



EXHIBITION PLACE

TFC

TRANSPORTATION MANAGEMENT PLAN

Immediate and Intermediate Recommendations

MAY 2019

FINAL



TFC TRANSPORTATION MANAGEMENT PLAN IMMEDIATE AND INTERMEDIATE RECOMMENDATIONS

EXHIBITION PLACE

FINAL

PROJECT NO.: 191-03512

DATE: MAY 2019

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May 21, 2019

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Attention: Mr. Tony Porter, Director, Parking & Security Services

Subject: TFC Transportation Management Plan, Immediate and Intermediate Recommendations, Exhibition Place

Dear Mr. Porter

WSP Canada Inc. is pleased to submit the TFC Transportation Management Plan to address immediate and intermediate recommendations for Exhibition Place. The potential immediate solutions are those that could be completed by Exhibition Place without the involvement of other stakeholders and can be completed within 12 months. The intermediate solutions are those that would require Exhibition Place to work with one or more external stakeholder(s) and would typically take beyond 12 months to complete.

The traffic management recommendations for immediate and intermediate implementation include:

A. Potential Immediate Solutions within Exhibition Place:

- Modification and adjustments to key traffic signals on the Exhibition grounds using Paid Duty Officers;
- Remove pavement grooves on Dufferin Avenue and British Columbia Road
- Install additional signage within Exhibition Place grounds to direct traffic to Lake Shore Boulevard and Gardiner Expressway via British Columbia Road;
- Reduce parking rates at outer parking lots within the Exhibition Place grounds;
- Improve traffic flow on British Columbia by implementing a reversible lane;
- Increase the supply of bicycle parking within Exhibition Place and install signage; and
- Improve travel information on the Exhibition Place website, and distribute travel information through social media, pamphlets, and emails.

B. Potential Intermediate Solutions within Area Network

- Implement the following turn restrictions two hours before and two hours after TFC games:
 - No northbound right turns from Jameson Avenue or Dunn Avenue onto Springhurst Avenue;

- No eastbound left at Thorburn Avenue and Dufferin Street;
- No northbound left at Dufferin Street and Temple Avenue;
- No northbound left at Dufferin Street and Springhurst Avenue; and
- Consider no westbound right at Saskatchewan Road and British Columbia Road/Dufferin Street, with a pilot conducted before full implementation;
- Restrict on-street parking two hours before through to two hours after TFC games along Dufferin Street from the Dufferin bridge to King Street West;
- Restricting the use of Springhurst Avenue through the Waze navigation platform;
- Offer off-site reserved parking and shuttle bus service between Exhibition Place and the parking lots along Lake Shore Boulevard between Windermere Avenue and Woodbine Avenue;
- Offer transit incentives to visitors to the grounds by coupling transit fares with event fees at a discounted rate and by offering express service from key transit station in the area; and
- Modify the signal timing of the traffic signals located at key intersections within and surrounding the Exhibition Place grounds during pre and post game conditions.

We thank you for the opportunity to complete this study. We would be pleased to respond to any questions should they arise.

Our study and approach and findings are documented herein.

Yours sincerely,



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WSP ref.: 191-03512191-03512



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A TRAFFIC DATA

1 INTRODUCTION

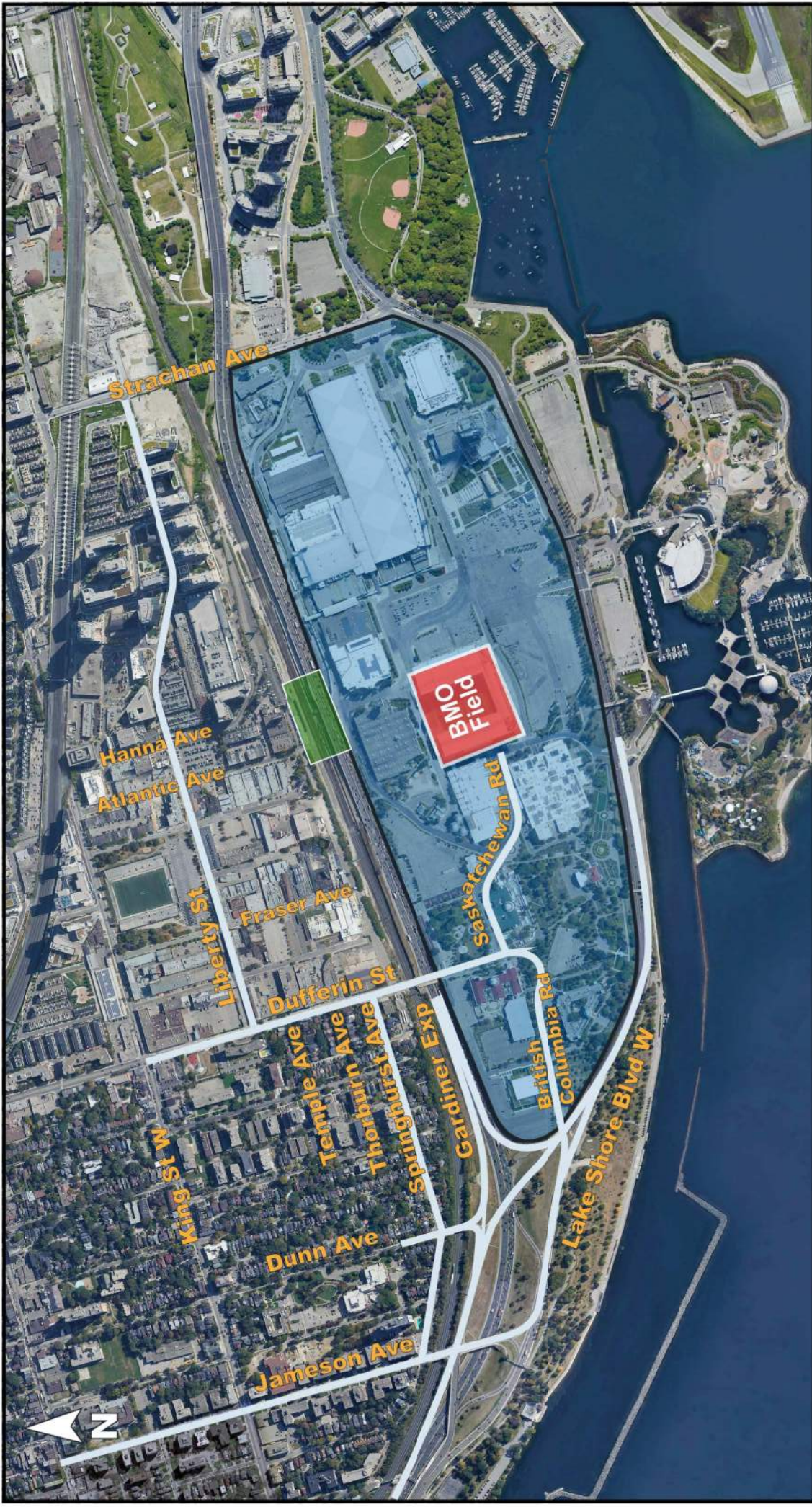
WSP was retained by Exhibition Place to complete a traffic management plan for the Toronto Football Club (TFC) games at BMO Field in Exhibition Place, located at the Toronto waterfront. The site location is shown in **Figure 1.1**.

Exhibition Place is a landmark destination located on the Toronto waterfront. The 192-acre property offers multiple venues for sports, trade and consumer shows, meetings, conferences, conventions and community space. It contains the BMO Field, Canada's first soccer-specific stadium and is home to the Major League Soccer team, the TFC.

To recognize Exhibition Place's influence on the surrounding road network and to address the concerns of the neighbouring residents of Parkdale, Liberty Village, and Fort York regarding traffic congestion on TFC game days at BMO Field, WSP has developed this traffic management plan which presents immediate and intermediate recommendations for Exhibition Place.

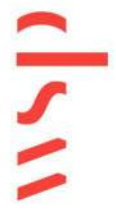
Based on the traffic data collected on March 22, 2019 (a non-game day) and March 29, 2019 (a game day vs. New York City FC), as well as information obtained through relevant stakeholder involvement, the traffic management plan includes the following components:

- A review of existing roadway characteristics and traffic volumes at the boundary roadways during both game days and non-game days.
- A review of on-site circulation during TFC games.
- Recommendations to be implemented within the immediate and intermediate time frames. The immediate recommendations will address existing traffic issues for the current season and would be implemented solely by Exhibition Place in less than 12 months. The intermediate recommendations would require external stakeholder engagement and would typically take more than 12 months to complete.
- Recommendations for consideration in the long-term both by Exhibition Place and other agencies such as the City of Toronto or the Toronto Transit Commission.



Legend

- Exhibition Place
- Exhibition GO Station



Source: Google Maps

Figure 1.1
Site Location

TFC Transportation Management Plan Exhibition Place

2 EXISTING CONDITIONS

2.1 AREA ROAD NETWORK

The following boundary roadways were identified within the vicinity of the subject site.

Saskatchewan Road is a park road on the grounds of Exhibition Place. Within the study area, Saskatchewan Road has a posted speed limit of 30km/h. It consists of two lanes, with one in each direction, and bike paths on either side. No on-street parking is permitted on Saskatchewan Road. It provides access between the Exhibition grounds and Dufferin Street, and further access to the Gardiner Expressway and the Lake Shore Boulevard West via British Columbia Road. It also provides access to numerous parking lots located on the Exhibition Place grounds.

British Columbia Road is a park road on the grounds of Exhibition Place. Within the study area, British Columbia Road has a posted speed limit of 30km/h. It consists of two lanes, with one in each direction, and a painted centre median between Yukon Place and Saskatchewan Road, with left-turn lanes at both roadways. No on-street parking is permitted on British Columbia Road. It provides access between the Exhibition grounds and Lake Shore Boulevard West, as well as access to two parking lots.

Springhurst Avenue is an east-west collector with a posted speed limit of 30km/h within the study area. It consists of two lanes, with one in each direction. On-street parking of up to one-hour is permitted on the north side of Springhurst Avenue from 9:00 AM to 4:00 PM. There is no time restriction outside of these hours, except that parking is not permitted from 12:00 AM to 7:00 AM without a permit. It provides access to the Gardiner Expressway and Lake Shore Boulevard West via Dunn Avenue and Jameson Avenue.

Liberty Street is an east-west collector and has a posted speed limit of 40km/h within the study area. It consists of two lanes, with one in each direction, and no on-street parking is permitted. Liberty Street provides access to numerous parking lots and has a mix of office, residential, and restaurant/bar uses adjacent to the street.

Dunn Avenue Ramp provides westbound access to Lake Shore Boulevard West and the Gardiner Expressway. It also provides access to Parkdale and Liberty Village from the Gardiner Expressway westbound. The ramp is closed on weekdays during the PM peak period from 3:30 PM to 6:30PM. As a result, left and right turns onto the Dunn Avenue Ramp from Springhurst Avenue are prohibited during these times.

Dufferin Street is a north-south minor arterial roadway. Streetcar tracks are present in both median lanes for the 504B King Streetcar route and both curb lanes are frequently used by the 329 bus route. Within the study area, Dufferin Street has a posted speed limit of 40km/h north of the Dufferin bridge and 30km/h south of the bridge. It consists of four lanes, with two in each direction. Parking is prohibited from 7:00 AM to 9:00 AM in the southbound curb lane, and from 4:00 PM to 6:00 PM in the northbound curb lane. During the permitted parking times on weekdays, parking between the hours of 8:00 AM to 9:00 PM must be paid for and is free otherwise. Paid on-street parking is permitted in both curb lanes from 8:00 AM to 9:00 PM on Saturdays, and 1:00 PM to 9:00 PM on Sundays, and is free outside of these hours.

Jameson Avenue is a north-south minor arterial roadway. Within the study area, Jameson Avenue has a posted speed limit of 40km/h. It consists of three lanes, with one southbound lane and two northbound lanes. On-street parking of up to one-hour is permitted in the northbound curb lane from 8:00 AM to 6:00 PM. An exclusive left turn lane and an exclusive right lane is provided for the northbound and southbound traffic respectively at the intersection with Lake Shore Boulevard West.

Lake Shore Boulevard West is a major arterial roadway which generally runs in the east-west direction. Within the study area, Lake Shore Boulevard West has a posted speed limit of 60km/h. It consists of six lanes, with three in each direction and on-street parking is not permitted.

Table 2.1 provides the traffic control at the key intersections within the study area.

Table 2.1 Traffic Control at Key Study Intersections

<i>INTERSECTION</i>	<i>TRAFFIC CONTROL</i>
Springhurst Avenue and Jameson Avenue	Unsignalised
Springhurst Avenue and Dufferin Street	Unsignalised
Dufferin Street and Liberty Street	Signalised
Saskatchewan Road and British Columbia Road/Dufferin Street	Signalised

2.2 TURNING RESTRICTIONS

The westbound Gardiner Expressway ramp at Jameson Avenue is closed during the afternoon on weekdays from 2:00 PM to 7:00 PM. During this time, drivers are still allowed to make a southbound right turn at the intersection of Jameson Avenue and Lake Shore Boulevard, but may not use the ramp. Slightly to the east at the intersection of Dunn Avenue and Springhurst Avenue, westbound left and eastbound right turns onto the Dunn Avenue Ramp are prohibited from 3:30 PM to 6:30 PM, as seen in **Figure 2.1**.



Figure 2.1 Dunn Avenue and Springhurst Avenue PM Peak Turning Restrictions (Google Street View)

2.3 PUBLIC PARKING

As part of this report, a review of the number of parking lots in the study area was conducted. Currently, there are over 20 different parking lots that game attendees can use. As seen in **Figure 2.2**, most of the lots near BMO Field are Green P lots (operated by the Toronto Parking Authority), and most of the lots north of the Gardiner Expressway and GO rail tracks in Liberty Village are privately operated public parking lots. Furthermore, there

are a small number of privately operated lots in Liberty Village that open exclusively for games and special events.

In general, the public parking lots located within Liberty Village offer cheaper rates than the Green P lots located closer to the field as shown in **Table 2.2**. However, parking lot attendants indicated that this may not always be the case because parking rates are changed to reflect anticipated demand for each event.

Game attendees using the Liberty Village lots are expected to put different demands on the local area road network than those using the Green P lots near the site. It is expected that those using the Liberty Village lots make greater use of Springhurst Avenue as a connection between Liberty Village and the Gardiner Expressway/Lake Shore Boulevard West.

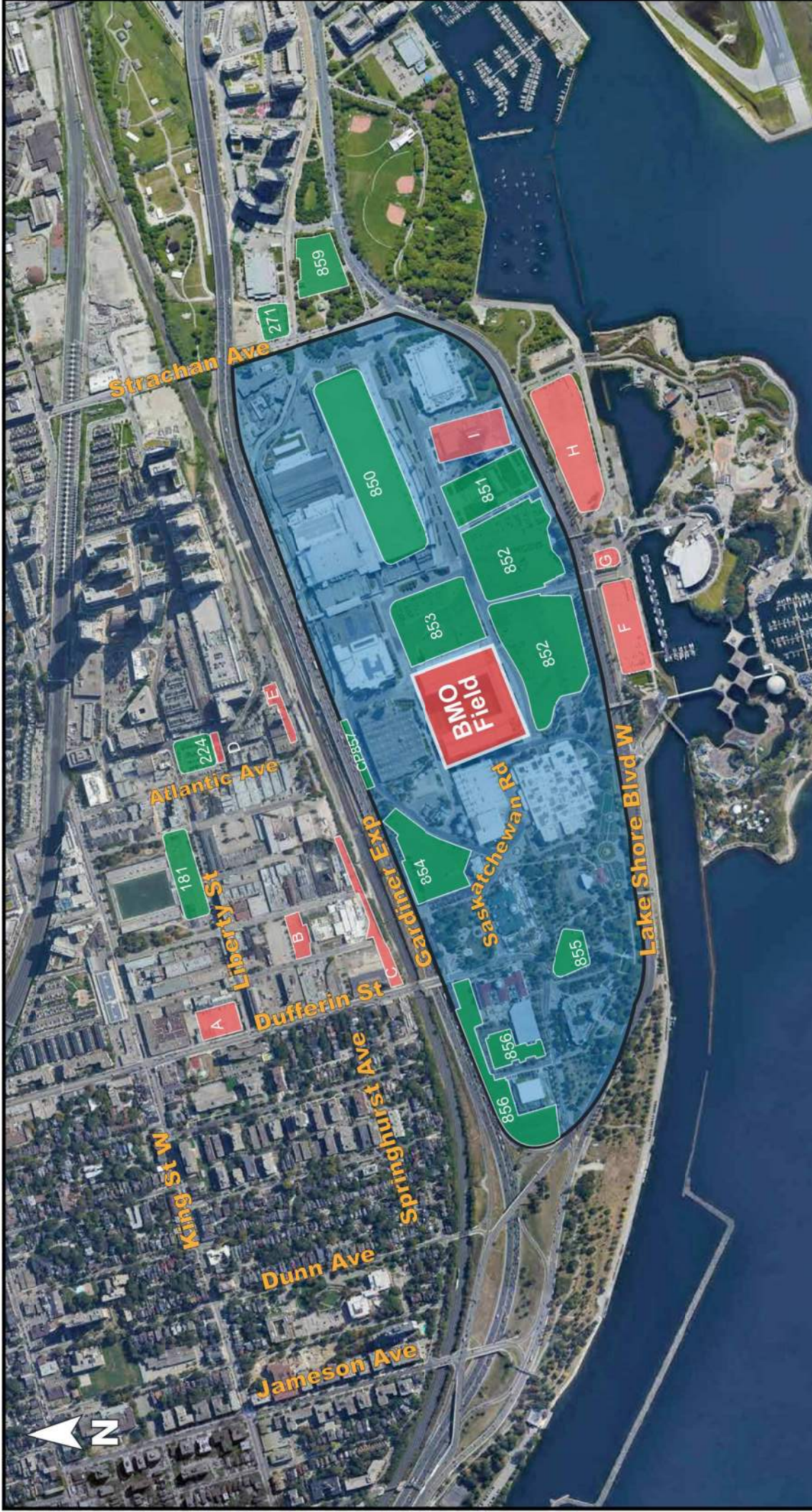
Parking is also available along Dufferin Street north of Thorburn Avenue. Parking is prohibited from 7:00 AM to 9:00 AM in the southbound curb lane, and from 4:00 PM to 6:00 PM in the northbound curb lane. During the permitted parking times on weekdays, parking between the hours of 8:00 AM to 9:00 PM must be paid for and is free otherwise. Paid on-street parking is permitted in both curb lanes from 8:00 AM to 9:00 PM on Saturdays, and 1:00 PM to 9:00 PM on Sundays, and is free outside of these hours.

Table 2.2 Observed Off-Street Parking Rates

Parking Lot Site	Observed Parking Rate				
	Label on Figure 2.1	Per half hour	Maximum (Daytime)	Maximum (Evening)	TFC Event Rate
Exhibition grounds Inner Lots	850, 851, 852, 853, 854, 857, 858	N/A	\$16.00	\$13.00	\$30.00 Typical \$35.00 Maximum (Playoffs Exempted)
Exhibition grounds West Outer Lots	855, 856	N/A	\$13.00		
Exhibition grounds Gore Lot	859	\$2.50	\$16.00		
Green P – 1155 King St W	181	\$2.00	\$12.00	\$6.00	\$15.00
Green P – 34 Hanna Ave	224	\$2.00	\$12.00	\$6.00	\$15.00
Green P – 800 Fleet St	271	\$1.00	\$10.00		By event
Northeast Corner Dufferin and Liberty	A	N/A	\$15.00		
Mowat south of Liberty	B	\$3.00	\$12.00	\$3.00	\$12.00
Southeast Corner Dufferin and Springhurst	C	Events only, and by event			
30 Hanna Ave	D	N/A	\$10.00	\$5.00	\$10.00
North of Exhibition Station	E	N/A	\$9.00	\$5.00	\$9.00
Ontario Place	F, G, H	\$3.00	\$15.00		
Hotel X Toronto	I	\$3.50	\$30.00		

Note: There is also on-street parking permitted on Dufferin Street at a rate of \$3.00/hour.

Sources: Parking.greenp.com, Ontarioplace.com, Field observations taken March 17th, 2019



Legend

- Exhibition Place
- Public Parkings Lots
- # Green P Parkings Lots

TFC Transportation Management Plan
Exhibition Place

Public Parkings Locations
Figure 2.2



2.4 METHODOLOGY

2.4.1 TYPICAL NON-GAME DAY AND GAME DAY

To determine the effects that the Toronto Football Club (TFC) games have on the local area road network, traffic counts were conducted on a typical (non-game) day and a game day. A comparison between the two datasets allowed WSP to estimate the traffic impacts that may be attributable to the TFC game.

Two types of counts were collected: turning movement counts (TMC) and automatic traffic recorder (ATR) counts; the count locations are shown in **Figure 2.3**. The data can be found in **Appendix A**.

Turning movement count is the collection of vehicle, pedestrian and bicycle volumes of on each movement (left, through and right) at an intersection. This is typically done using a traffic camera to record each vehicle movement during a specified period. Automatic traffic recorder is collection of the number and vehicle classification that passed a specific section of roadway, typically over a 24-hour period. This is typically collected using a traffic recorder device that is installed on the roadway.

The typical day counts were collected on Friday March 22nd, 2019. The game day counts were collected one week later on Friday March 29th, 2019. On both days, TMCs were collected from 3:30 PM to 11:00 PM and ATR counts were collected for 24 hours. These count periods covered the typical roadway peak period as well as arrivals to and departures from the TFC game, which began at 8:00 PM and ended at approximately 10:00 PM on Friday March 29th.

Pre-game and post-game peak periods were identified. The traffic volumes during these periods on the game day and typical day were examined and compared in **Section 2.6**.

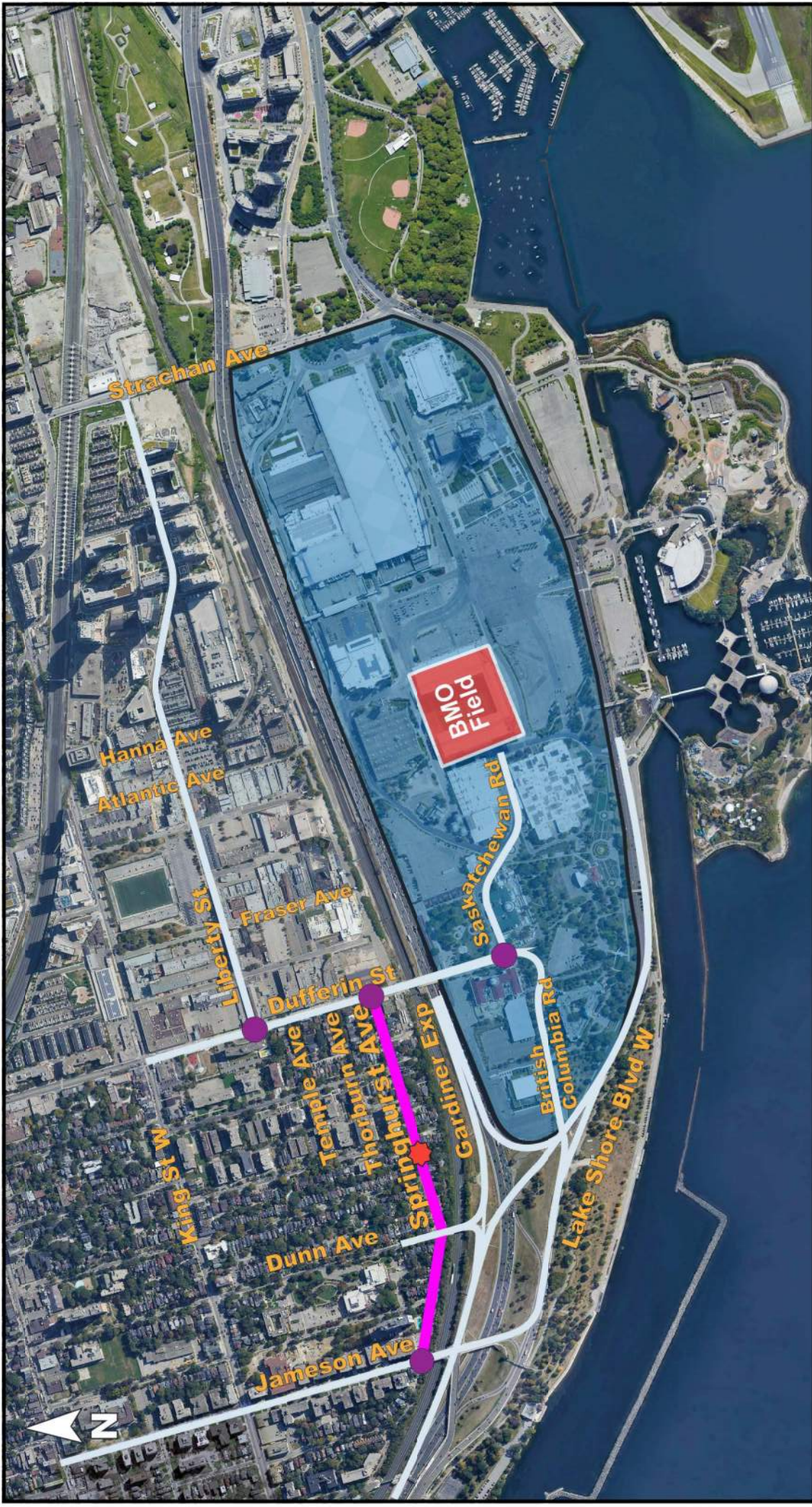


Figure 2.3
Count Locations
TFC Transportation Management Plan Exhibition Place

-  ATR Location
-  Traffic Count Locations
-  Springhurst Ave

Legend

-  Exhibition Place



Source: Google Maps

2.4.2 SPRINGHURST 24-HOUR TRAFFIC VOLUMES

The automatic traffic recorder (ATR) was set up by Accu-Traffic Inc. on behalf of WSP, on Springhurst Avenue on March 22, 2019 and March 29, 2019 to collect the traffic data for non-game day and game day conditions respectively. The traffic volume, speed and vehicle class were collected for 24 consecutive hours using two roadway imbedded pneumatic tubes with pressure sensors. The data was aggregated into 15-minute bins.

Figure 2.4 shows the ATR installation in the field.



Figure 2.4 ATR Field Installation

2.4.3 TURNING MOVEMENT COUNTS

Turning movement counts were undertaken on March 22nd (Non-game day) and March 29th (Game day) by Accu-Traffic Inc. on behalf of WSP and are summarised in **Appendix A**. Turning movement counts were also collected by WSP at the intersection of Saskatchewan Road and British Columbia Road/Dufferin Street for the game day counts on March 29th only.

2.5 TYPICAL DAY VERSUS GAME DAY OBSERVATIONS

This section summarizes the observations in the study area during the non-game day versus TFC game day on March 29th, 2019. Information provided from Exhibition Place indicated a gate attendance of 25,500, this is typical of a TFC home game. On game day, traffic throughout the Liberty Village portion of the study area was operating under congested conditions during both pre and post game periods. Before the game, traffic congestion became noticeable at approximately 6:00 PM and continued until approximately 8:30 PM. During the game there was limited traffic activity on the roadways within the study area. Traffic congestion was observed immediately after the TFC game at 10:00 PM and continued until approximately 11:15 PM.

2.5.1 LIBERTY STREET

There was an increase in westbound vehicle queue lengths along Liberty Street from Dufferin Street to Hanna Avenue during both pre and post game periods as a result of the increased vehicle volumes. Increased pedestrian volumes crossing Liberty Street at various locations also increased vehicle delay along the corridor. **Figure 2.5** and **Figure 2.6** show the observed westbound queues at the intersection of Dufferin Street and Liberty Street.



Figure 2.5 Pre-Game Westbound Traffic on Liberty Street



Figure 2.6 Post Game Westbound Traffic on Liberty Street

2.5.2 SPRINGHURST AVENUE

Similar to Liberty Street, Springhurst Avenue experienced an increase in traffic volumes in the eastbound direction during the pre and westbound direction in the post game periods that resulted in increased queue lengths along the corridor from Dufferin Street to Jameson Avenue. It is noted that pedestrian volumes crossing Springhurst Avenue were much lower than that on Liberty Street.

During the pre-game period, congested conditions at the intersection of Springhurst Avenue and Dufferin Street led to the long eastbound queues as seen in **Figure 2.7**. During the post game period, congestion led to dangerous northbound left turns being made from Dufferin Street onto Springhurst Avenue. Northbound left turning drivers were observed to accelerate aggressively through the intersection as seen in **Figure 2.8**. The situation created dangerous conditions for pedestrians crossing the west leg of the intersection as drivers are often focussed on finding a gap in southbound traffic rather than watching for crossing pedestrians. Pedestrians and southbound right turning vehicles were observed to yield to northbound left turning vehicles to allow them to clear the intersection.



Figure 2.7 Pre Game Eastbound Traffic on Springhurst Avenue



Figure 2.8 Post Game Traffic at the Intersection of Springhurst Avenue and Dufferin Street

2.5.3 DUFFERIN STREET

Dufferin Street operates as the main north-south connection from Liberty Village, Exhibition Place and Lake Shore Boulevard West via British Columbia Road. It experiences frequent transit vehicle traffic related to the 504B streetcar route and the 329 bus route.

Given that on-street parking is permitted during game times on both sides of Dufferin Street north of Thorburn Avenue, Dufferin Street provides only one travel lane in each direction north of Thorburn Avenue. As can be seen in **Figure 2.9**, the parking is completely utilized during TFC games.

Two travel lanes in each direction are maintained between Springhurst Avenue and Thorburn Avenue. South of Springhurst Avenue the road narrows to one lane in each direction to cross the Dufferin bridge. Additional capacity is provided in the northbound direction at the intersection with Springhurst Avenue, where through traffic can use the curb lane to avoid northbound left turning traffic in the inside lane.

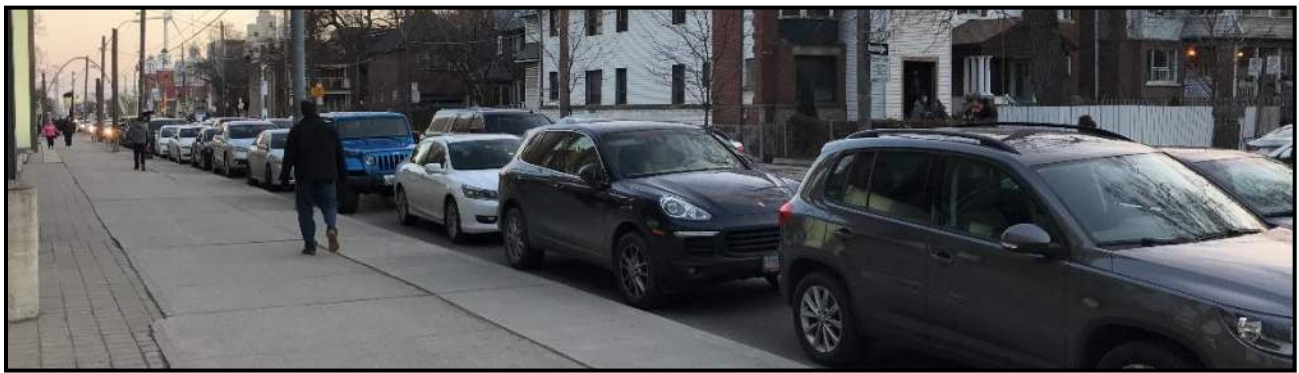


Figure 2.9 Pre-Game Parking along Dufferin Street North of Thorburn Avenue

The corridor is congested in the southbound direction during both pre and post game periods as can be seen in - **Figure 2.10** and **Figure 2.11**. The pre-game period experienced less congested conditions than the post game period, since the arrivals to the game are more spread out over time than the departures from the game.

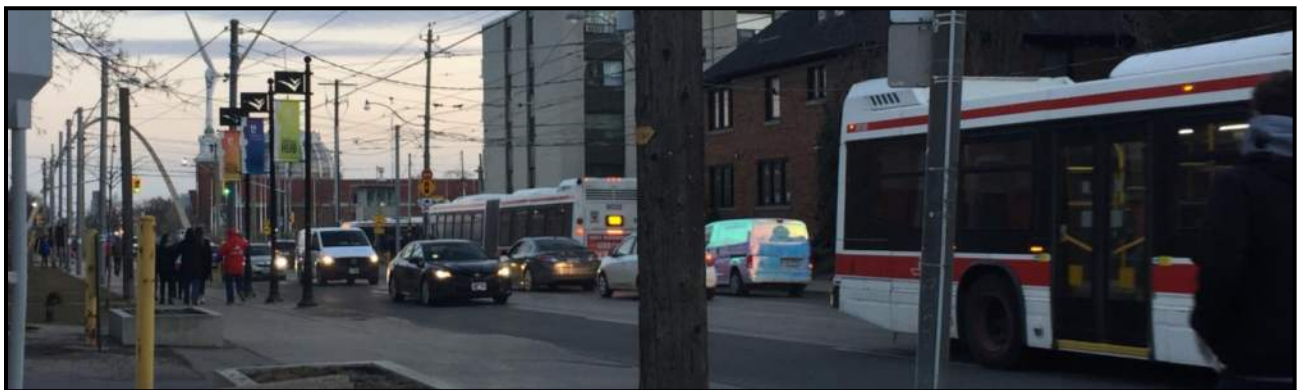


Figure 2.10 Pre-Game Condition on Dufferin Street



Figure 2.11 Post-Game Condition on Dufferin Street

2.5.4 SASKATCHEWAN ROAD AND BRITISH COLUMBIA ROAD

Saskatchewan Road operates as the main access to the Exhibition Place grounds for vehicles parking on site from Dufferin Street and British Columbia Road. The intersection of Saskatchewan Road with British Columbia Road is congested during pre-game and post game periods. The post game conditions are again worse than the pre-game, since the arrivals are more spread out over time than the departures.

The intersection of Saskatchewan Road and British Columbia Road was identified as a bottleneck for all traffic exiting the grounds. Traffic exiting Exhibition Place grounds also conflicted with southbound traffic volumes from Dufferin Street.



Figure 2.12 Post Game at the Intersection of Saskatchewan Road and Dufferin Street/British Columbia Road



Figure 2.13 Post Game British Columbia Road approaching Lake Shore Boulevard Intersection

2.5.5 PARKING

The parking lots within Liberty Village were generally full or near full during the pre-game peak as seen in **Figure 2.14** and **Figure 2.15**, with the exception of the Green P lot located at Lamport Stadium, which charges a higher parking fee relative to the surrounding lots. Parking rates for the lots located on Exhibition grounds are \$30 during TFC events. This is the highest rate charged for parking in the area; all lots within Liberty Village were \$15 or less during the game.



Figure 2.14 Pre-Game Parking in Liberty Village, North of Exhibition Station



Figure 2.15 Pre-Game Parking in Liberty Village near Dufferin Street and Liberty Street

2.6 FINDINGS

2.6.1 IMPACT OF TFC-RELATED TRAFFIC

The traffic impact of the TFC on Springhurst Avenue was estimated by comparing the typical day (March 22nd) and game day (March 29th) traffic. **Figure 2.16** and **Figure 2.17** show the 24-hour eastbound and westbound traffic volumes on Springhurst Avenue, respectively.

A comparison between the typical and game day traffic volumes indicate that there are significant impacts on Springhurst Avenue that can be attributable to the TFC game. Eastbound traffic on Springhurst Avenue more than doubles before the game compared to typical day traffic volumes during the same hour. Inbound traffic to Exhibition Place peaks at approximately a half hour before game time. Traffic westbound on Springhurst Avenue more than triples after the game compared to typical traffic volumes during the same hour. Outbound traffic from Exhibition Place peaks approximately 15 minutes after the game.

It is noted that the spike in traffic before the game occurred over two hours, beginning at approximately 6:00 PM and ending at approximately 8:00 PM. The spike in traffic volumes after the game occurred over two hours, beginning at 10:00PM and returning to typical day volumes between 11:30PM and 12:00AM.

While the observed increases in traffic volumes during the pre and post game periods are significant, the 24-hour traffic volumes on a game day are within the City standards for a typical collector road. According to City of Toronto standards, collector roads are designed to handle between 2,500 and 8,000 vehicles per day. As per the ATR counts, Springhurst Avenue carries 4,824 and 5,797 vehicles on the typical day and game day respectively. While the TFC game causes an increase in 24-hour traffic volumes by approximately 20%, the 24-hour volumes on a game day are still well below the upper limit of the city standard.

Turning movement counts at three intersections were also examined: Springhurst Avenue and Jameson Avenue, Springhurst Avenue and Dufferin Street, and Liberty Street and Dufferin Street. A comparison of the turning movement counts between the typical and game days confirm the traffic impacts indicated by the analysis of 24-hour volumes (ATR counts). The pre and post game traffic volumes comparisons are shown **Figure 2.18** and **Figure 2.19** . respectively. Before the game, inbound traffic volumes nearly doubled the typical traffic volumes at the same hour on a non-game game. Post game impacts were also similar; outbound traffic volumes doubled in most locations. The northbound left turn volumes at Springhurst Avenue and Dufferin Street more than quadrupled.

During the post game period, capacity constraints at the intersection of Dufferin Street and Saskatchewan Road led to delays for southbound traffic accessing Lake Shore Boulevard West and the Gardiner Expressway via British Columbia Road. Given the significant delays on British Columbia Road, vehicles leaving from the parking lots located in Liberty Village tended to instead make use of the Dunn Avenue and Jameson Avenue ramps via Springhurst Avenue to access Lake Shore Boulevard West and the Gardiner Expressway.

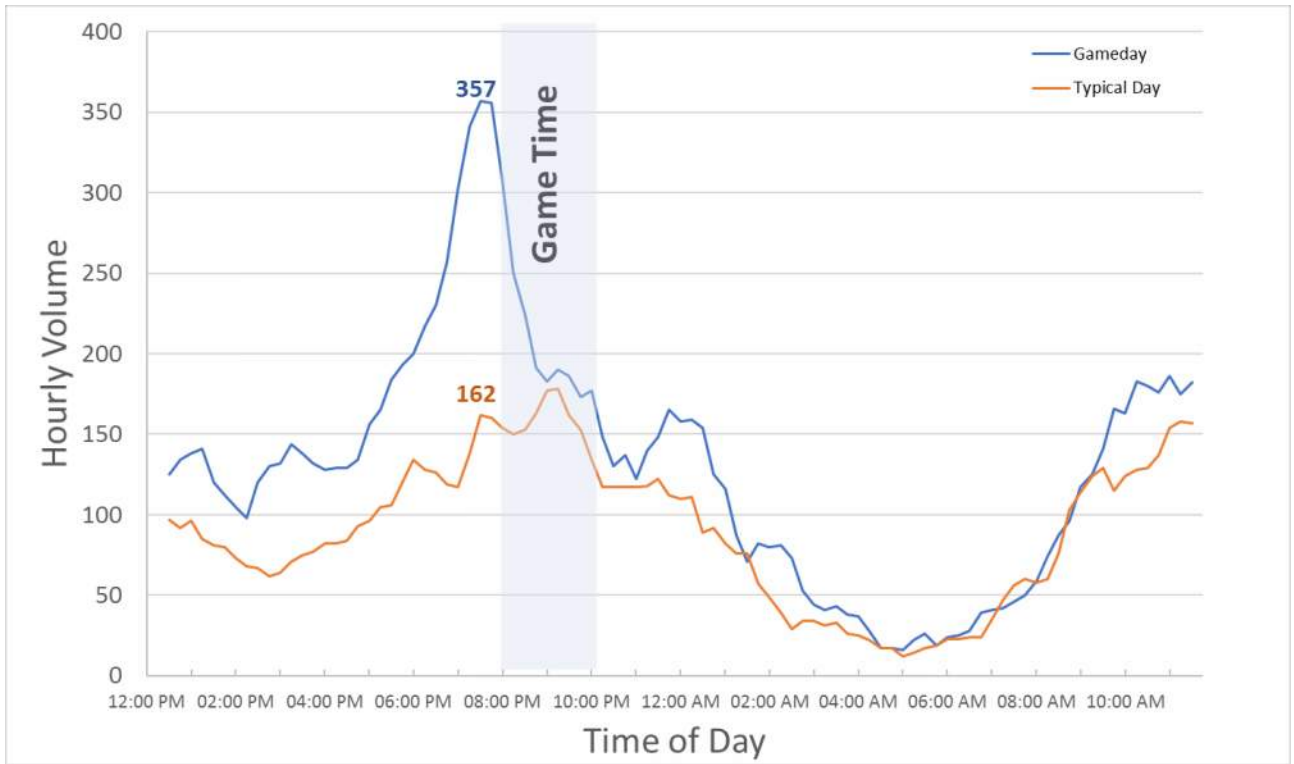


Figure 2.16 Typical Day (March 22) vs. Game Day (March 29) 24-Hour Traffic Volumes, Eastbound Springhurst Avenue

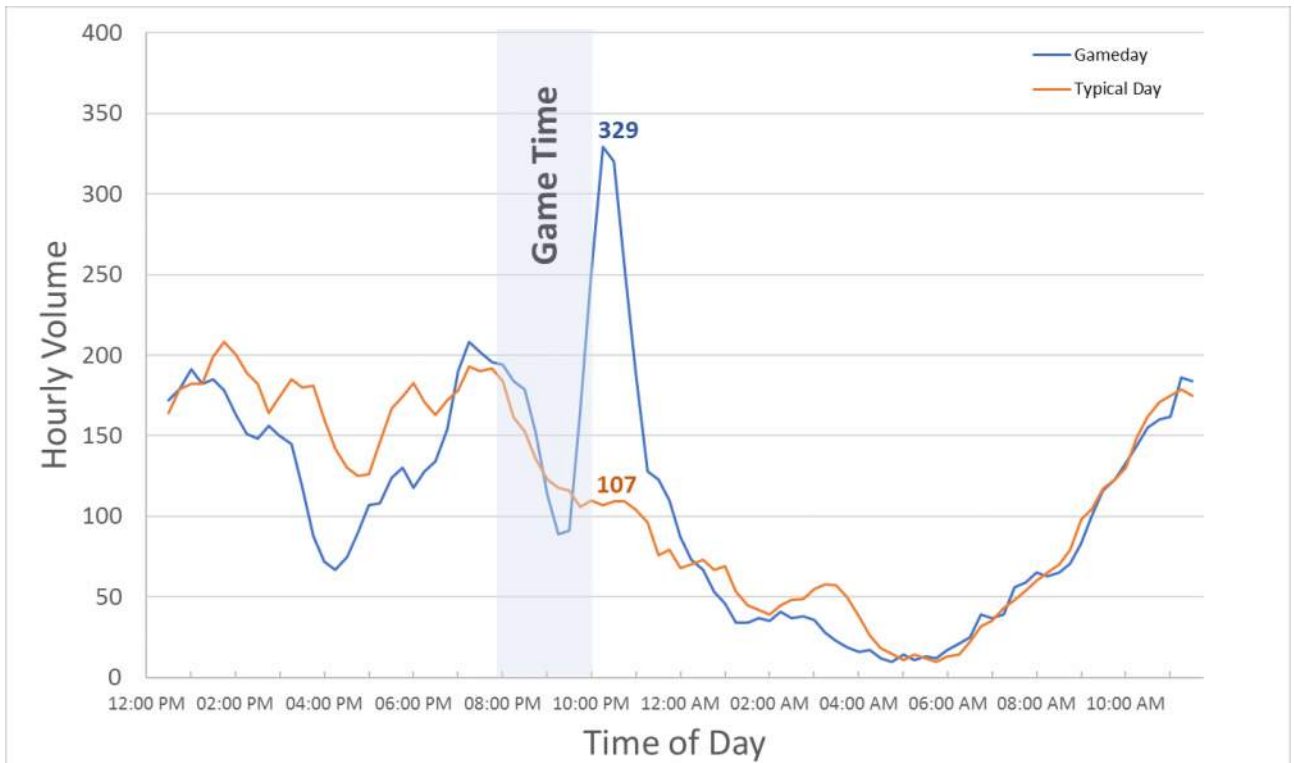


Figure 2.17 Typical Day (March 22) vs. Game Day (March 29) 24-Hour Traffic Volumes, Westbound Springhurst Avenue



- Legend**
- Exhibition Place
 - # Public Parking Lots
 - # Green P Parking Lots
 - ATR Location
 - Traffic Count Locations
 - Typical Day Counts (Friday March 22, 2019)
 - Game Day Counts (Friday March 29, 2019)

Source: Google Maps

Figure 2.18
 Typical Day versus Game Day Peak Hour
 Traffic Volumes – Pre Game
 TFC Transportation Management Plan Exhibition Place



- Legend**
- Exhibition Place
 - Public Parking Lots
 - Green P Parking Lots
 - ATR Location
 - Traffic Count Locations
 - Typical Day Counts (Friday March 22, 2019)
 - Game Day Counts (Friday March 29, 2019)

Source: Google Maps

Figure 2.19
 Typical Day versus Game Day Peak Hour
 Traffic Volumes – Post Game
 TFC Transportation Management Plan Exhibition Place

3 IMMEDIATE AND INTERMEDIATE SOLUTIONS

Potential traffic management solutions for TFC games were developed for the immediate and intermediate time frames. Immediate solutions are “quick-wins” that can be implemented within 12 months and are solutions that can be implemented within the Exhibition Place grounds, without requiring coordination or approval from the City and other stakeholders. Intermediate solutions are those that can be implemented in the period beyond 12 months and may involve coordination with the City and stakeholders.

3.1 POTENTIAL IMMEDIATE SOLUTIONS WITHIN EXHIBITION PLACE

3.1.1 MODIFICATION/ADJUSTMENT OF AREA TRAFFIC SIGNALS

It is recommended that a paid duty police officer be hired to direct traffic by using the traffic control boxes at the intersections listed below:

- Ontario Drive and Lake Shore Boulevard;
- Newfoundland Road and Lake Shore Boulevard;
- British Columbia Road and Lake Shore Boulevard;
- British Columbia Road/Dufferin Street and Saskatchewan Road;
- Dufferin Street at Liberty Road; and
- Dufferin Street at King Street

The officer would improve queues and delays by dedicating more green time to the traffic volumes entering or leaving the TFC game. **Figure 3.1** is an example of how this would take place at the intersection of British Columbia Road and Lake Shore Boulevard.

WSP understands that several of these locations are included in Exhibition Place’s current Traffic Management Plan, where Paid Duty Officers are used to adjust signal timing. However, the number of locations with Paid Duty Officers present during pre and post game conditions is subject to the availability of these officers. Understanding that it is unlikely that paid duty officers will be available for all the above intersections at every game. When there is a shortage of available officers, the intersections of Dufferin Street and British Columbia Road, and Lake Shore Boulevard and British Columbia Road should be given priority.



Figure 3.1 Example of Police Officer Operating a Traffic Control Box (Google Street View)

3.1.2 REMOVE PAVEMENT GROOVES ON DUFFERIN AVENUE AND BRITISH COLUMBIA ROAD

It is recommended that the pavement grooves that are currently in the southbound lane on Dufferin Street south of the Dufferin bridge and in the eastbound lane on British Columbia Road between Lake Shore Boulevard West and Alberta Circle be removed. These grooves were implemented before the signalization of the intersection at British Columbia Road / Dufferin Street and Saskatchewan Road as a speed management measure. As such, they no longer serve their intended purpose and only confuse drivers during congested game day conditions.

3.1.3 ADDITIONAL DIRECTIONAL SIGNAGE TO LAKE SHORE BOULEVARD AND GARDINER EXPRESSWAY

It is recommended that additional directional signage be installed at key locations as per the “Proposed Static Directional Signs” indicated in **Figure 3.7** and **Figure 3.8** in **Section 3.1.5**. This signage will help inform motorists of travel routes to Lake Shore Boulevard and the Gardiner Expressway from the parking lots within the Exhibition Place grounds. This will discourage the use of Springhurst Avenue as an access to these key roadways. These can be in the form of static signs in the short-term and upgraded to digital signs in the future.

An example of the recommended signage, is shown in **Figure 3.2** below for Saskatchewan Road and British Columbia Road/Dufferin Street. This sign would be placed on the west side of the intersection, directing westbound traffic to turn left to get to the Gardiner Expressway and Lake Shore Boulevard.



Figure 3.2 Potential Directional Signage at the Intersection of Saskatchewan Road and British Columbia Road/Dufferin Street (Google Street View)

It is anticipated that the new signage paired with the reversible lane along British Columbia Road will reduce westbound right turns from Saskatchewan Road to Dufferin Street, and consequently, also reduce the use of Springhurst Avenue as an access route to the Gardiner Expressway.

3.1.4 PARKING FEE DISCOUNTS TO OUTER EXHIBITION PARKING LOTS

It is recommended that the parking rates be reduced at the outer parking lots during main events and during TFC games. For example, at the Green P lot located at the northwest corner of the Exhibition Place grounds (CP 856) parking fees can be reduced to less than \$15. This would discourage vehicles from going to lots within Exhibition Place closer to the stadium and to lots on and off of Dufferin Street. Signage should also be in place before the game to raise driver awareness of available parking at this location, as well as the lower parking fees.

Discounted parking at the edge of the site is expected to reduce traffic volumes at the intersection of Saskatchewan Road and Dufferin Street/British Columbia Road both before and after matches. Furthermore, it would encourage drivers to use Lake Shore Boulevard to access the Gardiner Expressway as shown in **Figure 3.3**.

This can also be marketed via prepaid discounted parking for the outer lots, where motorists who purchase parking in advance of game get a discount but must park at the outer lots.



Figure 3.3 Parking Lot CP 856 Outbound Traffic Flows (Google Maps)

3.1.5 REVERSIBLE TRAFFIC LANE ON BRITISH COLUMBIA ROAD

To improve traffic flow on British Columbia Road between Saskatchewan Road and Lake Shore Boulevard, it is recommended that a reversible lane be implemented within the existing striped median in the pavement. This would operate similar to Jarvis Street’s previous reversible lane, which can be seen in **Figure 3.4**. Previously, Jarvis Street’s reversible lane would provide an extra northbound lane during the p.m. peak hour from 3:45 p.m. to 6:30 p.m. on weekdays between Queen and Isabella and an extra southbound lane during all other times.

The reversible lane at the site would provide two lanes of traffic in the northbound/eastbound (inbound) direction during pre-game periods and two lanes of traffic in the southbound/westbound (outbound) direction during post-game periods. During off peak times, both signs would show the middle lane as closed and traffic would treat the middle lane as a median. As seen in **Figure 3.5** and **Figure 3.6**, there is existing middle lane signal infrastructure installed along British Columbia Road that can be used to operate the reversible lane. Plans for the inbound and outbound flows can be seen in **Figure 3.7** and **Figure 3.8** respectively.

It is anticipated that the provision of additional peak direction travel lanes would increase the capacity on British Columbia Road, and result in reduced queue lengths on British Columbia Road and Dufferin Street. Shorter delays are also anticipated at the intersections of British Columbia Road with Saskatchewan Road, and Lake Shore Boulevard. With increased capacity on British Columbia Road, motorists would be less likely to use Springhurst Avenue to avoid the congestion and long delays that exist on Dufferin Street and British Columbia Road.



Figure 3.4 Jarvis Street Reversible Traffic Lane - Google Street View



Figure 3.5 Existing Non Functional Reversible Traffic Signal on British Columbia Road (Eastbound) - Google Street View



Figure 3.6 Existing Non Functional Reversible Traffic Signal on British Columbia Road (Westbound) - Google Street View

Inbound Overhead Signage



Dufferin St.
Northbound
→









(A)

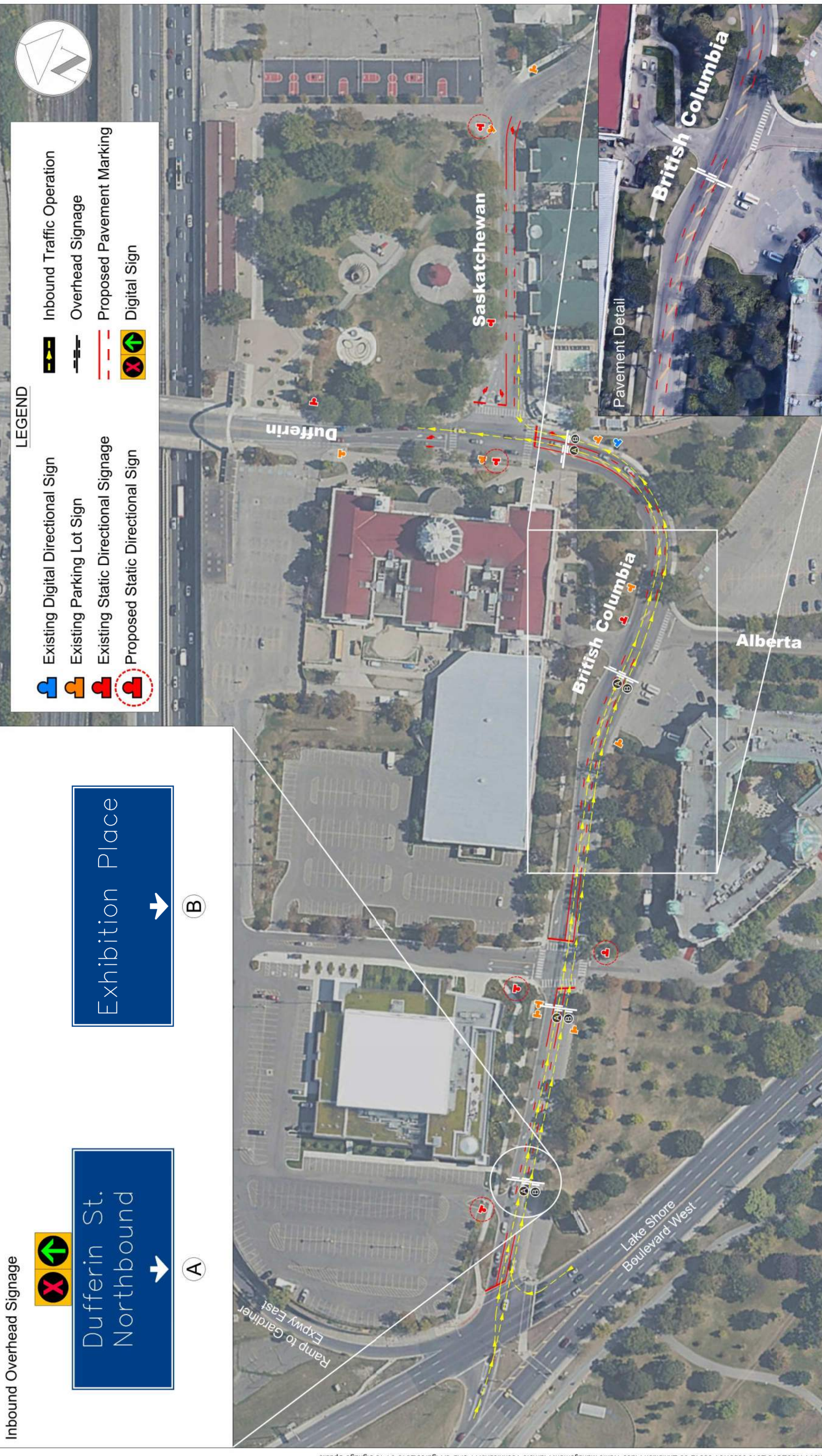
Exhibition Place
→



(B)

LEGEND

-  Existing Digital Directional Sign
-  Existing Parking Lot Sign
-  Existing Static Directional Signage
-  Proposed Static Directional Sign
-  Inbound Traffic Operation
-  Overhead Signage
-  Proposed Pavement Marking
-  Digital Sign



Source: Google Earth, 2018 Satellite Imagery

Scale: 1:1500



Figure 3.7
British Columbia Road Reversible Lane Configuration, Inbound Flow
Exhibition Place TFC Transportation Management Plan

Outbound Overhead Signage



Lake Shore East/West
→

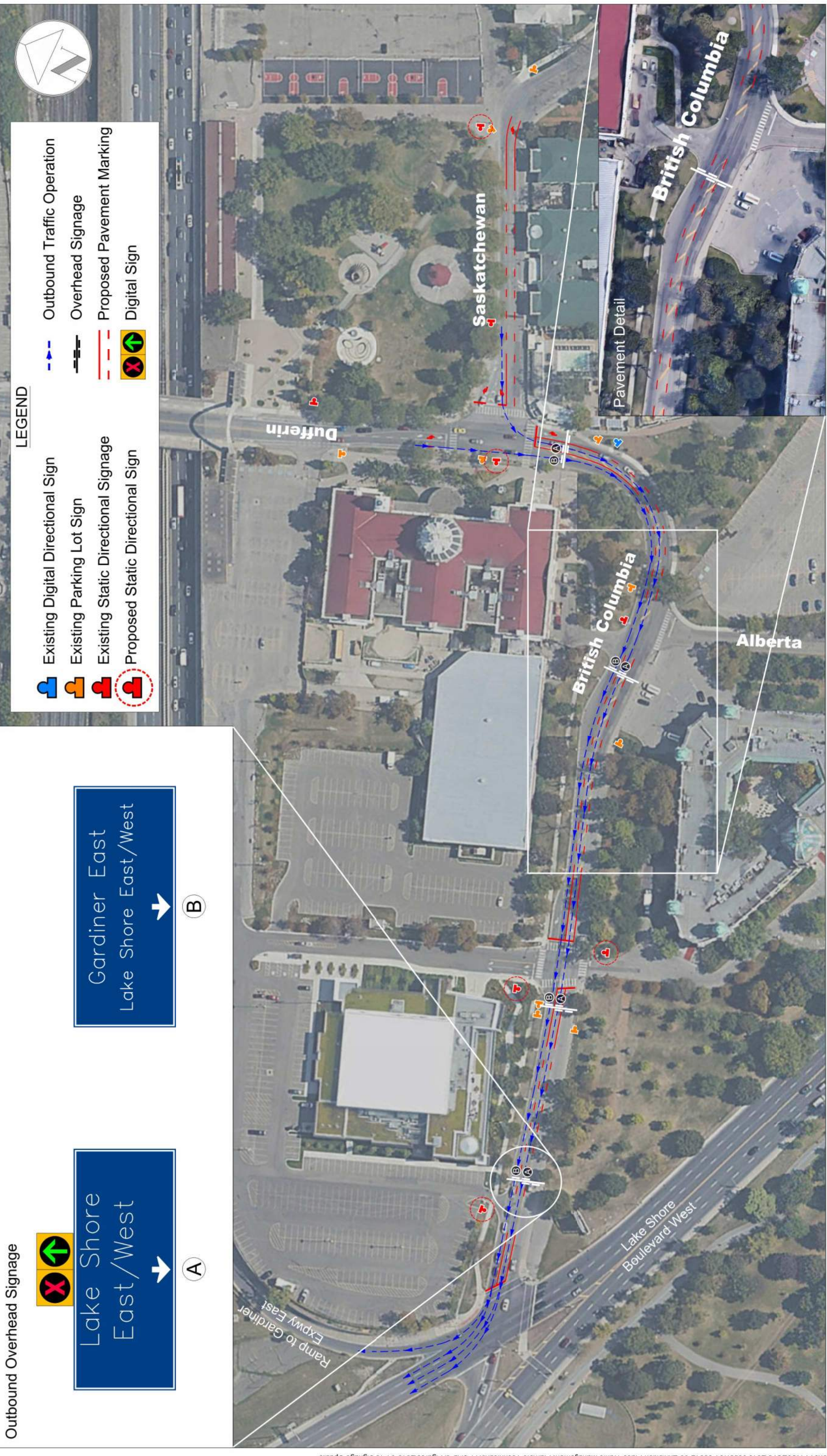
(A)

Gardiner East
Lake Shore East/West
→

(B)

LEGEND

- Existing Digital Directional Sign
- Existing Parking Lot Sign
- Existing Static Directional Signage
- Proposed Static Directional Sign
- Outbound Traffic Operation
- Overhead Signage
- Proposed Pavement Marking
- Digital Sign
- Digital Sign



Source: Google Earth, 2018 Satellite Imagery

Scale: 1:1500



Figure 3.8
British Columbia Road Reversible Lane Configuration, Outbound Flow
Exhibition Place TFC Transportation Management Plan

3.1.6 INCREASE ON-SITE BICYCLE PARKING SUPPLY

It is recommended that the bicycle parking supply on site be increased from the 878 current spaces as seen in **Figure 3.9**. Currently, there is bicycle parking at Hotel X (>100 spaces), the west side of Enercare centre (60 spaces), the east side of the Enercare centre (108 spaces), the Beanfield Centre (80 spaces), the west side of the Better Living Centre (138 spaces). However, these racks location are all located at least 200 metres away from a BMO field entrance.

There are also approximately 210 bicycle spaces within 200 metres of a BMO field entrance. However, many are off the main through road along Princes' Boulevard, which can lead cyclists to confusion among cyclists. The racks located north of the site are particularly hard to find.

Therefore, in addition to providing more racks within 200 metres of the site entrance, it is recommended that more signage be installed to help cyclists locate bicycle racks around the site.

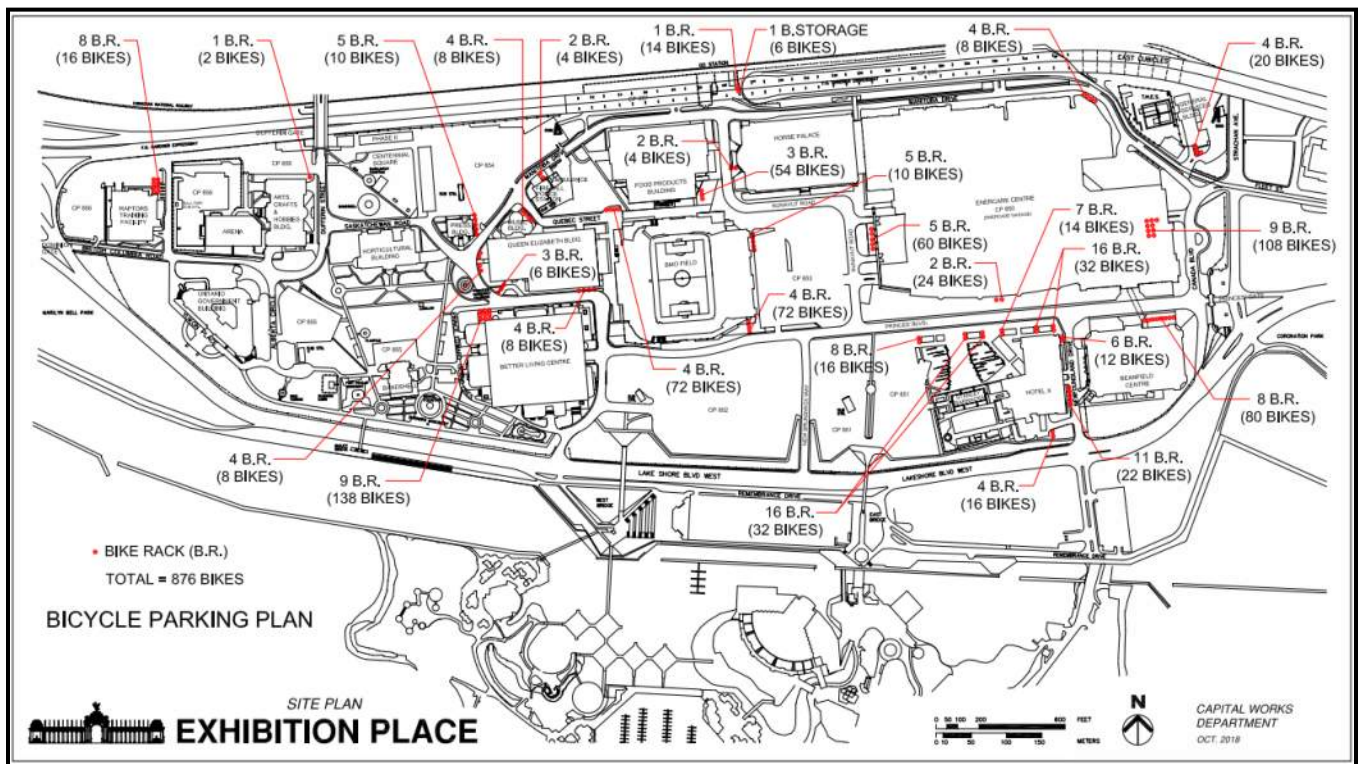


Figure 3.9 Bicycle Parking Locations (<https://www.explace.on.ca/visiting/ground-maps>)

3.1.7 INFORMATION CAMPAIGN

The current TFC website features a “Matchday Guide” tab that includes a “Parking and Directions” link to a separate BMO Field webpage. This webpage provides directions “By Car” and “By Transit”, as well as parking information.

The “By Car” tab on the webpage provides directions to motorists arriving from the North, East, West and from Pearson Airport. Potential improvements to driving directions include:

- Enlarge the “Google Maps – Get Directions” link
- Encourage drivers to avoid potential congestion on Dufferin Avenue and Springhurst Avenue

- Promote the new reversible lane on British Columbia Road to accommodate peak directional traffic, and encourage drivers to use British Columbia Road to access the site

The “By Transit” tab on the webpage is shown in **Figure 3.10** below and contains information for using the TTC, GO Train and cycling. The information on the page is as follows:

- The TTC information provides direction from Union, Bathurst or Dufferin stations. Further links are also provided to the TTC information phone line and their website
- The GO Train information makes users aware of Exhibition Station and provides further links to the GO transit route planning page
- The Cycling information provides users with some information about cycling parking locations

Potential improvements to transit directions include:

- Enlarge the “Google Maps - Get Directions” link
- Under the GO Train direction
 - Note that Lake Shore East-West lines typically leave every 30 minutes
 - List the departure times for the eastbound and westbound trains from Exhibition on both weekdays and weekends
- Provide a separate tab for cycling information
 - Provide a map of nearby cycling facilities and bicycle parking locations on and off site

The screenshot shows the 'By Transit' section of the BMO Field website. It includes navigation tabs for 'By Transit', 'By Car', and 'Parking'. The 'By Transit' section is active and contains the following content:

- Public Transit Directions:** BMO Field is easily accessible by both options of public transit; the GO Train and Toronto Transit Commission (TTC).
- Toronto Transit (TTC):**
 - From Union Station on the Yonge-University subway line: From Union Station, board the 509 HARBOURFRONT Streetcar towards FLEET LOOP. Transfer to 509/511 REPLACEMENT BUS towards LAKE SHORE and BATHURST. Depart and head South on BASTION ST, turn left at FLEET ST. Depart and head South on NOVA SCOTIA AVE.
 - From Bathurst Station on the Bloor subway line: From Bathurst Station, board the #511 Streetcar towards FLEET LOOP. Transfer to 509/511 REPLACEMENT BUS towards LAKE SHORE and BATHURST. Depart and head South on BASTION ST, turn left at FLEET ST. Depart and head South on NOVA SCOTIA AVE.
 - From Dufferin Station on the Bloor subway line: From Dufferin Station, board the #29 bus south to Exhibition. Service will increase & operate between Dufferin Station and Exhibition every few minutes. Service at Exhibition will terminate at all times at Dufferin Gate Loop. Please note that during busy months (summer), the TTC may extend this run onto the Exhibition Grounds.
- For more TTC info call (416) 393-INFO (4636) or visit www.ttc.ca.
- GO Train:** BMO Field has a GO station located just outside of the grounds. The station name is EXHIBITION and is one stop west of Union Station on the Lakeshore East-West lines. For more information contact GO Transit at www.gotransit.ca or 416-869-3200.
- Cycling:** The roadways leading up to this venue are pedestrian friendly. There are numerous bicycle parking racks located throughout the Exhibition Place grounds. Additional bicycle parking is available east of Exhibition Place in Inukshuk Park near the Martin Goodman Trail, and on the west side of the venue near the Dufferin Gate at Centennial Park.

On the right side of the page, there is a Google Maps widget with a 'GET DIRECTIONS' button and an 'UPCOMING EVENTS' section listing matches such as Toronto FC vs. Minnesota United FC, Toronto FC vs. Portland Timbers, Toronto FC vs. Philadelphia Union, Toronto FC vs. DC United, and Canada WNT vs. Mexico - World Cup Send Off.

Figure 3.10 Existing Website Transit Information Page (<https://bmofield.com/plan-your-visit/directions/>)

The “Parking” tab on the webpage is shown in **Figure 3.11** below and contains parking fee rate information for four lots on the Exhibition grounds. The page also includes descriptions on Accessible, Hybrid Vehicle and Parent/Child parking spaces.

Potential improvements to parking information include:

- Replace the existing map by a larger map showing all parking lots within the Exhibition grounds. This map may be consolidated with the bicycle parking map
 - Show color coded parking rates on the map and legend
 - Show Accessible, Hybrid Vehicle and Parent/Child parking using icons on the map
- Provide a map of off-site parking locations including Green P lots and Ontario Place

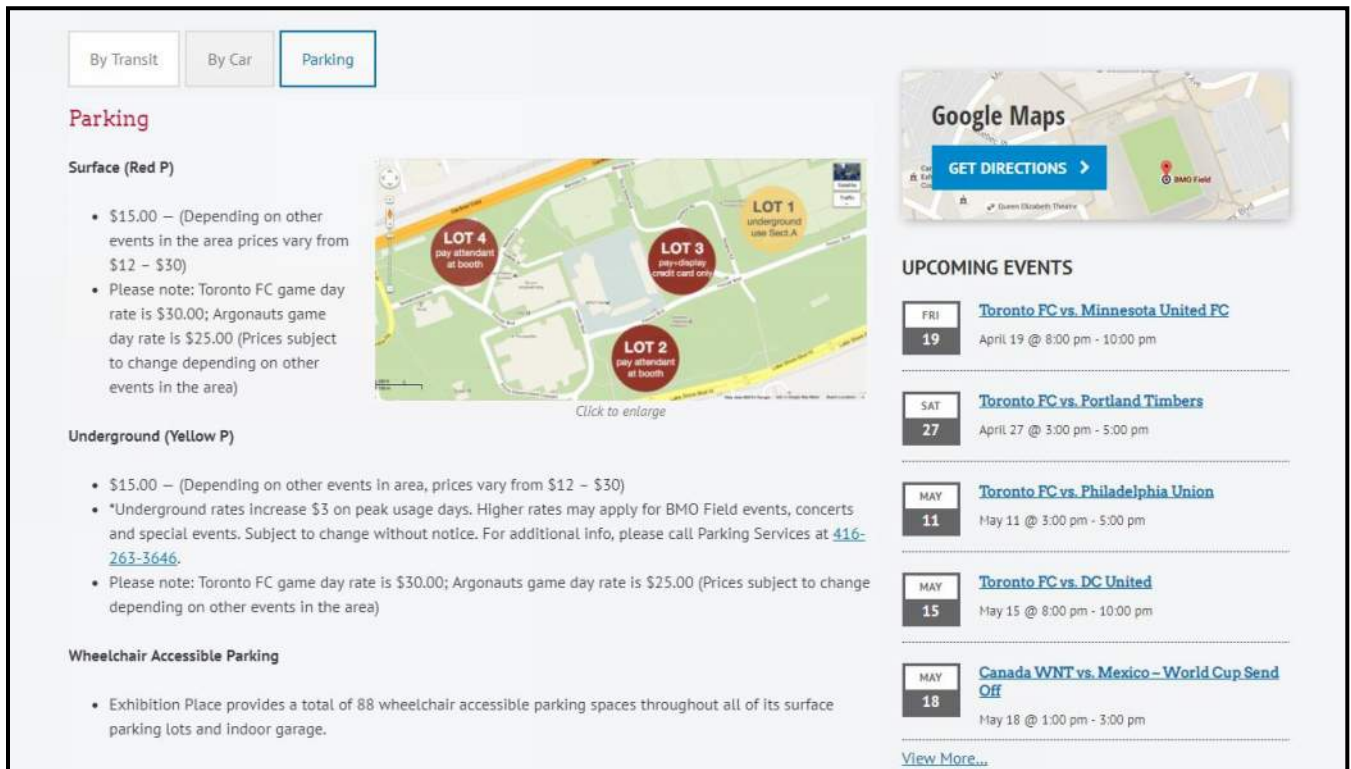


Figure 3.11 Existing Website Parking Information Page (<https://bmofield.com/plan-your-visit/directions/>)

Information on transit, driving, parking, and active transportation should be presented on the website and distributed to the public and ticket holders in other ways. Potential methods of distributing travel information include:

- Posting travel information at the point of ticket sales
- Distributing travel pamphlets along with ticket purchase
- Promoting transit use and providing transit information on social media and in email distributions

The exhibition place website shown in Error! Reference source not found. shows a good example of an intuitive interface with the same categories. The use of maps and links is particularly helpful to users arriving by alternate modes of transport other than private automobiles.

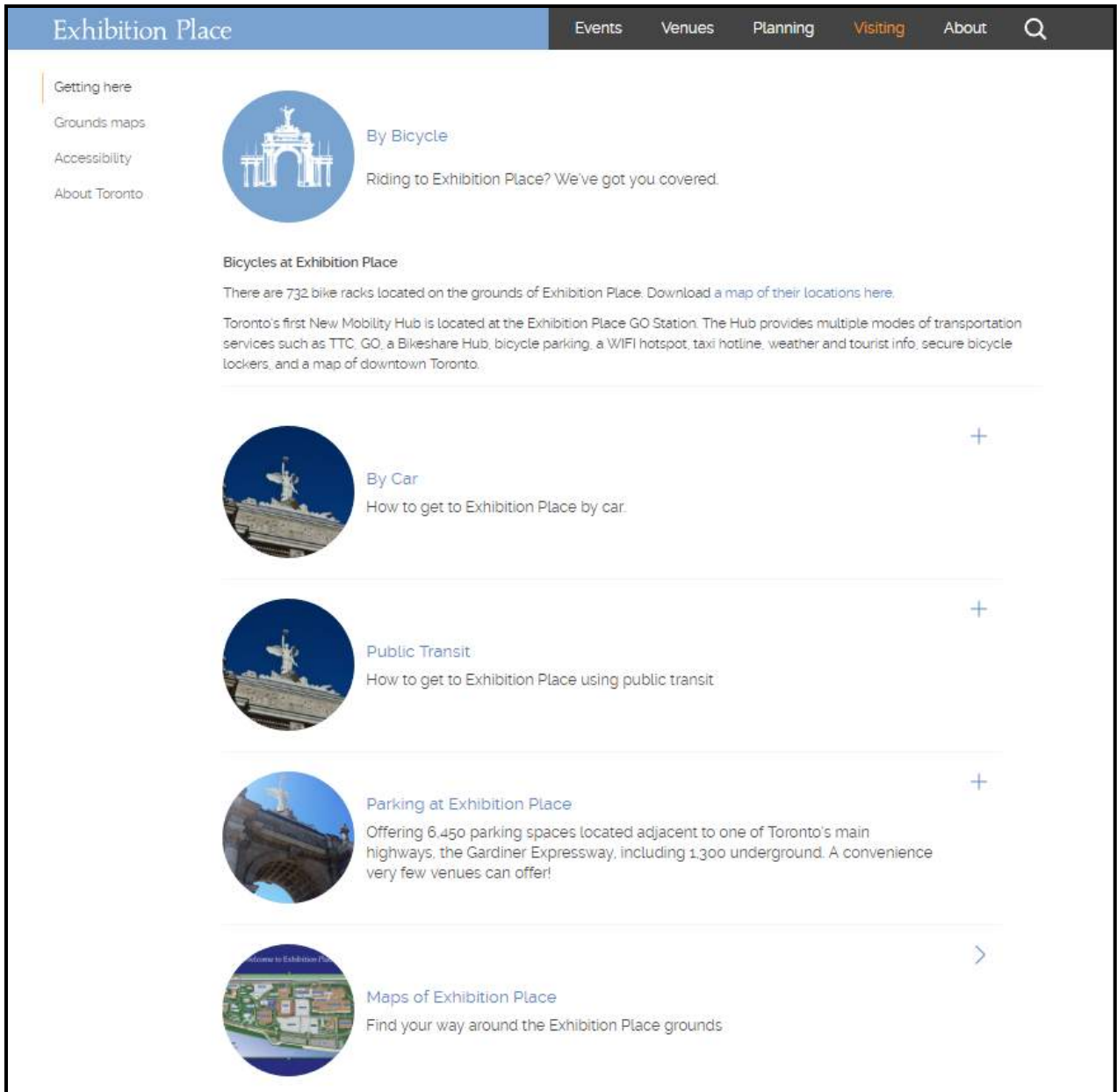


Figure 3.12 Exhibition Place Website "Visiting Tab" (<https://www.explace.on.ca/visiting/getting-here/by-bicycle>)

3.2 POTENTIAL INTERMEDIATE SOLUTIONS WITHIN AREA NETWORK

3.2.1 TURN RESTRICTIONS

It is recommended that turn restrictions be implemented at the following intersections two hours before and after game times:

- No northbound right at Jameson Avenue and Springhurst Avenue; Pre-Game
- No northbound right at Dunn Avenue and Springhurst Avenue; Pre-Game
- No eastbound left at Thorburn Avenue and Dufferin Street; Pre-Game
- No northbound left at Dufferin Street and Temple Avenue; Post-Game
- No northbound left at Dufferin Street and Springhurst Avenue; Post Game

These restrictions would require the implementation of a digital turning movement sign that could be programmed to display only during the pre and post game periods. These digital turn restrictions would be required to be coordinated through the City of Toronto's traffic management centre to ensure the restrictions are only in effect during the appropriate times. **Figure 3.13** shows a map of the proposed restrictions along Dufferin Street, as well as the digital sign that would be used. **Figure 3.14** shows a map of the proposed turn restrictions at the intersection of Jameson Avenue and Dunn Avenue with Springhurst Avenue; digital signage would be used at these locations to impose the existing turn restrictions as well as the game day restrictions.



Figure 3.13 Proposed Turn Restrictions along Dufferin Avenue with Digital Sign (Google Maps)



Figure 3.14 Proposed Turn Restrictions along Springhurst Avenue

The recommended turn restrictions prevent traffic entering and leaving Exhibition Place from using Springhurst and Temple Avenue as an alternative route to the Gardiner Expressway. It is anticipated that traffic leaving the site via Saskatchewan Road would likely continue on southbound British Columbia Road instead of northbound on Dufferin Street. Any vehicles exiting via northbound Dufferin Street would have an opportunity to turn left at King Street, to access the Gardiner Expressway via Dunn Avenue and Jameson Avenue.

It is important that motorists are made aware of the turn restrictions pre and post game, this can be done through pregame notification to season ticket holders and to single ticket purchasers at the time of purchase. In addition, the digital signage on the Exhibition Place ground can remind motorist of these restrictions.

In addition to the above, Exhibition Place is currently implementing no westbound right turns from Saskatchewan Road onto Dufferin Street after TFC games using paid duty officers. Furthermore, formalizing this turn restriction using digital signage is being considered. However, this could result in a significant inconvenience for visitors to Exhibition Place destined to locations north on Dufferin Street since access to Dufferin Street is not available from lots 852, 853 or 854 via Saskatchewan Road. Therefore, the existing turn restrictions should be evaluated as a pilot before being fully implemented to identify the delays to local traffic heading north on Dufferin Street. Feedback from game attendees and the public can be gathered and considered in the future decision of whether or not to implement the turn restriction permanently.

3.2.2 RESTRICT ON-STREET PARKING ON DUFFERIN STREET

It is recommended that on-street parking on Dufferin Street be restricted from the Dufferin bridge to King Street West, two hours before and two hours after TFC games. This would improve traffic flow by increasing the capacity

of Dufferin Street in the study area. Coordination with the Toronto Parking Authority and the City will be required in order to manually implement and enforce the restrictions before and after each game.

3.2.3 ADJUSTMENT IN WAZE

Exhibition Place has the authority to deter the use of Springhurst Avenue as a travel option before and after TFC matches through the navigation App Waze. Waze will indicate the turn restriction for a predetermined amount of time within the software platform. During this time no wayfinding routes will tell Waze users to drive on Springhurst Avenue. This would help to further reduce the amount of traffic on Springhurst Avenue before and after TFC matches, as many motorists routinely uses Waze or other navigation apps to steer them away from traffic congestions.

3.2.4 OFF-SITE RESERVED PARKING

Further to providing discounts at the outer parking lots on the Exhibition grounds, Exhibition Place and MLSE could consider partnering with Green P and Ontario Place to make use of the parking lots along Lake Shore Boulevard between Windermere Avenue and Woodbine Avenue. The remote parking lots would be accompanied by a free, direct shuttle service to the Exhibition grounds. The lots would also be pre-paid on-line and a space would be reserved for the purchaser. This could significantly reduce the volume of traffic entering and exiting Exhibition Place for TFC games and other events since these vehicles would not enter the Exhibition grounds.

3.2.5 TRANSIT INCENTIVES

Another potential partnership Exhibition Place and Maple Leafs Sports and Entertainment (MLSE) could explore is with the main transit providers, Metrolinx and the TTC. There are many possible incentives that could be used to encourage fans and visitors to use transit including:

- Option to bundle the price of an event ticket with a transit voucher.;
 - Express transit service from key transit stations such as Keele Station, Union Station, Dufferin Station and Dufferin Gate Loop. The service would run non-stop to the Exhibition Place grounds.
-

3.2.6 MODIFICATION/ADJUSTMENT OF AREA TRAFFIC SIGNALS

In the medium term, it is recommended that a paid duty police officer be replaced and instead adjustments be made at the City's Traffic Management Control office for the intersections listed below on game days:

- British Columbia Road and Lake Shore Boulevard;
- British Columbia Road/Dufferin Street and Saskatchewan Road;
- Ontario Drive and Lake Shore Boulevard;
- Newfoundland Road and Lake Shore Boulevard;
- Dufferin Street at Liberty Road; and
- Dufferin Street at King Street

In the long term and as recommended in the 2016 Parking Study, these intersections can be monitored and adjusted by the City of Toronto's traffic control centre, eliminating the need for a paid duty officer to be present. The control centre can also expand the number of intersections optimized to include the Lake Shore Boulevard West Gardiner ramps, as well as the King Street corridor.

4 POTENTIAL FUTURE SOLUTIONS REQUIRING FURTHER STUDY

Further study is recommended to explore additional solutions that may be considered in the long term. Long term solutions are likely to require more significant planning, funding, and involve a longer approval and implementation process. These recommendations would require collaboration and approval by other agencies, operators, jurisdictions, etc. Potential solutions that may be explored include but are not limited to:

- Expanding transit service routes, such as the 504 streetcar and 329 bus to include transit only lanes or queue jump lanes;
- Providing shuttle buses or party buses at a discounted rate as a first/last mile option from nearby transit locations;
- Increasing the Dufferin Street parking restrictions to extend from Dufferin Bridge to Dundas Street West during major events at Exhibition Place;
- Incentivise early arrivals and late departures through programming. For example, offer discounts or TFC memorabilia at concessions one hour before the game; and
- Changes in the area network such as the extension of Dufferin Street to Lake Shore Boulevard.

Furthermore, it is recommended that Exhibition Place continues to be involved as a stakeholder in the planning processes for the Waterfront West LRT and the redevelopment of Ontario Place, as well as any other major transportation or development initiatives in the vicinity of the site.

5 CONCLUSIONS AND RECOMMENDATIONS

WSP was retained by Exhibition Place to complete a traffic management plan for the Toronto Football Club (TFC) games at BMO Field in Exhibition Place, located on the Toronto waterfront. This study addresses the concerns of the neighbouring residents of Parkdale, Liberty Village, and Fort York over traffic congestion in the neighbourhoods before and after TFC games at BMO Field.

To determine the effects that the Toronto Football Club (TFC) games have on the local area road network, 24-hour ATR counts and TMCs were conducted on a typical (non-game) day and a game day. Observations were also undertaken by WSP staff on a game day to understand the traffic conditions pre and post game, and to note any operational issues.

A comparison between the typical and game day traffic volumes indicate that there are significant impacts on Springhurst Avenue that are attributable to the TFC game. Eastbound traffic on Springhurst Avenue more than doubles before the game compared to typical day traffic volumes. Traffic westbound on Springhurst Avenue more than triples after the game compared to typical traffic volumes. In particular, the northbound left turn volumes at Springhurst Avenue and Dufferin Street more than quadrupled compared to typical conditions.

While the observed increases in traffic volumes during the pre and post game periods are significant, the 24-hour traffic volumes on both the typical and game days are within the City standards for a typical collector road. According to City of Toronto standards, collector roads are designed to handle between 2,500 and 8,000 vehicles per day. Springhurst Avenue handles 4,824 and 5,797 vehicles on the typical day and game day respectively.

During the post game period, capacity constraints at the intersection of Dufferin Street and Saskatchewan Road led to delays for southbound traffic accessing Lake Shore Boulevard West and the Gardiner Expressway via British Columbia Road. Given the significant delays on British Columbia Road, vehicles leaving from the parking lots located in Liberty Village tended to instead make use of the Dunn Avenue and Jameson Avenue ramps via Springhurst Avenue to access Lake Shore Boulevard West and the Gardiner Expressway.

Potential immediate and intermediate solutions have been recommended to alleviate traffic impacts to the surrounding neighbourhoods. The potential immediate solutions are those that could be completed by Exhibition Place without the involvement of other stakeholders and can be completed within 12 months. The intermediate solutions are those that would require Exhibition Place to work with one or more external stakeholder(s) and would typically take longer than 12 months to complete. The recommendations are summarized as follows:

A. *Potential Immediate Solutions within Exhibition Place:*

- Modification and adjustments to key traffic signals on the Exhibition grounds;
- Remove pavement grooves on Dufferin Avenue and British Columbia Road;
- Install additional signage within the Exhibition Place grounds to direct traffic to Lake Shore Boulevard and Gardiner Expressway via British Columbia Road;
- Reduce parking rates at outer parking lots within the Exhibition Place grounds;
- Improve traffic flow on British Columbia by implementing a reversible lane;
- Increase the supply of bicycle parking within Exhibition Place and install signage; and
- Improve travel information on the Exhibition Place website, and distribute travel information through social media, pamphlets, and emails.

B. Potential Intermediate Solutions within Area Network

- Implement the following turn restrictions two hours before and two hours after TFC games:
 - No northbound right turns from Jameson Avenue or Dunn Avenue onto Springhurst Avenue;
 - No eastbound left at Thorburn Avenue and Dufferin Street;
 - No northbound left at Dufferin Street and Temple Avenue;
 - No northbound left at Dufferin Street and Springhurst Avenue; and
 - Consider no westbound right at Saskatchewan Road and British Columbia Road/Dufferin Street, with a pilot conducted before full implementation.
- Restrict on-street parking two hours before through to two hours after TFC games along Dufferin Street from the Dufferin bridge to King Street West;
- Restricting the use of Springhurst Avenue through the Waze navigation platform;
- Offer off-site reserved parking and shuttle bus service between Exhibition Place and the parking lots along Lake Shore Boulevard between Windermere Avenue and Woodbine Avenue;
- Offer transit incentives to visitors to the grounds by coupling transit fares with event fees at a discounted rate and by offering express service from key transit station in the area; and
- Modify the signal timing of the traffic signals located at key intersections within and surrounding the Exhibition Place grounds during pre and post game conditions.

In the long term, further study is recommended to explore additional solutions related to improving transit service to the site, spreading out arrival and departure times, and making intersection and road network improvements. It is also recommended that Exhibition Place continues to be involved as a stakeholder in the planning processes for the Waterfront West LRT and the redevelopment of Ontario Place, as well as any other major transportation or development initiatives in the vicinity of the site.