Appendix A

Project Initiation Meeting Minutes
Minutes

To/Attention: Notes to File  
Date: March 10, 2016

From: Brian Hollingworth  
Project No: 39728

Subject: St. Catharines Downtown Parking Study Kick-Off Meeting Minutes
St. Catharines City Hall
Wednesday March 9, 2016

Present:  
Brian Applebee - City of St Catharines
Steve Bittner - City of St Catharines
Scott Ritchie - City of St Catharines
Lisa Read - City of St Catharines
Brian Hollingworth - IBI Group
Peter Richards - IBI Group
Attila Hertel - IBI Group

Distribution: Attendees

<table>
<thead>
<tr>
<th>Item Discussed</th>
<th>Action By</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Introductions</strong></td>
<td></td>
</tr>
<tr>
<td>Kick-off meeting attendees completed roundtable introductions.</td>
<td>Information</td>
</tr>
<tr>
<td>Brian Applebee and Steve Bittner are the two points of contact for the St Catharines project team. From IBI Group, Peter Richards and Attila Hertel are to be included in all day-to-day emails. Brian Hollingworth to be included as needed.</td>
<td>Information</td>
</tr>
<tr>
<td>St Catharines to provide an Organizational Chart.</td>
<td>St. Catharines</td>
</tr>
<tr>
<td><strong>2. Motivations for Parking Study and Key Issues</strong></td>
<td></td>
</tr>
<tr>
<td>St Catharines summarized the primary reasons behind the study. The following reasons were stated:</td>
<td>Information</td>
</tr>
<tr>
<td>• Out-dated parking price structure. Current practices include free parking after 6:00PM on weekdays and all day on weekends. St Catharines is looking to review parking prices, in addition to review the paid parking times.</td>
<td>Information</td>
</tr>
<tr>
<td>• The most common complaint regarding parking is the difficulty in finding available parking spaces within the downtown core (in the evenings, when parking is free). Paid parking spaces are difficult to find as well.</td>
<td>Information</td>
</tr>
</tbody>
</table>
### Item Discussed

- The newly constructed Meridian Centre and the Performing Arts Centre buildings strain the nearby parking supply during special events.
- St. Catharines is looking to develop a special events parking policy. There is a need to determine what is considered a “special event”. Preliminary discussions indicated that any Meridian Centre or Performing Arts Centre events would be considered special events.
- Need to review parking reserve fund.
- Investigate opportunities for new parking technologies, as some parking lots only take cash as a payment method.
- The existing downtown core commuter mode split heavily favours automobile. Transit, walking and/or cycling are not heavily utilized modes of transportation.

### 3. Work Plan Discussion

IBI Group and St Catharines project teams reviewed and discussed the proposed work plan.

#### Task 1 – Project Start-up and Scoping

- St. Catharines staff to provide a list of key stakeholders.
- St. Catharines staff to provide the background documents included within the Request for Proposal.
- IBI Group to prepare a detailed data request memorandum.
- The Parking Advisory Committee (PAC) meeting is a public meeting where any member of the public can join. St. Catharines noted that the PAC is an important stakeholders but not the project managers for this study.

#### Task 2 – Public and Stakeholder Consultation

- The 3 primary stakeholder groups interested in curbside parking spaces are the taxi, loading and accessibility groups.
- Pop-up patios are not anticipated to occur very frequently. However, it was noted that the new by-law allowing alcohol to be served on the pop-up patios may make the idea more favourable for local businesses. St. Catharines staff to identify locations where pop-up patios are likely to occur.
- The study should determine the location and quantity of designated loading zones. St Catharines staff noted that there’s likely more loading zones then required.
<table>
<thead>
<tr>
<th>Item Discussed</th>
<th>Action By</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 3 – Data Collection</td>
<td></td>
</tr>
<tr>
<td>• The study schedule needs to account for data collection timeframes. The special event parking utilization survey needs to be completed during one of the few remaining Ice Dogs home games. Otherwise this task would have to wait until next season which is not desirable. St Catharines to provide the schedule of remaining home games, ideally that coincide with another special event.</td>
<td>St. Catharines</td>
</tr>
<tr>
<td>• IBI Group and St. Catharines staff to jointly determine the parking utilization survey plan (i.e. what parking lots are to be surveyed, during what times and which days).</td>
<td>Information</td>
</tr>
<tr>
<td>• The parking demand seasonal variation is predominantly driven by the Meridian Centre and the Performing Arts Centre operations. There is noticeably less parking demand during the summer period where no major events are scheduled. The seasonal variation factors can be estimated using collected revenue totals.</td>
<td>Information</td>
</tr>
<tr>
<td>• St. Catharines to provide a list of future developments relevant to the study.</td>
<td>St. Catharines</td>
</tr>
<tr>
<td>Task 4 – Parking Supply and Demand</td>
<td></td>
</tr>
<tr>
<td>• St. Catharines has 2014 parking utilization data which will be provided to IBI Group.</td>
<td>St. Catharines</td>
</tr>
<tr>
<td>• Approximately 100 individuals are on the waiting list for parking garage permits.</td>
<td>Information</td>
</tr>
<tr>
<td>• There are currently no electric vehicle charging stations. Charging stations in addition to bicycle parking are options St Catharines would like to explore.</td>
<td>Information</td>
</tr>
<tr>
<td>• St Catharines staff stated that Transportation Demand Management is not an area that requires significant focus, but some high level commentary would be helpful.</td>
<td>Information</td>
</tr>
<tr>
<td>Task 5 – Financial Model</td>
<td></td>
</tr>
<tr>
<td>• Cash-in-lieu of parking is a strategy that will only be available on the downtown cores fringes and not the downtown core itself. St Catharines to identify the permissive areas.</td>
<td>St. Catharines</td>
</tr>
<tr>
<td>• St. Catharines to provide a list of cities they would like included in the peer review and financial analysis comparison.</td>
<td>St. Catharines</td>
</tr>
<tr>
<td>• St. Catharines staff noted that the financial related data request is best submitted as soon as possible.</td>
<td>IBI Group</td>
</tr>
<tr>
<td>• Parking enforcement is handled in-house by St. Catharines staff.</td>
<td>Information</td>
</tr>
<tr>
<td>• St. Catharines desires the study to determine the extra cost associated with enforcing the extended weekday pay parking hours and/or the expansion to paid weekend periods.</td>
<td>Information</td>
</tr>
</tbody>
</table>
Item Discussed

- In terms of parking management, St. Catharines is looking for improvements to their current system, instead of a new system as a whole.

Task 6 – Special Events Parking Policy
- Discussed above.

Task 7 – Conclusions and Recommendations
- All of the findings from Tasks 1 through 6 would be included in the conclusions of the Draft Report.

4. Project Financing
- Disbursements will be sub-divided into the project tasks.
- IBI Group to revise the contract document. St. Catharines is to provide the word version [update: St. Catharines provided this on March 10, 2016].
- IBI Group to provide the WSIB and Insurance certificates [update: this occurred on March 10, 2016].

5. Additional Discussions
St. Catharines staff noted that the project schedule is flexible. Anticipated timeline is 10-12 months with the target being January 2017.

Public meetings are anticipated to occur before summer and near the end of the study

The study will include the development of parking guiding principles that will align with the Garden City Plan principles.
Appendix B

Initial Data Request
Memorandum

To/Attention: Brian Applebee, Steve Bittner
From: IBI Group
cc: Scott Ritchie and Lisa Read
Date: March 18, 2016
Project No: 39728

Subject: Initial Data Request

Introduction
The intent of this memorandum is to provide the City of St. Catharines with IBI Group’s initial data request. Additional data requests may be made throughout the project on an as needed basis. The data request is divided into the individual tasks outlined in the scope of work:

Task 1: Project Start-Up and Scoping;
Task 2: Stakeholder Consultation;
Task 3: Data Collection;
Task 4: Parking Supply and Demand;
Task 5: Financial Model;
Task 6: Special Events Parking Policy; and
Task 7: Conclusions and Recommendations

Data Request
Task 1 – Project Start-up and Scoping
- City of St. Catharines Organizational Chart

Task 2 – Public and Stakeholder Consultation
- List of key stakeholders and their contact information
- All relevant background documents and studies

Task 3 – Data Collection
- Schedule of remaining Ice Dogs home games and upcoming Performing Art Centre special events; ideally dates where there is overlap between the two events
- A few locations with high likelihood for pop-up patios
- Inventory of existing public and private parking lots/areas to be surveyed
• Any existing parking supply data (including bicycle parking) and the gathered 2014 parking utilization data (Excel format, if possible)
• Basemap template of the City’s downtown parking system (GIS and/or CAD)
• City of St. Catharines parking by-laws and standards (parking prohibitions, taxi stand locations, loading zones, parking space dimensions, etc.)
• Parking revenue data in a month-by-month basis (for seasonal adjustment), ideally in Excel format

Task 4 – Parking Supply and Demand
• List of future developments relevant to the study
• Contact information for the local brokerage community (for the review of potential parking supply expansions through the acquisition of additional sites)
• Inventory of existing parking technologies (technology name, location and intended function)

Task 5 – Financial model
• Any existing parking price structure data (both permits and pay-per-use), preferably divided on a per lot/area basis.
• Historical capital and operating budgets (since 2010), historical revenue and expenditure data (since 2010), and available reserve fund and allocated funding for parking data; ideally in Excel format
• Identification of permissive cash-in-lieu of parking areas
• List of cities to be included in the peer review and financial analysis comparison
• Any available parking violation data (who, what, where, when, why), as well as any appeals and related statistics
• Information regarding cost of parking enforcement
Appendix C

Existing Conditions Memorandum
Memorandum

To/Attention  City of St. Catharines  Date  September 22, 2016
From  IBI Group  Project No  39728
Subject  Existing Conditions Memorandum - Parking Supply and Demand,
          Parking Technologies, and Parking Rates

1  Introduction

IBI Group is conducting the Downtown Parking Study for the City of St. Catharines. The study’s objective is to develop a set of parking policies and strategies that supports the Garden City Plan, and builds upon the existing parking system while:

- Ensuring adequate future parking supply;
- Addressing stakeholder concerns;
- Ensuring parking operations are financially sustainable;
- Achieving the City’s reserve fund goals; and
- Addressing special event needs.

A key task of this study is to gain an understanding of the existing parking conditions within the Downtown study area. This memorandum examines the existing parking situation in terms of:

- Parking supply and demand for all on- and off-street parking opportunities;
- Municipally owned parking technologies; and
- Historical and existing parking rates.

The following sections present the results for this analysis.

2  Parking Supply and Demand

This section discusses the Downtown parking supply, and assesses the existing parking utilization. The intent of this assessment is to determine whether sufficient parking supply is provided to meet current parking needs. Given that parking patterns differ significantly during weekdays and weekends, the analysis examines the parking demands of these periods separately. Additionally, the City of St. Catharines regularly hosts special events at the newly constructed Meridian Centre and the Performing Arts Centre, and these special events are known to generate localized peaks of parking demand. Therefore, a third "special events" period is examined.
2.1 Existing Parking Inventory

A complete review of the existing parking supply within the Downtown study area was undertaken for the purposes of understanding the location, type, and number of parking spaces available. This section presents the compiled parking inventory data divided into off-street parking lots, on-street parking zones, bicycle parking, and loading zones.

There are 29 off-street parking lots located within the Downtown study area which are available for parking to the general public: 14 municipally owned and 15 privately owned. The on-street parking capacity is composed of free and paid parking opportunities. In general, paid parking spaces are located within or near the commercial core, while free parking is located within the residential areas.

In addition to on- and off-street parking, there are 17 loading zones of various lengths (6m to 54m) within the Downtown study area, and 10 bicycle parking locations with a total capacity of 53 bicycles.

A map of Downtown study area is presented in Exhibit 2-1. The map displays the locations of all off-street parking lots, and illustrates the four on-street parking zones, as defined in this memorandum. The map also displays the locations of bicycle parking, and loading zones.
Exhibit 2-1: City of St. Catharines Downtown Parking Map

Legend
- Study Area
- Municipally Owned Parking Lot
- Privately Owned Parking Lot
- On Street Parking Zone 1
- On Street Parking Zone 2
- On Street Parking Zone 3
- On Street Parking Zone 4
- Bike Rack
- Loading Zone

Zone 1
Zone 2
Zone 3
Zone 4
2.1.1 On-Street Parking Inventory

For the purpose of examining parking supply and demand, on-street parking spaces are grouped into four zones, which are defined as the following:

- Low density residential zone (Zone 1): bounded by Ontario Street to the east, and the study area boundaries to the south, west, and north;
- Commercial Core (Zone 2): bounded by Geneva Street to the east, the study area boundary to the south, Ontario Street to the west, and Church Street to the north;
- Northern mixed density residential (Zone 3): bounded by Geneva Street to the east, Church Street to the south, Ontario Street to the west, and the study area boundary to the north; and
- Eastern mixed density residential (Zone 4): bounded by Geneva Street to the west, and the study area boundaries to the north, east, and south.

These on-street parking zones were developed considering the land use designations defined within the Garden City Plan’s Downtown Planning District Schedule E10. Exhibit 2-2 presents detailed parking inventory data for the four defined parking zones.

Exhibit 2-2: On-Street Parking Inventory

<table>
<thead>
<tr>
<th>Zone</th>
<th>Paid Parking</th>
<th>Free Parking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>108</td>
</tr>
<tr>
<td>2</td>
<td>396</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>158</td>
<td>138</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>221</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>564</td>
<td>470</td>
</tr>
<tr>
<td>Grand Total</td>
<td>1034</td>
<td></td>
</tr>
</tbody>
</table>

As displayed in Exhibit 2-2, there are a total of 1034 on-street parking spaces within the study area, of which 564 are paid parking spaces, and 470 spaces are free. Four of the 564 on-street paid parking spaces are reserved for individuals with accessible needs. The parking supply for free on-street parking is estimated given that the individual parking stalls are not marked. The estimations are based on the approximate number of vehicles that could fit within the area of permissible parking as defined by the City of St. Catharines by-laws.

2.1.2 Off-Street Parking Inventory

Detailed parking lot inventory data for off-street parking is displayed in Exhibit 2-3.

Exhibit 2-3: Off-Street Parking Inventory

<table>
<thead>
<tr>
<th>Parking Lot</th>
<th>Type</th>
<th>Owner</th>
<th>General Parking</th>
<th>Accessible Parking</th>
<th>Special Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library Lot (Lot 1)</td>
<td>Hourly</td>
<td>Municipal</td>
<td>77</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Race Street Lot (Lot 2)</td>
<td>Monthly</td>
<td>Municipal</td>
<td>54</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>St. Paul / Westchester Lot (Lot 3)</td>
<td>Hourly</td>
<td>Municipal</td>
<td>21</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>William Street Lot (Lot 4)</td>
<td>Monthly</td>
<td>Municipal</td>
<td>19</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Parking Lot</td>
<td>Type</td>
<td>Owner</td>
<td>General Parking</td>
<td>Accessible Parking</td>
<td>Special Considerations</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------</td>
<td>------------</td>
<td>-----------------</td>
<td>--------------------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>Garden Park Lot (Lot 5)</td>
<td>Hourly</td>
<td>Municipal</td>
<td>69</td>
<td>2</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Market Square Lot (Lot 6)</td>
<td>Hourly</td>
<td>Municipal</td>
<td>117</td>
<td>4</td>
<td>5 Reserved Spaces</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 Car Share Space</td>
</tr>
<tr>
<td>Riordon Street Lot (Lot 7)</td>
<td>Monthly</td>
<td>Municipal</td>
<td>83</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Garden City Arena Complex</td>
<td>Hourly</td>
<td>Municipal</td>
<td>77</td>
<td>4</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>(Lot 8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ontario Street Garage (Lot 9)</td>
<td>Hourly and Monthly</td>
<td>Municipal</td>
<td>476</td>
<td>10</td>
<td>4 Reserved Spaces</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 Spaces Out of Services</td>
</tr>
<tr>
<td>Carlisle Street Garage Above</td>
<td>Hourly and Monthly</td>
<td>Municipal</td>
<td>528</td>
<td>24</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Ground (Lot 10A)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4 Reserved Spaces</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3 Carshare Spaces</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 Hybrid Vehicle Spaces</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 City Vehicle Spaces</td>
</tr>
<tr>
<td>Carlisle Street Garage Below</td>
<td>Monthly</td>
<td>Municipal</td>
<td>82</td>
<td>2</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Ground (Lot 10B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head Street Lot (Lot 11)</td>
<td>Monthly</td>
<td>Municipal</td>
<td>42</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>King Street Lot (Lot 12)</td>
<td>Monthly</td>
<td>Municipal</td>
<td>8</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Meridian Centre Lot (Lot 13)</td>
<td>Monthly</td>
<td>Municipal</td>
<td>110</td>
<td>30</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Lot 14</td>
<td>Monthly</td>
<td>Private</td>
<td>70</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Lot 15</td>
<td>Monthly</td>
<td>Private</td>
<td>84</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Lot 16</td>
<td>Monthly</td>
<td>Private</td>
<td>106</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Lot 17</td>
<td>Hourly</td>
<td>Private</td>
<td>34</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Lot 18</td>
<td>Monthly</td>
<td>Private</td>
<td>82</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Lot 19</td>
<td>Hourly and Monthly</td>
<td>Private</td>
<td>150</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Lot 20</td>
<td>Hourly and Monthly</td>
<td>Private</td>
<td>109</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Lot 21</td>
<td>Hourly and Monthly</td>
<td>Private</td>
<td>47</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Lot 22</td>
<td>Hourly and Monthly</td>
<td>Private</td>
<td>65</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Lot 23</td>
<td>Hourly</td>
<td>Private</td>
<td>20</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Lot 24</td>
<td>Hourly</td>
<td>Private</td>
<td>32</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Lot 25</td>
<td>Monthly</td>
<td>Private</td>
<td>31</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Ice Dogs Lot (Lot 26)</td>
<td>Hourly</td>
<td>Municipal</td>
<td>24</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Lot 27</td>
<td>Hourly and Monthly</td>
<td>Private</td>
<td>53</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Lot 28</td>
<td>Monthly</td>
<td>Private</td>
<td>64</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td>Lot 29</td>
<td>Hourly</td>
<td>Private</td>
<td>60</td>
<td>-</td>
<td>Special Event Parking</td>
</tr>
<tr>
<td><strong>Municipal Sub-Total</strong></td>
<td></td>
<td></td>
<td>1787</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td><strong>Private Sub-Total</strong></td>
<td></td>
<td></td>
<td>1007</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td></td>
<td></td>
<td>2877</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
As displayed in Exhibit 2-3, the 14 municipally-owned parking lots provide 1787 general parking spaces and 83 accessible parking spaces. In addition to the 14 municipal parking lots, there are 15 privately-owned parking lots providing approximately 1007 parking spaces. The parking supply for the privately owned parking lots are estimated since many of these lots are paved with gravel and parking spaces are not clearly defined. Note that Lot 19 is currently under construction and is unavailable, therefore approximately 150 of the 1007 parking spaces are currently unavailable.

The Carlisle Street garage provides dedicated parking spaces for carpooling, carshare, and hybrid vehicles. Exhibit 2-4 displays a sample of the carshare parking spaces.

2.2 Parking Utilization Surveys

A complete review of the existing parking utilization of the study area was undertaken for the weekday, weekend, and special event conditions. In order to assess the study area parking utilization, parking availability surveys were completed. The parking counts captured hourly parking demands for the entire Downtown study area, these counts were collected on the following days:

- March 24, 2016: special event at the Meridian Centre (surveyed by IBI Group);
- April 13, 2016: special events at both the Meridian Centre and Performing Arts Centre (surveyed by City of St. Catharines);
- May 17, 2016: weekday market day (surveyed by City of St. Catharines);
- May 19: weekday market day (surveyed by City of St. Catharines);
- June 1, 2016: weekday non-market day (surveyed by City of St. Catharines); and
- June 4, 2016: weekend (surveyed by IBI Group).
The on- and off-street parking utilization results are presented in Section 2.4 and Section 2.5. The intent of the weekday market, and non-market day surveys was to gain an understanding of the parking pattern differences during days when the St. Catharines Farmers Market is active and when the Farmers Market is inactive. The impact of Farmers Market on parking is further assessed in Section 2.7.

Regarding the special event parking utilization surveys, City of St. Catharines staff limited the survey area to a smaller subsection of the overall study area. The survey area was limited to the area within close proximity to the Meridian Centre and Performing Arts Centre. The generally accepted distance people are willing to walk to their destination after finding available parking is approximately 300-500m, which supports the special event survey area defined by the City. Exhibit 2-5 illustrates the special event survey area.

Exhibit 2-5: Special Events Survey Area

2.3 Seasonal Adjustment

Parking patterns are known to vary throughout the calendar year. For example, parking demand may be slightly lower during the winter months due to heavy snow fall, keeping people from visiting the Downtown core. Parking systems are generally designed to accommodate the 85-90th percentile peak annual parking demand. This ensures that the parking supply is sufficient to accommodate all but the highest parking demands experienced throughout the year. Parking
systems are not designed to accommodate the peak annual parking demand since there would be excess parking capacity available during the remainder of the year. To seasonally adjust the collected parking data, the City of St. Catharines provided weekly parking revenue data for 2015. To determine the seasonal adjustment factor, the parking revenue collected during the weeks the parking utilization survey were completed were compared to the 90th percentile parking revenue ($21,588.43). Exhibit 2-6 displays the 2015 weekly parking revenues.

**Exhibit 2-6: 2015 Weekly Parking Revenues**

Based on the assessment of 2015 weekly parking revenues, the following seasonal adjustment factors were developed:

- Weekday (May 17, 2016): 1.075
- Weekend (June 4, 2016): 1.079

To estimate the seasonally adjusted parking demand, the collected parking demand data was multiplied by the appropriate factor. The special event parking demand data was not adjusted seasonally since the Meridian Centre and Performing Arts Centre were hosting near capacity events. Therefore, the observed parking demands are not anticipated to experience significant seasonal variations.

### 2.4 On-Street Parking Utilization

The maximum on-street parking utilization for the four zones during the weekday, weekend, and special event periods are displayed in **Exhibit 2-7**. Note that two capacities are presented per zone. As previously discussed, the special event survey area is a small subset of the study area as a whole. The study area capacity represents the zone’s total parking capacity while the special event capacity represents the parking capacity within the smaller special event survey area. Additionally, the period of peak parking demand can differ for each zone. **Section 2.6** examines the system wide peak parking demands.
Exhibit 2-7: Maximum On-Street Parking Utilization

<table>
<thead>
<tr>
<th>Zone</th>
<th>Capacity (Study Area / Special Event Area)</th>
<th>Maximum Utilization (Weekday)</th>
<th>Time Observed</th>
<th>Maximum Utilization (Weekend)</th>
<th>Time Observed</th>
<th>Maximum Utilization (Special Event)</th>
<th>Time Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>108 / 108</td>
<td>52%</td>
<td>5:00 AM - 6:00 AM</td>
<td>62%</td>
<td>3:00 PM - 4:00 PM</td>
<td>73%</td>
<td>9:00 PM - 10:00 PM</td>
</tr>
<tr>
<td>2</td>
<td>399 / 376</td>
<td>68%</td>
<td>11:00 AM - 12:00 PM</td>
<td>81%</td>
<td>8:00 PM - 9:00 PM</td>
<td>94%</td>
<td>7:00 PM - 8:00 PM</td>
</tr>
<tr>
<td>3</td>
<td>296 / 134</td>
<td>45%</td>
<td>10:00 AM - 11:00 AM</td>
<td>66%</td>
<td>2:00 PM - 3:00 PM</td>
<td>94%</td>
<td>8:00 PM - 9:00 PM</td>
</tr>
<tr>
<td>4</td>
<td>231 / 0</td>
<td>63%</td>
<td>12:00 PM - 1:00 PM</td>
<td>40%</td>
<td>12:00 PM - 1:00 PM</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>System</td>
<td>1034 / 618</td>
<td>55%</td>
<td>11:00 AM - 12:00 PM</td>
<td>61%</td>
<td>8:00 PM - 9:00 PM</td>
<td>88%</td>
<td>8:00 PM - 9:00 PM</td>
</tr>
</tbody>
</table>

As displayed in Exhibit 2-7, there is generally on-street parking available throughout the entire study area during the weekday and weekend periods. Parking lot systems are considered effectively full at an occupancy of approximately 85%, depending on lot size and characteristics. This represents the point where finding a space is challenging for drivers, resulting in an increased likelihood of a driver having to circle while looking for a parking space. None of the designated on-street parking zones are operating at effective capacity. However, while specific areas within each zone do operate at capacity, such as St. Paul Street within Zone 2, there is sufficient available parking nearby to accommodate the excess demand.

During special events, the on-street parking system was observed to operate at effective capacity in Zones 2 and 3. As previously discussed, the special event parking demand counts were limited to a smaller survey area. Therefore there may potentially be available parking spaces in the non-surveyed areas of Zones 2 and 3.

As previously discussed, hourly parking counts for the entire study area were collected. Exhibit 2-8 illustrates the Zone 2 (commercial core) hourly parking patterns during weekdays, weekends and during special events. Note that for the two days of special events counts, only the Meridian Centre was hosting an event during the first day, while both the Meridian Centre and the Performing Arts Centre were hosting events the second day. Similar figures for the other zones are located in Appendix A.
On-street parking within Zone 2 was observed to be well utilized during both weekday and weekend periods. However, both zones operate under the effective capacity threshold indicating that there are parking spaces available during all times. During special events, on-street parking within Zone 2 operates at effective capacity, indicating that a small amount of parking is available, however drivers may experience difficulty in finding these spaces.

Considering parking patterns across all zones, the following general observations were made:

- Weekend and weekday parking patterns were fairly similar; parking demands generally increased during the morning, plateaued during the midday, and remained consistent throughout the evening.
- During the weekday period, the system wide on-street parking demand peaked at 572 vehicles between 11:00 AM and 12:00 PM (55% utilization). This is to be expected given that this period represents the midpoint of the typical business day.
- During the weekend period, the system wide on-street parking demand peaked at 628 vehicles between 8:00 and 9:00 PM (61% utilization). This period represents the peak weekend night life parking demands. Note that the evening parking demand (628 vehicles) was only slightly higher than the midday parking demand (624 vehicles).
- During the special event period, the system wide on-street parking demand peaked at 545 vehicles between 8:00 and 9:00 PM (88% utilization). Parking demand remained relatively consistent throughout the Meridian Centre and Performing Arts Centre events.
- In general, weekend demand was observed to be slightly higher than weekday demands throughout the study area during all periods. However, contrary to the rest of the study area, higher weekday parking demands were observed in Zone 4 during the morning and midday. Weekday parking demand was observed to
decrease between 4:00-5:00 PM, while the weekend parking demands remained relatively consistent throughout the day. These observations suggest that a significant number of people who work within the study area prefer to park in Zone 4. This trend is likely a result of the moderate number of retail and commercial establishments located along Queenston Street, Niagara Street and Church Street within Zone 4.

- As expected, parking demand was observed to be higher when both the Performing Arts Centre and Meridian Centre were hosting sell out events, compared to the evening when only the Meridian Centre was hosting.

- Within the special event survey area, the on-street parking system in Zones 2 and 3 were observed to operate at effective capacity. Zone 1 operates near effective capacity with approximately 25 parking spaces available.

- Several instances of illegal on-street parking were observed in Zone 2, mainly concentrated along St. Paul Street and the immediately adjacent streets.

### 2.5 Off-Street Parking Utilization

This section discusses the off-street parking utilization of the study area during the weekday, weekend and special event periods. The parking demand was collected separately at each individual lot. **Exhibit 2-9** presents the maximum off-street parking utilization during the weekday, weekend and special event periods.

**Exhibit 2-9: Maximum Off-Street Parking Utilization**

<table>
<thead>
<tr>
<th>Parking Lot</th>
<th>Capacity</th>
<th>Maximum Utilization (Weekday)</th>
<th>Time Observed</th>
<th>Maximum Utilization (Weekend)</th>
<th>Time Observed</th>
<th>Maximum Utilization (Special Event)</th>
<th>Time Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library Lot (Lot 1)</td>
<td>81</td>
<td>72%</td>
<td>6:00 PM – 7:00 PM</td>
<td>100%</td>
<td>1:00 PM – 3:00 PM</td>
<td>100%</td>
<td>7:00 PM – 8:00 PM</td>
</tr>
<tr>
<td>Race Street Lot (Lot 2)</td>
<td>54</td>
<td>81%</td>
<td>10:00 AM – 11:00 AM</td>
<td>41%</td>
<td>8:00 PM – 9:00 PM</td>
<td>100%</td>
<td>6:00 PM – 9:00 PM</td>
</tr>
<tr>
<td>St. Paul / Westchester Lot (Lot 3)</td>
<td>23</td>
<td>83%</td>
<td>6:00 PM – 7:00 PM</td>
<td>96%</td>
<td>2:00 PM – 3:00 PM</td>
<td>100%</td>
<td>6:00 PM – 10:00 PM</td>
</tr>
<tr>
<td>William Street Lot (Lot 4)</td>
<td>20</td>
<td>70%</td>
<td>9:00 AM – 3:00 PM</td>
<td>25%</td>
<td>9:00 PM – 10:00 PM</td>
<td>95%</td>
<td>7:00 PM – 8:00 PM</td>
</tr>
<tr>
<td>Garden Park Lot (Lot 5)</td>
<td>71</td>
<td>100%</td>
<td>6:00 PM – 9:00 PM</td>
<td>100%</td>
<td>8:00 PM – 11:00 PM</td>
<td>100%</td>
<td>6:00 PM – 9:00 PM</td>
</tr>
<tr>
<td>Market Square Lot (Lot 6)</td>
<td>121</td>
<td>100%</td>
<td>9:00 AM – 12:00 PM</td>
<td>100%</td>
<td>1:00 PM – 3:00 PM</td>
<td>100%</td>
<td>6:00 PM – 8:00 PM</td>
</tr>
<tr>
<td>Riordan Street Lot (Lot 7)</td>
<td>83</td>
<td>25%</td>
<td>11:00 AM – 12:00 PM</td>
<td>77%</td>
<td>8:00 PM – 9:00 PM</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Garden City Arena Complex (Lot 8)</td>
<td>81</td>
<td>49%</td>
<td>7:00 PM – 8:00 PM</td>
<td>85%</td>
<td>8:00 PM – 9:00 PM</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Ontario Street Garage (Lot 9)</td>
<td>486</td>
<td>72%</td>
<td>2:00 PM – 3:00 PM</td>
<td>10%</td>
<td>9:00 PM – 10:00 PM</td>
<td>99%</td>
<td>7:00 PM – 8:00 PM</td>
</tr>
<tr>
<td>Carlisle Street Garage Above Ground (Lot 10A)</td>
<td>552</td>
<td>71%</td>
<td>12:00 PM – 1:00 PM</td>
<td>16%</td>
<td>8:00 PM – 9:00 PM</td>
<td>74%</td>
<td>8:00 PM – 9:00 PM</td>
</tr>
<tr>
<td>Carlisle Street Garage Below Ground (Lot 10B)</td>
<td>84</td>
<td>61%</td>
<td>10:00 AM – 12:00 PM</td>
<td>11%</td>
<td>7:00 PM – 11:00 PM</td>
<td>21%</td>
<td>9:00 PM – 10:00 PM</td>
</tr>
<tr>
<td>Head Street Lot (Lot 11)</td>
<td>42</td>
<td>100%</td>
<td>10:00 AM – 12:00 PM</td>
<td>24%</td>
<td>1:00 PM – 2:00 PM</td>
<td>100%</td>
<td>6:00 PM – 9:00 PM</td>
</tr>
<tr>
<td>King Street Lot (Lot 12)</td>
<td>8</td>
<td>100%</td>
<td>9:00 AM – 1:00 PM</td>
<td>25%</td>
<td>7:00 PM – 9:00 PM</td>
<td>88%</td>
<td>7:00 PM – 8:00 PM</td>
</tr>
</tbody>
</table>
### Parking Lot Capacity

<table>
<thead>
<tr>
<th>Parking Lot</th>
<th>Capacity</th>
<th>Maximum Utilization (Weekday)</th>
<th>Time Observed</th>
<th>Maximum Utilization (Weekend)</th>
<th>Time Observed</th>
<th>Maximum Utilization (Special Event)</th>
<th>Time Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meridian Centre Lot (Lot 13)</td>
<td>140</td>
<td>4%</td>
<td>2:00 PM – 4:00 PM</td>
<td>11%</td>
<td>2:00 PM – 5:00 PM</td>
<td>100%</td>
<td>5:00 PM – 10:00 PM</td>
</tr>
<tr>
<td>Lot 14</td>
<td>70</td>
<td>46%</td>
<td>11:00 AM – 12:00 PM</td>
<td>6%</td>
<td>8:00 AM – 10:00 AM</td>
<td>100%</td>
<td>7:00 PM – 10:00 PM</td>
</tr>
<tr>
<td>Lot 15</td>
<td>84</td>
<td>42%</td>
<td>10:00 AM – 11:00 AM</td>
<td>4%</td>
<td>12:00 PM – 4:00 PM</td>
<td>92%</td>
<td>7:00 PM – 10:00 PM</td>
</tr>
<tr>
<td>Lot 16</td>
<td>106</td>
<td>100%</td>
<td>12:00 PM – 1:00 PM</td>
<td>6%</td>
<td>7:00 AM – 8:00 AM</td>
<td>35%</td>
<td>9:00 PM – 10:00 PM</td>
</tr>
<tr>
<td>Lot 17</td>
<td>34</td>
<td>50%</td>
<td>10:00 AM – 11:00 PM</td>
<td>3%</td>
<td>9:00 PM – 11:00 PM</td>
<td>12%</td>
<td>5:00 PM – 6:00 PM</td>
</tr>
<tr>
<td>Lot 18</td>
<td>82</td>
<td>74%</td>
<td>11:00 AM – 12:00 PM</td>
<td>2%</td>
<td>1:00 PM – 2:00 PM</td>
<td>15%</td>
<td>7:00 PM – 8:00 PM</td>
</tr>
<tr>
<td>Lot 19</td>
<td>150</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Lot 20</td>
<td>109</td>
<td>100%</td>
<td>12:00 PM – 2:00 PM</td>
<td>9%</td>
<td>1:00 PM – 3:00 PM</td>
<td>91%</td>
<td>7:00 PM – 8:00 PM</td>
</tr>
<tr>
<td>Lot 21</td>
<td>47</td>
<td>98%</td>
<td>11:00 AM – 12:00 PM</td>
<td>47%</td>
<td>8:00 PM – 9:00 PM</td>
<td>100%</td>
<td>7:00 PM – 10:00 PM</td>
</tr>
<tr>
<td>Lot 22</td>
<td>65</td>
<td>100%</td>
<td>11:00 AM – 12:00 PM</td>
<td>26%</td>
<td>11:00 AM – 12:00 PM</td>
<td>95%</td>
<td>7:00 PM – 8:00 PM</td>
</tr>
<tr>
<td>Lot 23</td>
<td>20</td>
<td>75%</td>
<td>1:00 PM – 2:00 PM</td>
<td>40%</td>
<td>8:00 PM – 9:00 PM</td>
<td>70%</td>
<td>7:00 PM – 8:00 PM</td>
</tr>
<tr>
<td>Lot 24</td>
<td>32</td>
<td>94%</td>
<td>7:00 PM – 8:00 PM</td>
<td>94%</td>
<td>8:00 PM – 9:00 PM</td>
<td>69%</td>
<td>8:00 PM – 9:00 PM</td>
</tr>
<tr>
<td>Lot 25</td>
<td>31</td>
<td>100%</td>
<td>9:00 AM – 1:00 PM</td>
<td>19%</td>
<td>12:00 PM – 2:00 PM</td>
<td>23%</td>
<td>8:00 PM – 10:00 PM</td>
</tr>
<tr>
<td>Ice Dogs Lot (Lot 26)</td>
<td>24</td>
<td>8%</td>
<td>11:00 AM – 12:00 PM</td>
<td>13%</td>
<td>3:00 PM – 5:00 PM</td>
<td>100%</td>
<td>7:00 PM – 10:00 PM</td>
</tr>
<tr>
<td>Lot 27</td>
<td>53</td>
<td>57%</td>
<td>2:00 PM – 4:00 PM</td>
<td>17%</td>
<td>8:00 PM – 9:00 PM</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Lot 28</td>
<td>64</td>
<td>100%</td>
<td>8:00 AM – 3:00 PM</td>
<td>8%</td>
<td>7:00 PM – 9:00 PM</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Lot 29</td>
<td>60</td>
<td>88%</td>
<td>11:00 AM – 12:00 PM</td>
<td>8%</td>
<td>9:00 AM – 11:00 AM</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>System</td>
<td>2877</td>
<td>62%</td>
<td>11:00 AM – 12:00 PM</td>
<td>22%</td>
<td>8:00 PM – 9:00 PM</td>
<td>73%</td>
<td>8:00 PM – 9:00 PM</td>
</tr>
</tbody>
</table>

As discussed in Section 2.3, the weekday and weekend parking demand data displayed in Exhibit 2-9 was seasonally adjusted. Since parking lots cannot theoretically operate over capacity, the seasonally adjusted parking utilization was capped at 100%. In some cases, several parking lots were observed to be operating near or at capacity during the utilization surveys, and the seasonal adjustment may have increased the lot’s utilization over 100%. In these instances, it’s expected that the excess parking demand would migrate to nearby lots with available parking supply. For example, during the weekday, drivers attempting to park at the Market Square Lot (Lot 6) may relocate to a nearby on-street parking space or to the Library Lot (Lot 1).

The following conclusions can be drawn based on Exhibit 2-9:

- During the weekday period, several parking lots operate at or near capacity. However, there are nearby parking lots with available parking opportunities to accommodate the excess demand. Both parking garages experience peak parking
utilizations below the 85% effective capacity threshold indicating that there is available parking opportunities during all times of the day.

- In general, weekday peaking parking utilization was observed to be higher than the weekend period. The following lots were observed to be operating above the effective capacity threshold:
  - Library Lot (Lot 1);
  - St. Paul / Westchester Lot (Lot 3);
  - Garden Parking Lot (Lot 5);
  - Market Square Lot (Lot 6); and
  - Private Lot 24.

- During the special event period, all municipally owned parking lots were observed to operate above the effective capacity threshold, with many 100% full. The one exception is the Carlisle Street garage, where a maximum utilization of 74% was observed. This indicates that over 140 spaces are available at all times. Additionally, the privately owned Lots 16, 17, 18, 23, 24, and 25 remained below the effective capacity threshold.

As previously discussed, hourly parking counts for all parking lots were collected and seasonally adjusted. Exhibit 2-10 and Exhibit 2-11 illustrates the hourly parking patterns at the Ontario Street and Carlisle Street garage during weekdays, weekends and special event periods, respectively. Similar figures for the other parking lots are located in Appendix A.

Exhibit 2-10: Ontario Street Garage (Lot 9) Parking Demand

As indicated by Exhibit 2-10, the Ontario Street garage is well utilized during the weekday business hours reaching a maximum demand of 350 vehicles (73% utilization). However, the garage is under-utilized during the weekend. A maximum parking demand of 44 vehicles was observed (9% utilization). These results indicate that the Ontario Street garage can support additional parking demand during all times, with the exception of special events. The Ontario
Street garage was observed to operate above the 85% effective capacity threshold during both special event surveys. Approximately 70 parking spaces were observed to be available at all times when only the Meridian Centre was hosting an event. However, the garage was at capacity when both the Meridian Centre and Performing Arts Centre were hosting at capacity events. Based on discussions with City staff, the Ontario Street garage remains under-utilized when only the Performing Arts Centre is hosting an event.

Exhibit 2-11: Carlisle Street Garage (Lot 10A) Parking Demand

As displayed in Exhibit 2-11, the Carlisle Street garage operates below the effective capacity threshold during all periods, indicating available parking is always available. The maximum weekday parking demand was 394 vehicles (70% utilization). When both the Meridian Centre and Performing Arts Centre were hosting at capacity events, the maximum parking demand was 407 vehicles (74% utilization). The garage remained well under-utilized during the entire weekend period, with a maximum demand of 89 vehicles (16% utilization) was observed.

Considering parking patterns across all parking lots, the following observations are made:

- During weekdays, parking demands generally increased during the morning reaching a plateau between 9:00-10:00 AM. Parking demands remained relatively constant throughout the midday until 4:00-5:00 PM, at which point demand decreased. These parking patterns reflect normal business day operations.

- In general, weekend parking demands were consistently lower than weekday demands with the exception of the municipal parking lots in close proximity to the Market Square. The Library Lot (Lot 1), Garden Park Lot (Lot 5), and Market Square Lot (Lot 6) all reached 100% capacity during the midday. These patterns are likely a result of the St. Catharines Farmers Market which operates on Saturdays between 6:00 AM and 2:00 PM.

- During special events, the majority of municipal and private parking lots within the Downtown core were observed to operate over the effective capacity threshold. Parking demand was observed to slowly decrease further away from the Meridian Centre and Performing Arts Centre, which is expected. The notable exception is the
Carlisle Street garage. A maximum parking demand of 407 vehicles (74%) was observed, indicating that 145 parking spaces remained available at all times.

2.6 System Wide Parking Demand

When considering the study area as a whole, the following peak parking demands were observed:

- **Weekday**: 2,357 vehicles parked between 11:00 AM and 12:00 PM (60% utilization);
- **Weekend**: 1,263 vehicles parked between 8:00 PM to 9:00 PM (32% utilization); and
- **Special Event**: 2,372 vehicles parked between 8:00 PM to 9:00 PM (76% utilization).

Considering these results, the parking supply within the study area is sufficient to accommodate the current peak parking demands at all times. As discussed in Section 2.4 and Section 2.5, several individual parking lots and on-street parking zones do exceed the 85% effective capacity threshold. However, there is available parking supply nearby that can accommodate the excess demand.

The maximum weekday, weekend and special event parking utilizations are displayed geographically in **Exhibit 2-12**, **Exhibit 2-13**, and **Exhibit 2-14**, respectively.
Exhibit 2-12: Map of Weekday Maximum Parking Utilization (11:00 AM to 12:00 PM)
Exhibit 2-13: Map of Weekend Maximum Parking Utilization (8:00 PM to 9:00 PM)
Exhibit 2-14: Map of Special Event Maximum Parking Utilization (8:00 PM to 9:00 PM)
Considering the results shown in Exhibit 2-12, Exhibit 2-13, and Exhibit 2-14, the following conclusions are drawn:

- During the weekday period of peak parking demand, the majority of off-street parking lots within the commercial core operate above the effective capacity threshold. However, the parking lots surrounding the commercial core provide sufficient capacity to accommodate the excess demand. All of the off-street lots except for Lot 29 are within or approximately 500m from the centre of downtown (as measured from James Street / St. Paul Street intersection).

- With the exception of on- and off-street parking in close proximity to the St. Catharines Farmers Market, parking lots were observed to operate below the 85% effective capacity threshold during the weekend. Once the farmers market closed, parking demands with the Library Lot (Lot 1), Garden Park Lot (Lot 5), and Market Square Lot (Lot 6) were observed to decrease below the effective capacity threshold as well.

- During the special event period, the on- and off-street parking supply in close proximity to the Meridian Centre and Performing Arts Centre were observed to operate above the 85% effective capacity threshold. However, as the distance away from the two centres increases, the parking demand is gradually observed to decrease.

2.7 St. Catharines Farmers Market Sensitivity Analysis

The St. Catharines Farmers Market is located on the north western quadrant of the James Street and King Street intersection. The hours of operation include Tuesdays, Thursdays, and Saturdays between 6:00 AM and 2:00 PM, and is a major contributor to parking demand within close proximity.

A sensitivity analysis was conducted to determine the effect the St. Catharines Farmers Market has on parking demands within the Market Square Lot (Lot 6) and the on-street parking along Market Street. Exhibit 2-15 compares the Market Square parking demand between a day the market is active versus a day the market is inactive.
As illustrated in Exhibit 2-15, the St. Catharines Farmers Market has a significant impact on parking demands in lots within close proximity. The Market Square Lot (Lot 6) and the Market Street on-street lots are fully utilized between 9:00 AM and 2:00 PM during the day the market is active. When compared to a day the market is inactive, parking demands peak at 96 vehicles (76% utilization). Additionally, as previously discussed, the farmers market impact on parking demand is more widespread than just the Market Square Lot (Lot 6) and Market Street. The Library Lot (Lot 1) and Garden Park Lot (Lot 5) are located near the farmers market, and both lots peaked at 100% utilization on a day the market was active.

As previously discussed, the generally accepted distance people are willing to walk to their destination after finding available parking is approximately 300-500m. Based on the observed parking patterns at lots within 300-500m of Market Square, it appears there is sufficient parking supply to accommodate the parking demand generated by the St. Catharines Farmers Market.

2.8 Loading Zone Inventory

A loading zone is a short section of curbside space that is dedicated to the loading and unloading activities of nearby commercial establishments. Loading zones within the City of St. Catharines are currently operational 24/7. All other curbside activities such as parking, stopping or standing is strictly prohibited within the zone and will be ticketed. Exhibit 2-16 displays the existing loading zone signs currently deployed by the City of St. Catharines.
Currently, there are 20 loading zones located within the Downtown study area, generally located within the commercial core in the vicinity of St. Paul Street, James Street, King Street and Ontario Street. Exhibit 2-17 illustrates the 20 study area loading zones locations and their respective lengths.
Loading activities are generally performed during regular business hours, which means that loading zones usually remain unused during weekday evenings and weekends. This presents the City with an opportunity to improve the utilization of these loading zones during evening and weekends.

Through discussions with the City of St. Catharines staff, stakeholders, and the general public several loading zone related concerns have been raised. The City has received complaints from commercial establishment owners that the vehicles they use for loading and unloading activities within the designated loading zones might not qualify as a loading truck and are being ticketed. Another identified public concern is that vehicles too large for the smaller designated loading zones are being ticketed. Currently, 8 of the 20 loading zones within the City of St. Catharines Downtown core are smaller than 10 metres in length, the shortest being only 6 metres.

The final Downtown Parking Study report will assess the existing loading zones, and provide recommendations aimed at addressing the identified concerns, as well as exploring other opportunities.

3 Parking Technologies

Parking technology plays an important role in the parking experience for users. This section provides a summary of the existing on- and off-street parking technologies, identified existing issues and lists potential technologies available to the City of St. Catharines.

3.1 Existing Parking Technologies

Currently, the City of St. Catharines uses Mackay parking meters for their on-street paid parking stalls. Paid parking is predominantly concentrated within the Commercial Core, while on-street parking in the residential areas is generally free. Exhibit 3-1 illustrates the existing Mackay parking meters currently used by the City of St. Catharines.

Exhibit 3-1: Existing Mackay Parking Meters
Regarding the off-street parking system, the City of St. Catharines currently has the following technologies deployed:

- Short term paid parking lots (hourly and/or daily parking) are served by pay and display machines;
- No parking technologies are deployed at monthly permit parking lots, permits must be displayed at an easily visible place inside the vehicle;
- The Ontario Street garage (Lot 9) is operated by the Centar software. Entrance is controlled by the Amano gates system (gates and ticket machines); and
- The Carlisle Street garage (Lot 10 A and B) is operated by the Zeag Management System, and Orion peripheral stations. Access is controlled by parking gates that grant entrance when the user scans their monthly permit or accepts a time stamped parking receipt. Paid parking users can validate their parking receipts at several pay on foot machines throughout the garage.

Exhibit 3-2 provides detailed information regarding existing off-street parking technologies on a lot by lot basis.

**Exhibit 3-2: Existing and Recommended Parking Technologies**

<table>
<thead>
<tr>
<th>Parking Lot</th>
<th>Payment</th>
<th>Existing Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library Lot (Lot 1)</td>
<td>Hourly</td>
<td>No gates Three Precise Parklink - 11 DG4 Pay and Display Machines</td>
</tr>
<tr>
<td>Race Street Lot (Lot 2)</td>
<td>Monthly and Special</td>
<td>No gates Hang tag permits</td>
</tr>
<tr>
<td>St. Paul / Westchester Lot (Lot 3)</td>
<td>Hourly</td>
<td>No gates One Precise Parklink - 11 DG4 Pay and Display Machines</td>
</tr>
<tr>
<td>William Street Lot (Lot 4)</td>
<td>Monthly</td>
<td>No gates Hang tag permits</td>
</tr>
<tr>
<td>Garden Park Lot (Lot 5)</td>
<td>Hourly and Special</td>
<td>No gates Two Precise Parklink - 11 DG4 Pay and Display Machines</td>
</tr>
<tr>
<td>Market Square Lot (Lot 6)</td>
<td>Hourly</td>
<td>No gates Five Precise Parklink - 11 DG4 Pay and Display Machines</td>
</tr>
<tr>
<td>Riordon Street Lot (Lot 7)</td>
<td>Monthly</td>
<td>No gates Hang tag permits</td>
</tr>
<tr>
<td>Garden City Arena Complex (Lot 8)</td>
<td>Hourly</td>
<td>No gates</td>
</tr>
<tr>
<td>Ontario Street Garage (Lot 9)</td>
<td>Hourly, Monthly, and</td>
<td>Amano gate system (gates and ticket machines)</td>
</tr>
<tr>
<td>Carlisle Street Garage Above Ground (Lot 10A)</td>
<td>Hourly, Monthly, and</td>
<td>Zeag management system (gates and permit scanner machines, credit card reader machines, and pay machines)</td>
</tr>
<tr>
<td>Carlisle Street Garage Below Ground (Lot 10B)</td>
<td>Monthly</td>
<td>Zeag management system (gates and permit scanner machines, does not accept credit cards)</td>
</tr>
</tbody>
</table>
IBI GROUP MEMORANDUM

City of St. Catharines – September 22, 2016

<table>
<thead>
<tr>
<th>Parking Lot</th>
<th>Payment</th>
<th>Existing Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head Street Lot (Lot 11)</td>
<td>Monthly, and Special Event</td>
<td>No gates, Hang tag permits</td>
</tr>
<tr>
<td>42 Spaces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>King Street Lot (Lot 12)</td>
<td>Monthly</td>
<td>No gates, Hang tag permits</td>
</tr>
<tr>
<td>8 Spaces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meridian Centre Lot (Lot 13)</td>
<td>Monthly, and Special Event</td>
<td>No gates, One DG7 pay and display machine, Hang tag permits</td>
</tr>
<tr>
<td>140 Spaces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ice Dogs Lot (Lot 26)</td>
<td>Hourly, and Special Event</td>
<td>No gates, One DG7 pay and display machine</td>
</tr>
<tr>
<td>24 Spaces</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Exhibit 3-3 displays a pay parking machine currently deployed within the Carlisle Street garage.

Exhibit 3-3: Carlisle Street Garage Pay Parking Machine

There is little in the way of advanced parking guidance when approaching Downtown St. Catharines, and once within the core. Wayfinding technologies assist parking users in navigating a parking system, finding an available parking space, and can be used to illustrate the large quantity of parking spaces that exist in the Downtown core. As the existing parking utilization surveys demonstrate, there is often a lot of availability in the parking garages, which are often less desirable than on-street parking spaces, but readily available. Exhibit 3-4 displays an existing wayfinding sign along Race Street when approaching the Meridian Centre.
The City of St. Catharines has recently installed 28 pedestrian wayfinding signs within the Downtown core. Additionally, wayfinding signs were installed at key points along the Highways and Regional Roads in close proximity to the Downtown core to assist drivers in navigating the area. Exhibit 3-5 illustrates the new pedestrian wayfinding signs.

Exhibit 3-5: New Pedestrian Wayfinding Sign
3.2 Technology Needs and Issues

Through discussions with the City of St. Catharines staff, and the stakeholder and public consultation process, the following parking technology related issues and needs were identified:

- Existing on-street parking meters are dated and there is a need to upgrade the existing parking meters;
- Existing meters are known to breakdown;
- Vehicles are being ticketed as soon as the parking meter or pay and display ticket expires;
- Drivers must return to their vehicles and purchase additional parking time if they wish to extend their stay;
- The existing Ontario Street garage parking management system is dated and targeted for upgrade;
- Current parking operations require labour intensive enforcement to maintain compliance;
- Minimal wayfinding technologies deployed throughout the Downtown core to aid drivers in finding available parking; and
- Public perception that there is no available parking within the Downtown core.

These potential needs and issues will be confirmed through our own independent investigation, coupled with our discussion suitable and available parking technologies. A preliminary discussion follows in the next section.

3.3 Available Parking Technologies

The following parking technologies are used in many other southern Ontario municipalities, and our review will determine their applicability to the City of St. Catharines:

- **Dynamic wayfinding signage**: Provide users with real time parking occupancy data allowing them to target the underutilized lots, and with directional information to assist in wayfinding;
- **Parking website / phone application**: Complimentary technology to the dynamic wayfinding signage displaying similar data on different portals;
- **Pay on foot / exit**: Users accept a parking receipt while entering the parking lot and proceed to their desired destination for any duration of time. When the users are ready to exit the paid parking lot, they are required to pay for parking at a pay parking machine, which validates their parking receipt. Users must then input the validated parking receipt into the parking gate, which raises if payment has been made;
- **Pay by phone**: Users pay for parking using their phones (for texting) or smart phones (for usage with an app). Each parking space or zone typically has an ID number assigned to it, and drivers would text the ID number to a specific City of St. Catharines parking number associated with the system. Users can also download an application which allows them to purchase parking time for their registered vehicles. Users are permitted to park their vehicle and then proceed to their destination without the need to display proof of payment. Additionally, time can be added without returning to the vehicle; and
• **Dynamic on-street parking meters**: Allows the owner to set variable parking rates based on time-of-day and day-of-week.

These parking technologies will be further explored in the final Downtown Parking Study report. Additionally, parking technology recommendations will be provided aimed at addressing the identified needs, and issues.

## 4 Existing and Historical Parking Rates

The City of St. Catharines monthly, daily and hourly parking rates were compared with those offered at comparable cities across Ontario in order to determine whether the current rates are appropriate or if there is the potential to increase rates while remaining competitive. Ten cities were selected by City of St. Catharines staff for this comparison, the results of which are displayed in **Exhibit 4-1**.

### Exhibit 4-1: Comparison of Parking Rates

<table>
<thead>
<tr>
<th>City</th>
<th>Monthly Rate</th>
<th>Hourly Rate</th>
<th>Daily Rate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of St. Catharines</td>
<td>$50.00 - $95.00</td>
<td>$1.50</td>
<td>$12.00</td>
<td>Free parking weekdays after 6:00 PM and weekends.</td>
</tr>
<tr>
<td>City of Barrie</td>
<td>$60.00 - $85.00</td>
<td>$1.00 - $1.25</td>
<td>$5.50</td>
<td>Free parking weekdays after 5:00 PM and weekends.</td>
</tr>
<tr>
<td>City of Cambridge</td>
<td>$50.85 - $73.45</td>
<td>$1.50</td>
<td>$7.50</td>
<td>Free parking for the first two hours.</td>
</tr>
<tr>
<td>City of Guelph</td>
<td>$41.21 - $103.01</td>
<td>$2.00</td>
<td>N/A</td>
<td>Free parking after 6:00 PM Monday to Saturday and on Sundays. Additionally, on-street is free for the first two hours during the afore mentioned times.</td>
</tr>
<tr>
<td>City of Kingston</td>
<td>$70.30 - $121.28</td>
<td>$1.00 - $1.50</td>
<td>$15.00</td>
<td>Free parking after 5:00 or 5:30 PM depending on location Mondays to Saturdays, and on Sundays.</td>
</tr>
<tr>
<td>City of Kitchener</td>
<td>$125.95 - $195.05</td>
<td>$2.10 - $3.30</td>
<td>$10.75 - $14.50</td>
<td>Free parking weekdays after 5:00 PM and weekends. Additionally, 390 on-street spaces dedicated to providing 2 hour free parking during afore mentioned times.</td>
</tr>
<tr>
<td>City of Niagara Falls</td>
<td>$22.60 - $45.20</td>
<td>$1.25</td>
<td>$6.00 - $10.00</td>
<td>Free parking weekdays after 6:00 PM and weekends, unless otherwise specified.</td>
</tr>
<tr>
<td>City of Oshawa</td>
<td>$73.00 - $87.00</td>
<td>$1.25</td>
<td>$8.00 - $12.50</td>
<td>Free parking weekdays after 6:00 PM and weekends.</td>
</tr>
<tr>
<td>City of Thunder Bay</td>
<td>$37.80 - $54.00</td>
<td>$1.00</td>
<td>$5.00</td>
<td>Free parking weekdays after 6:00 PM and weekends.</td>
</tr>
<tr>
<td>City of Waterloo</td>
<td>$113.14 - $146.41</td>
<td>$2.75 - $3.25</td>
<td>$17.00</td>
<td>Free on-street parking for 1, 2, or 3 hours depending on the location. Parking lots are free after 5:00 or 6:00 PM depending on location, and weekends.</td>
</tr>
<tr>
<td>City of Windsor</td>
<td>$33.90 - $45.20</td>
<td>$1.25 - $1.50</td>
<td>$12.50</td>
<td>Free parking weekdays after 6:00 PM and weekends.</td>
</tr>
</tbody>
</table>
The minimum, maximum, and average parking rates were calculated and are compared to the City of St. Catharines rates in Exhibit 4-2.

**Exhibit 4-2: Summary of Parking Rate Comparison**

<table>
<thead>
<tr>
<th>Item</th>
<th>City of St. Catharines</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monthly Rate</td>
<td>$50.00 - $95.00</td>
<td>$22.60 - $45.20</td>
<td>$125.95 - $195.05</td>
<td>$76.32</td>
</tr>
<tr>
<td>Hourly Rate</td>
<td>$1.50</td>
<td>$1.00</td>
<td>$2.75 - $3.25</td>
<td>$1.65</td>
</tr>
<tr>
<td>Daily Rate</td>
<td>$12.00</td>
<td>$5.00</td>
<td>$15.00</td>
<td>$10.62</td>
</tr>
</tbody>
</table>

Based on the parking rate comparison with similar municipalities, the following conclusions can be drawn:

- In general, the City of St. Catharines monthly, daily, and hourly rates are observed to be fairly consistent with the average of comparable cities;
- Monthly permits within the City of St. Catharines cost an average of $72.50 ($50.00 - $95.00) depending on the location compared to the $76.32 average of all comparable cities;
- The St. Catharines hourly parking rate ($1.50) is slightly less than the $1.65 average rate of the other cities;
- The $12.00 daily parking rate within the City of St. Catharines is slightly higher than the $10.62 average of comparable cities; and
- Providing free evening and weekend parking is a common practice within the selected cities. Additionally, the City of Cambridge, City of Waterloo, and City of Kitchener provide free short term (1-3 hours) on-street parking opportunities during the regular pay periods.

These results suggest there is an opportunity for a slightly monthly permit and hourly parking rate price increase, but in general, the prices align with the average of comparable cities across multiple metrics. Additionally, consideration can be given to dedicating a small amount of on-street parking spaces within the commercial core as free short term parking. The City of St. Catharines parking price structure will be evaluated in *Task 5 – Financial Model* of this study.
Existing Conditions Memorandum - Appendix A

On-Street and Off-Street Parking Utilization Figures
Low Density Residential (Zone 1)

Capacity = 108 Spaces

Meridian and PAC = 79 Vehicles (73%)

Weekend = 67 Vehicles (62%)

Weekday = 56 vehicles (52%)

Meridian = 59 Vehicles (55%)

Commercial Core (Zone 2)

Capacity = 399 Spaces

Special Event Capacity = 376

Meridian and PAC = 349 Vehicles (93%)

Weekend = 325 Vehicles (81%)

Meridian = 354 Vehicles (94%)

Weekday = 272 Vehicles (68%)
### Eastern Mixed Density Residential (Zone 4)

- **Capacity** = 231 Spaces

- **Weekday** = 145 Vehicles (63%)
- **Weekend** = 93 Vehicles (40%)

### Northern Mixed Density Residential (Zone 3)

- **Capacity** = 296 Spaces

- **Special Event Capacity** = 134 Spaces

- **Weekend** = 196 Vehicles (66%)
- **Weekday** = 132 Vehicles (45%)
- **Meridian and PAC** = 126 Vehicles (94%)
- **Meridian** = 78 Vehicles (58%)

---

**Notes:**
- May 17, 2016
- June 4, 2016
- March 24, 2016
- April 13, 2016
Library Lot (Lot 1 - Municipal)

- **Capacity**: 81 Spaces
- **Weekday**
  - Meridian Centre = 64 Vehicles (79%)
  - Meridian Centre and PAC = 81 Vehicles (100%)
- **Weekend**
  - Library Lot (Lot 1 - Municipal) = 81 Vehicles (100%)

Race Street Lot (Lot 2 - Municipal)

- **Capacity**: 54 Spaces
- **Weekday**
  - Race Street Lot (Lot 2 - Municipal) = 44 Vehicles (81%)
  - Meridian Centre and PAC = 54 Vehicles (100%)
- **Weekend**
  - Race Street Lot (Lot 2 - Municipal) = 22 Vehicles (41%)

St. Paul/Westchester Lot (Lot 3 - Municipal)

- **Capacity**: 23 Spaces
- **Weekday**
  - St. Paul/Westchester Lot (Lot 3 - Municipal) = 19 Vehicles (83%)
  - Meridian and PAC = 23 Vehicles (100%)
- **Weekend**
  - St. Paul/Westchester Lot (Lot 3 - Municipal) = 22 Vehicles (96%)
**William Street Lot (Lot 4 - Municipal)**

- **Capacity**: 20 Spaces
- **Weekday**:
  - Meridian Centre: 16 Vehicles (80%)
  - Meridian and PAC: 19 Vehicles (95%)
- **Weekend**:
  - Meridian: 16 Vehicles (80%)

**Garden Park Lot (Lot 5 - Municipal)**

- **Capacity**: 71 Spaces
- **Weekday**:
  - Meridian Centre: 71 Vehicles (100%)
  - Meridian and PAC: 71 Vehicles (100%)
- **Weekend**:
  - Meridian and PAC: 71 Vehicles (100%)

**Market Square Lot (Lot 6 - Municipal)**

- **Capacity**: 121 Spaces
- **Weekday**:
  - Meridian: 117 Vehicles (97%)
  - Meridian and PAC: 121 Vehicles (100%)
- **Weekend**:
  - Meridian: 121 Vehicles (100%)
  - Meridian and PAC: 121 Vehicles (100%)
Riordon Street Lot (Lot 7 - Municipal)

Capacity = 83 Spaces

Weekday = 21 Vehicles (25%)

Weekend = 64 Vehicles (77%)

Garden City Arena Complex (Lot 8 - Municipal)

Capacity = 81 Spaces

Weekday = 40 Vehicles (49%)

Weekend = 69 Vehicles (85%)

Ontario Street Garage (Lot 9 - Municipal)

Capacity = 486 Spaces

Weekday = 350 Vehicles (72%)

Weekend = 49 Vehicles (10%)

Meridian = 414 Vehicles (85%)

Meridian and PAC = 483 Vehicles (99%)
Carlisle Street Garage Above Ground (Lot 10A - Municipal)

Capacity = 552 Spaces
Weekday = 394 Vehicles (71%)
Weekend = 89 Vehicles (16%)
Meridian and PAC = 407 Vehicles (74%)
Meridian = 184 Vehicles (33%)
Meridian and PAC = 407 Vehicles (74%)

Carlisle Street Garage Below Group (Lot 10B - Municipal)

Capacity = 84 Spaces
Weekday = 51 Vehicles (61%)
Weekend = 9 Vehicles (11%)
Meridian and PAC = 18 Vehicles (21%)
Meridian = 18 Vehicles (21%)

Head Street Lot (Lot 11 - Municipal)

Capacity = 42 Spaces
Weekday = 42 Vehicles (100%)
Weekend = 10 Vehicles (24%)
Meridian = 35 Vehicles (83%)
Meridian and PAC = 42 Vehicles (100%)
King Street Lot (Lot 12 - Municipal)

- Capacity: 8 Spaces

- Weekday: 8 Vehicles (100%)
- Weekend: 2 Vehicles (25%)
- Meridian: 4 Vehicles (50%)
- Meridian and PAC: 7 Vehicles (88%)

Meridian Centre Lot (Lot 13 - Municipal)

- Capacity: 140 Spaces

- Weekday: 2 Vehicles (1%)
- Weekend: 6 Vehicles (4%)
- Meridian: 140 Vehicles (100%)
- Meridian and PAC: 140 Vehicles (100%)

Lot 14 (Private)

- Capacity: 70 Spaces

- Weekday: 32 Vehicles (46%)
- Weekend: 4 Vehicles (6%)
- Meridian: 55 Vehicles (79%)
- Meridian and PAC: 70 Vehicles (100%)
**Lot 15 (Private)**

- **Capacity = 84 Spaces**
- **Weekday = 35 Vehicles (42%)**
- **Weekend = 3 Vehicles (4%)**
- **Meridian Centre = 36 Vehicles (43%)**
- **Meridian Centre and PAC = 77 Vehicles (92%)**

**Lot 16 (Private)**

- **Capacity = 106 Spaces**
- **Weekday = 106 Vehicles (100%)**
- **Weekend = Meridian = 17 Vehicles (16%)**
- **Meridian and PAC = 37 Vehicles (35%)**

**Lot 17 (Private)**

- **Capacity = 34 Spaces**
- **Weekday = 17 Vehicles (50%)**
- **Weekend = 1 Vehicles (3%)**
- **Meridian Centre = 4 Vehicles (12%)**
- **Meridian Centre and PAC = 1 Vehicles (3%)**
Lot 18 (Private)

Capacity = 82 Spaces
Weekday = 61 Vehicles (74%)
Weekend = 2 Vehicles (2%)
Meridian = 7 Vehicles (9%)
Meridian and PAC = 12 Vehicles (15%)

Lot 20 (Private)

Capacity = 109 Spaces
Weekday = 109 Vehicles (100%)
Weekend = 10 Vehicles (9%)
Meridian = 99 Vehicles (91%)
Meridian and PAC = 40 Vehicles (37%)

Lot 21 (Private)

Capacity = 47 Spaces
Weekday = 46 Vehicles (98%)
Weekend = 22 Vehicles (47%)
Meridian = 47 Vehicles (100%)
Meridian and PAC = 42 Vehicles (89%)
Lot 22 (Private)

- **Capacity:** 65 Spaces
- **Weekday Capacity:** 65 Vehicles (100%)
- **Weekend Capacity:** 17 Vehicles (26%)
- **Meridian Centre:** 18 Vehicles
- **Meridian Centre and PAC:** 19 Vehicles (29%)

Lot 23 (Private)

- **Capacity:** 20 Spaces
- **Weekday Capacity:** 15 Vehicles (75%)
- **Weekend Capacity:** 8 Vehicles (40%)
- **Meridian:** 14 Vehicles (70%)
- **Meridian and PAC:** 12 Vehicles (60%)

Lot 24 (Private)

- **Capacity:** 32 Spaces
- **Weekday Capacity:** 30 Vehicles (94%)
- **Weekend Capacity:** 31 Vehicles (97%)
- **Meridian:** 20 Vehicles (63%)
- **Meridian and PAC:** 22 Vehicles (69%)
Lot 25 (Private)

Capacity = 31 Spaces

Weekday = 31 Vehicles (100%)

Weekend = 6 Vehicles (19%)

Meridian Centre = 7 Vehicles (23%)

Meridian Centre and PAC = 6 Vehicles (19%)

Lot 26 (Municipal)

Capacity = 24 Spaces

Weekday = 2 Vehicles (8%)

Weekend = 3 Vehicles (13%)

Meridian Centre = 24 Vehicles (100%)

Meridian Centre and PAC = 24 Vehicles (100%)

Lot 27 (Private)

Capacity = 53 Spaces

Weekday = 30 Vehicles (57%)

Weekend = 9 Vehicles (17%)

May 17, 2016

June 4, 2016
Lot 28 (Private)

Capacity = 64 Spaces

Weekday =
64 Vehicles (100%)

Weekend =
5 Vehicles (8%)

May 17, 2016      June 4, 2016

Lot 29 (Private)

Capacity = 60 Spaces

Weekday =
53 Vehicles (88%)

Weekend =
5 Vehicles (8%)

May 17, 2016       June 4, 2016