED DRAWINGS

0m 25m 50m 100m 150m 200m 250m 500m

City of Mississauga  
**Corporate Report**



Date: 2019/05/21

To: Chair and Members of General Committee

From: Geoff Wright, P. Eng., MBA, Commissioner of  
 Transportation and Works

Originator's files:  
 MG.23.REP  
 RT.10.Z-38W

Meeting date:  
 2019/06/12

## Subject

**Lower Driveway Boulevard Parking – Invergordon Lane (Ward 6)**

## Recommendation

That a by-law be enacted to amend the Traffic By-law 555-00, as amended, to implement lower driveway boulevard parking between the curb and sidewalk, at any time on Invergordon Lane between Willow Way and Highbrook Avenue, as outlined in the report from the Commissioner of Transportation and Works, dated May 21, 2019, entitled "Lower Driveway Boulevard Parking – Invergordon Lane (Ward 6)."

## Background

The Transportation and Works Department received a request from the Ward Councillor with respect to the feasibility of implementing lower driveway boulevard parking on both sides of Invergordon Lane between Willow Way and Highbrook Avenue. Lower Driveway Boulevard parking between the curb and sidewalk is currently prohibited and five-hour parking is permitted on Invergordon Lane. A location map is attached as Appendix 1.

## Comments

To determine the level of support for lower driveway boulevard parking between the curb and sidewalk, a parking questionnaire was distributed to the residents of Invergordon Lane.

A total of 51 questionnaires were delivered and 16 (31%) were returned; 14 (88%) supported the implementation of lower driveway boulevard parking and 2 (12%) were opposed. Since greater than 66% of the total respondents support lower driveway boulevard parking, the Transportation and Works Department recommends implementing lower driveway boulevard parking between the curb and sidewalk, at any time, on Invergordon Lane between Willow Way and Highbrook Avenue.

The Ward Councillor supports the proposal for lower driveway boulevard parking. The existing on-street parking regulations will be maintained.

## Financial Impact

Costs for the sign installation can be accommodated in the 2019 Operating Budget.

## Conclusion

Based on the results of the questionnaire, the Transportation and Works Department supports lower driveway boulevard parking between the curb and sidewalk, on Invergordon Lane between Willow Way and Highbrook Avenue.

## Attachments

Appendix 1: Location Map - Lower Driveway Boulevard Parking – Invergordon Lane



---

Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Prepared by: Wasan Yonan, C.E.T., Traffic Technician



**Transportation and Works**  
**Traffic Mgmt & Municipal Parking**

**Lower Driveway Boulevard Parking**  
**Invergordon Lane**  
**(Ward 6))**



# City of Mississauga

## Corporate Report



Date: 2019/05/07

To: Chair and Members of General Committee

From: Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Originator's files:  
MG.23.REP  
RT.10.Z-46W

Meeting date:  
2019/06/12

### Subject

**Lower Driveway Boulevard Parking – Montevideo Road (Ward 9)**

### Recommendation

That a by-law be enacted to amend the Traffic By-law 555-00, as amended, to implement lower driveway boulevard parking between the curb and sidewalk, at any time on the west and south sides of Montevideo Road between Corfu Road and a point 50 metres (164 feet) west of Lorca Crescent (east intersection), as outlined in the report from the Commissioner of Transportation and Works, dated May 7, 2019, entitled "Lower Driveway Boulevard Parking - Montevideo Road (Ward 9)".

### Background

The Transportation and Works Department received a request from the Ward Councillor to review the feasibility of implementing lower driveway boulevard parking on Montevideo Road between Corfu Road and Lorca Crescent (east intersection). Currently, lower driveway boulevard parking between the curb and sidewalk is not permitted within this roadway section.

### Comments

To determine the level of support for lower driveway boulevard parking between the curb and sidewalk, a parking questionnaire was distributed to the affected residents of Montevideo Road.

A total of fourteen questionnaires were delivered and four (29%) were returned; all four respondents (100%) supported the implementation of lower driveway boulevard parking. Since greater than 66% of the total respondents support lower driveway boulevard parking, the Transportation and Works Department recommends implementing lower driveway boulevard parking between the curb and sidewalk, at any time, on the west and south sides of Montevideo Road between Corfu Road and a point 50 metres (164 feet) west of Lorca Crescent (east intersection).

The Ward Councillor supports the proposal for lower driveway boulevard parking. The existing on-street parking regulations will be maintained. A location map is attached as Appendix 1.

## Financial Impact

Costs for the signs installation can be accommodated in the 2019 Operating Budget.

## Conclusion

Based on the results of the questionnaire, the Transportation and Works Department supports lower driveway boulevard parking between the curb and sidewalk, on the west and south sides of Montevideo Road between Corfu Road and a point 50 metres (164 feet) west of Lorca Crescent (east intersection).

## Attachments

Appendix 1: Location Map - Lower Driveway Boulevard Parking - Montevideo Road (Ward 9)

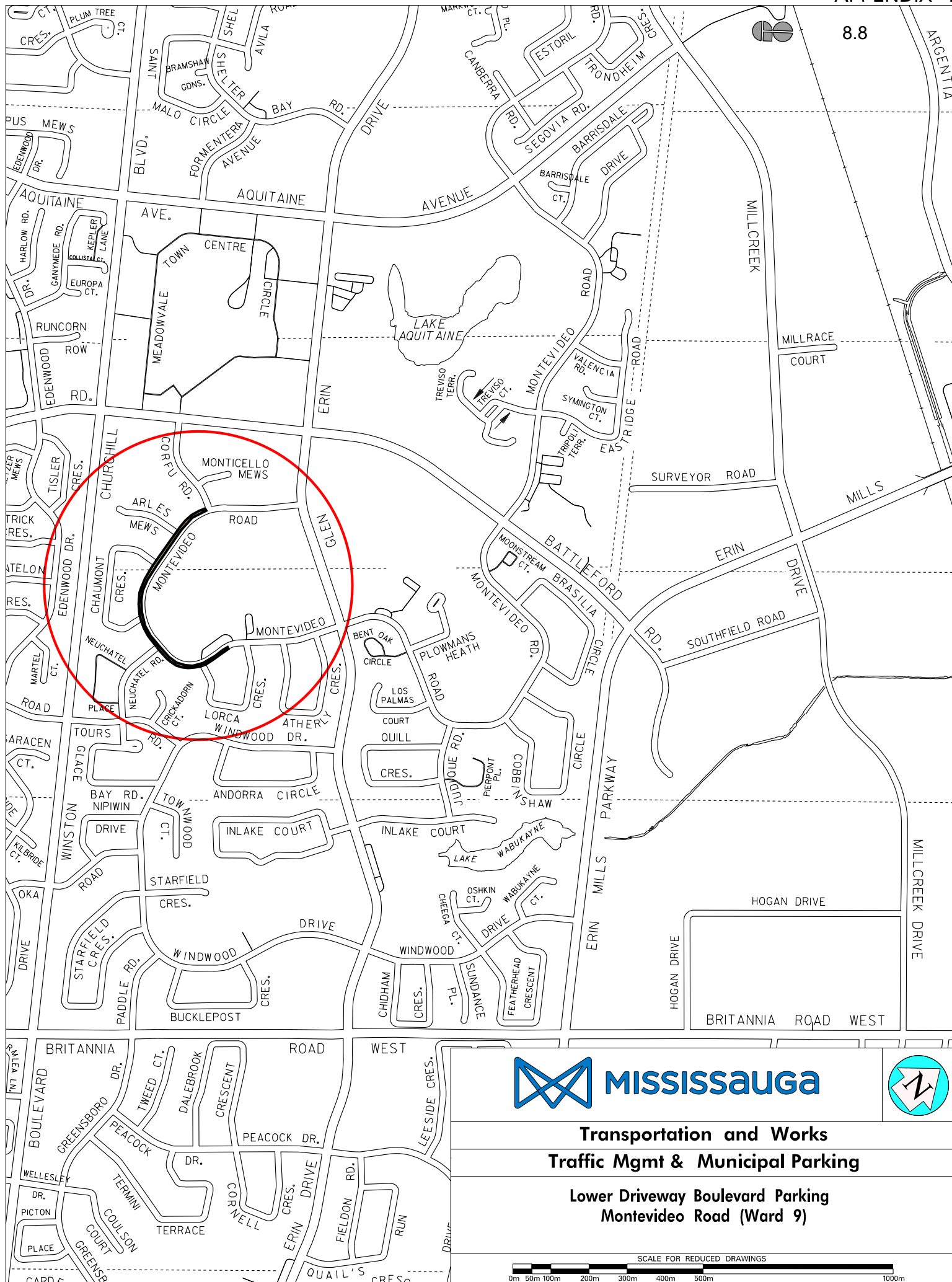


---

Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Prepared by: Ouliana Drobychevskaia, Traffic Operations Technologist





# City of Mississauga

## Corporate Report



Date: 2019/05/21

To: Chair and Members of General Committee

From: Geoff Wright, P. Eng., MBA, Commissioner of  
Transportation and Works

Originator's files:  
MG.23.REP  
RT.10.Z43W

Meeting date:  
2019/06/12

### Subject

**15-Hour Parking – Kenway Drive, Gemstar Drive and Pendant Drive (Ward 5)**

### Recommendation

That a by-law be enacted to amend the Traffic By-law 555-2000, as amended, as outlined in the report from the Commissioner of Transportation and Works, dated May 21, 2019 entitled "15-Hour Parking – Kenway Drive, Gemstar Drive and Pendant Drive (Ward 5)":

1. Implement 15-hour parking on the west side of Gemstar Drive between Edwards Boulevard and Pendant Drive; as outlined in the report from the Commissioner of Transportation and Works, dated May 21, 2019 entitled "15 – Hour Parking –, Kenway Drive, Gemstar Drive and Pendant Drive (Ward 5)
2. Implement 15-hour parking on the west side of Kenway Drive between Edwards Boulevard and 70 metres (229 feet) southerly therefore and implement a parking prohibition on the east side of Kenway Drive between Edwards Boulevard and 70 metres (229 feet) southerly therefore; as outlined in the report from the Commissioner of Transportation and Works, dated May 21, 2019 entitled "15 – Hour Parking –, Kenway Drive, Gemstar Drive and Pendant Drive (Ward 5)
3. Implement 15-hour parking on the north side of Pendant Drive between Gemstar Drive and the west limit of the road; as outlined in the report from the Commissioner of Transportation and Works, dated May 21, 2019 entitled "15 – Hour Parking –, Kenway Drive, Gemstar Drive and Pendant Drive (Ward 5)

### Background

Whites Studios has signed a ten-year lease and is located at 6115 Edwards Boulevard. At peak times, Whites Studios will require extended long-term parking above and beyond what is available on-site. On behalf of Whites Studios, Ellington Partners has submitted a request to provide extended on-street parking for up to 110 vehicles during peak times.

## Comments

A site inspection has revealed that vehicle parking can be accommodated on the west side of Kenway Drive, the west side of Gemstar Drive and on the north side of Pendant Drive between Gemstar Drive and the limit of the road, just before the start of the cul-de-sac.

Whites Studios and the corporate real estate advisor (Ellington Partners) are aware that the 15-hour anytime parking areas are not exclusive to their use.

The Transportation and Works Department supports implementing 15-hour anytime parking on the west side of Kenway Drive, the west side of Gemstar Drive and on the north side of Pendant Drive between Gemstar Drive and the limit of the road, just before the start of the cul-de-sac. Currently, five hour parking is in place on, Kenway Drive, Gemstar Drive and Pendant Drive. A location map is attached as Appendix 1.

The Ward Councillor supports the recommendations for 15-hour parking changes on Kenway Drive, Gemstar Drive, and Pendant Drive.

## Financial Impact

Costs for the sign installation can be accommodated in the 2019 Operating Budget.

## Conclusion

The Transportation and Works Department recommends implementing 15 hour parking anytime on the west side of Gemstar Drive between Edwards Boulevard and Pendant Drive, on the north side of Pendant Drive between Gemstar Drive and the west limit of the road, and on the west side of Kenway Drive between Edwards Boulevard and 70 metres (229 feet) southerly therefore and implementing a parking prohibiting on the east side of Kenway Drive between Edwards Boulevard and 70 metres (229 feet) southerly therefore.

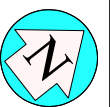
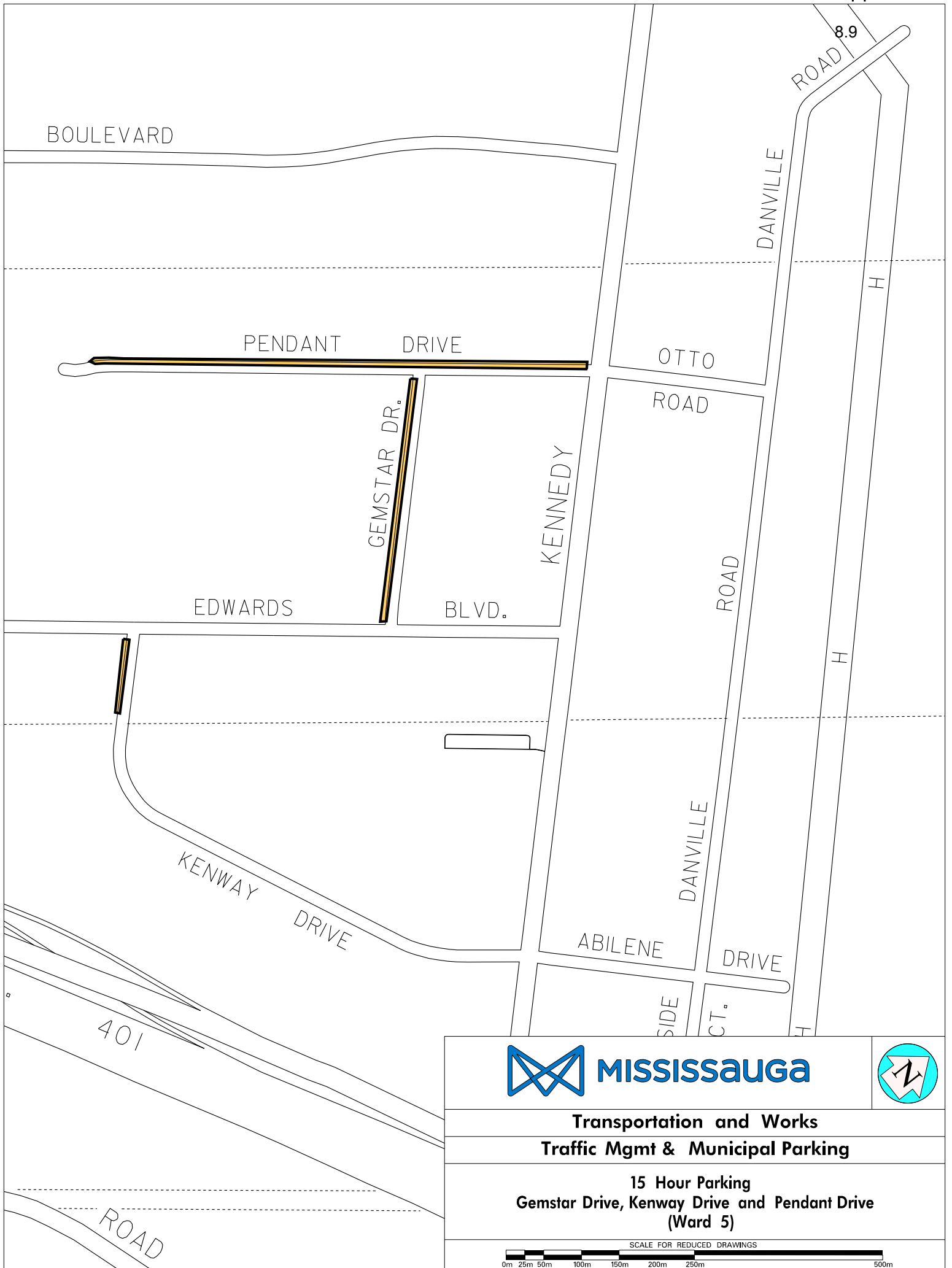
## Attachments

Appendix 1: Location Map – 15-Hour Parking –, Kenway Drive, Gemstar Drive and Pendant Drive (Ward 5)



Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Prepared by: Khulud Sheeraz, Traffic Operations Technician



**Transportation and Works**  
**Traffic Mgmt & Municipal Parking**

**15 Hour Parking**  
**Gemstar Drive, Kenway Drive and Pendant Drive**  
**(Ward 5)**



# City of Mississauga

## Corporate Report



Date: 2019/05/21

To: Chair and Members of General Committee

From: Geoff Wright, P. Eng., MBA, Commissioner of  
Transportation and Works

Originator's files:  
MG.23.REP RT.10.Z8

Meeting date:  
2019/06/12

### Subject

**Parking Prohibition – Inglewood Drive (Ward 1)**

### Recommendation

That a by-law be enacted to amend the Traffic By-law 555-00, as amended, to change the existing parking regulations from 5-hour parking to 3-hour parking on both sides of Inglewood Drive, between Mona Road and a point 90 metres west of Old River Road, as outlined in the report from the Commissioner of Transportation and Works, dated May 21, 2019, entitled "Parking Prohibition – Inglewood Drive (Ward 1)".

### Background

The Transportation and Works Department received a request from the Ward Councillor with respect to the feasibility of changing the existing parking regulations from 5-hour parking to 3-hour parking on both sides of Inglewood Drive, between Mona Road and a point 90 metres west of Old River Road. This was the result of ongoing issues regarding GO Train users parking on Inglewood Drive.

### Comments

To determine the level of support to change the existing parking regulations from 5-hour parking to 3-hour parking on both sides of Inglewood Drive, between Mona Road and a point 90 metres west of Old River Road, a parking questionnaire was distributed to the residents of Inglewood Drive between Mona Road and Old River Road. A location map is attached as Appendix 1

A total of 29 questionnaires were delivered and 6 (21%) were returned; 6 (100%) supported the change to the existing parking regulations, and 0 (0%) was opposed. Since greater than 66% of the total respondents support the change to the existing parking regulations from 5-hour parking to 3-hour parking on both sides of Inglewood Drive, between Mona Road and a point 90 metres west of Old River, the Transportation and Works Department recommends the change to the existing parking regulation at the above-mentioned location.

## Financial Impact

Costs for the sign installation can be accommodated in the 2019 Operating Budget.

## Conclusion

Based on the results of the parking questionnaire, the Transportation and Works Department supports the change to the existing parking regulations from 5-hour parking to 3-hour parking on both sides of Inglewood Drive, between Mona Road and a point 90 metres west of Old River.

## Attachments

Appendix 1: Location Map – Parking Prohibition – Inglewood Drive



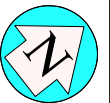
---

Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Prepared by: Wasan Yonan, C.E.T., Traffic Operations Technician



MISSISSAUGA



**Transportation and Works  
Traffic Mgmt & Municipal Parking**

**Parking Prohibition  
Inglewood Drive  
(Ward 1)**





# City of Mississauga

## Corporate Report



Date: 2019/05/21

To: Chair and Members of General Committee

From: Geoff Wright, P. Eng., MBA, Commissioner of  
Transportation and Works

Originator's files:  
MG.23.REP  
RT.10.Z17

Meeting date:  
2019/06/12

### Subject

**Parking Prohibition – Nanticoke Road (Ward 7)**

### Recommendation

That a by-law be enacted to amend The Traffic By-law 555-2000, as amended, to implement a parking prohibition on both sides of Nanticoke Road, as outlined in the report from the Commissioner of Transportation and Works, dated May 21, 2019 entitled "Parking Prohibition – Nanticoke Road".

### Background

The Transportation and Works Department received a request from local residents to restrict parking on Nanticoke Road. Currently, parking is permitted on the roadway for a period of up to 5 hours. There is no residential frontage on the roadway, with only a single access to a local business, which has adequate onsite parking. A location map is attached as Appendix 1.

### Comments

Motorists have been observed parking on this roadway to access the Credit River in order to fish. Unfortunately, this is resulting in numerous incidences of people trespassing on private property adjacent to this area. It has been reported to be an ongoing nuisance to residents in the area, resulting in calls to Peel Police and the Ministry of Natural Resources.

In light of the ongoing issue of trespassing on private property outlined above, and the lack of residential frontage on Nanticoke Road, staff are recommending the prohibition of parking on Nanticoke Road. There will be no impacts to local residents as there is no direct residential frontage, and the adjacent business has suitable onsite parking to accommodate customers. Further, anyone wishing to access the public lands adjacent to the river are able to park on the north side of Dundas Street West, in the parking lots provided in Erindale Park.

The Ward Councillor supports the proposal.

General Committee

2019/05/21

2

Originators files: MG.23.REP

RT.10.Z17

## Financial Impact

Costs for the sign installations can be accommodated in the 2019 Operating Budget.

## Conclusion

The Transportation and Works Department supports the implementation of a parking prohibition on the both sides of Nanticoke Road.

## Attachments

Appendix 1: Location Map – Parking Prohibition - Nanticoke Road (Ward 7)

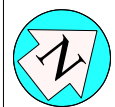
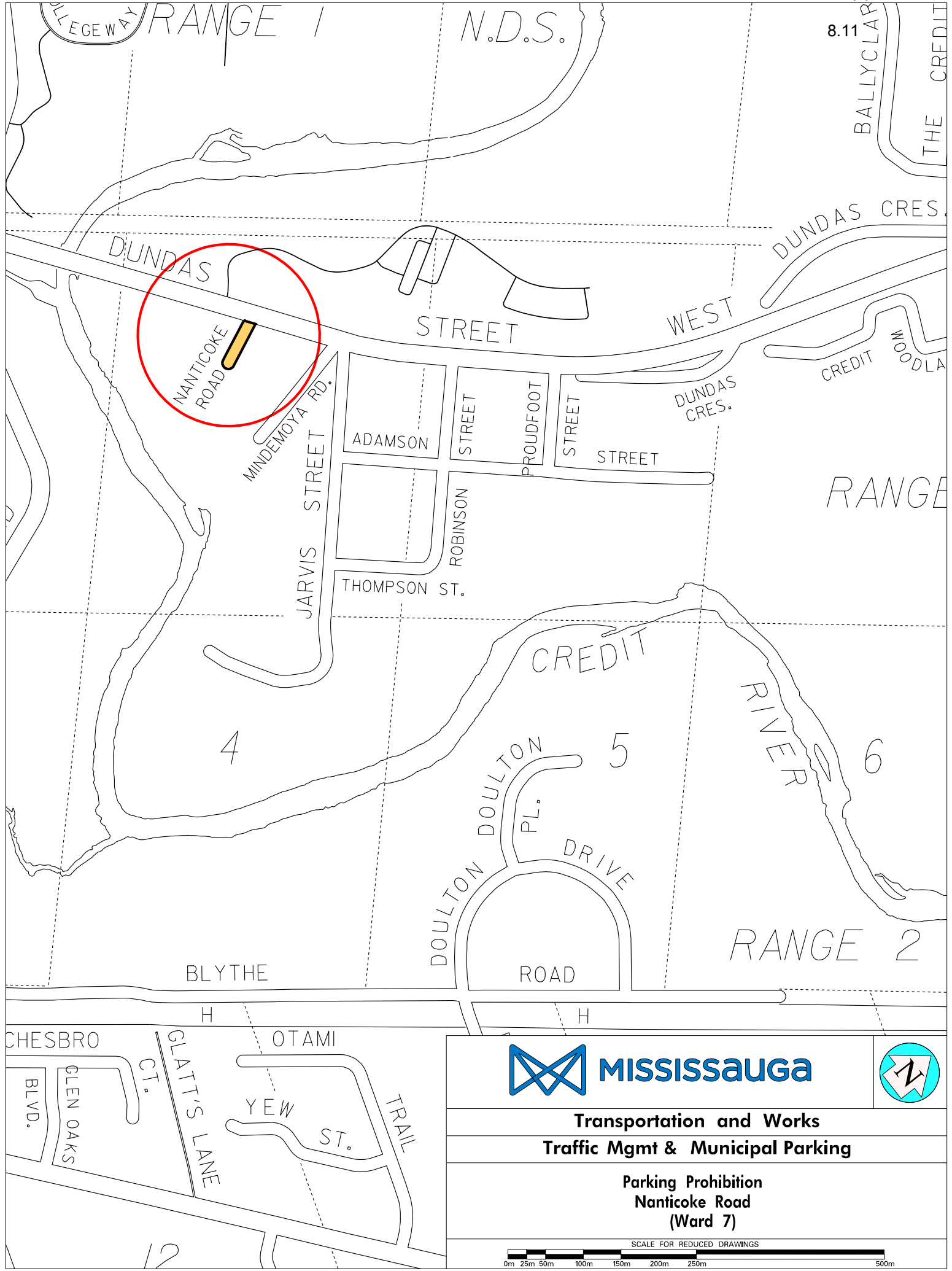


---

Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Prepared by: Maxwell Gill, C.E.T., Supervisor of Traffic Operations

8.11



**Transportation and Works**  
**Traffic Mgmt & Municipal Parking**

**Parking Prohibition**  
**Nanticoke Road**  
**(Ward 7)**



# City of Mississauga

## Corporate Report



Date: 2019/05/23

To: Chair and Members of General Committee

From: Geoff Wright, P. Eng., MBA, Commissioner of  
Transportation and Works

Originator's files:  
MG.23.REP  
RT.10.Z-56/57

Meeting date:  
2019/06/12

### Subject

**Parking Prohibition - High Density Residential Roads Phase 3 (Ward 10)**

### Recommendation

That a by-law be enacted to amend Traffic By-law 555-2000, as amended, to implement a parking prohibition anytime on one side of local residential roads identified in the "Parking Plan Z-56" and "Parking Plan Z-57", as outlined in the report from the Commissioner of Transportation and Works, dated May 23, 2019, entitled "Parking Prohibition – High Density Residential Roads Phase 3 (Ward 10)".

### Background

Every winter season, the Transportation and Works Department faces challenges with its winter maintenance operation, particularly on local residential roadways. In many instances, when parking is utilized on both sides of some roadways by area residents during winter weather events, the ability to access these roads with winter maintenance equipment is severely hindered and in many cases passage is completely restricted. In order to address disruption of the City's winter maintenance operation caused by on-street parking during snow events, and to address other on-going parking concerns, an action plan was initiated by the Ward Councillor in cooperation with the Transportation and Works Department, which included 3 Phases:

- Phase 1:** Proactive parking enforcement and towing was implemented during the 2018/2019 winter maintenance season and will continue into the 2019/2020 winter maintenance season;
- Phase 2:** Implementation of parking prohibitions on one side of local residential roads identified by the Transportation and Works Department and resident's parking concerns;
- Phase 3:** Implementation of parking prohibitions on one side of the roads with high density housing (townhouses and semi-detached homes).

This report addresses the Phase 3 of the on-street parking action plan.

## Present Status

Currently, five hour parking is permitted on the identified roads and parking is prohibited year round between 2:00 a.m. and 6:00 a.m.

## Comments

The City of Mississauga is responsible for snow clearing and/or salting city roads. Vehicles parked on both sides of many local residential roadways during plowing or salting operations reduces the ability of city maintenance forces to safely and efficiently clear these roads. In order to address these winter maintenance concerns, a parking plan was created in consultation with the Ward 10 Councillor and the Works Operations and Maintenance Division for Z areas 56 and 57 within Ward 10 boundaries.

### Phase 3

Phase 3 (Appendices 1 and 2) is a plan designed to allow for one side parking on roads with high density housing (townhouses and semi-detached homes) to allow for increased plowing/salting operations during winter maintenance seasons. By making these parking changes, the opportunities for proactive enforcement are greatly increased.

## Financial Impact

The estimated cost for the sign installation is \$26,163.00 and can be accommodated in the 2019 Current Budget.

## Conclusion

The Transportation and Works Department recommends implementing a parking prohibition anytime on one side of local residential roads identified in the “Parking Plan Z-56” and “Parking Plan Z-57”.

## Attachments

Appendix 1: Location Map – Parking Plan Z-56 (Ward 10)

Appendix 2: Location Map – Parking Plan Z-57 (Ward 10)

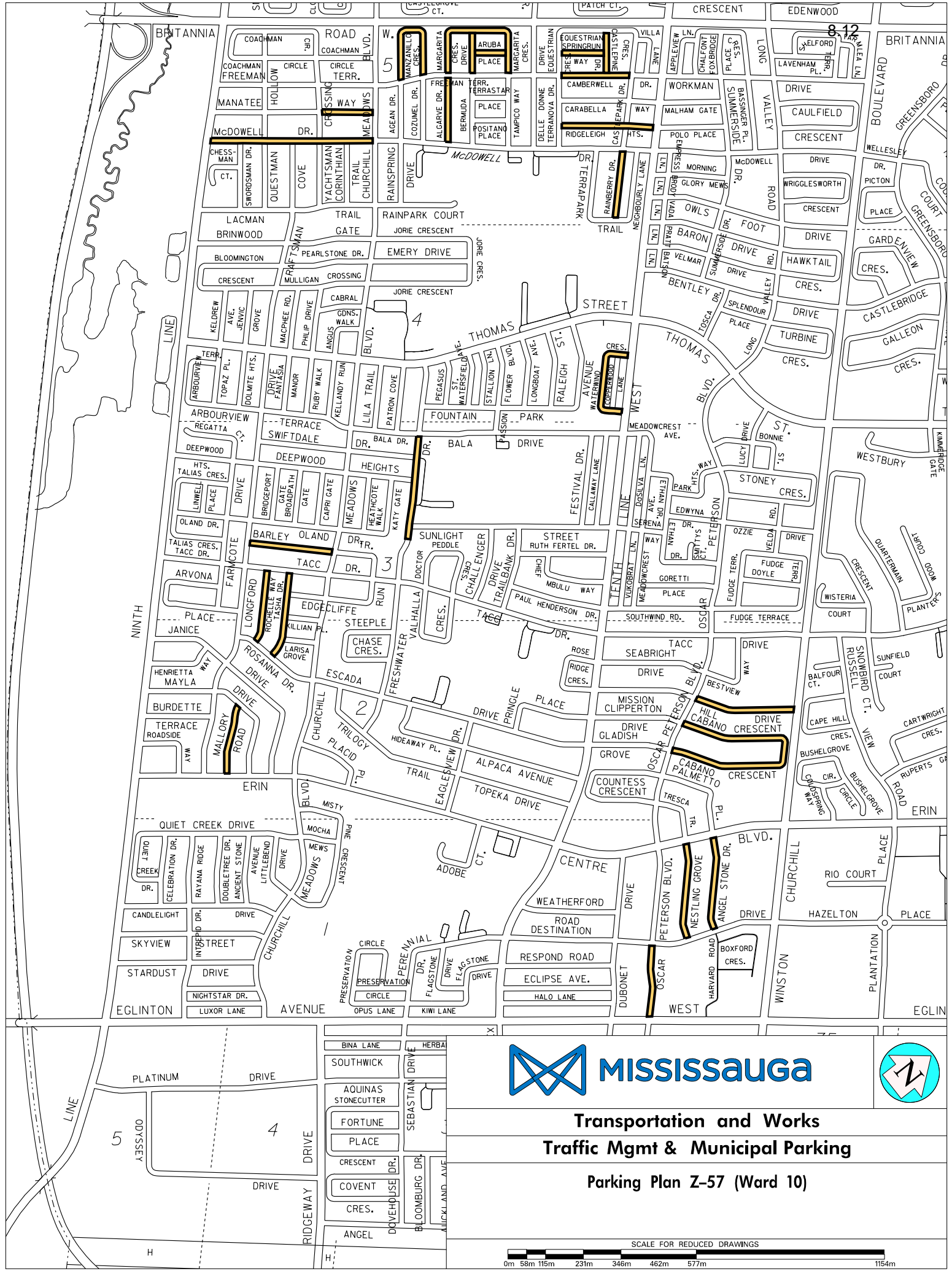
Appendix 3: Parking Prohibition - List of Roadways (Ward 10)



Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Prepared by: Ouliana Drobychevskaia, Traffic Operations Technologist







## APPENDIX 3

<b>ROADWAY</b>	<b>SIDE</b>	<b>BETWEEN</b>
Algarve Drive	West	McDowell Drive and Freeman Terrace
Angel Stone Drive	East	Destination Drive and Erin Centre Boulevard
Apex Court	East, South	Discovery Court and the west limit of the road
Aruba Place	South	Bermuda Drive and Margarita Crescent
Bansbridge Crescent	West, North, East (outer circle)	Gracefield Drive (west intersection) and Gracefield Drive (east intersection)
Barley Trail	North	Longford Drive and Churchill Meadows Boulevard
Bermuda Drive	West	Freeman Terrace and Margarita Crescent
Cabano Crescent	North, West, South	Oscar Peterson Boulevard (north intersection) and Oscar Peterson Boulevard (south intersection)
Camberwell Drive	South	Equestrian Crescent (west intersection) and Equestrian Crescent (east intersection)
Castlepine Drive	East	Equestrian Crescent and Camberwell Drive
Craighurst Avenue	West, South	Allcroft Road and Gracefield Drive
Dillingwood Drive	South, East	Discovery Court/Yarrow Avenue and Lisgar Drive (north intersection)
Discovery Court	North	Dillingwood Drive and the west limit of the road
Dunnview Court	West	Dillingwood Drive and the north limit of the road
Freshwater Drive	West	Bala Drive and a point 25 metres south of Sunlight Street
Lisanne Court	East	Dillingwood Drive and the north limit of the road
Mallory Road	West	Erin Centre Boulevard and Mayla Drive
Manatee Way	South	Yachtsman Crossing and Churchill Meadows Boulevard
Manzanillo Crescent	East, South, West (inner circle)	Freeman Terrace (west intersection) and Freeman Terrace (east intersection)
Margarita Crescent	East, South	Freeman Terrace (west intersection) and Freeman Terrace (east intersection)
McDowell Drive	South	Ninth Line and Churchill Meadows Boulevard
Mission Hill Drive	South	Oscar Peterson Boulevard and Winston Churchill Boulevard
Nestling Grove	East	Destination Drive and Erin Centre Boulevard
Oscar Peterson Boulevard	West	Destination Drive and Eglinton Avenue West

Osprey Boulevard	South	Ninth Line and Sixteen Mile Creek
Parkgate Drive	South	Ninth Line and Maple Gate Circle
Rainberry Drive	East	Terrapark Trail and McDowell Drive
Ridgeleigh Heights	North	Terranova Drive and Tenth Line West
Rippleton Lane	South	Dillingwood Drive and Lisgar Drive
Rochelle Way	West	Rosanna Drive and Tacc Drive
Springrun Way	South	Equestrian Crescent and Castlepine Drive
Tasha Drive	West	Rosanna Drive and Tacc Drive
Waterwind Crescent	South, West, North (outer circle)	Tenth Line West (north intersection) and Tenth Line West (south intersection)
Zenith Court	South, East	Dillingwood Drive and the north limit of the road

# City of Mississauga

## Corporate Report



Date: 2019/05/21

To: Chair and Members of General Committee

From: Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Originator's files:  
MG.23.REP  
RT.10.Z-44w

Meeting date:  
2019/06/12

### Subject

**U-Turn Prohibition – Multiple Locations on Sombrero Way (Ward 11)**

### Recommendation

That a by-law be enacted to amend the Traffic By-law 555-2000, as amended, to implement a U-turn prohibition, at any time, for eastbound and westbound motorists on Sombrero Way at the intersections of Nimbus Gate, Harmony Hill, and Brass Winds/Viola Court, as outlined in the report from the Commissioner of Transportation and Works, dated May 21, 2019 entitled "U-Turn Prohibition – Multiple Locations on Sombrero Way (Ward 11)".

### Background

The Transportation and Works Department is in receipt of a request from Councillor Carlson to implement a U-turn prohibition for eastbound and westbound motorists at multiple locations on Sombrero Way. Concerns were raised by local residents through the Councillor's office related to motorists making unsafe U-turns at several intersections along Sombrero Way resulting in disruption, delays and potential vehicular conflicts. A location map is attached as Appendix 1.

### Comments

It was determined that motorists are completing U-turns during times of increased traffic volumes. Designating a U-turn prohibition at the intersections outlined in this report, will increase the overall level of safety on Sombrero Way.

The Transportation and Works Department supports the implementation of a U-turn prohibition for eastbound and westbound motorists on Sombrero Way, at the intersections of Nimbus Gate; Harmony Hill; and Brass Winds/Viola Court.

Peel Regional Police will be notified of the regulation change for enforcement purposes.

The Ward Councillor supports the recommendation.

General Committee

2019/05/21

2

---

Originators files: MG.23.REP  
RT.10.Z-44w

## Financial Impact

Costs for the sign installations can be accommodated in the 2019 Operating Budget.

## Conclusion

The Transportation and Works Department supports the implementation of a U-turn prohibition for eastbound and westbound motorists on Sombrero Way at the intersections of and Nimbus Gate, Harmony Hill, and Brass Winds/Viola Court.

## Attachments

Appendix 1: Location Map - U-Turn Prohibition - Multiple Locations on Sombrero Way (Ward 11)

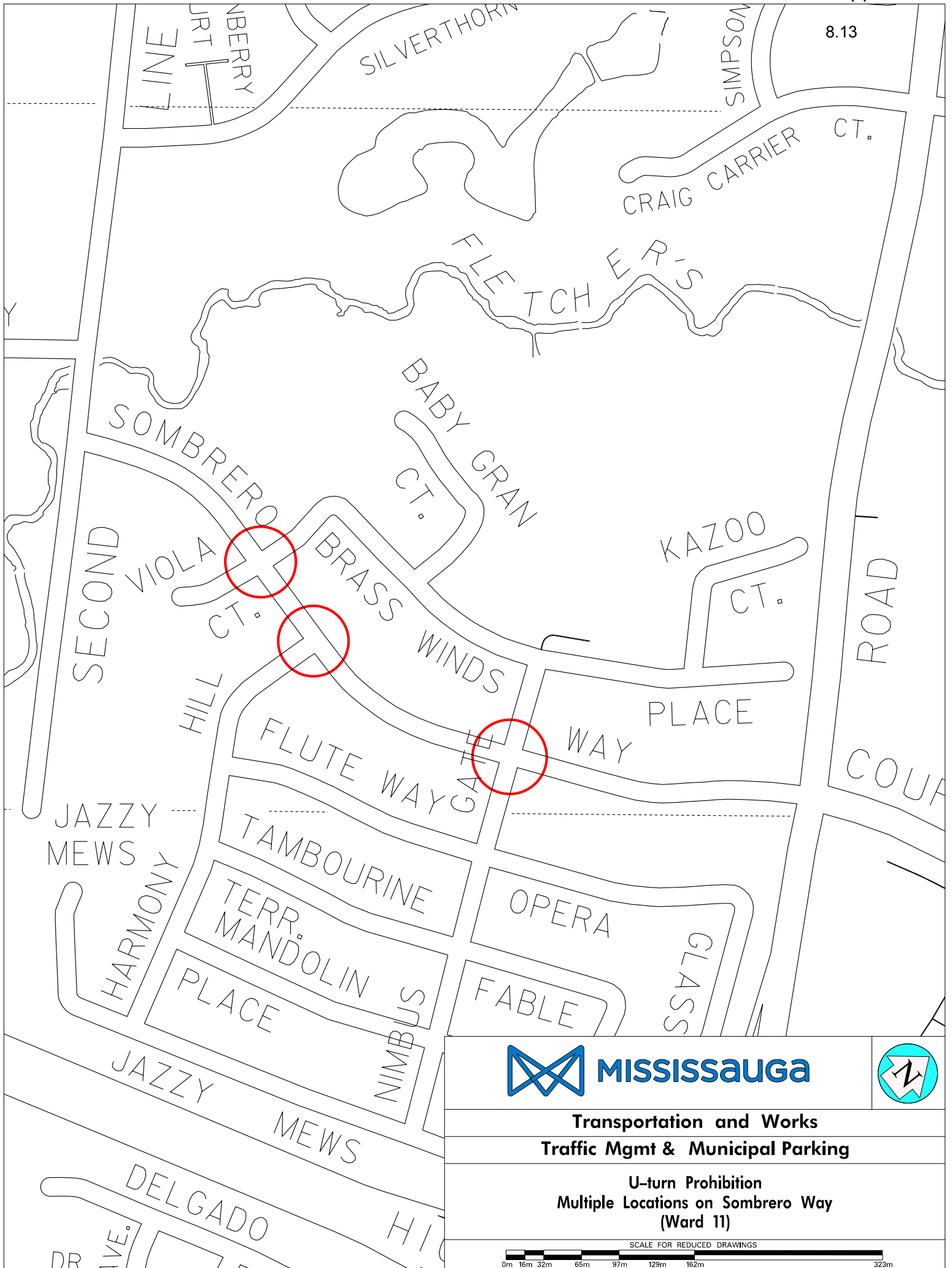


---

Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

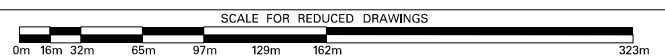
Prepared by: Milan Pavlovic, Traffic Operations Technician

8.13



**Transportation and Works**  
**Traffic Mgmt & Municipal Parking**

**U-turn Prohibition**  
**Multiple Locations on Sombrero Way**  
**(Ward 11)**



# City of Mississauga

## Corporate Report



Date: 2019/05/13

To: Chair and Members of General Committee

From: Geoff Wright, P. Eng., MBA, Commissioner of  
Transportation and Works

Originator's files:  
MG.23.REP

Meeting date:  
2019/06/12

## Subject

**2019 Traffic Signal Installation and Modernization Program**

## Recommendation

That the 2019 Traffic Signal Installation and Modernization Program as outlined in the report from the Commissioner of Transportation and Works, dated May13, 2019 and entitled "2019 Traffic Signal Installation and Modernization Program", be approved.

## Background

The 2019 capital budget provides funds for the installation and modernization of traffic control signals throughout the City. Typically, intersections are signalized upon realization of technical warrants, or in response to anticipated development. Existing traffic control signals are modernized when the age of equipment and infrastructure as well as anticipated increased maintenance costs indicate that upgrades and/or replacements are required.

## Comments

The need for the installation of a new traffic control signal is indicated when traffic control signal warrant criteria are satisfied, when traffic conditions have changed significantly rendering the existing form of traffic control inefficient, and/or when imminent adjacent development indicates that signalization will be required.

The recommended new traffic control signal installation locations for 2019 under these criteria are listed below and illustrated in the attached appendices:

- Creekbank Road and Aimco Boulevard - Ward 5 (Appendix 1)
- Glen Erin Drive and Sugar Maple Woods Trail (Mid-block) - Ward 9 (Appendix 2)
- Ninth Line and Argentia Road - Ward 9 (Appendix 3)
- Queen Street at Church Street – Ward 11 (Appendix 6)

The traffic signal at Queen Street and Church Street was originally approved by Council as part of the 2015 Traffic Signal Installation and Modernization Program as an Intersection Pedestrian Signal (IPS). It is our recommendation that the intersection will be better served with the installation of a full traffic signal for vehicle and pedestrian movements. Traffic signal warrants for a full signal installation are satisfied. Original funding for this traffic signal remains available in the 2015 Capital Traffic Signal Installation budget.

The recommended traffic control signal modernization locations for 2019 are listed below and illustrated in the attached appendices:

- Central Parkway West and Wolfedale Road - Ward 6 (Appendix 4)
- Rathburn Road East and Shipp Drive - Ward 9 (Appendix 5)

## Financial Impact

The estimated installation cost for a new traffic control signal is \$175,000 and for the modernization of an existing traffic control signal the cost is \$195,000. It is recommended that three new traffic control signals be installed for a total cost of \$525,000 and the modernization of two existing traffic control signals for a cost of \$390,000. These amounts will be funded from the approved 2019 capital projects: PN# 19198 (\$710,000 total budget) and PN#19198 (\$390,000 total budget). Any residual surplus funds from the above budget amounts will be allocated to any required traffic signal control phasing changes and/or developer related modifications to existing traffic signals.

## Conclusion

As part of the 2019 Traffic Signal Installation and Modernization Program, staff recommend the installation of three new traffic control signals for a total capital cost of \$560,000 and the modernization of two existing traffic control signals for a cost of \$390,000. Sufficient Capital Budget exists for the installation of these traffic control signals.

## Attachments

- Appendix 1: Proposed New Traffic Control Signal - Creekbank Road and Aimco Boulevard (Ward 5)
- Appendix 2: Proposed New Traffic Control Signal - Glen Erin Drive and Sugar Maple WoodTrail (Mid-block) (Ward 9)
- Appendix 3: Proposed New Traffic Control Signal - Ninth Line and Argentia Road (Ward 9)
- Appendix 4: Proposed Traffic Control Signal Modernization -Central Parkway West and Wolfedale Road.(Ward 4)
- Appendix 5: Proposed Traffic Control Signal Modernization - Rathburn Road East and Shipp Drive (Ward 5)



General Committee

2019/05/13

3

Originators files: MG.23.REP

## Appendix 6: Proposed New Traffic Control Signal – Queen Street at Church Street (Ward 11)



---

Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Prepared by: Darek Koziol, Traffic Signals Contract Coordinator

8.14

MATHESON

BLVD.

EAST

SISMET

ROAD

MATHESON

AIMCO BLVD.

ROAD

CREEKBANK

TECH AVENUE

MISSISSAUGA

TRANSITWAY

AVENUE

EAST

PARKWAY

BUCKHO



MISSISSAUGA



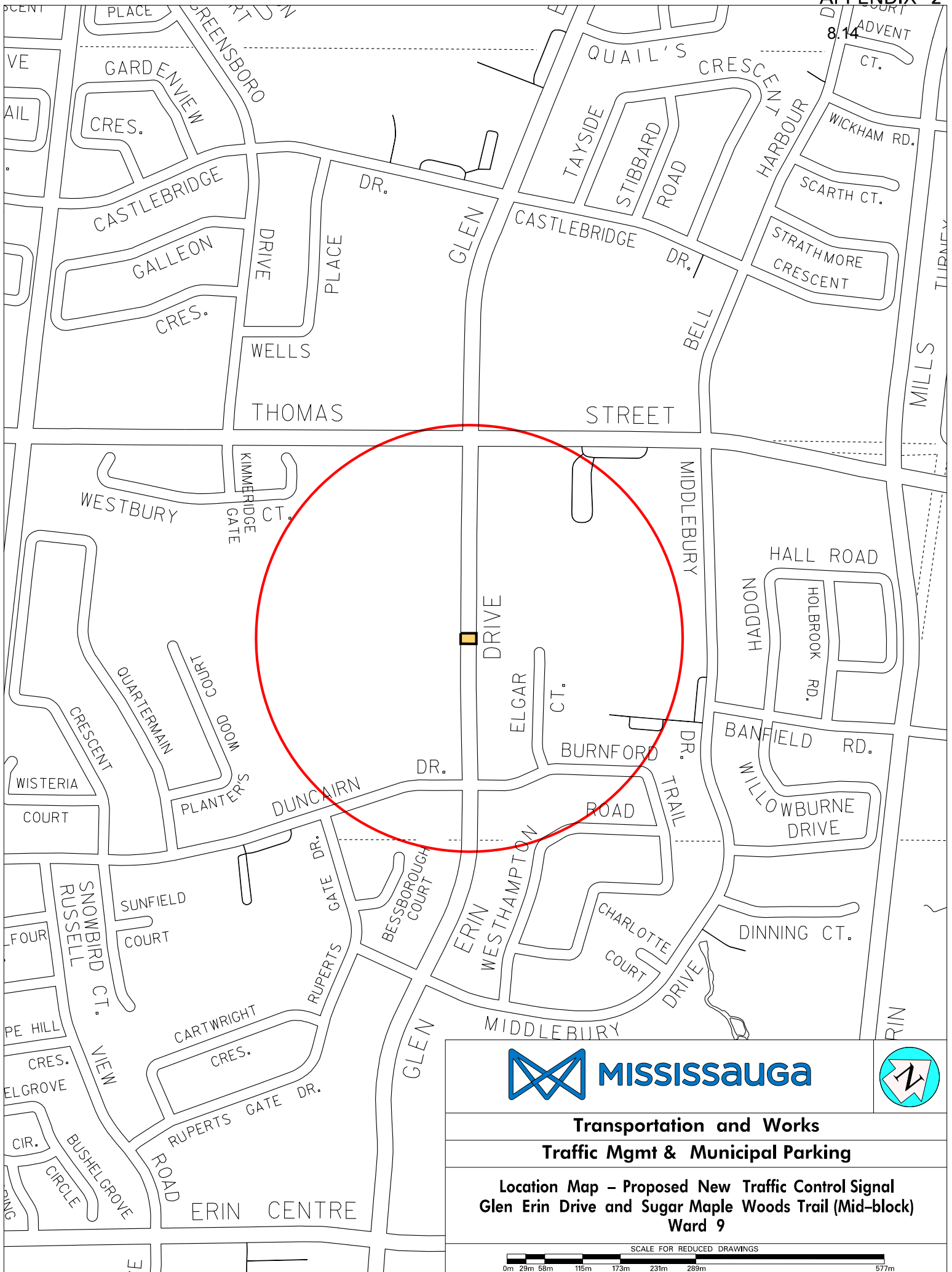
Transportation and Works

Traffic Mgmt & Municipal Parking

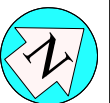
Location Map – Proposed New Traffic Control Signal  
Creebank Road and Aimco Boulevard  
Ward 5

SCALE FOR REDUCED DRAWINGS

0m 29m 58m 115m 173m 231m 289m 577m



**MISSISSAUGA**



**Transportation and Works**

**Traffic Mgmt & Municipal Parking**

**Location Map – Proposed New Traffic Control Signal  
Glen Erin Drive and Sugar Maple Woods Trail (Mid-block)  
Ward 9**

SCALE FOR REDUCED DRAWINGS

0m 29m 58m 115m 173m 231m 289m 577m

8.14

CON.10

14

LINE

ARGENTIA

13

CREEK

PARTITION ROAD

PASSWAY LANE

ROAD

ALLSPICE TRAIL

D FRUIT

RST DR.

REE ROW

GOLDEN

USSIAN OLIVE CLOSE

2 MILE

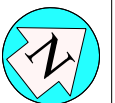
BLACK

AF

NINTH



MISSISSAUGA



Transportation and Works

Traffic Mgmt & Municipal Parking

Location Map – Proposed New Traffic Control Signal  
Ninth Line and Argentia Road  
Ward 9

SCALE FOR REDUCED DRAWINGS

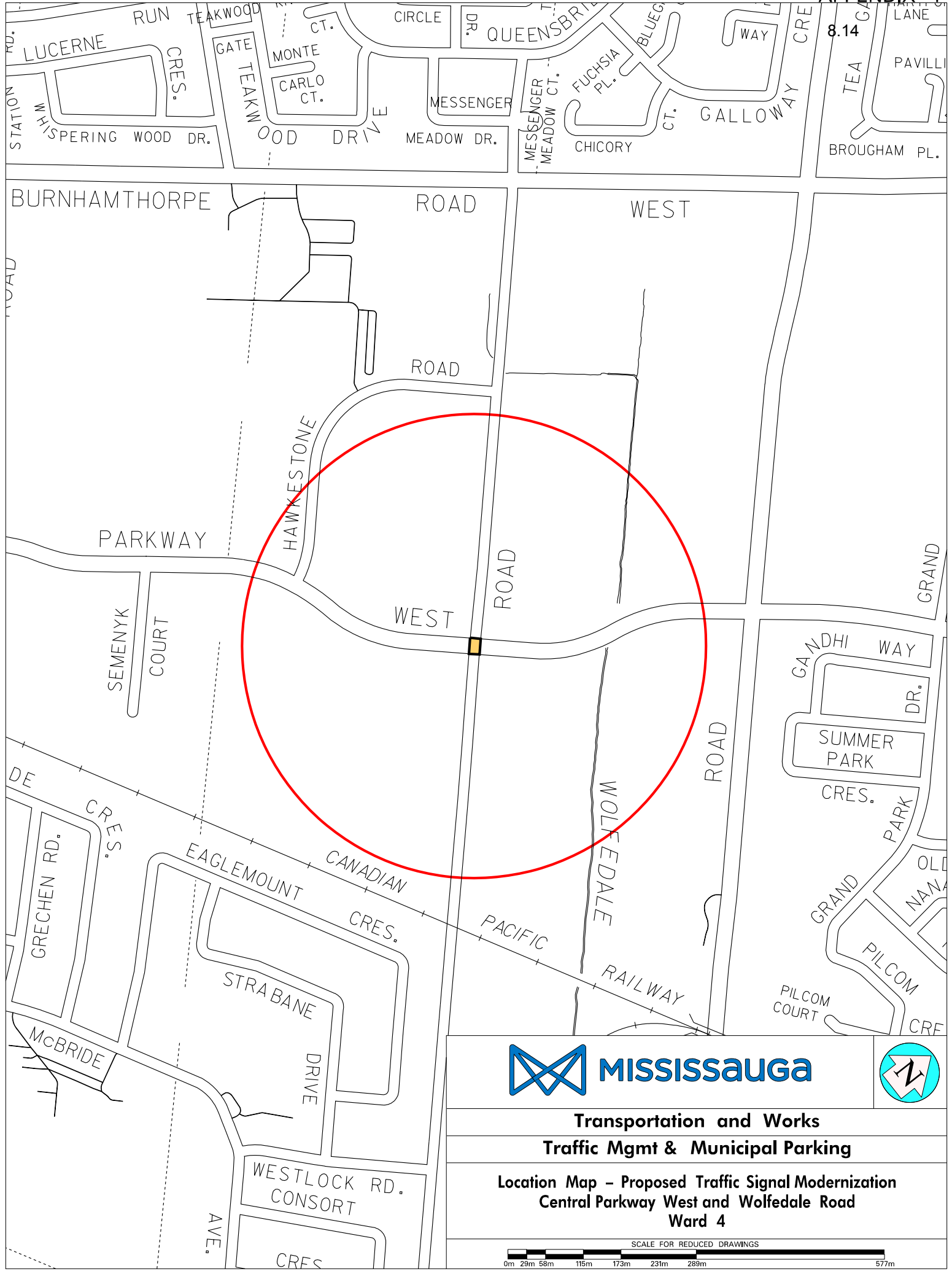
0m 29m 58m 115m 173m 231m 289m 577m

MILTON

OF

ALTHO

8.14



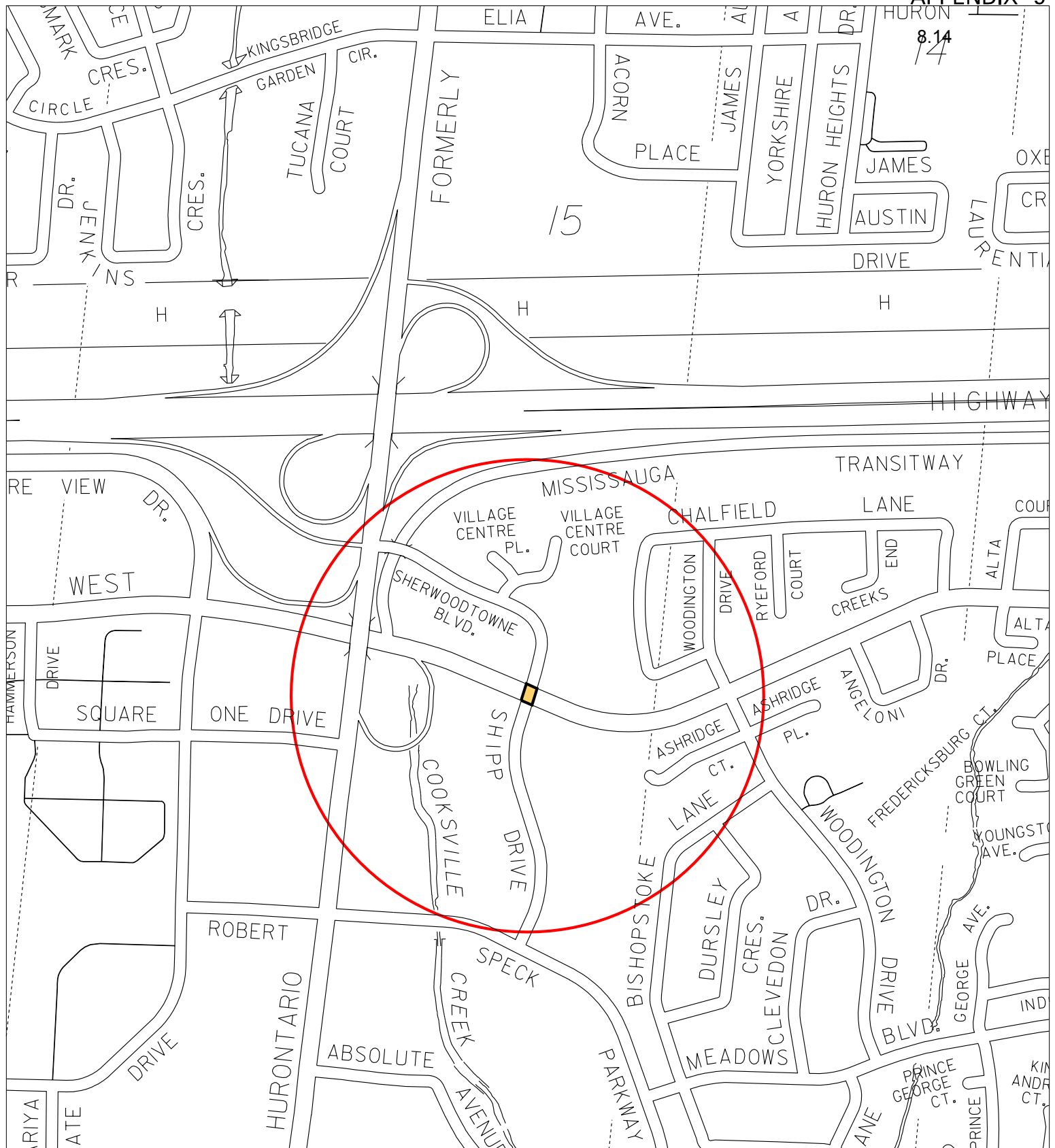
**Transportation and Works**

**Traffic Mgmt & Municipal Parking**

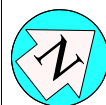
**Location Map - Proposed Traffic Signal Modernization  
Central Parkway West and Wolfedale Road  
Ward 4**



8.14  
14



**MISSISSAUGA**



**Transportation and Works  
Traffic Mgmt & Municipal Parking**

**Location Map - Proposed Traffic Signal Modernization  
Rathbun Road East and Shipp Drive  
Ward 5**







# City of Mississauga

## Corporate Report



Date: 2019/05/24

To: Chair and Members of General Committee

From: Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Originator's files:  
MG.23.Rep

Meeting date:  
2019/06/12

### Subject

**40 km/h Neighbourhood Area Speed Limits**

### Recommendation

1. That the report from the Commissioner of Transportation and Works, dated, May 24, 2019, entitled: "40 km/h Neighbourhood Area Speed Limits", be received.
2. That all necessary by-laws be enacted to amend the Traffic By-law 555-200 to establish 40 km/h neighbourhood area speed limits which will prescribe a maximum rate of speed for neighbourhood areas delineated by geographical boundaries.
3. That the Transportation and Works Department revise *Traffic Safety in School Zones Policy 10-03-01* to allow for the implementation of 40 km/h neighbourhood area speed limits.

### Report Highlights

- Currently, *Traffic Safety in School Zones Policy 10-03-01* reserves the use of 40 km/h speed limits for roads in front of elementary schools and for roadways whose geometric design cannot support a 50 km/h or higher limit.
- New legislation has amended the Highway Traffic Act to allow municipalities to designate areas where by-lawed speed limits can be imposed lower than 50 km/h
- In order to implement neighbourhood area speed limits, specialized speed limit signs are only required at entry points and exit points of neighbourhoods rather than the more traditional speed limit signing practice of every 300 metres along each roadway.
- The intent is to implement 40 km/h speed limits in any neighbourhood in the city based on the criteria described above while maintaining more traditional speed limit signing practices on major roadways throughout the City.
- Eligible roadways generally include single lane local and minor collector roadways as defined in the City of Mississauga Official Plan.

## Background

The authority for the City of Mississauga to set speed limits is granted by the Ministry of Transportation Ontario (MTO) through the Highway Traffic Act (HTA). The HTA also sets a default municipal speed limit of 50 km/h on roadways within cities, towns, villages or built-up areas. The statutory 50 km/h speed limit is posted at all entrances to the City and at all exits from the Provincial Highway system (QEW, 403, 401 etc.).

On May 30 2017, the *Safer School Zones Act (Bill 65)* was passed by the Government of Ontario and received Royal Assent. The new legislation amends the HTA to allow municipalities to designate areas where by-lawed speed limits can be imposed lower than 50 km/h. The associated changes to the HTA were enacted and regulations updated on May 1, 2018. Since that date, municipalities have the authority to establish speed limits lower than 50 km/h within neighbourhoods using specialized speed limit signage.

According to the new regulations, specialized area speed limit signs are required on all entry and exit points of a neighbourhood to designate all streets within the respective borders at the specified lower speed limit. These new signs consist of a regulatory speed limit sign in addition to a blue tab posted immediately beneath it with the words “Area” written in yellow font (Appendix 1). For Mississauga, this initiative will be referred to by the name: “40 km/h Neighbourhood Area Speed Limit Signs”.

## Comments

Speed limits on major roads are influenced by the roadway's design and classification. In reviewing speed limits a number of factors are considered such as: vehicle operating speeds, adjacent development, collision history, pedestrian and cycling activity, driveway spacing and the location of traffic controls. Speed limits on major roadways are reviewed on a case-by-case basis as required.

Currently, *Traffic Safety in School Zones Policy 10-03-01* reserves the use of 40 km/h speed limits for roads in front of elementary schools and for roadways whose geometric design cannot support a 50 km/h or higher limit. On major roads where elementary schools are present, a 40 km/h when flashing speed limit may be considered.

In order to implement 40 km/h neighbourhood area speed limits, specialized speed limit signs are required on both the entry points and exit points of neighbourhoods to designate all streets within the respective borders at the specified lower speed limit. The use of these types of signs offers great benefits. Designating speed limits in neighbourhood areas will create consistent speed limits within entire neighbourhoods while greatly reducing the number of signs required.

General Committee	2019/05/24	3
-------------------	------------	---

---

Road Safety staff have completed a preliminary review of the city's existing roadway network to determine roadways within each neighbourhood that are eligible for a 40 km/h speed based on roadway classifications. Eligible roadways generally include single lane local and minor collector roadways as defined in the City of Mississauga Official Plan. There are approximately 133 typical neighbourhoods in the City.

The intent is to implement 40 km/h speed limits in any neighbourhood in the city based on the criteria described above while maintaining more traditional speed limit signing practices on major roadways throughout the City. Staff will consult with Ward Councillors to determine the neighbourhood priorities within each of their Wards. Consultation with Councillors is imperative to ensure community needs are met.

40 km/h neighbourhood area speed limits are not suitable for arterial and major collector roadways and speed limits on these types of roadways will continue to be reviewed on a street-by-street basis.

A corporate report titled "Neighbourhood Area Speed Limits" was presented to Road Safety Committee at its May 21, 2019 meeting. The Committee received the report and engaged in discussion about 40 km/h neighbourhood area speed limits, which resulted in the following recommendations:

#### RSC-0021-2019

1. That the report from the Commissioner of Transportation and Works dated, May 15, 2019, entitled: "Neighbourhood Area Speed Limits", be received.
2. That the Road Safety Committee endorses the Neighbourhood Speed Limit plan as presented by Colin Patterson, Supervisor, Road Safety.

Transportation and Works Department staff will begin consultation with local Councillors to define and prioritize potential neighbourhoods for new 40 km/h neighbourhood area speed limits. Funds and staff resources are available in the 2019 Transportation and Works Department Operating Budget to accommodate approximately 15 neighbourhoods annually.

It should be mentioned that simply reducing the posted speed limit does not often result in a corresponding reduction in vehicle operating speeds. Lowering the posted speed limit in isolation without concurrent changes to the physical characteristics of the road typically results in no change in operating speeds without consistent and prolonged enforcement. It is likely that reducing the posted speed limit on many busier neighbourhood roadways will result in low speed limit compliance, which will put additional pressure on Peel Regional Police and the City's existing traffic calming programs. In the future, additional resources may be required for traffic calming initiatives to address ongoing speeding concerns in neighbourhoods with 40 km/h posted speed limits.

## Financial Impact

Funds are available in the 2019 Operating Budget to accommodate 40 km/h neighbourhood area speed limits in approximately 15 neighbourhoods annually. Expansion of the program beyond 15 neighbourhoods annually will require additional funding and staff resources.

## Conclusion

Transportation and Works Department staff will begin consultation with local Councillors to define and prioritize potential neighbourhoods for new 40 km/h neighbourhood area speed limits. Funds and staff resources are available in the 2019 Transportation and Works Department Operating Budget to accommodate approximately 15 neighbourhoods annually.

## Attachments

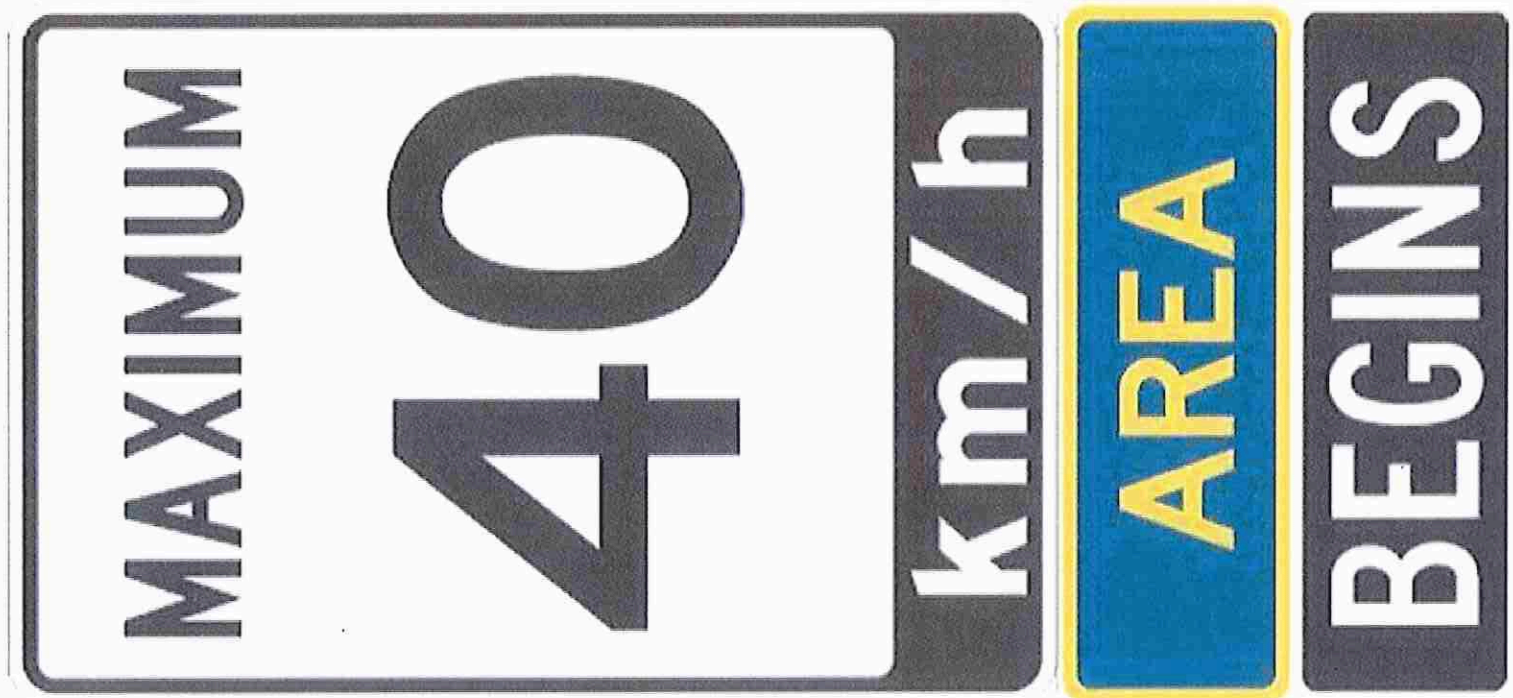
Appendix 1: New Speed Limit Area Signs



---

Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Prepared by: Colin Patterson, C.E.T., RSP, Road Safety Supervisor



City of Mississauga  
**Corporate Report**



Date: 2019/05/24

To: Chair and Members of General Committee

From: Geoff Wright, P. Eng., MBA, Commissioner of  
 Transportation and Works

Originator's files:  
 MG.23.REP

Meeting date:  
 2019/06/12

## Subject

**Automated Speed Enforcement Update**

## Recommendation

1. That the report from the Commissioner of Transportation and Works, dated May 24, 2019, entitled, "Automated Speed Enforcement Update", be received.
2. That the Transportation and Works Department contribute \$10,000 to the Ontario Traffic Council to help cover the costs associated with the development of the Automated Speed Enforcement project.

## Report Highlights

- The City of Toronto has issued a Request for Proposal (RFP) on behalf of all participating municipalities for Automated Speed Enforcement (ASE) which could result in equipment testing within the City of Toronto in the spring of 2019, and a potential vendor selected in summer 2019.
- In order to position the City of Mississauga for potential ASE deployment as part of the initial group of municipalities, staff have included estimated quantities in the RFP.
- Staff are currently planning for and reviewing potential ASE implementation locations in Mississauga in order to be ready to launch a live program in 2020.
- Implementation of ASE on City of Mississauga roads would remain subject to City Council approval and staff will report as more information becomes available.

## Background

On May 30, 2017, the Legislative Assembly of Ontario passed Bill 65, Safer School Zones Act, which amended the Highway Traffic Act (HTA) to authorize the use of Automated Speed Enforcement (ASE) in school zones and community safety zones on roadways with posted speed limits less than 80 kilometres per hour.

On July 4, 2018 City Council adopted the following:

1. That City staff continue to participate in the Ontario Traffic Council Automated Speed Enforcement working group and be directed to participate on behalf of the City of Mississauga on any Ontario Traffic Council Automated Speed Enforcement steering committees that are formed, as outlined in the report from the Commissioner of Transportation and Works, dated May 15, 2018 and entitled “Automated Speed Enforcement (ASE)”.
2. That the City Manager be authorized to provide a letter to the City of Toronto to indicate Mississauga’s interest in participating in the Automated Speed Enforcement Request for Proposal and potential cost sharing, with the caveat that Mississauga Council has not committed to implement Automated Speed Enforcement at this time, as outlined in the report from the Commissioner of Transportation and Works, dated May 15, 2018 and entitled “Automated Speed Enforcement (ASE)”.
3. That the report from the Commissioner of Transportation and Works, dated May 15, 2018 and entitled “Automated Speed Enforcement (ASE)” be referred to the Mississauga Road Safety Committee for information.

City staff from the following groups continue to participate in a variety of Ontario Traffic Council ASE Working Group meetings to date:

- Traffic Services and Road Safety
- Prosecution
- Municipal Law
- Court Administration
- Materiel Management

The Transportation Master Plan was recently endorsed by Council and advances the Vision Zero principle in its Vision Statement, the first of its six Goals (Safety), and 26 proposed Actions specific to achieving the Safety Goal. Specifically, the Transportation Master Plan goals which would be relevant to ASE are as follows:



General Committee	2019/05/24	3
-------------------	------------	---

---

- Vision Zero infrastructure enhancement program: The City will invest in hard measures by developing and implementing a suite of infrastructure enhancements to support Vision Zero, such as red light cameras, automated speed enforcement, and traffic calming design interventions;
- Speed management program: The City will address both through the creation of a Speed Management Program that includes both location-specific and Mississauga wide actions; and
- Road safety enforcement program: The City will work with Peel Regional Police to advance efforts to catch and penalize rule breaking behaviour on the road, including aggressive, impaired and distracted driving.

## Comments

The City of Toronto has issued an RFP on behalf of all participating municipalities for ASE. The draft timeline would result in equipment testing within the City of Toronto in the Spring of 2019, and a potential vendor selected in summer 2019. With a vendor selected, the Ministry of Transportation Ontario would then be able to draft the necessary Highway Traffic Act regulations allowing for ASE implementation in Ontario. An aggressive timeline of year end 2019 is being considered for the implementation of ASE in the initial phase. This phase would only include municipalities which have already approved the use of ASE on their roadways. All other interested municipalities will enter into an agreement with the successful vendor once they have secured the necessary budget resources in place to begin operations.

In order to position the City of Mississauga for potential ASE deployment as part of the initial group of municipalities, staff have included estimated quantities in the RFP. The inclusion of quantities in the RFP does not commit the City to implementing ASE, but rather allows for the City to implement ASE in the initial deployment. Under normal municipal planning and budgeting practices, a realistic timeframe for Mississauga to be ready to launch a live program would be mid-2020. The decision to implement ASE on City roadways would remain subject to City Council approval.

The equipment options (ie. mobile or fixed ASE), site requirements, and operating parameters are not currently known. The majority of these factors will be determined once a vendor is selected and the ASE Steering Committee provides direction on the required operating conditions for all participating ASE municipalities.

The ASE Steering Committee is intended to ensure consistent operation of ASE throughout the province and will provide operational guidelines on ASE including site selection guidelines, threshold speed, operating hours, and advanced signing requirements.

### ASE Planning

In order to continue planning for potential ASE implementation on City roadways, staff have considered a number of scenarios where ASE would be beneficial. Due to the many unknowns with ASE, and the potential for the deployment of ASE to overwhelm the courts systems in many municipalities, staff has recommended any initial deployment of ASE be limited to school zones on local residential roadways.

Speed data collected in 73 school zones on single lane, local residential roadways has been analyzed to estimate the impacts of ASE. A number of assumptions have been made including:

- ASE is only deployed in neighbourhood school zones with relatively low traffic volumes;
- School zones with 'when flashing' speed limits will not be eligible for ASE;
- ASE will only target one direction of travel (picture must be taken of the rear of the vehicle); and
- A significant percentage of motorists will adjust their behaviour and drive at a speed below the limit following deployment of ASE.

The chart below summarizes the speed data collected within 73 school zones in Mississauga on single lane residential roadways and estimates the potential number of charges each camera may generate based on a number of assumed, and yet undetermined operating parameters.

Posted Speed Limit	Average Daily Volume	Average Daily Speeders	Potential Yearly Charges
40	2,800	1,035	13,230 (One Camera)

The number of charges potentially generated by a single ASE camera is significant. Discussions at the ASE Steering Committee are ongoing regarding the feasibility of continuous operation due to the number of potential charges which will be generated, and the resources necessary to process the charges through a Joint Processing Centre (JPC) and subsequent municipal court system. In the early implementation of ASE there may be limitations on the number of cameras municipalities will be able to deploy and the number of charges which can be processed at both the JPC and through municipal courts.

In an effort to address as many locations as possible, while working within the limitations of early deployment of ASE, a tentative program operating two (2) mobile ASE cameras (rotating to approximately 24 locations annually) has been used for estimating purposes. As an ASE program evolves, the type of equipment, number of operating days, daily operational hours, and the number of cameras deployed may change.

General Committee	2019/05/24	5
-------------------	------------	---

---

In order to put the estimated ASE charges in perspective, the Region of Peel Red Light Camera (RLC) program currently generates roughly 8,700 charges annually which are processed through our municipal court system.

In preliminary meetings with Court Administration and Prosecutions staff it was anticipated that Mississauga's court system could handle approximately the same number of ASE charges with current resources.

In most municipalities, the potential for ASE to overwhelm the court system exists, which has led to many municipalities formally requesting the Province to allow the use of an Administrative Penalty System for ASE. In order for ASE to expand further beyond the number of RLC charges, a change to the Administrative Penalty System would be required. The Administrative Penalty System is the City's preferred method for dealing with ASE charges.

#### OTC Steering Committee

The OTC has requested a financial contribution to support the ASE program development (Appendix 1). To date, ten municipalities have contributed to the project with the majority of the contributing municipalities expected to implement ASE once it becomes available. The OTC is asking that participating municipalities contribute an amount of at least \$10,000 which will be used for the various costs associated with the development of the RFP and associated consulting services.

#### Road Safety Committee

A corporate report titled "Automated Speed Enforcement Update" was presented to Road Safety Committee at its May 21, 2019 meeting. The Committee received the report and engaged in discussion about ASE, and the report was subsequently received for information by the Road Safety Committee.

## **Financial Impact**

In order to position the City to be an early adopter of ASE, the estimated operating impacts have been included within the 2020 Business Planning Budget process for Council approval.

Funds are available in the 2019 Operating budget to accommodate a contribution of \$10,000 to the Ontario Traffic Council to cover the costs associated with the development of the Automated Speed Enforcement project.

## **Conclusion**

City of Mississauga staff will continue to be involved with the OTC and other municipalities through the RFP process and as the ASE regulations and process are established. In addition, staff are currently planning for and reviewing potential ASE implementation locations in

General Committee	2019/05/24	6
-------------------	------------	---

---

Mississauga in order to be ready to launch a live program in 2020. Implementation of ASE on City of Mississauga roads would remain subject to City Council approval and staff will report as more information becomes available.

## **Attachments**

Appendix 1: Ontario Traffic Council letter dated, February 19, 2019



---

Geoff Wright, P. Eng., MBA, Commissioner of Transportation and Works

Prepared by: Colin Patterson, C.E.T., RSP, Road Safety Supervisor



**Ontario Traffic Council**  
47 Colborne St, Suite 204  
Toronto, Ontario M5E 1P8  
Tel: 647-346-4050 Fax: 647-346-4060  
E-mail: [info@otc.org](mailto:info@otc.org)

February 19, 2019

Colin Paterson  
City of Mississauga  
Mississauga ON L5B 3C1

Dear Colin,

I am writing to you to provide an update on the Automated Speed Enforcement (ASE) Program and to ask for your municipality / region support through a financial contribution to the OTC for this project. ***We are asking that participating municipalities / regions contribute an amount of at least \$10,000*** (Our lowest contribution received to-date is \$5,000 with our highest being \$75,000).

In addition to the Ontario Traffic Council resources invested in this project we are also utilizing the expertise of Stewart Solutions, Mike Brady Consulting Services and the IBI Group. To-date we have received \$175,000 from 6 municipalities and regions which has been depleting over the past 18 months. It is estimated we will require at least this much more to cover expenses to the end of the year leading up to the anticipated launch date.

We have asked all participating municipalities for both Phase 1 and Phase 2 launch to provide school zone data prior to February 16<sup>th</sup>. If you have not yet submitted data, please do so ASAP.

We are anticipating the Request for Proposal for equipment will be advertised over the next month with an award expected later this spring.

Meetings are being scheduled to discuss threshold speeds, site selection, prosecuting issues, legal agreements, communications, joint processing centre requirements and other important program details.

Municipalities and Regions potentially participating in Phase 1 ASE launch:

Toronto\*

Hamilton

Burlington

Peel

Durham

Mississauga

Vaughan

Waterloo Region

**Board of Directors  
2018-2019**

**President**  
Nelson Cadete  
City of Brampton

**Vice President**  
Heide Schlegl  
Town of Milton

**Treasurer & Director of  
Enforcement**  
Kim Armstrong-Rossi  
Toronto Police Service

**Director of Training**  
John Crass  
CIMA Canada

**Director of Convention**  
Robyn Zutis  
Town of Oakville

**Director of Engineering**  
Adam Bell  
Cole Engineering

**Director of  
Transportation Planning  
& Sustainability**  
Manoj Dilwaria  
City of Thorold

**Past President**  
Jeffrey Smart  
Tacel Ltd.

---

**Executive Director**  
Geoff Wilkinson



Ottawa\*

Oakville

Guelph

Oxford County\*

Caledon\*

York\*

Brampton

Municipalities and Regions potentially participating in Phase 2:

Halton Region

Kingston\*

\*Financial contributions received

Thank you for your financial consideration and your OTC Working Group participation. Together we are creating an ASE Program that makes sense for the Province, municipalities / regions and road users.

Sincerely,

Geoff Wilkinson  
Executive Director

c.c. Milena Commisso  
Andy Bate  
Lindsay Picone  
Kathleen Martin  
Carla Mariuz  
Raphael Leong

# City of Mississauga

## Corporate Report



Date: 2019/05/03

To: Chair and Members of General Committee

From: Paul Mitcham, P. Eng, MBA, Commissioner of  
Community Services

Originator's files:

Meeting date:  
2019/06/12

## Subject

**"Water Gathering with the Credit" in Erindale Park – Ward 6**

## Recommendation

That the permit rental fees in the amount of approximately \$2,000 be waived for the "Water Gathering with the Credit" event in Erindale Park as outlined in the Corporate Report dated May 3<sup>rd</sup>, 2019 from the Commissioner of Community Services.

## Background

In October 2018, City staff were invited to attend a meeting with Credit Valley Conservation (CVC) staff and the organizers of a proposed Indigenous gathering along the Credit River. At the initial meeting, the event organizers, Bonnie McElhinny and Nancy Rowe, provided an overview of the event named "Water Gathering with the Credit".

Bonnie McElhinny is an Associate Professor of women, gender studies and anthropology at the University of Toronto – Mississauga (UTM). Ms. McElhinny was awarded an Advanced Teaching and Learning in the Arts and Science (ATLAS) grant from UTM to focus on approaches to land-based teaching, with an emphasis on water. The ATLAS grant allows for the development of projects related to the Great Lakes along with building relationships with community partners.

Nancy Rowe is a Mississauga Ojibwe of the Anishinaabek Nation. Ms. Rowe holds an Honours Bachelor in Indigenous Studies and Political Science, and is currently completing a Master's degree in Environmental Resource Studies at the University of Waterloo. She is an educator, consultant and a traditional practitioner of Anishinaabek lifeways, views and customary practices. Ms. Rowe has founded and coordinates the Akinomaagaye Gaamik Lodge, a grassroots initiative to provide educational opportunities for all people interested in Indigenous perspectives on life, health, education, history and the environment.

The "Water Gathering with the Credit" event is a project in sharing water, land and other teachings with a circle of Indigenous women elders, young females and traditional knowledge practitioners and is funded in part by the Indigenous Cultural Fund of the Ontario Arts Council.



General Committee	2019/05/03	2
-------------------	------------	---

---

Similar Indigenous water focused events have taken place, including the Great Lakes Gathering at the Garden River First Nation (approximately 300 attendees) and the Water Gathering at the Rapids, Roseau River First Nation (approximately 150 attendees).

The Credit River has a special place in the Indigenous history in Mississauga. Based on the group's site requirements, three City of Mississauga parks were identified as potential locations for the event:

- Meadowvale Conservation Area
- P-505 (commonly known as the Harris property); and
- Erindale Park.

After completing site visits at the three locations in November 2018, the event organizers identified and requested Erindale Park as their preferred location. In December 2018, staff met the event organizers, CVC staff and other stakeholders in Erindale Park to complete an additional site inspection and discuss event logistics.

The CVC and UTM have committed their support and resources to allow for the event to occur.

## Comments

City staff have had multiple meetings with the event organizers and fully support the multi-day "Water Gathering with the Credit" event in Erindale Park.

The event will take place July 11 to July 14 2019, with set up occurring July 10 and tear down July 14. The event organizers expect approximately 300 attendees in total, with a mix of daily drop in attendees who will be on site for the duration of the event. A number of attendees will require the ability to camp overnight within the park.

The main area for the event is adjacent to the covered picnic shelter on the west side of the Credit River. This site allows for the key aspects of the event to occur in close proximity and with easy access to the Credit River, a critical requirement of the event. Additional areas on the east side of the Credit River will also be required to accommodate event activities and overnight camping.

Park By-law exemptions will be applied to support the event, including but not limited to fires and open flames, overnight camping, permit fees, amplified sound and temporary structures, specifically a sweat lodge.

The event organizers are working in conjunction with the City, CVC, UTM, Sauga Celebrates and Mississauga Fire and Emergency staff to ensure that all stakeholders' requirements are met to allow the event to take place.

## Financial Impact

All direct costs of the event will be covered by the event organizers. In the spirit of partnership, support and acknowledging and respecting the history of the Indigenous peoples of Mississauga, staff recommend that the permit rental fees (approximately \$2,000) be waived for the event.

General Committee

2019/05/03

3

There are no other financial impacts to the City related to this event.

## Conclusion

Indigenous groups have held ceremonies adjacent to the Credit River for thousands of years.

Event organizers of the “Water Gathering with the Credit” event have requested that the event take place in Erindale Park from July 11 to July 14 2019.

City of Mississauga, Parks, Forestry and Environment staff along with CVC and UTM staff support the event and will work with the organizers to ensure that the event is executed in a safe manner.



---

Paul Mitcham, P. Eng, MBA, Commissioner of Community Services

Prepared by: Gavin Longmuir, Manager, Parks Operations

# City of Mississauga

## Corporate Report



Date: 2019/05/16

To: Chair and Members of General Committee

From: Paul Mitcham, P. Eng, MBA, Commissioner of  
Community Services

Originator's files:

Meeting date:  
2019/06/12

## Subject

**Endorsement of the Canadian Urban Libraries Council's Government Relations Campaign on Accessing Digital Publications and "One eRead Canada"**

## Recommendation

That Council pass a resolution supporting the Government Relations Campaign on Accessing Digital Publications lead by the Canadian Urban Libraries Council attached as (Appendix 1) and as outlined in the Corporate Report dated May 16, 2019 from the Commissioner of Community Services entitled "Endorsement of the Canadian Urban Libraries Council's Government Relations Campaign on Accessing Digital Publications and "One eRead Canada".

## Report Highlights

- Since 2014, Council, the Mississauga Public Library Board and the Mississauga Library System have actively worked to advocate for solutions to establish reasonable terms for library access to eBooks and eAudiobooks with Canadian and international campaigns to educate and build public awareness on the issues.
- In order to provide a unified voice across Canada, the "eContent for Libraries" campaign was established in 2014 by the Canadian Urban Libraries Council to lobby multinational publishers to change practices around eBook and eAudiobook pricing and eAudiobook availability in Canada that are disadvantageous to libraries.
- The next phase of the advocacy campaign launches in June 2019 and includes an outreach campaign to Municipal and Federal political leaders as well as a social media campaign to gain public support and advocate for solutions to ensure viability of eBook access for Canadian libraries and the communities they serve.
- The "One eRead Canada" initiative provides an opportunity for Canadian readers to participate in a collaborative eReading program of *Glass Beads* by Saskatchewan-born Indigenous author, actor, and comedian Dawn Dumont.
- Libraries participating in the campaign will be measuring the impact of the campaign on

awareness, usage and sales of *Glass Beads* to show publishers that library cooperation supports, not hinders book sales.

## Background

Since 2014, Council, the Mississauga Public Library Board (Board) and the Mississauga Library System (Library) have actively worked with other Canadian libraries and library associations to advocate for solutions to barriers for accessing digital content for libraries. The current barriers around digital content causing concern for libraries are:

1. Restrictive pricing models and unfair costs of eBooks and eAudiobooks from the five largest multinational publishers; Hachette Book Group, HarperCollins, MacMillan, Penguin Random House and Simon & Schuster; and
2. The limited access Canadian libraries have to eAudiobooks including eAudiobooks by prominent Canadian authors.

In response to these barriers, the eContent For Libraries (Coalition) and campaign was established in 2014 by the Canadian Urban Libraries Council (CULC) to lobby multinational publishers as well as Provincial and Federal politicians to engage in discussions about the development of sustainable solutions for eBook and eAudiobook resources. CULC was incorporated in 2008 to improve library service in Canada's urban areas through research, advocacy and knowledge transfer. CULC members are made up of over forty large urban libraries in Canada, including Mississauga. CULC members spend approximately \$100 million in public funds annually on library acquisitions; and increasingly struggle to obtain digital books from multinational publishers, due to cost pressures and the often-strict licensing limitations applied to digital publications.

Council and the Board supported CULC's initial campaigns in 2014 and 2015 in two ways; one, in a letter to Minister Michael Couteau (Tourism, Culture and Sport) requesting his involvement in investigating legislative solutions and two; through participation in a social media awareness campaign on the Library's website. Despite the increased understanding promoted through the campaigns, no lasting solutions were developed. In 2016 and 2017 the Coalition continued to work to assess the issues behind the scenes to evaluate the next advocacy work to be undertaken. On January 14, 2019 a social media campaign was launched by CULC to continue the efforts to lobby for equitable access and flexible, affordable pricing for eBooks and eAudiobooks as well as provide an update on the status of new issues relating to availability of eAudiobook titles. The campaign was a call to action to demand better access and terms from the five multinational publishers: Hachette Book Group, HarperCollins, MacMillan, Penguin Random House and Simon & Schuster and garnered positive interest including attention from one of the major publishers in a way that has never happened in previous campaigns. In addition to the social media campaign both Council and the Board passed resolutions bringing attention to the barriers libraries face to accessing digital content.

General Committee	2019/06/12	3
-------------------	------------	---

---

CULC is building on their successes with the next campaign set to launch in June 2019. This campaign will again bring attention to barriers to access. The campaign focuses on Canadians and Canadian policymakers by drawing attention to the impact not having sufficient resources or, not having the opportunity to acquire digital publications from multinational publishers, has on customers, especially the impact on older adults, youth, indigenous communities and new Canadians. In the longer term, CULC would like to secure government support to eliminate the barriers libraries face in accessing digital content. This campaign aims to raise awareness at the Federal level to this issue prior to the October election.

## Comments

There are several components to the CULC campaign launching in June:

1. CULC will be reaching out to engage key policy makers in discussions as well as engaging all major party candidates during the Federal election campaign this Fall. CULC will be asking policy makers and candidates to participate in a social media campaign pledging their support for libraries to have the resources to build their collections;
2. CULC will be presenting a policy solution to the access issues to the Federal government immediately following the election in October, seeking a funding allocation in the 2020 budget for libraries;
3. The “One eRead Canada” Campaign will be launched. It will allow libraries from across Canada to access the book *Glass Beads* by Saskatchewan-born Indigenous author, actor, and comedian Dawn Dumont. *Glass Beads* is a collection of interconnected short stories, focussed on the lives of four First Nations people against the backdrop of two decades of political, social, and cultural change. With this selection, “One eRead Canada” also seeks to help foster national conversation around reconciliation, Indigenous experiences and the importance of #ownvoices stories.

A series of shared campaign events will promote local and national dialogue about the issues including:

- A Facebook live streamed feature in Mississauga introducing the book on June 3, 2019;
- A live interactive author event hosted out of Saskatoon on June 12, 2019 where the author will answer questions about the book; and
- A Facebook live bookclub hosted by the Library on June 17, 2019 to allow for interactive discussion with participants.

As many as 100 libraries will be participating in this campaign giving exposure to these issues to Canadians from communities of all sizes in Canada. This effort continues advocacy initiatives endorsed by the American Library Association’s eBook Task Force and global initiatives by Readers First and the International Federation of Library Associations and Institutions.

During the campaign, the Library will be gathering statistics to evaluate the impact of the campaign including awareness of the book, usage and sales in an effort to show publishers that library cooperation supports, not hinders book sales.

It is recommended that Council again support the ongoing efforts of the campaign by approving the attached resolution (Appendix 1). The Board passed the same resolution at its meeting on May 15, 2019 as well as signed letters to reach Members of Parliament in Mississauga (Appendix 2) to raise awareness of the issues. The Board encourages Council to join their voices in advocating for affordable access to the electronic content in demand by Mississauga residents.

## Financial Impact

CULC has worked with ThistleDown Press, publisher of *Glass Beads*, to negotiate a reduced fee based rate of 25 cents per circulation for *Glass Beads* eBook and downloadable eAudiobook during the campaign. Downloads for the “One eRead Canada” campaign will be purchased through the existing collections budget and will not result in a negative budget impact.

## Conclusion

CULC is seeking assistance in increasing government and stakeholder awareness of the barriers libraries face in acquiring digital publications. Through the Government Relations Campaign on Accessing Digital Publications, launching June 2019, CULC intends to work with governments on a solution that would benefit library users and Canadian authors. By participating in the next phase of CULC's campaign the Council can continue to play a leadership role in digital content advocacy in order to support cost effectiveness and access to collections in support of lifelong learning and literacy.

## Attachments

Appendix 1: Draft Municipal Motion

Appendix 2: Draft Letter to Federal Members of Parliament




---

Paul Mitcham, P. Eng, MBA, Commissioner of Community Services

Prepared by: Lori Kelly, Director, Library



## Draft Municipal Motion

WHEREAS, the *[Name of Municipality]* recognizes the important role that libraries play in our community. Libraries and the early literacy programs that they run are integral to developing proficient readers and ensuring that children succeed in school. More and more, digital literacy programs run by libraries also help ensure that citizens can contribute to our digital world. Additionally, vulnerable demographic groups, including seniors, low income families, youth, and new Canadians rely on access to libraries as an important tool for their participation in the community – from education to searching for jobs to consuming Canadian cultural materials, and

WHEREAS, libraries in our community recognize that our users increasingly seek to access digital publications offered by multinational publishers, and that access to those publications is too often curtailed by prohibitively high licensing fees or else entirely denied to Canadian libraries, and

WHEREAS, libraries must be in a position to offer digital publications to their users as part of their service offering to our community, particularly given the contemporary rapid pace of digitization of educational and cultural materials,

Now, there be it resolved that the *[Name of Municipality]* do hereby:

1. Indicate our support for the Canadian Urban Libraries Council in its efforts to increase access to digital publications for library users in *[Name of Municipality]* and across Canada;
2. Call on the Federal government to investigate the barriers faced by libraries in acquiring digital publications and the problems that poses for vulnerable demographic groups in Canada; and
3. Further ask the Federal government to develop a solution that increases access to digital publications across Canada and assists libraries in meeting the cost requirements to acquire digital publications.



## Letter to Federal Members of Parliament

Dear – :

I am writing on behalf of the public libraries in [name of municipality] which provide an essential service and are essential parts of our communities.

Libraries and the early literacy programs that they run are integral to developing proficient readers and ensuring that kids succeed in school. More and more, digital literacy programs run by public libraries also help ensure that citizens can contribute to our digital world. Additionally, for many seniors, lower income families, youth, and new Canadians our public libraries provide access to information they may not otherwise be able to obtain.

Members of the Canadian Urban Libraries Council / Conseil des Bibliothèques Urbaines du Canada (CULC/CBUC) spend approximately \$100 million in public funds annually on library acquisitions. In [name of municipality], we are spending [annual acquisition budget] every year in our [#] of library branches to ensure that we acquire publications and other resources in demand by library users.

Even with this significant expenditure, we increasingly struggle to obtain digital publications from multinational publishers, due to other cost pressures we face locally and because of the often-strict licensing limitations applied to digital publications. By way of example, Canadian author Louise Penny's book *Kingdom of the Blind* is available to libraries for \$13 as a paperback, \$22 in hard cover and \$60 in digital form. The \$60 cost would allow the book to be checked out electronically 52 times or for 2 years – whichever happens first. A paper edition would be expected to last 3 to 4 years at a substantially reduced cost. The book is currently not available to Canadian libraries in any e-audio format.

The critical problem is that multinational publishers are limiting access to digital publications by Canadian libraries, and, even when a publication is made available, are making it prohibitively expensive to acquire most digital publications.

If we can not correctly serve library users and provide access to digital publications, our community will suffer. The lack of access to digital publications is a problem we feel governments need to be aware of and help us develop solutions to – especially as governments seek to identify community tools that can help vulnerable groups grow and reach their potential.

Along with other CULC/CBUC members across Canada, we are asking the Federal government to recognize the critical role that libraries play in serving priority groups in our communities. Libraries do this by providing access to materials that allow community members to learn and grow. The Federal government has a vital role to play in ensuring that Canadian libraries can meet the growing demand for digital publications. We ask you to prioritize finding a solution for the barriers that Canadian libraries face in accessing digital publications.

I would be happy to further discuss these concerns with you at your convenience.

Yours sincerely,

Name  
Address

# City of Mississauga

## Corporate Report



Date: 2019/05/14

To: Chair and Members of General Committee

From: Paul Mitcham, P. Eng, MBA, Commissioner of  
Community Services

Originator's files:

Meeting date:  
2019/06/12

## Subject

**Trail Naming of Off-Road Trail #2 to "Nine Creeks Trail" (Wards 1, 2, 7 and 8)**

## Recommendation

1. That the Off-Road Trail #2, in the hydro corridor traversing Wards 1, 2, 7 and 8, be named "Nine Creeks Trail" as outlined in the Corporate Report dated May 14<sup>th</sup>, 2019, from the Commissioner of Community Services.
2. That Council waive the requirement for a 30-day consideration period as outlined in the City's "Facility Naming" Corporate Policy 05-02-02

## Background

In accordance with the City's "Facility Naming" Corporate Policy 05-02-02, the Community Services Department is directed to present names for the General Committee and Council's consideration for the purposes of naming parks, trails, and facilities in the City of Mississauga. In accordance with the policy, General Committee is requested to consider the recommended name presented by the Community Services Department for a period of 30 days, after which the Committee is asked to make a final recommendation to Council.

The subject report outlines the naming request for Off-Road Trail #2 as "Nine Creeks Trail".

## Comments

Off-Road Trail #2 is part of the Region of Peel's Active Transportation Network and identified in Mississauga's Cycling Master Plan (2010 and 2018) as a Primary Off-Road Route. The project is a joint effort between the City of Mississauga and Region of Peel in conjunction with Hydro One Network Inc. (HONI).

The Off-Road Trail #2 location is in the hydro corridor starting at Winston Churchill Boulevard at Royal Windsor Drive and ending at Westfield Drive, traversing Wards 1, 2, 7 and 8. The new multi-use trail will span approximately 9 km and provide important connections to other Primary and Secondary Routes in Mississauga. The entire trail will be constructed in phases, with

General Committee	2019/05/14	2
-------------------	------------	---

---

sections of the trail currently under construction. A bridge at the Credit River underneath the Queen Elizabeth Way (QEW) will connect the east and west parts of the trail. The anticipated timeline for completion of the entire trail is 2024.

In accordance with the City's "Facility Naming" Corporate Policy, Park Planning undertook research and recommends "Nine Creeks Trail" as the preferred name to recognize the diverse creeks that will uniquely intersect the 9 km trail through some of Mississauga's oldest and most established neighbourhoods. Upon completion of the trail, there will be a total of nine creek crossings as follows:

- Sheridan Creek
- Turtle Creek
- Birchwood Creek main branch
- Birchwood Creek secondary branch
- Lornewood Creek
- Stavebank Creek
- Kenollie Creek
- Mary Fix Creek
- Cooksville Creek

The name "Nine Creeks Trail" has a direct relationship to the trail's unique geographic features and recognizes Mississauga's interdependencies with water and functioning watersheds. The creeks are part of Mississauga's natural system providing terrestrial and aquatic habitat, ecological communities and important natural linkages. The name "Nine Creeks Trail" celebrates and brings awareness to the geography of the nine creek crossings that for the first time will be connected via the new multi-use trail in the hydro corridor.

The trail name also offers future opportunities to highlight local natural and heritage value through interpretive signage or plaques. For example, Clarkson Village was one of the first villages in the Sheridan Creek watershed and provided connections and supplies to the surrounding agricultural lands.

In accordance with the City's "Facility Naming" Corporate Policy, the recommended trail name is consistent with the selection criteria which gives preference to names that "have a direct relationship" and "reflect the geographic location" of the trail.

The Ward 1, 2, 7 and 8 Councillors have been consulted and support the recommended trail name.

## Financial Impact

There are no financial impacts resulting from the recommendations in this report.

## Conclusion

The recommended name “Nine Creeks Trail” is in accordance with the City’s “Facility Naming” Corporate Policy. It is recommended that Council waive the 30-day consideration period for the naming as trail head sign graphics need to be prepared and installed as part of the current construction schedule.

## Attachments

Appendix 1: Location Map for Off-Road Trail #2 through Hydro Corridor

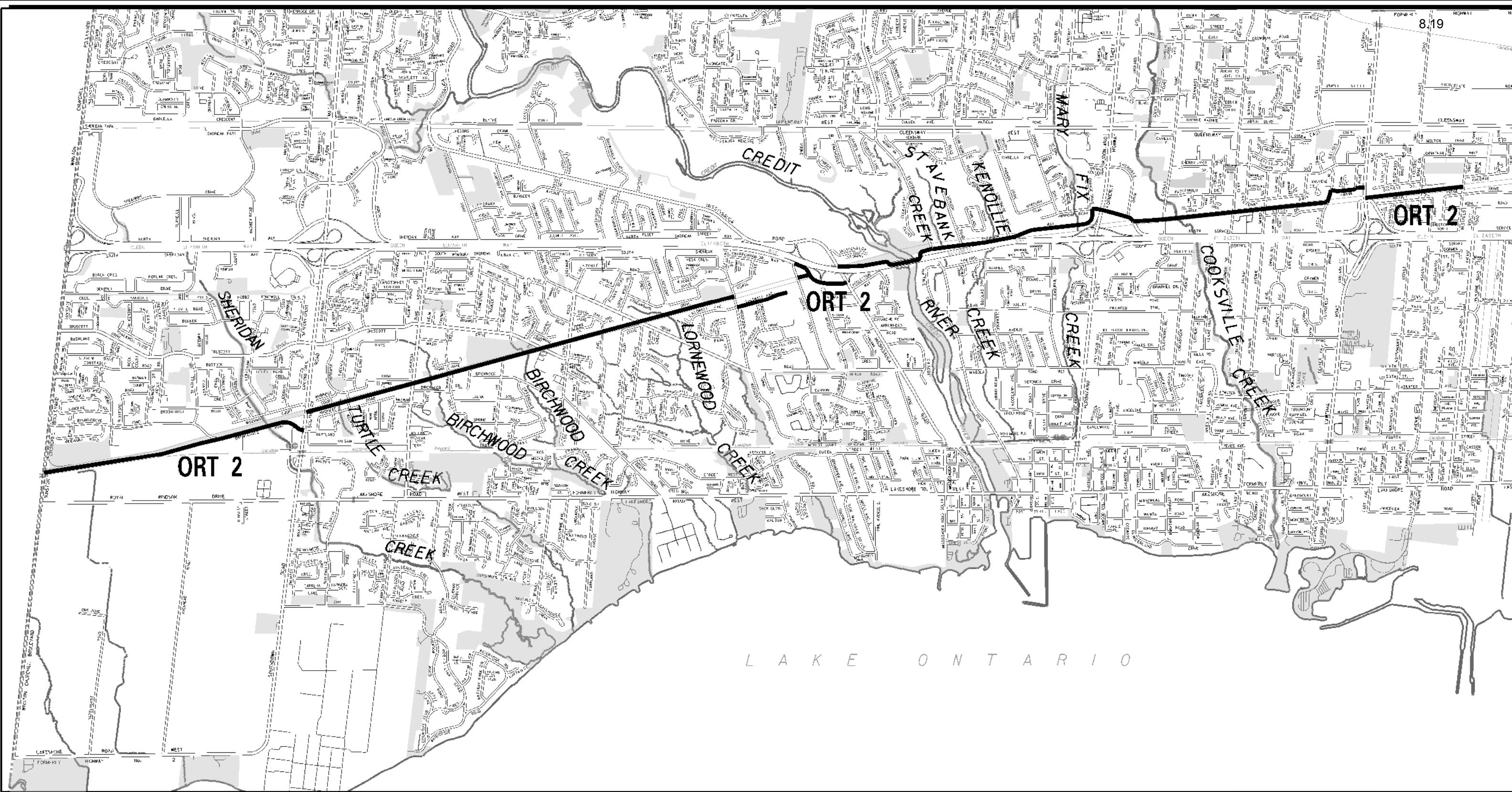


---

Paul Mitcham, P. Eng, MBA, Commissioner of Community Services

Prepared by: Anna Melikian, Planner, Park Planning

PB-Half-Size.tbl  
2019/04/18  
teresag



8.19

ORT 2

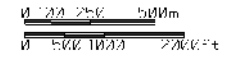
ORT 2

ORT 2

## Location Map of ORT 2

- Location of ORT 2
- Park

SCALE:



MISSISSAUGA

APPENDIX 1

# City of Mississauga

## Corporate Report



Date: 2019/05/16

To: Chair and Members of General Committee

From: Gary Kent, CPA, CGA, ICD.D, Commissioner of  
Corporate Services and Chief Financial Officer

Originator's files:

Meeting date:  
2019/06/12

## Subject

**Surplus Declaration of City lands adjacent to 5031 Hurontario Street (Ward 5)**

## Recommendation

1. That the Corporate Report titled "Surplus Declaration of City-owned lands adjacent to 5031 Hurontario Street", dated May 16, 2019, from the Commissioner of Corporate Services & Chief Financial Officer, be received.
2. That City-owned lands adjacent to 5031 Hurontario Street, located north of Eglinton Avenue and east of Hurontario Street, containing an area of approximately 16.67 square metres (179.43 square feet, more or less), be declared surplus to the City's requirements for the purpose of sale to Metrolinx for the construction of a T.P.S.S (Traction Power Sub Station) on the lands, legally described under the *Land Titles Act* as PIN #13289-0801 (LT), and more particularly described as part of Lot 1, Concession 1, East of Hurontario Street, in the City of Mississauga, Regional Municipality of Peel, designated as Part 1, on Reference Plan 43R-36222, in Ward 5.
3. That all steps necessary to comply with the requirements of Section 2.(1) of the City Notice by-law 215-08 be taken, including giving notice to the public by posting a notice on the City of Mississauga's website for a two week period, where the expiry of the two week period will be at least one week prior to the execution of an agreement for the sale of the subject lands.

## Background

The City is the registered owner of lands identified as PIN 13289-0801 (LT) and legally described as part of Lot 1, Concession 1, East of Hurontario Street and designated as Part 1, Plan 43R-36222. This City-owned parcel adjoins 5031 Hurontario Street. The parcel was transferred to the City of Mississauga by the adjacent owner, Hurontario Centre Limited, on

General Committee	2019/05/16	2
-------------------	------------	---

---

June 18, 2015. This parcel was acquired for the future improvements at Armdale Road and Belbin Streets.

## Comments

Metrolinx has identified a requirement for the lands identified as Part 1, 43R-36222 in order to facilitate the construction of the Hurontario LRT. The property at 5031 Hurontario and portions of the property to the east, have been actively pursued in order to construct and maintain a T.P.S.S facility on the lands. Metrolinx has identified a need to acquire the City parcel in order to complete the necessary land component for the power substation.

Realty Services has completed its circulation and received confirmation that these lands can be declared surplus to the City's requirements and sold.

The lands have been circulated to external utility companies and no easement protection is required.

In accordance with an MOU executed between the City of Mississauga and Metrolinx for the construction of the Hurontario LRT, where land is vacant, not in use and non-revenue producing, the lands would transfer to Metrolinx at nominal value. Accordingly, staff is recommending that the lands be transferred to Metrolinx at nominal consideration.

Prior to the sale of the subject lands, public notice will have been given by the posting of a notice of proposed sale on the City of Mississauga's website for a two week period, where the expiry of the two week period will be at least one week before the execution of the agreement for the sale of the said lands. This notice shall satisfy the requirements of the City Notice By-law 0215-2008, as amended by by-law 0376-2008.

An Agreement of Purchase and Sale to convey the subject property to Metrolinx at nominal value will be processed pursuant to Delegated Authority By-Law 0148-2018.

## Financial Impact

There is no financial impact from declaring the lands surplus.

## Conclusion

As the City parcel identified in this report can be released from its requirement of municipal purposes, it is reasonable and recommended to declare this parcel surplus to the City need, and transfer said lands to Metrolinx for nominal consideration.



General Committee

2019/05/16

3

---

**Attachments**

Appendix 1: Approximate location of lands to be declared surplus

Appendix 2: Sketch showing the parcel of land to be declared surplus



---

Gary Kent, CPA, CGA, ICD.D, Commissioner of Corporate Services and Chief Financial Officer

Prepared by: William Moffatt, Supervisor Acquisitions, Realty Services, Facilities &amp; Property Management





8.20

BELBIN STREET

PREST

ARMDALE ROAD

EGLI



MISSISSAUGA



Corporate Services

Realty Services

Surplus Declaration

City lands adjacent to 5031 Hurontario Street  
Location of Subject Lands

This is not a Plan of Survey

SCALE FOR REDUCED DRAWINGS

0m 6m 12m 23m 35m 46m 58m 115m



Z-36W

I require this plan to be deposited  
under the Land Titles Act  
Date NOVEMBER 11, 2014

PLAN 43R-36222

Received and deposited  
Date NOV 12, 2014

*Alister Sankey*  
ALISTER SANKEY  
ONTARIO LAND SURVEYOR

*Judy Mikloska*  
JUDY MIKLOSKA  
REPRESENTATIVE FOR THE LAND REGISTRAR  
FOR THE LAND TITLES DIVISION OF  
PEEL (No. 43)

## SCHEDULE

PART	PART OF LOT	CONCESSION	PIN
1	1	EAST OF HURONTARIO STREET	PART OF 13289-0390(LT)

PLAN OF SURVEY OF  
PART OF LOT 1  
CONCESSION 1  
EAST OF HURONTARIO STREET  
(GEOGRAPHIC TOWNSHIP OF TORONTO, COUNTY OF PEEL)  
CITY OF MISSISSAUGA  
REGIONAL MUNICIPALITY OF PEEL

SCALE 1: 500



David B. Searles Surveying Ltd.  
ONTARIO LAND SURVEYORS

## METRIC

DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN  
METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

## INTEGRATION DATA

SPECIFIED CONTROL POINTS (SCPs): UTM ZONE 17, NAD83 (ORIGINAL). COORDINATES ARE TO AN URBAN ACCURACY AS PER O. REG. 216/10, s. 14 (2).		
SPECIFIED CONTROL POINT No.	NORTHING	EASTING
SCP 07519900150	4829341.458	608941.328
SCP 07519900151	4829754.596	609266.032
COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.		

## BEARING NOTE

BEARINGS SHOWN HEREON ARE GRID BEARINGS DERIVED FROM SPECIFIED CONTROL  
POINTS 07519900150 AND 07519900151 (SEE INTEGRATION DATA  
TABLE FOR COORDINATES), AND ARE REFERRED TO UTM ZONE 17, NAD83 (ORIGINAL).

BEARINGS ON PLAN 43R-22278 HAVE BEEN ROTATED BY 00°56'10"  
COUNTERCLOCKWISE TO MAKE COMPARISONS.

## DISTANCE NOTE

DISTANCES SHOWN HEREON ARE GROUND DISTANCES AND CAN BE CONVERTED  
TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999750.

## NOTE

PROPERTY LIMITS ARE NOT FENCED UNLESS OTHERWISE NOTED ON THE FACE OF  
THE PLAN.

ALL FOUND MONUMENTS ARE BY DAVID B. SEARLES SURVEYING LTD. (1225) UNLESS  
NOTED OTHERWISE ON THE FACE OF THE PLAN.

## SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

- THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT,  
THE SURVEYORS ACT, AND THE LAND TITLES ACT AND THE REGULATIONS MADE  
UNDER THEM.
- THE SURVEY WAS COMPLETED ON THE 4th DAY OF NOVEMBER, 2014.

NOVEMBER 11, 2014  
DATE

*Alister Sankey*  
ALISTER SANKEY  
ONTARIO LAND SURVEYOR

David B. Searles Surveying Ltd. ONTARIO LAND SURVEYORS 4255 Sherwoodtowne Blvd., Suite 206, Mississauga, Ontario L4Z 1Y5 Tel: (905) 273-6840 Fax: (905) 896-4410 Email: info@dbsearles.ca	Calculator JJS	Draftsperson IV
Calculation File 54-12CAL.DWG	Drawing File 54-14-12.DWG	File No. 54-14-12

BLOCK 39  
PIN 13289-0438(LT)  
REGISTERED PLAN 43M-1598

PART 1  
PIN 13289-0736(LT)  
LOT 1,  
PLAN 43R-35468

PART 8  
PIN 13289-0336(LT)  
SUBJECT TO EASEMENTS AS IN R0111312  
AND R01110841

PART 10  
PLAN 43R-21489  
PIN 13289-0310(LT)

PART 9  
PART 7  
PART 1  
PLAN 43R-22695  
SUBJECT TO EASEMENT  
AS IN LT1823088

PART 1  
SUBJECT TO EASEMENTS AS  
IN LT1770952 AND LT1770855  
PIN 13289-0392(LT)

PART 2  
PIN 13289-0390(LT)

PART 3  
PIN 13289-0391(LT)

SOUTHERLY ANGLE  
BLOCK 43  
REGISTERED PLAN 43M-1598

## LEGEND

▲ SCP	DENOTES	SPECIFIED CONTROL POINT
■	DENOTES	MONUMENT FOUND
□	DENOTES	MONUMENT SET
IB	DENOTES	IRON BAR
SIB	DENOTES	STANDARD IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
CP	DENOTES	CONCRETE PIN
WIT	DENOTES	WITNESS
1225	DENOTES	DAVID B. SEARLES SURVEYING LTD., O.L.S.
MISS	DENOTES	CITY OF MISSISSAUGA
M	DENOTES	MEASURED
P	DENOTES	PLAN 43R-21489
P1	DENOTES	PLAN 43R-22278
P2	DENOTES	PLAN 43R-35468
DSBF	DENOTES	DOUBLE SIDED BOARD FENCE

# City of Mississauga

## Corporate Report



Date: 2019/05/27

To: Chair and Members of General Committee

From: Gary Kent, CPA, CGA, ICD.D,  
Commissioner of Corporate Services and Chief  
Financial Officer

Originator's files:

Meeting date:  
2019/06/12

## Subject

**Recommended Projects for the One-Time Doubling of Federal Gas Tax**

## Recommendation

1. That the following budget amendments as recommended in the "Recommended Projects for the One-Time Doubling of Federal Gas Tax" report dated May 27, 2019, from the Commissioner of Corporate Services and Chief Financial Officer, be included in the 2020 business plan and forecast with funding from the Federal Gas Tax Reserve Fund:
  - a. Cycling Program - Scenario C \$1,666,667 in each of 2020, 2021, 2022
  - b. Transit Facility Hoist Replacement \$5,000,000 in 2020
  - c. Bus Replacements \$20,000,000 in 2021
  - d. Lakeshore New Buses \$10,000,000 in 2020
2. That capital tax funding for bus replacements in 2022 be removed from the forecast
3. That authority be granted to the Purchasing Agent to enter into commitments for the projects identified in recommendation #1.

## Background

As part of Budget 2019, the Federal government announced one-time doubling of Federal Gas Tax (FGT) funding for upper- and lower-tier municipalities. The City of Mississauga's City portion of the one-time FGT allocation is estimated at \$22M. The Region of Peel has approved its allocation to be dispersed to the lower-tier municipalities on the same basis used for regular FGT funding, and the City of Mississauga's Regional portion is \$17.9M. Combined, the City will be receiving one-time additional funding of approximately \$40M.

## Comments

The FGT Reserve Funds are used by the City primarily for transit and roads infrastructure and are a welcome and necessary funding source used by the City to ensure that service levels can be maintained and improved. There are specific guidelines associated with all capital projects funded through FGT. Although these guidelines allow for various types of projects to be funded,

General Committee	2019/05/27	2
-------------------	------------	---

---

the City has been applying FGT funds primarily to transit and roads projects. There are also specific and significant reporting requirements associated with FGT funding, so FGT funding should be applied to larger capital projects to be administratively efficient. Finally, the \$40M in additional one-time funding should be used to address some of our one-time or new priorities.

Given these three guiding principles, the allocation of the additional \$40M is proposed as follows:

1. **Cycling Program** – Council approved the 2018 Mississauga Cycling Master Plan in July 2018. The plan is built around the development of a connected, convenient and comfortable cycling network for Mississauga residents and visitors of all ages. The plan will be implemented through coordinating new infrastructure with scheduled road rehabilitation and major road construction projects, where possible. Council approved option C at an annual cost of \$5.3 million per year. Option C will provide for new and upgraded cycling facilities, including bicycle parking and intersection enhancement. The overall implementation timeframe for Option C build-out is 27 years. An allocation of \$5 million from the FGT Reserve Fund will provide funding to ensure the program is fully funded through 2022 and provides for a significant advancement in cycling infrastructure.
2. **Hoist Replacement at Malton Satellite Terminal and Central Transit Parkway** – The current hoists at Malton Satellite and Central Transit Parkway terminals are at the end of their life and require replacement. Hoists are a critical component used to assist in the regular maintenance and service of our bus fleet. Due to salt and snow accumulation in the hoist pits, more than normal deterioration to the structural elements has occurred over the past several years. In addition, sludge and oil sitting in the pit has caused premature rust and corrosion to the pits and associated structural components. This program was not contemplated in the 2019 capital budget and forecast but is necessary to ensure the safety of staff and the ability to maintain the fleet and ensure high service levels.
3. **Bus Replacement** - The City maintains a robust replacement cycle of 12 to 18 years to maintain system reliability. Buses required for system expansion as a result of population growth are generally funded through development charges. Buses required as replacement or as a result of improved service levels and/or new service routes are funded from the FGT or tax-capital Reserve Funds. Allocation of \$20 million from the FGT Reserve Fund will allow the existing replacement program to be advanced by one year to 2021 and to adjust future funding required from the tax-capital Reserve Fund. While it is proposed that the funding year for the buses be 2021, Council will need to provide authority for the Purchasing Agent to enter into supplier contracts to allow the buses to be built.
4. **Lakeshore Road Bus Service Improvements** – Staff are completing their work on the Lakeshore Road Transportation Master Plan and Implementation Strategy which will be the topic of a future report put forward to Council. The Plan is designed to develop a vision for the Lakeshore Corridor, to recognize the different character areas, to support all ways of travelling, to connect people to places, to establish a plan to make the vision a reality and to

support existing and future land uses. A portion of the plan deals with bus service improvement on the corridor. The plan envisions a phase 1 consisting of short to medium term transit service improvements which could include improvements in local bus service and/or introduction of express bus service. The cost of these improvements is estimated at \$10.8 million for buses and \$5.1 million for annual operating costs. While staff are still reviewing the best means to implement phase 1, it is proposed that \$10 million be allocated from the FGT Reserve Fund to fund the purchase of buses. Future operating costs can be absorbed through the 2 to 3 per cent service level expansion costs already incorporated in the operating forecast. While it is proposed that the funding year for the new buses be 2020 with service implementation in 2021, Council will need to provide authority for the Purchasing Agent to enter into supplier contracts in 2019 so that the buses can be built.

This report addresses funding requirements for buses based on the cost of diesel buses. The City continues to evaluate the purchase of hybrid buses. A future corporate report will provide an analysis and proposal on the types of buses to be purchased.

## Financial Impact

The recommended allocation will fully utilize the additional \$40M available in FGT funding.

## Conclusion

Federal Gas Tax is a critical part of the City's capital funding strategy. The \$40M one-time increase in funding will assist the City in addressing some of its high-priority capital requirements.



---

Gary Kent, CPA, CGA, ICD.D, Commissioner of Corporate Services and Chief Financial Officer

Prepared by: Elizabeth McGee, Manager Financial Strategies

## **REPORT 4 – 2019**

To: CHAIR AND MEMBERS OF GENERAL COMMITTEE

The Road Safety Committee presents a second Report from its meeting of May 21, 2019 containing recommendations that were omitted:

RSC-0029-2019

That the additional funds in the amount of \$2200.00, be allocated from the 2019 Council Budget for the purchase of a tent and table kit for the use by Road Safety Committee for events and promotions.

(RSC-0029-2019)



**REPORT 3 - 2019**

To: CHAIR AND MEMBERS OF GENERAL COMMITTEE

The Traffic Safety Council presents its third report for 2019 and recommends:

TSC-0032-2019

That the presentation on May 29, 2019 from Camille McKay, Manager, Parking Enforcement, in regards to parking enforcement procedures be received for information.  
(TSC-0032-2019)

TSC-0033-2019

1. That the warrants have not been met for the placement of a school crossing guard at the walkway on Chriseden Drive in front of Tecumseh Public School for the students attending Tecumseh Public School.
2. That Transportation and Works be requested to replace faded signage and create a "No U Turn" zone on Chriseden Drive.
3. That Transportation and Works be requested to sign the fire hydrant mostly obscured by bushes on the west side of Chriseden Drive just south of Tecumseh Public School.
4. That Transportation and Works be requested to re-paint the centre line on Chriseden Drive.

(Ward 2)

(TSC-0033-2019)

TSC-0034-2019

1. That the warrants have not been met for the placement of a school crossing guard at the intersection of Swinbourne Drive and Douguy Boulevard for the students attending Britannia Public School.
2. That Peel Regional Police be requested to enforce the U-turn prohibitions in the school zone in front of Britannia Public School and the stopping compliance at the intersection of Swinbourne Drive and Douguy Boulevard Between the times of 8:15 – 8:45 AM and 3:00 – 3:20 PM, as time and resources permit.
3. That Parking Enforcement be requested to enforce the "No stopping" prohibitions on Swinbourne Drive in front of Britannia Public School between the times of 8:15 – 8:45 AM and 3:00 – 3:20 PM.

(Ward 11)

(TSC-0034-2019)

TSC-0035-2019

That the report prepared by Traffic Safety Council Citizen Members Tamara Coulson and Junaid Shah summarizing the sessions they attended at the 69th Annual Ontario Traffic Council Conference held on May 5 - 7, in London, Ontario be received.

(TSC-0035-2019)

TSC-0036-2019

That Tamara Coulson, Junaid Shah, Aamira Alvi, Pavatha Puvaneswaran and Michael Matthew be appointed as members of the Public Information Subcommittee of the Traffic Safety Council for the term ending November 14, 2022 or until successors are appointed.

(TSC-0036-2019)

TSC-0037-2019

That Sushil Kumra, Louise Goegan, Michael Ogilvie, Robert Crocker, Durdana Hassan and Miles Roque be appointed as members of the Walk to School Subcommittee of the Traffic Safety Council for the term ending November 14, 2022 or until successors are appointed.

(TSC-0037-2019)

TSC-0038-2019

That the Parking Enforcement in School Zone Report for April 2019 be received for information.

(TSC-0038-2019)

TSC-0039-2019

That the Transportation and Works Action Items List for April 2019 be received for information.

(TSC-0039-2019)

TSC-0040-2019

That the Site Inspection Statistics report for April 2019 be received for information.

(TSC-0040-2019)

TSC-0041-2019

1. That Traffic Safety Council schedule a further site inspection at 6755 Lisgar Drive in front of the school for the students attending Lisgar Middle School in June 2019.
2. That the Principal of Lisgar Middle School be requested to remind parents to turn right only when exiting the Kiss and Ride as per signage in place at the school exit driveway.

(Ward 10)

(TSC-0041-2019)

## TSC-0042-2019

1. That the warrants have not been met for the placement of a school crossing guard at the intersection of Havenwood Drive and Tyneburn Crescent (South Leg) for the students attending St. Alfred Catholic Elementary School and Brian W. Fleming Public School.
2. That Traffic Safety Council be requested to conduct a safety review in front of Brian W. Fleming Public School.
3. That Transportation and Works be requested to review signage at the intersection of Havenwood Drive and Tyneburn Crescent (South Leg).
4. That Peel Regional Police be requested to enforce stopping compliance at the intersection of Havenwood Drive and Tyneburn Crescent (South Leg), between the times of 8:45 – 9:10 AM and 3:10 – 3:35 PM, as time and resources permit.
5. That the Traffic Safety Council Walk to School subcommittee be requested to contact the principal of Brian W. Fleming Public School regarding the school walking routes program.

(Ward 3)

(TSC-0042-2019)

## TSC-0043-2019

1. That the warrants have not been met for the placement of a school crossing guard at the intersection of Tomken Road and Runningbrook Drive for the students attending St. Teresa of Calcutta Catholic Elementary School.
2. That Transportation and Works be requested to repaint zebra markings on the west leg of the intersection and the stop bar on the southwest corner at the intersection of Tomken Road and Runningbrook Drive.
3. That Transportation and Works be requested to review the feasibility of a countdown timer at the intersection of Tomken Road and Runningbrook Drive and report back to Traffic Safety Council.

(Ward 3)

(TSC-0043-2019)

## TSC-0044-2019

1. That the warrants have not been met for the placement of a school crossing guard at the intersection of Mineola Road West and Woodland Avenue for the students attending Kenollie Public School.
2. That Transportation and Works be requested to move the stop sign on the northeast corner east to be opposite the stop sign on the southeast corner at the intersection of Mineola Road West and Woodland Avenue.
3. That the Principal of Kenollie Public School be requested to remind students that helmets are mandatory for cycling.

(Ward 1)

(TSC-0044-2019)

TSC-0045-2019

That the warrants have not been met for the placement of a school crossing guard at the intersection of Novo Star Drive and Vicar Gate for the students attending St. Veronica Catholic Elementary School.

(Ward 11)

(TSC-0045-2019)

---

## **REPORT 6 - 2019**

To: CHAIR AND MEMBERS OF GENERAL COMMITTEE

The Heritage Advisory Committee presents its sixth report for 2019 and recommends:

HAC-0042-2019

That the properties deemed not to be significant Cultural Heritage Landscapes, as per the Corporate Report from the Commissioner of Community Services, dated May 14, 2019, be removed from the City's Heritage Register, save for any individually listed properties.

(Wards 2, 5, 9, 10, 11)

(HAC-0042-2019)

HAC-0043-2019

That the request to alter the heritage designated property at 44 Peter Street South, as per the Corporate Report from the Commissioner of Community Services, dated May 14, 2019 be approved.

(Ward 1)

(HAC-0043-2019)

HAC-0044-2019

That the request to alter the heritage designated property at 43 Mississauga Road South, as per the Corporate Report from the Commissioner of Community Services, dated May 14, 2019 be approved.

(Ward 1)

(HAC-0044-2019)

HAC-0045-2019

1. That Alexander Hardy, Rick Mateljan and Terry Ward, Citizen Members of the Heritage Advisory Committee, be appointed to serve on the Heritage Designation Working Group for the term ending November 14, 2022, or until a successor is appointed.
2. That Councillor Carlson, be appointed to serve as ex-officio with Councillor Parrish as an alternate, on the Heritage Designation Working Group for the term ending November 14, 2022, or until a successor is appointed.

(HAC-0045-2019)

HAC-0046-2019

That the verbal update on June 4, 2019 from Matthew Wilkinson, Citizen Member, in regards to the Avro Arrow Replica model and displays at the 2019 Carassauga Festival, be received.

(HAC-0046-2019)