City of Kingston

KINGSTON REGIONAL SPORTS AND ENTERTAINMENT CENTRE
TRANSPORTATION OPERATIONS PLAN

DRAFT FINAL REPORT

DECEMBER 2007

IBI GROUP

EXECUTIVE SUMMARY

The proposed Kingston Regional Sports and Entertainment Centre (KRSEC) is expected to host events such as concerts, trade shows, cultural events, as well as an ice pad that will be home to the Kingston Frontenacs Ontario Hockey League team. The building has been designed to accommodate an initial seating of approximately 5,650 seats, with provisions to expand to a 6,000-seat capacity in the future. In addition to the ice pad and entertainment facilities, a restaurant, meeting rooms, concession stands and private suites will also be included in the amenities.

IBI Group was retained by the City of Kingston to prepare a plan to address management and operations strategies and operational measures to address the parking, traffic and transit demands arising from the new KRSEC facility. This transportation operations plan attempts to determine and plan for the impacts of anticipated changes in the foreseeable future, but updates to the plan will be necessary from time to time. Changes to parking supply may take place after opening, depending on the City's decisions on parking rates and all-day parking, development of adjacent sites in the North Block area, changes in operation of the KRSEC facility, and other factors.

The transportation operations plan has reached the following conclusions:

<u>Parking</u>

1. Charging for off-street parking an all event nights will contribute to the revenue generation target as identified in the KRSEC Business Plan and will limit the impact on parking in the downtown on non-event days and for non-event patrons;

2. Pay and display parking with a flat rate for events is recommended at the existing City pay and display lots within a 600 metre radius of the KRSEC site (the Barrack, King/Queen, Angrove and Springer lots) and also at the Doug Fluhrer and Anglin lots (currently permit only);

3. While it is suggested that on-street paid parking should be implemented on a regular basis to include, at a minimum, all Friday evenings, but preferably all Friday and Saturday evenings, this parking policy decision will be considered within the context of the City's parking rate review presently underway;

4. Charging for on-street parking would complement the off-street parking strategy and reduce the amount that must be charged during events;

5. Pre-sold parking is recommended at the Drury and Anglin lots. Consideration could be given to extending pre-sold parking to the Barrack and King/Queen lots if sufficient demand for pre-sold parking exists once the KRSEC is operational;

6. On-street parking should be prohibited on event nights on Barrack Street from Ontario Street to Wellington Street and on King Street from Queen Street to Place D'Armes and that monitoring be conducted to determine if changes are required;

7. Based on the expected extent of event parking demand, it is recommended that the status quo be maintained at the existing attended lots but that monitoring of parking demands during events be carried out to determine if changes are required;

8. With off-street paid parking on all event nights, approximately $169,500 in annual net revenue could be generated if premium parking spaces are charged at $8.00 per event;

9. If monitoring indicates significant levels of event parking that create issues for residents in the residential area east of Sydenham Street, south of Raglan Road, and north of Queen Street, the City could implement a residential area event parking plan; and

10. It is recommended that signage be installed at the entry points to parking lots. The signs will also need to include a "Lot Full" component that could be uncovered when the lot is at capacity.

Transit

11. Additional transit services (extra buses and route changes) should be provided for events over 3,000 attendance;

12. Additional services should include extra buses after events for Routes 1, E2 and E6, and extended service on Route 18;

13. Providing enhanced transit for event patrons at events over 3,000 attendance is anticipated to cost approximately $33,500 annually, or 11 cents per event patron, and is to be financed by a charge of $1.00 per ride after the event (resulting in approximately $16,100 in revenue), and event parking revenues in excess of $150,000, and;

14. A bus staging area after events should be provided on Queen Street between King Street and Wellington Street; and

15. It is recommended that regular transit fares apply to event attendees traveling to the KRSEC and that event attendees pay $1.00 for their return trip, provided a valid event ticket is presented to the bus operator upon boarding.

Traffic Operations

16. Total traffic volumes pre-event and post-event are expected to be lower than existing peak hour volumes currently accommodated at adjacent intersections between 4:00 and 5:00 p.m. Accordingly, no major capacity problems are expected to be created by event traffic, with the exception of short-term congestion caused by high pedestrian volumes leaving the site immediately after an event;

17. The distributed parking system will not rely on any one large parking facility, and will use pre-sold parking, which will assist in reducing travel demands in the immediate vicinity of the site and limit traffic impacts on any one downtown route;

18. A loading dock management plan must be agreed to by the City and the KRSEC operator to ensure all truck manoeuvring on Place D'Armes is conducted under controlled conditions; and

19. A comprehensive monitoring plan should be put in place to measure the actual impacts of KRSEC events on parking, transit and traffic operations.

Public Communication

20. Since implementation of the transportation operations plan will result in changes from the status quo with respect to parking availability and payment, and increased transit services, a media campaign and supporting plans and information will be required; and

21. A KRSEC website should contain details of all the parking, transit and traffic operational issues, and a “frequently asked questions” list that will be updated with the results of monitoring.

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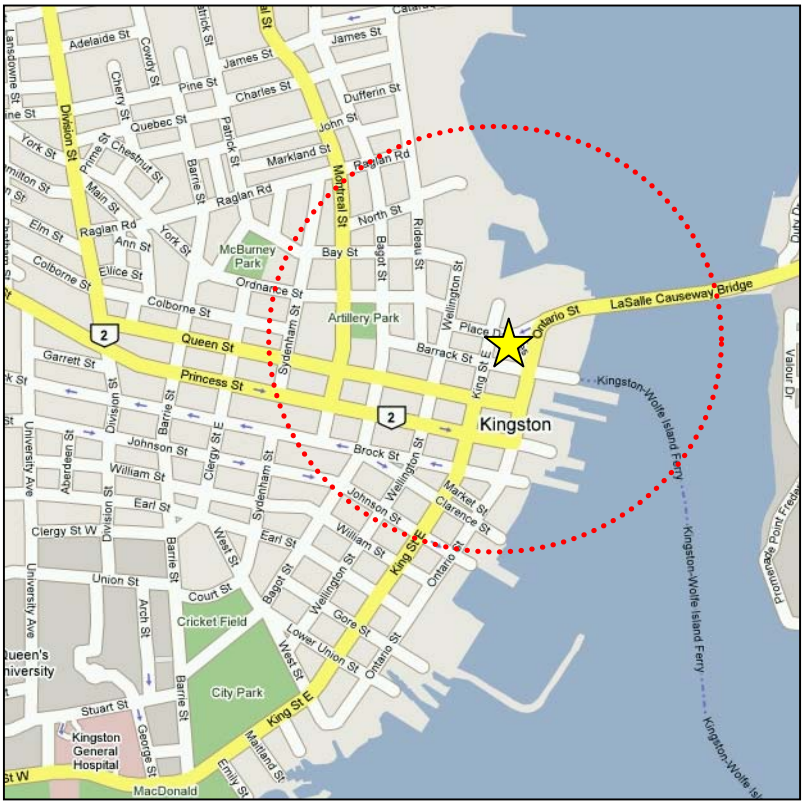
1. INTRODUCTION

1.1 Background

In May 2007, IBI Group was retained by the City of Kingston to prepare a plan to address parking management and operations strategies and operational measures to address the parking demands arising from the new Kingston Regional Sports and Entertainment Centre (KRSEC). Traffic management and transit operations components were included in the scope of work in June 2007.

The primary area of the study was established based on the existing transportation system operations and the expected parking generation potential of the venue. The primary study area was identified by the area generally bounded by a 600 metre radius from the KRSEC site. **Exhibit 1-1** illustrates the primary study area.

Exhibit 1-1 – Primary Study Area



1.2 Objectives of Operations and Management Plan

The operations and management plan covers parking, transit and traffic issues, and is based on achieving the following objectives:

1. Encourage parking behaviour consistent with established City of Kingston parking principles:
    a. Parking close to demand generator is more expensive. Concept of "walk-a-little, save-a-little".
    b. Payment is required when there is demand.
    c. Encourage off street parking.
2. Reduce traffic congestion created by "circle the block" syndrome.
3. Encourage long term parkers to park on the periphery of downtown (i.e. employees of downtown and KRSEC).
4. Encourage and promote non-auto modes, including public transit.
5. System is financially self-sustaining (i.e. no additional costs to taxpayer).
6. Raise net revenues to fund $2.5M in KRSEC facility debt.
7. As little change as possible from existing system.
8. Encourage compliance with parking regulations i.e. provide options that do not require illegal parking.
9. Ensure public awareness of options.

Construction is currently under way and the Kingston Regional Sports and Entertainment Centre will be operational in 2008. Accordingly, this transportation operations plan will be implemented in time for the 2008 opening.

This operations and management plan attempts to determine the impacts of anticipated changes in the foreseeable future, but updates to the plan will be necessary from time to time. Changes to parking supply may take place after opening, depending on the City's decisions on parking rates and all-day parking, development of adjacent sites in the North Block area, changes in operation of the KRSEC facility, and other factors. Changes may also be required to respond to actual parking and traffic patterns at events that become evident after monitoring event parking and traffic conditions. The transportation operations plan must be a "living document" in order to respond to changes so that the above goals can continue to be met.

After operation of the KRSEC begins in 2008, a follow up survey of Frontenacs season ticket holders should be completed to determine destination parking lots, reasons for choice of travel mode, confirm assumptions including automobile occupancy, time of arrival and departure – and confirm the proportion of patrons staying in the downtown area before or after the event for shopping, dining or other activities. At that time, the transportation operations plan should be modified to take the new data into account.

2. KINGSTON REGIONAL SPORTS AND ENTERTAINMENT CENTRE SITE DEVELOPMENT

The Kingston Regional Sports and Entertainment Centre is located in the North Block. The building envelope will encompass the lands bounded by Place D'Armes to the north, Ontario Street to the east, Barrack Street to the south and King Street to the west. The building has been designed to accommodate an initial seating of approximately 5,650 seats with provisions to expand to a 6,000-seat capacity in the future. These seating capacities are based on a typical hockey game layout and the seating capacity may change for concerts.

As planned, the proposed development has the potential to host the following events:

- Ontario Hockey League Games;
- Other ice sports;
- Ice shows;
- Children's/musical concerts;
- Other concerts;
- Agricultural, sporting, trade and other shows;
- Meetings and conventions/conferences;
- Convocation/graduation ceremonies;
- Sporting events; and
- Hockey and Sports Hall of Fame.

When events are not being held, the facilities offices and meeting rooms would be used to support the administrative functions of the facility. The facility may also have amenities such as a restaurant and cafe.

3. EXISTING PARKING SUPPLY AND OPERATIONS

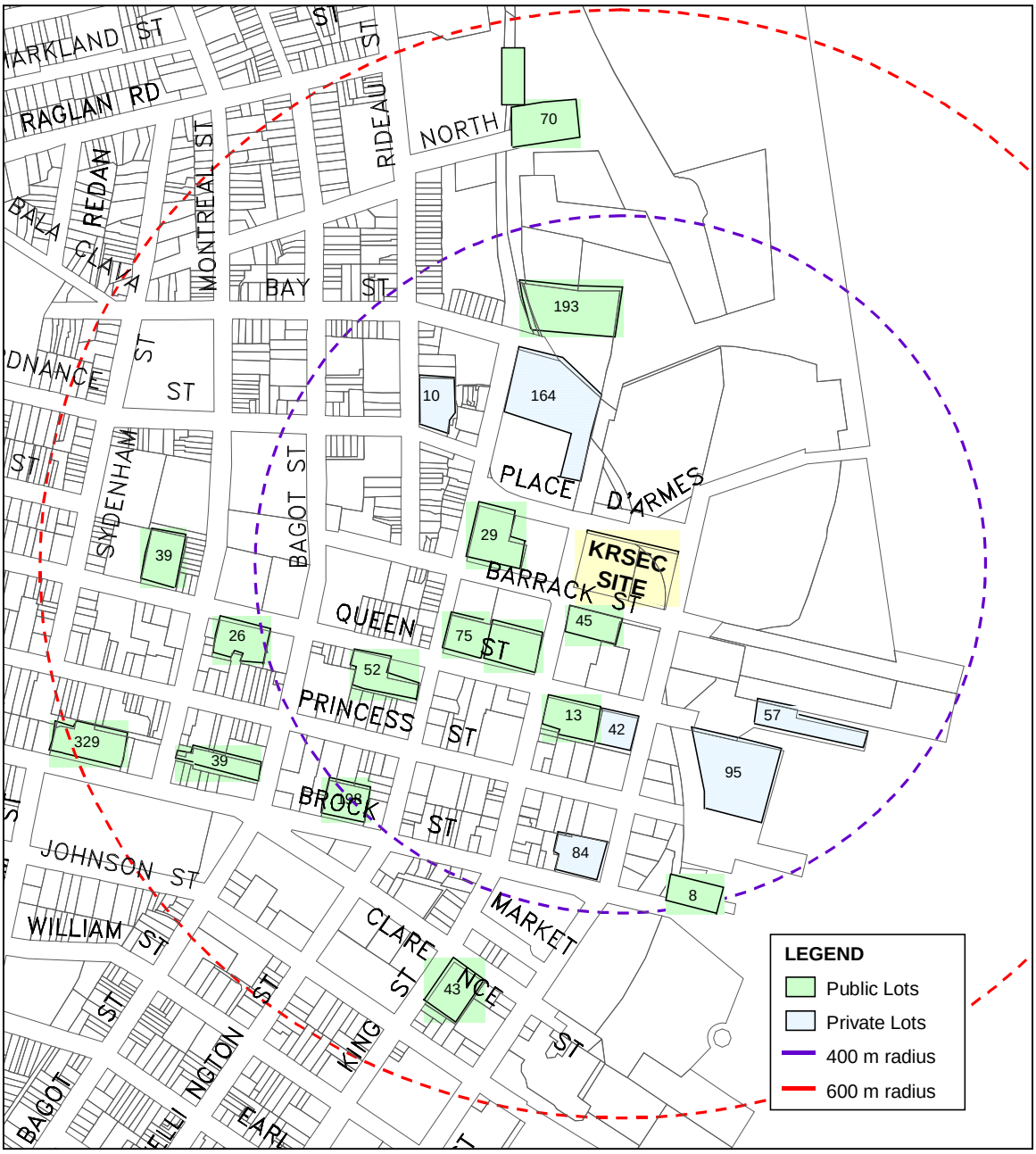
The Kingston Regional Sports and Entertainment Centre site will rely on a number of existing public and private sector parking lots to accommodate the expected parking demands.

3.1 Existing Parking Supply

Included in **Exhibit 3-1** is a summary of the existing parking lots within an approximate 600 metre straight-line distance of the Kingston Regional Sports and Entertainment Centre site.

During major concerts and sporting events, pedestrians are generally willing to walk longer distances to find available and economical parking. In some cases, patrons choose to utilize more remote parking to ensure they have a timely egress away from the pedestrian crowds. A 400 metre walk is approximately 5 to 5.5 minutes for a younger individual and 6.6 to 7.0 minute walk for a healthy senior. Given the location of a large number of parking facilities close to the KRSEC site, we have assumed a 600 metre straight line measurement to represent the maximum extent of event parking considered in this report. Due to the need to follow the street network, the walking distance for some lots on the 600 metre radius is up to 700 metres, which is a walking time of approximately 10 minutes. This distance is consistent with observed and anecdotal walking distances for similar facilities in Canada.

Exhibit 3-1 – Vacant Public and Private Parking Stalls (weeknights)



Based on typical evening occupancies surveyed by the City in the Downtown Parking Utilization Study of 2006, and those surveyed by Castleglenn Consultants in December 2004, an available parking supply was estimated. Available parking capacity was reduced by 10% to allow for the fact that parking occupancy values are not exact and that full (100%) occupancy may only be attained at prime parking areas. Included in **Exhibit 3-2** is a summary of the existing parking supply within 600 metres of the site.

Exhibit 3-2 – Available Parking Supply Estimates

Municipal Parking Lots	**Current Parking Control**	**Parking Capacity**	**Evening Occupancy**	**Available Spaces (90% Reduction)**	**Within 400 metres**	**Within 600 metres**
Anglin Lot	Permit	228	6%	193	193	-
Barrack Street Lot	P & D*	119	73%	29	29	-
Frontenac Lot+	P & D*	56	11%	45	45	-
Drury Lot	P & D*	124	33%	75	75	-
King & Queen Lot	P & D	43	67%	13	13	-
Angrove Lot	P & D	66	12%	52	52	-
Hanson Lot	Attended*	268	18%	198	198	-
Byron Lot	Permit	73	41%	39	-	39
Springer Lot	P & D*	64	55%	26	-	26
Upper Robert Bruce	P & D	50	58%	19	-	19
Lower Robert Bruce	P & D*	50	58%	19	-	19
Four Points Sheraton Lot	Permit	77	38%	43	-	43
Chown Lot	Attended*	440	17%	329	-	329
Fluhrer Lot	Permit	85	8%	70	-	70
Crawford Wharf	Permit	30	70%	8	-	8
Library	P & D	12	50%	5	-	5
Municipal Lot Total		**1,785**	**-**	**1,163**	**605**	**558**
Private Parking Lots		**Parking Capacity**	**Evening Occupancy**	**Available Spaces (90% Reduction)**	**Within 400 metres**	**Within 600 metres**
Holiday Inn Lot		210	50%	95	95	-
OHIP Lot		200	9%	164	164	-
Rideau & Ordnance		40	48%	19	19	-
Queen Street Dock		90	30%	57	57	-
Sugarman/Gilad Lot		160	42%	84	84	-
Four Points Sheraton		100	85%	14	-	14
Kincore Lot (Queen/Ontario)		77	40%	42	42	-
Private Lot Total		**877**	**-**	**475**	**461**	**14**
Net Total Off-Street Spaces		**2,606**	**-**	**1,593**	**1,021**	**572**

Notes: P & D: Pay and Display parking
* monthly permits also sold
+ Frontenac Lot may be redeveloped and is assumed to be unavailable for the purposes of determining parking supply and the financial analysis contained in this report

The above values do not account for:

- Private parking lots or areas that are not readily accessible to the general public, but could be used by private individuals that have the right to use them;
- Small parking areas (< 40 stalls) that may be provided for a fee; and

- On-street parking which includes approximately 584 spaces within 600 metres of the Kingston Regional Sports and Entertainment Centre site.

Some of the patrons of restaurants and other downtown facilities whom are currently occupying parking spaces will be future Kingston Regional Sports and Entertainment Centre attendees, and are double counted in the parking occupancy analysis.

For medium sized events, the majority of the attendees will be able to find parking within a distance of 400 metres. During capacity events, attendees will be able to find parking within the 600 metre distance. In both cases, the majority of the parking is available within public parking facilities, although there are a number of private parking lots within a 400 metre radius of the site that could accommodate a significant portion of the KRSEC parking demand.

Regarding designated accessible parking, 14 spaces are currently provided for in the Frontenac lot. These parking spaces are accessed from King Street, and are configured so that when not being used for accessible parking for events, they can be used as regular parking spaces. It is understood that during non-event times, two of the 14 spaces would be used as accessible spaces. The remaining 12 spaces would be converted to accessible parking spaces for large events using portable signs. Assuming that the Frontenac lot is redeveloped as a parking structure, the accessible parking spaces will have to be provided elsewhere, as discussed in Section 4.1.2.

3.2 Existing Parking Operation

3.2.1 CITY OFF-STREET LOTS

As shown previously on Exhibit 3-2, the majority of municipal parking lots are operated on a pay and display basis, but with parking attendants at the Hanson and Chown lots.

The majority of City parking lots require payment between the hours of 9:30 a.m. and 5:30 p.m. from Monday to Saturday, and have a maximum parking time of three hours. Exceptions include the King/Queen lot where the maximum time is 2 hours, and the attended lots where 24 hour parking is permitted.

The existing parking rate at off-street lots is $1.00 per hour. All day parking for $5.00 is currently provided at the Drury lot, replacing the previous $5.00 all day parking lot that was provided on the KRSEC site before development began. At attended lots, the first hour of parking is free, and a flat rate of $2.00 in coins applies to exit an attended lot when the attendant is not on duty. In addition, a maximum rate of $2.00 is applied to parking entries after 6:00 p.m.

Monthly permits are sold at a number of parking lots to provide for all day parking. The Anglin and Doug Fluhrer lots are for permit holders only and do not currently have any facilities for collecting parking fees.

3.2.2 ON-STREET PARKING

On-street parking is provided throughout the downtown, with 229 parking spaces within 400 metres of the KRSEC site. In the immediate vicinity of the site, on-street parking is $1.00 per hour with a maximum duration of 3 hours. Closer to the Princess Street Corridor, the hourly rate increases to $1.50 per hour the maximum parking duration is reduced to 2 hours.

Payment for on-street parking is only required until 5:30 p.m. Monday to Saturday, and beyond that time there is currently no charge to park at on-street meters.

3.2.3 PARKING ENFORCEMENT

Parking enforcement is conducted by the By-law Enforcement Division, which is separate from the Parking Division, and is responsible for enforcement of all by-laws. The By-law Enforcement supervisor was consulted to discuss potential issues with possible payment and enforcement policies for dealing with event parking. Because of the existing parking requirements, parking by-law enforcement is currently limited after 5:30 p.m. It is expected that if paid parking were required for events, additional by-law enforcement staff would be required.

Existing parking policies in the downtown area include special provision for out of province tourists, and allow for grace periods of 10 minutes at peak summer and Christmas shopping months. These provisions will need to be maintained in conjunction with event parking policies.

4. KRSEC PARKING DEMANDS

4.1 Parking Generation

The parking generation as determined in the 2006 KRSEC Transportation Study was based on an assumed modal split for automobiles of 75%, plus 5% for pick-up/drop-off activities only. The remaining 20% has been designated to transit (10%), walking (5%) and intercity/tour buses or private shuttles (5%). The parking demands for a design event of 5,000 people were based on an assumption of 2.5 people per vehicle, and are shown in **Exhibit 4-1** below.

Exhibit 4-1 – Trip and Parking Generation Analysis

Mode of Travel	Mode Share	Patrons	Parking Required	Vehicle Trips to/from the Site
Drive and Park Off-Site	75%	3,750	1,500	300 [1]
Pick-Up/Drop-Off Only	5%	250	0	250
Transit Only Passengers	10%	500	0	0
Walk Only	5%	250	0	0
Intercity buses, tour buses, private buses/shuttles, etc.	5%	250	5	10
Total	100%	5,000	1,505	560

Notes:

1) Assumes that 10% of the “drive and park-off site” patrons will drive directly to the site and then search for readily available parking.

A total parking demand of approximately 1,500 parking spaces will be required for event patrons attending a design event for 5,000 people.

The number and attendance of events is based on data from the KRSEC business plan. The number of events, attendance and days on which events will be held are summarized on **Exhibit 4-2** below. Based on the business plan, the number of attendees is expected to fluctuate depending on the type of event, with approximately 10% of events drawing more than 4,000 people. A design event attendance of 5,000 people is considered to be a conservatively high design value that will be equal to or higher than approximately 95% of all events.

Exhibit 4-2 – KRSEC Events, Attendance and Parking Generation

Event Type	Attendance per Event	Weeknight	Fri	Sat	Sun	Total events	Total Attendance	Parking Stalls Req'd per Event
OHL								
Exhibition Games	2,000	1	1		1	3	6,000	600
Regular Games	4,000	3	22		9	34	136,000	1200
playoff Games	4,800			4		4	19,200	1440
Other Hockey	3,000			2		2	6,000	900
Tournaments	600			9		9	5,400	240
Concerts								
Major	5,700	4		1		5	28,500	1710
Minor	2,500	5		1		6	15,000	750
Family Shows	2,500	2		10		12	30,000	750
Other Events	3,000	4		18		22	66,000	900
Total		**19**	**23**	**45**	**10**	**97**	**312,100**	**94,170**
Average per Event / %		19.60%	80.40%				3,218	**971**

From Exhibit 4-2 above it is evident that the majority of events will be held on Fridays and Saturdays, and that hockey games make up a significant proportion of events with an attendance of 4,000 or more.

4.1.1 PICK-UP/DROP-OFF ACTIVITY

It has been assumed that pick-up/drop-off patrons will arrive at a rate of two people per vehicle and will represent two vehicle trips to the site, i.e., one inbound and one outbound trip. The traffic analysis in the KRSEC report assumed that pick-up/drop-off activities will occur on Barrack Street or King Street; however, for capacity events, the location may change as drivers would not want to be caught in pedestrian congestion around the site after the event. In other words, people may choose to get dropped off or picked up further from the site.

4.1.2 ACCESSIBLE PARKING

The Kingston Regional Sports and Entertainment Centre facility does not include on-site parking. A report commissioned to determine the parking and access requirements for disabled persons recommended a total of 21 accessible parking spaces be provided within 200 metres of the site. The existing 14 accessible parking spaces at the Frontenac Lot directly across the street from the Kingston Regional Sports and Entertainment Centre are assumed to be unavailable due to redevelopment of the lot. Fourteen of the 21 required parking spaces will be provided in close proximity to the site, by a combination of on-street and off-street parking spaces.

4.1.3 TEAM, SUITE-HOLDER AND OPERATIONAL PARKING

The operator of the KRSEC facility has outlined the parking requirements for suite holders, Frontenacs parking requirements and other operational requirements. These parking spaces are required in close proximity to the site for operational reasons. The parking requirements as stated by the operator are shown in **Exhibit 4-3** below.

Exhibit 4-3 – Facility Parking Requirements

Parking Type	Parking Required	Period parking required
Suite holders parking	51	Events only
Frontenacs team parking	15	At all times
Facility management*	10	Event in to event out
Total	76	-

*at the time of writing this report, the provision of 10 unpaid parking spaces for the facility had not been confirmed

Some event contracts may specify the need for additional parking related to the staging of the event. Additional parking needs are expected to be dealt with by the operator on a case by case basis.

4.1.4 CONCLUSION

Applying the above assumptions to the design event of 5,000 persons, it was determined that a demand for approximately 1,500 patron parking spaces would need to be accommodated in parking facilities in the downtown area, along with an additional 15 parking spaces for the Kingston Frontenacs, and up to 21 accessible parking spaces. The 1,500 parking spaces includes the 51 suite holder parking spaces.

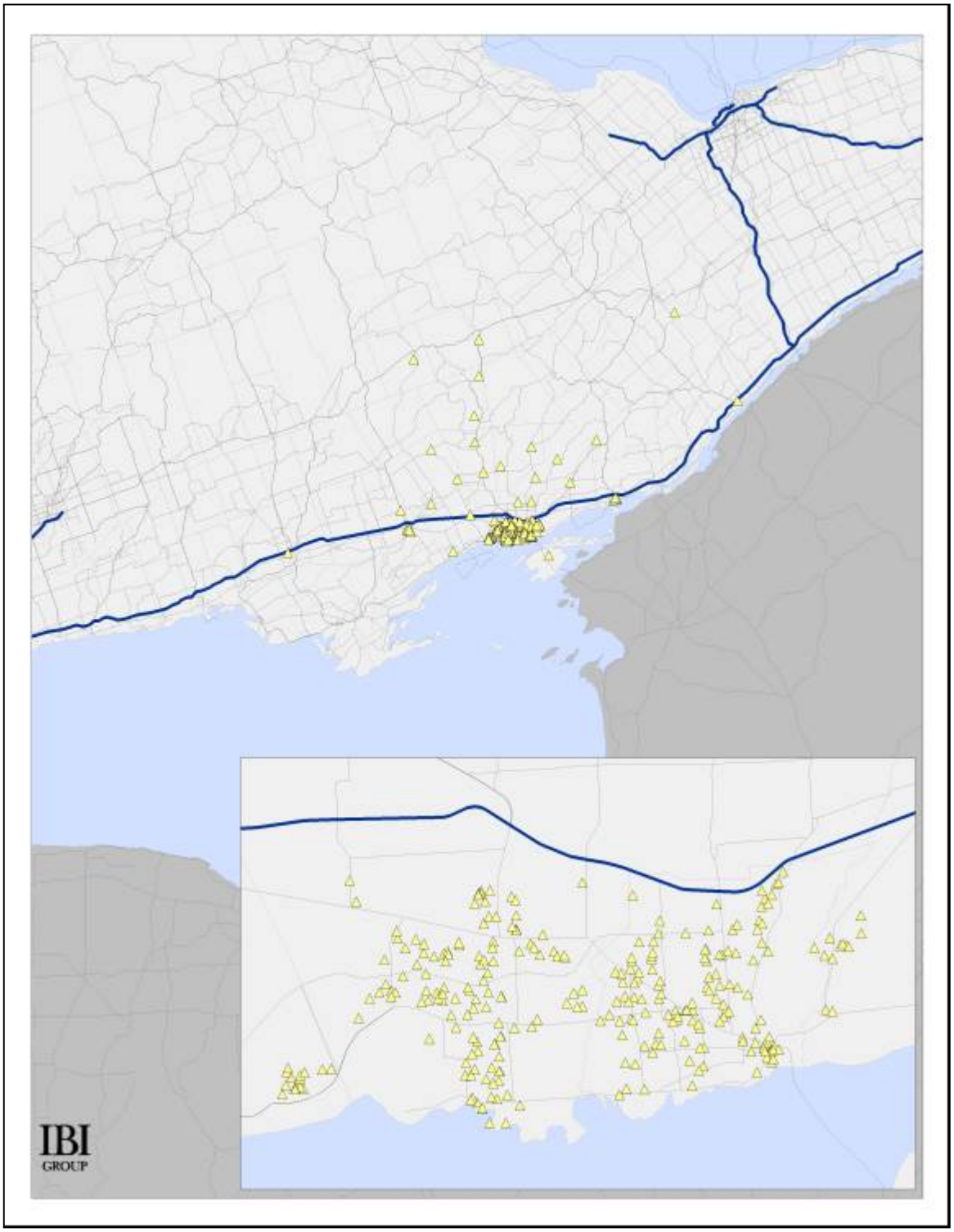
4.2 Trip Distribution and Assignment

In the transportation report prepared for the KRSEC in 2006, a trip distribution for patrons was estimated from existing traffic patterns and potential catchment area of the site. The trip assignment for pre and post-game peak hours was based on the location of the parking areas, residual capacity in the transportation system, key pedestrian routes and the estimated trip distribution.

For the purposes of this report, a further refinement of the expected trip distribution and assignment was undertaken. To provide an estimate of the approach routes and the parking lots most likely to be favoured by people attending events at the KRSEC, postal codes for Frontenacs season ticket holders were obtained from team management. Postal codes were obtained for approximately 380 season ticket holders from the pool of approximately 980 total season ticket holders. It is assumed that the geographic distribution of Frontenacs season ticket holders will provide a reasonable proxy for patrons attending hockey games and most other events at the KRSEC.

Included in **Exhibit 4-4** is a map showing the distribution of postal codes of Frontenacs season ticket holders.

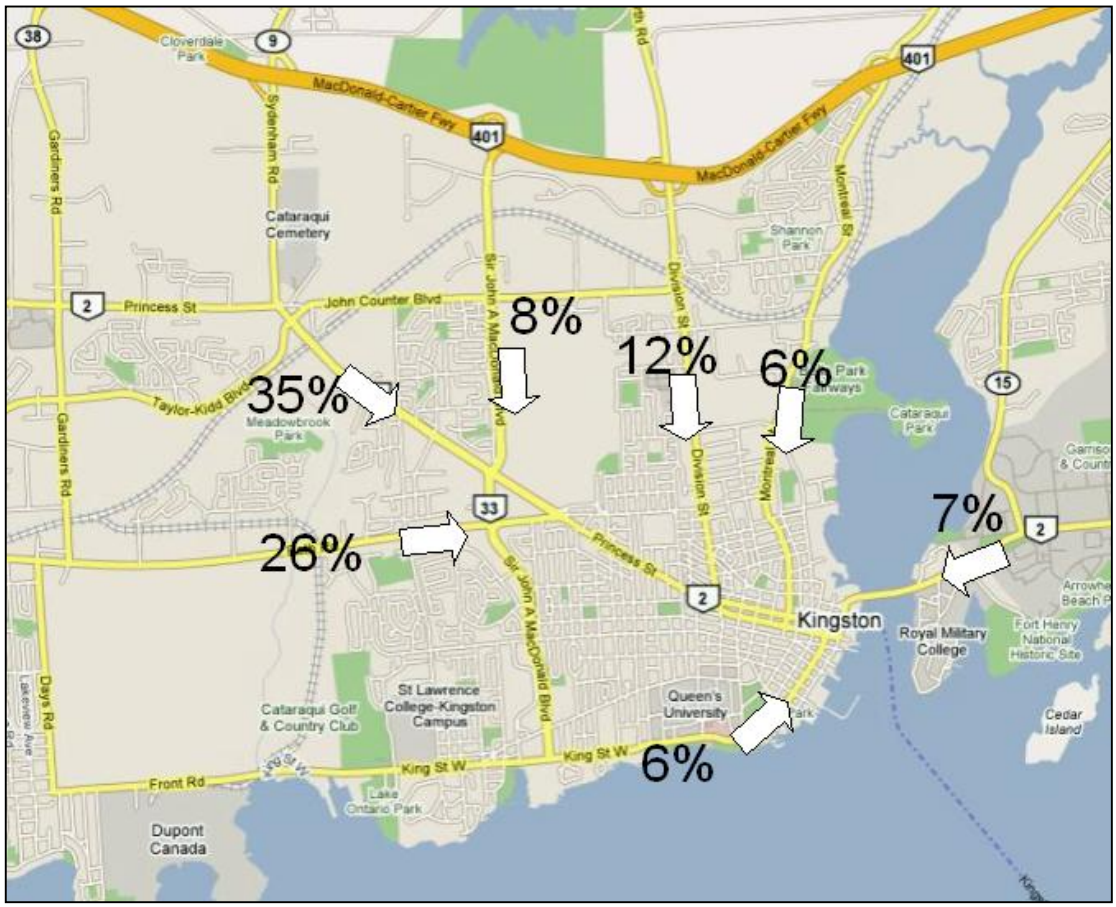
Exhibit 4-4 – Distribution of Frontenacs Season Ticket Holders



Based on the above postal code locations, a route to the KRSEC facility was determined for each location. From this analysis, the percentage of automobile trips arriving at KRSEC on the key

arterial routes into downtown Kingston was determined. Included in **Exhibit 4-5** is a map showing the trip assignment assumed for Frontenacs season ticket holder arrivals at the KRSEC.

Exhibit 4-5 – Assumed Trip Assignment for Arrivals



A number of assumptions have been made to arrive at the above trip assignment:

- Postal codes on record for season ticket holders are assumed to be actual residences of the ticket holder (some postal codes may represent business addresses rather than the ticket holder's residence).
- Postal codes within a 1km radius of the site are assumed to create walking trips to KRSEC, these postal codes were removed from consideration in the analysis of automobile trip origins.
- Home postal code location is assumed to be the origin for trips to KRSEC – this may not always be the case for downtown workers who may already be in town prior to a weekday game or event.

The assumed distribution of season ticket holders trips may be different from non-season ticket holders. However, the above distribution is assumed to be a reasonable approximation of where

parking demands for events at the KRSEC will originate, with almost 70% of arrivals expected from the Princess Street and Johnson Street corridors.

4.3 Key Parking Facilities

Based on the above trip assignment, it is expected that more patrons will likely arrive in downtown via Princess Street than any other route. The parking facilities located closest to the KRSEC site and on the routes with the highest proportion of inbound patrons can be expected to be used to a greater degree than other parking lots.

Based on this assumption, the parking demands for a range of different attendance levels were applied to the available parking capacity in the vicinity of the KRSEC site. Available parking spaces were calculated at each lot, taking into account the existing weeknight occupancy of each lot as documented in the 2006 Transportation Study. The resulting number of KRSEC patrons parking at each lot is calculated for the different event attendances as shown in **Exhibit 4-6** below.

Exhibit 4-6 – Estimated Parking Lot Demands by Event

				Events per year						
				9	3	18	24	34	4	5
				Parking stalls used by KRSEC event attendees						
Parking Lot	**Existing management**	**Total stalls**	**Weeknight vacant stalls**	**600**	**2000**	**2500**	**3000**	**4000**	**4800**	**5700**
Lots within 200 metre radius of KRSEC										
Frontenac	Pay and Display	n/a	n/a							
Barrack	Pay and Display	95	29	25	25	25	30	30	30	30
Drury	Pay and Display	114	69	35	35	55	70	70	70	70
King/Queen	Pay and Display	43	13	10	10	10	15	15	15	15
Kincore	*Private Lot*	*77*	*42*	*40*	*45*	*45*	*45*	*45*	*45*	*45*
OHIP	*Private Lot*	*200*	*164*		*165*	*170*	*170*	*170*	*170*	*170*
200 metre subtotals		529	317	110	280	305	330	330	330	330
Lots between 200 metres and 400 metres from KRSEC										
Holiday Inn	*Private Lot*	*210*	*95*		*95*	*95*	*95*	*95*	*95*	*95*
Queen Dock	*Private Lot*	*90*	*57*		*20*	*60*	*60*	*60*	*60*	*60*
Rideau	*Private Lot*	*40*	*19*		*20*	*20*	*20*	*20*	*20*	*20*
Anglin	Monthly Permit	228	193	70	75	100	190	200	200	220
Angrove	Pay and Display	66	52	20	40	40	50	55	55	55
Sugarman	*Private Lot*	*160*	*84*				*15*	*85*	*85*	*85*
Hanson	Attended	268	198					165	195	195
Springer	Pay and Display	64	26					25	25	25
200-400 metre subtotals		1126	724	90	250	315	430	705	735	755
Lots over 400 metres from KRSEC										
Sheraton	*Private Lot*	*177*	*60*					*15*	*60*	*60*
Upper/Lower Bruce	P&D	100	38						40	40
Chown	Attended	440	329						55	280
Doug Fluhrer	Monthly Permit	85	70						70	70
400-600 metre subtotals		802	497	0	0	0	0	15	225	450
On-street parking										
On-street 0-200m	Pay and Display	81	40*	20	20	20	20	20	20	20
On-street 200-400m	Pay and Display	164	80	20	20	80	80	80	80	80
On-street 400-600m	Pay and Display	360	180							25
On-street subtotals		605	260	40	40	100	100	100	100	125
City stalls used per event				**200**	**225**	**330**	**455**	**660**	**855**	**1,125**
Total stalls used per event				**240**	**570**	**720**	**860**	**1,150**	**1,390**	**1,660**

*Proposed parking ban adjacent to KRSEC assumed to remove 20 available stalls from 0-200m capacity

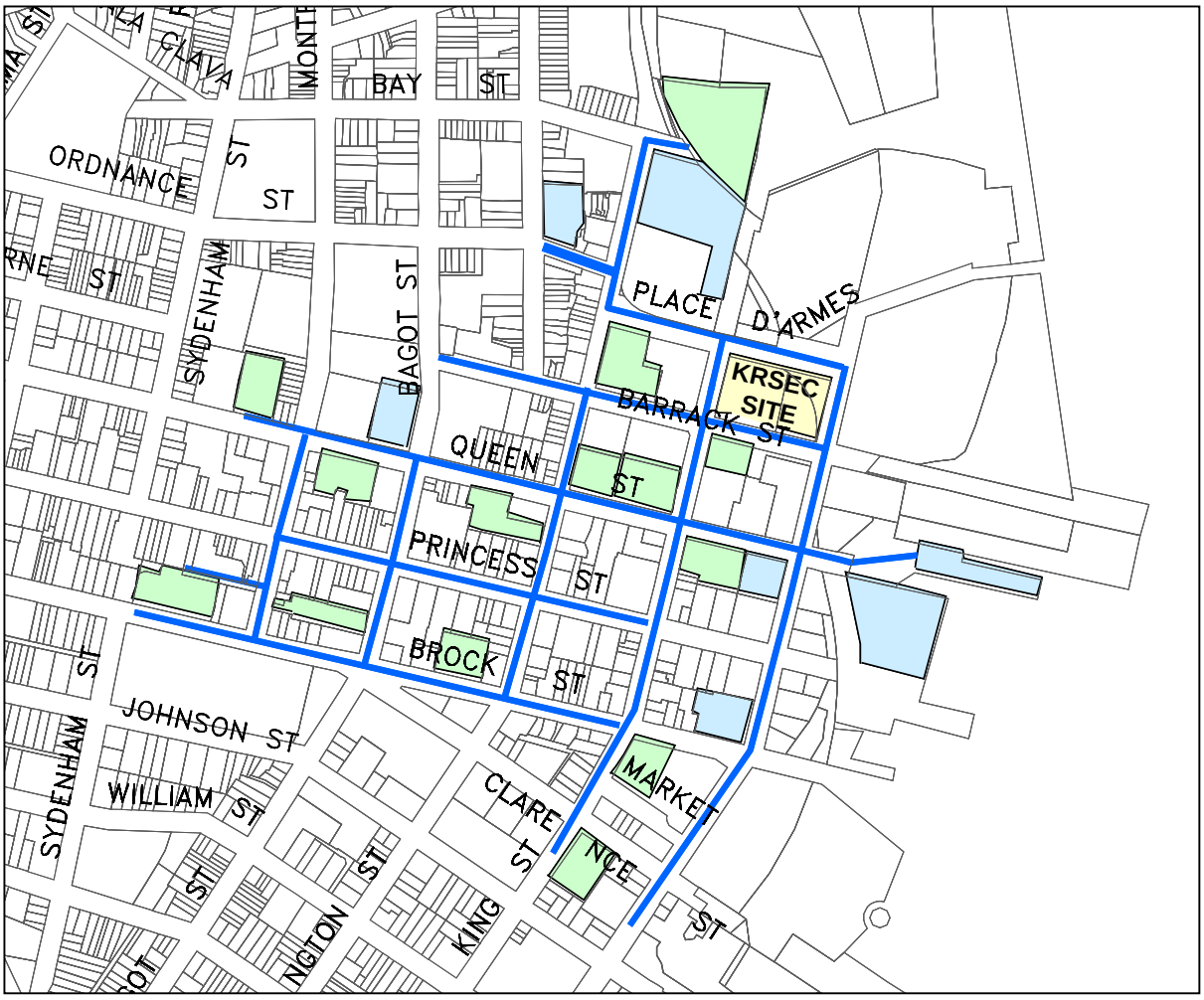
The above exhibit indicates that smaller events of up to 2,000 people, parking demand would be met by parking lots within a 200 metre radius of the site. Events over 2,000 people begin to extend

the parking demand within a 200-400 metre radius of the site, but with most of the demand being taken up by private parking lots. Events over 3,000 people will begin to generate significant parking demands in City-owned lots within a 200-400 metre radius of the site. Only the largest events with over 4,000 people would be expected to result in event parking demands extending into City parking lots beyond the 400 metre radius.

4.4 Pedestrian Operations

The 2006 KRSEC Transportation Study identified key pedestrian routes after an event, based on the location of major parking areas, potential transit staging areas, accommodations and commercial areas. On routes where high numbers of pedestrians are expected, entry and exit to parking lots will likely be subject to delays at peak times. **Exhibit 4-7** shows a summary of the potential primary pedestrian routes after a major event.

Exhibit 4-7 – Major Pedestrian Routes



Further from the site, the density of pedestrians will decrease and delays for cars entering and exiting parking lots will be reduced. To reduce pedestrian/vehicle conflicts, and to reduce frustration for drivers exiting parking lots after events, event patron parking should ideally be placed away from the immediate vicinity of the arena.

4.5 Pick-Up/Drop-Off Areas

A lay-by area with the capacity to accommodate two buses plus one bus in the building has been incorporated for a shuttle bus and motor coach pick up/drop-off on the north side of the site adjacent to Place D'Armes. This lay-by area will not accommodate pick-up/drop-off activities for general vehicular traffic and will be signed as 'buses only'. This area and more specifically the club entrance adjacent to the lay-by area will also provide access for disabled persons travelling to/from an event in shuttle buses and also in private cars. The club entry provides direct access to the ramp, which leads into the designated seating area for persons in wheel chairs. A lay-by lane is also to be provided on the south side of Barrack Street between Ontario Street and King Street.

During the post-event period, pedestrian travel demands along King Street, Ontario Street and Barrack Street will limit the potential for motorists to drive directly to the site to pick-up patrons leaving the event. Motorists will discover that it is not beneficial to queue along the roadways directly outside the Kingston Regional Sports and Entertainment Centre site to wait for their passengers, but to prearrange a more remote meeting location for pick-up activities.

5. PARKING PAYMENT OPTIONS

There are a number of options for managing parking demands by requiring payment for parking, including maintaining the status quo, charging for off-street parking only, charging for all municipal parking, eliminating parking in certain areas, as well as requiring payment on all event days, or on certain days of the week. Each of the key alternatives is investigated in the preparation of this report, including analysis of the financial impact in terms of annual revenues and expenses. It is understood that City is working towards a target of $150,000 net revenue per year for the first five years, and increasing every five years thereafter. Net revenue from parking is also intended to help cover additional transit and traffic operations needs.

5.1 Status Quo (Do nothing)

Maintaining the status quo would mean that there would be no payment required for municipal on-street and off-street parking after 5:30 p.m. Monday to Saturday, and all day Sunday, with the exception of attended lots. On large events when parking demand reaches the attended lots, some additional parking revenue due to event parking would be realized.

While there would be no costs to the city for hiring additional parking attendants in the do nothing scenario, it is expected that increased levels of parking enforcement, maintenance and monitoring would still be required to accommodate the additional parking demands created by events. Financial analysis of the status quo scenario contained in Appendix A indicates an annual net loss of approximately $5,400 per year.

Regardless of the City's position on paid parking, private parking lot operators in the vicinity of the KRSEC will likely charge special rates for parking when capacity events occur, which will set the expectation that paid parking is appropriate.

5.2 Where to charge

In general, the desirable approach would be to charge for on-street and off-street parking in the vicinity of the KRSEC. This would provide an incentive for people to carpool to events, to encourage the use of transit, and to raise revenues towards the financial commitments for the facility.

Using this approach to set reduced fees for parking further from the KRSEC would provide an incentive for patrons to park further away from the facility, and help to reduce the amount of traffic searching for free parking close to the arena.

As noted in Section 4.3, the size of the event will drive the extent to which parking lots are used. For smaller events of up to 2,000 people, parking demand would be met by parking lots within a 200 metre radius of the site. Only the largest events with approximately 5,700 people would be expected to result in event parking demands extending into City parking lots beyond the 400 metre radius. This suggests a zone-based approach where off-street parking could remain free after 5:30 p.m. outside the 200 metre radius of the site for events of 2,000 attendees or under, which would achieve the objectives of having as little change as possible from the existing system, and ensuring that paid parking is required only where the KRSEC parking demand exists.

5.2.1 ON-STREET PARKING

Currently, there is no charge for on-street parking after 5:30 p.m., and requiring payment for on-street parking would therefore be a departure from existing conditions. It is understood that until 2004, payment for on-street parking was required in the downtown on Fridays until 9 p.m., but was not regularly enforced.

Requiring payment for on-street parking would support the City's objective to encourage the use of off-street parking facilities. If no payment for on-street parking is required, this could serve as a disincentive to use off-street parking, and may increase traffic circulation close to the KRSEC facility as people search for free on-street parking.

Within 400 metres of the KRSEC site, the total number of on-street parking spaces is approximately 245 spaces, although this would reduce to approximately 220 spaces with on-street parking banned in immediate vicinity of the KRSEC site during events. **Exhibit 5-1** below shows the proportion of KRSEC patron parking demand that could be met by on-street parking for events of varying sizes.

Exhibit 5-1 – Role of on-street parking

KRSEC event attendance	On-street parking supply		Estimated parking demand	% of parking demand met by on-street supply	
	Within 400m	Within 600m		Within 400m	Within 600m
600	245	605	240	100%	100%
2000	245	605	600	41%	100%
2500	245	605	750	33%	81%
3000	245	605	900	27%	67%
4000	245	605	1200	20%	50%
4800	245	605	1440	17%	42%
5000	245	605	1500	16%	40%

For events up to 3,000 people, the above exhibit indicates that up to approximately 27% of the event parking demand could be met by on-street parking within a five minute walk of the site, assuming that all parking spaces are unoccupied and available for event patrons. Depending on the size of the event, and the extent to which on-street parking is occupied by people not attending events, on-street parking could represent a significant portion of the parking provision.

To support the encouragement of off-street parking and non-auto modes, payment for on-street parking could be required until 9 p.m. This would be expected to cover evening events at the KRSEC, since patrons would be likely arriving between 6-7 p.m. for a 7:30 p.m. event.

Differential rates for on-street parking could be applied depending on proximity to the KRSEC, but to avoid problems with implementation, enforcement, and easier public understanding of the system, a simpler approach that applies the regular on-street parking rate would be preferred. Likewise, if payment for on-street parking is to be considered, payment should be required on a regular basis such as every Friday and Saturday (expected to be 70% of events), rather than requiring payment on every event. Requiring on-street payment only for events would require signage that could be confusing to the public and may result in difficulties for enforcement personnel.

A summary of the financial analysis of parking revenues with and without on-street parking charges is contained in Section 5.3 below. For the financial analysis, it has been assumed that only on-street parking within a 400 metre radius of the KRSEC site would be paid parking.

5.2.2 OFF-STREET LOTS

As with on-street parking, charging for payment at unattended off-street lots after 5:30 p.m. would be a departure from existing conditions, but is considered desirable in order to reduce traffic congestion in the vicinity of KRSEC, to encourage non-automobile modes, and will be necessary to generate the required revenue.

In order to reinforce the principle that parking closer to the venue is valued more highly, parking rates have been assumed to decrease with increasing distance from the KRSEC site.

5.2.3 ELIMINATING ON-STREET PARKING IN CLOSE PROXIMITY TO KRSEC

In order to encourage off-street parking without implementing paid on-street parking, consideration could be given to eliminating on-street parking within a certain area, for example within a 200 metre

radius of the KRSEC site. The number of on-street parking spaces is limited in the immediately adjacent area and enforcement would be required to remove these spaces.

However, if on-street paid parking is not implemented, it is recommended that on-street parking be prohibited on event nights on Barrack Street from Ontario Street to Wellington Street, and on King Street from Queen Street to Place D'Armes. This would help to limit the number of vehicles driving to the KRSEC to search for on-street parking and free up on-street parking spaces to be used for other purposes such as a taxi stand after events.

Signs would be required on event days to advise of the parking prohibition from 5:30 p.m. to 10:00 p.m. and enforcement would be required, including ticketing and possibly towing offending vehicles.

5.2.4 SUMMARY

The pros and cons of charging for off-street and on-street parking are listed below.

1 Status Quo	
Pros	**Cons**
• Public is agreeable to not paying • No cost to implement	• Traffic increased due to circle the block • No incremental revenues raised
2 Charge for parking off-street only	
Pros	**Cons**
• Opposite to option 3 below • No requirement to change on-street signage, either permanently or during events	• Opposite to option 3 below • Will require higher off-street parking rates to achieve revenue targets • After initially paying the higher fee, parkers may be motivated to seek lower cost or free parking further away. Therefore, vehicles occupying paid stalls could be reduced. • Contrary to promotion of non-auto mode. Encourages more attendees to arrive in vehicles due to perceived opportunity to find free on-street parking • Promotes circle the block syndrome to find that "free" parking space • Creates perception of unfairness if parkers on-street are not required to pay, while those parking further away off-street are.

3	**Charge for parking on and off-street**	
	Pros	**Cons**
	• Meets objectives of established parking principles: • Encourages off-street parking • There is a parking demand and principle of charging for parking when there is demand applies. • Premium locations cost more. On-street parking is often deemed the best location. • Encourage transit because parking should not be cheaper than taking transit • Reduces traffic congestion as vehicles not looking for that "free" spot • All users pay, which reduces the average parking fee • Fair to charge on and off-street when located next to each other • Until 2004 payment was required on Fridays until 9pm • Does not promote "length of stay" violation where customer or employee parks during the day to "reserve" parking space in advance of event	• Negative public reaction to change – people will now be required to pay • Parking tickets issued create negative response • Additional enforcement resources required to enforce on-street parking
4	**Eliminate on-street parking within a certain radius of facility**	
	Pros	**Cons**
	• May improve traffic flow • May allow for more drop off, pick up opportunities if there are no parked cars. • Encourages off-street parking • Does not promote "length of stay" violation. Customer or employee parks during the day to "reserve" parking space in advance of event	• People may choose to park anyway, or if used for drop off, pick up may have idling cars instead. • Parking tickets issued create negative response • May have to tow vehicles • Requires additional resources and signage (either permanent or temporary) to implement • May cause customer confusion unless parking is removed at all times

5.3 How to charge

As with the decision on where and when to charge for parking, there are a number of options for determining how payment is managed. The key options are, pay and display, pre-sold parking, and either the existing pay on exit or temporary pay on entry at existing attended lots. Each alternative has different impacts on resources required and the ability to manage event parking demands. It is assumed that payment for on-street parking, if required, would be undertaken using existing parking meter and pay and display technology.

5.3.1 PAY AND DISPLAY

This technology is already in place at the majority of off-street parking lots in close proximity to KRSEC. The advantages of pay and display parking include a reduced labour requirement, and the ability to accept credit card transactions, the ability to provide receipts, and the public's familiarity with the technology. However, for event parking in particular, the disadvantage is that enforcement is required. Some of the key lots close to the KRSEC do not have pay and display technology since they are currently used for monthly permit parking, and pay and display machines would have to be installed at these locations.

In order to advise the public of the need to pay, flip-down signs or something similar would be required at the lot entry and beside the pay and display units. Use of flip-down signs would require parking operations staff to visit each lot before and after each event, but is considered to have an advantage over permanent signs. Pay and display event parking has been implemented in the past and can be effective, particularly if the City assists with a type of "ambassador" programme for the first few weeks or months where a representative of the City or the event operator is present on the site to assist with answering questions and giving directions.

5.3.2 PRE-SOLD PARKING

Regular events such as Kingston Frontenacs games will have significant proportion of season ticket holders and/or patrons who attend regularly. For these patrons in particular there is an opportunity to pre-sell parking passes for certain parking lots that could either be included in the price of the season ticket or available as an optional extra. Pre-sold parking could also be used for one-off events if purchasing a parking pass was made possible at the same time as ticket purchase, as is the case at the MTS Centre in Winnipeg.

Key benefits of using pre-sold parking lots include limiting the amount of traffic circulating in the immediate vicinity (if signage is in place to advise public of pre-sold parking), and limiting the amount of time it would take for patrons to enter and exit pre-sold lots. Possible disbenefits include a reduced need for people to arrive early for an event if a reserved parking space is available, and the potential for unused parking spaces at premium locations if the ticket holder does not end up going to the event.

However, it is recommended that pre-sold parking be implemented at the Drury and Anglin parking lots at all events, with the number of pre-sold parking passes allocated to one or both lots depending on demand. If sufficient demand exists, pre-sold parking could be extended to the Barrack and King/Queen lots. To have the maximum impact on reducing traffic circulation and congestion close to the KRSEC site, pre-sold parking should be implemented at the lots closest to the site.

The KRSEC facility operator has advised that the ticketing partner is yet to be confirmed, but has stated that it is likely that the ticket system will facilitate pre-sold parking and transit rides through barcode technology. Potential will likely exist for barcode readers to be linked to the facility's ticketing system within a 200 m radius of the site, which will allow real time validation of pre-sold parking passes.

5.3.3 EXISTING MONTHLY PERMIT LOTS

In relatively close proximity to the site, the Anglin and the Doug Fluhrer lots are currently used for monthly permits parking only and have no collection facility for parking fees. A number of options exist to use these lots for paid event parking.

- Use flat fee pay on entry with an attendant on-site prior to the event, with no need to be on site for exiting vehicles. There would be no need for monitoring and enforcement if paid entry is used.

- Use pay per hour attended parking (pay on exit). This option is not desirable since it would require an attendant to be on site for long hours and would need controlled entry and exit lanes, a cash facility for calculating fees and giving change, etc. A variant could be paying a deposit on entry and determining the refund on exit, but this would have similar issues.

- Use pre-sold parking with people displaying a ticket or hangtag, with an attendant/enforcement officer at the entrance to the parking lot to check vehicles as they enter the lot. This method could also be used without enforcement at the entry, but would require enforcement at some point during the event.

- Installing a pay and display machine to be used for events only (likely covering/bagging the machine during regular weekday operation). Two pay and display units are assumed for the Doug Fluhrer lot.

In addition to labour costs with attendant operation, there is also the need for a booth for weather protection, especially for winter operation. Also, the issue of cash handling and security needs to be considered where an attendant collecting cash is present. While the City has two spare parking booths that could be relocated to the site, it is considered that attended paid parking is not desirable at these lots, and that use of pre-sold parking or installation of pay and display units would be preferable.

Whichever technology is used, requiring payment at existing lots where monthly permits allow permit holders to park overnight may require changes to existing permit conditions. Two broad options exist; either permits could be changed to allow parking only up to 6 p.m., or allow permit holders already in a lot prior to the start of the event parking period to remain in the lot without the need for additional payment. If permits are changed to no longer allow parking beyond 6 p.m., an option to provide overnight permit parking spaces should be investigated at the Byron lot, which has not been included in the analysis of KRSEC parking demands. Further investigation would be required to confirm the number of overnight permit parking spaces required.

5.3.4 PAY ON ENTRY AT ATTENDED LOTS

The existing attended lots currently require payment on exit, which could be a source of delay and frustration for people exiting these lots after an event. An option that could be considered is having a flat rate paid at the parking garage entry apply at attended lots on event nights.

Using pay on entry would require a parking attendant at the entry to the parking lots, taking cash from each vehicle as it enters between 6pm and 8pm. These lots are currently not set up to take payment on entry and modifications to existing operations would be required. The existing attendant booth at the Hanson lot could probably take the payment on entry, but the attendants may end up having to take money from inbound event customers at the same time as taking payment from exiting non-event customers. An extra attendant could be added outside the booth. At the Chown lot there is no attendant booth at the garage entry, so one or two attendants would be required to take money on entry. Since there is an existing attended booth at the exit, the cash could be taken to the booth and handled through normal channels.

The existing attended parking garages offer the first hour of parking free when an attendant is present, which wouldn't work well with a pre-paid system since the actual parking duration would not be known until the patron exits the garage. While change could be given at the parking exit, this

would introduce an additional transaction and delays, which would defeat the purpose of requiring payment on entry.

If pay on entry is used at the Chown and/or Hanson attended lots, something needs to be in place so that event patrons are not charged twice, since normal operation requires payment to exit. One option would be to give the event patron a ticket on entry that can be shown to the attendant in the booth to exit. An alternative could be to raise the parking exit gates at a certain time (say 9pm on event nights) to allow unpaid exits.

It is recommended that the status quo be maintained in the immediate future with the Chown, Robert Bruce and Hanson lots with respect to KRSEC event nights. These lots should be monitored in the beginning since they are very much at the "edge" of the parking demand area for the KRSEC, and are not anticipated to be regularly put into heavy use at these times. In addition, due to the distance from the KRSEC site, event patrons exiting the garages are likely to be staggered over a longer time period than if the garages were closer to the site, and the existing pay on exit technology may only result in minimal delays and queuing. Implementing pay on entry at these lots is expected to have only minimal benefits to queuing at the exit that may not outweigh the staffing and operational issues.

5.3.5 SUMMARY

The pros and cons of parking payment options are listed below.

1 Pay and Display Operations	
Pros	**Cons**
• reduced coin handling • less impact if attendant doesn't show • better utilization of existing equipment • credit card payment as an option • allows unimpeded exits	• Capital cost of new equipment • Requires monitoring, however, enforcement staff can also act as greeters
2 Pre-sold Parking	
Pros	**Cons**
• No cash handling at parking lot • Only need validation/enforcement at entry • Allows planned utilization of lots • Reduces traffic circulation in proximity to KRSEC • Allows unimpeded exits	• Need to validate parking tickets with event ticketing/facility operator • Requires monitoring, however, enforcement staff can also act as greeters
3 Pay on Entry at Attended Lots	
Pros	**Cons**
• Allows unimpeded exits	• Existing lots not configured to accept payment on entry • Attendant required at entry • Cash handling by attendants outside booths • Potential conflict with first hour free policy • Requires attendant at exit to ensure pay on entry drivers does not have to pay to exit

5.4 When to charge

A range of options exist for determining when to charge for off-street and on-street parking, from the status quo where parking charges are in force for on-street and unattended off-street parking up to 5:30 p.m. on weeknights and Saturdays, up to charging for parking every time there is an event at KRSEC. Financial analysis is described for each scenario, and summarized in Section 5.4.6. Exhibit 5-2 in Section 5.4.6 shows the estimated net revenue for paid off-street parking on event, nights assuming no payment is required for on-street parking. Exhibit 5-3 summarizes the analysis for requiring payment for both on-street and off-street parking.

5.4.1 NO CHARGE

While the status quo is likely to be preferred by the public, as outlined in Section 5.1, this scenario would not meet the City's objectives for the transportation operations plan, particularly the need to generate revenue. This scenario would also be likely to increase the amount of traffic driving directly to the KRSEC in search of free parking, and would not encourage the use of transit since the cost of parking would be less than the price of transit fares to and from an event ($4.50 for an adult cash return fare).

5.4.2 EVENT NIGHTS ONLY

The strategy that would have the potential to generate the most revenue from event patrons is to charge for parking on every occasion that an event is held. Financial analysis summarized in Exhibit 5-2 indicates that requiring parking payment on event nights meets the City's net revenue target of $150,000 per annum. If on-street parking in the evenings remains unpaid, charging for off-street parking on all event nights is the only scenario that meets the City's net revenue target.

By targeting the payment for event nights only, this scenario would limit the impact of charging for parking on other downtown visitors when compared to other alternatives where parking would be charged for on a regular basis such as paid parking every Friday, Saturday, and Sunday.

While payment for all events could be managed at off-street lots, there are operational concerns with requiring payment for on-street parking on event nights only. For on-street metered and pay and display parking, signage at each section of parking spaces would need to be capable of indicating when an event is taking place and identifying the relevant parking charge. Public expectation and awareness related to non-regular on-street parking requirements are also likely to be problematic, which could cause difficulties with enforcement.

While the scenario with the best overall financial performance would be charging for on and off street parking on all event nights, from an operational perspective, it is not recommended that on-street parking be charged on an event night only basis.

5.4.3 FRIDAY, SATURDAY, SUNDAY

This scenario was investigated since it is expected that approximately 80% of the events at KRSEC will be on Fridays, Saturdays and Sundays. Charging for parking on all weekend nights would create a consistent approach that would be relatively simple to sign, and also simple for the public to understand.

Charging for off-street parking on Fridays, Saturdays and Sundays would not provide sufficient revenues to meet the target of $150,000 unless payment for on-street parking is also required. Charging on every weekend night would also impact other users of the downtown by charging when

no event parking demand is present. For instance, 10 Sunday events are expected at KRSEC, and requiring paid parking on every Sunday would include approximately 42 Sundays when no KRSEC event is taking place.

5.4.4 FRIDAY, SATURDAY ONLY

Approximately 70% of KRSEC events are expected to take place on a Friday or Saturday. Charging for evening parking on Fridays and Saturdays only would provide a further limiting of impacts on other downtown users.

Charging for off-street parking on Fridays and Saturdays would not provide sufficient net revenues to meet the target of $150,000 unless payment for on-street parking is also required.

5.4.5 FRIDAY ONLY

This option was investigated since payment for parking in Downtown Kingston was required on Friday evenings until 9pm up until 2004. However, only approximately 23 KRSEC events are anticipated to be held on Fridays, and the ability to generate revenues from KRSEC patrons is limited. For this reason, analysis of Friday parking charges was only carried out for the case where on-street and off-street parking payment is required. Even so, none of the scenarios provided sufficient annual net revenues to meet the target of $150,000.

5.4.6 SUMMARY

The pros and cons of charging for parking at different times are listed below.

1	**Status Quo –only charge in attended lots after 5:30 p.m. & Sundays**	
	Pros	**Cons**
	Public is agreeable to not paying No cost to implement	Traffic increased due to circle the block No revenues raised
2	**Payment required events only**	
	Pros	**Cons**
	Least amount of change Only facility users pay on event nights, not charge all users of downtown all nights	More challenging operationally for on-street parking in particular Could be confusing to the public, requires more communication Requires operational resources to ensure adequate signage in place to advise of event parking requirements Disruption to current permit holders
3	**Payment required Friday night, Saturday, Sunday**	
	Pros	**Cons**
	Consistent every week, therefore less public confusion	Some users (weeknight) do not pay Traffic potentially increased due to vehicles circling the block looking for a “free” parking space Cost for paid parking increased to meet revenue requirement Disruption to current permit holders

5.4.7 FINANCIAL ANALYSIS

The financial analysis was carried out using two broad categories; requiring payment for off-street parking only, and requiring parking for off-street and on-street parking. The financial analysis is based on capturing the incremental parking income that is generated by charging for event parking. While event parking rates will likely remain consistent regardless of the expected event attendance; to be conservative, parking revenue is included for parking lots over 200 metres from the KRSEC for events with over 2,000 attendance, with the exception of the Doug Fluhrer lot for which event parking revenues are assumed for all events.

It is understood that the target annual net revenue desired from parking fees is $150,000 per year, increasing after five years. Financial analysis was carried out to determine the annual net revenue for each case, with a set of scenarios that raises the parking fee for parking spaces closest to the KRSEC facility (within realistic limits) to determine where each scenario becomes viable in terms of the target net revenue. More detailed financial analysis sheets are contained in **Appendix A**.

The analysis indicated that with no charge for on-street parking, the target annual net revenue of $150,000 can be met by charging for off-street parking on all event nights at a rate of $8.00 for parking at lots closest to the KRSEC. If on-street paid parking is included, the off-street parking rates could be reduced. While no market study has been undertaken, if off-street parking rates are

perceived as too high, patrons may seek parking further from the site, which may result in undesired parking spill over into residential areas.

Analysis was also carried out for the scenario with payment for on- and off-street parking. For the purpose of the analysis, paid on-street parking was assumed within a 400 metre radius of the KRSEC site, with the assumption that on-street parking in the area outside the 400 metre radius remains as it is today. The analysis indicated that with paid on-street parking in addition to paid off-street parking, the target annual net revenue of $150,000 can be met by charging for on and off-street parking on all event nights at a rate of $6.00 for parking at lots closest to the KRSEC.

Assumptions used in the financial analysis include:

- Flat rates charged for parking at off-street lots;
- Additional parking income at the Hanson and Chown lots is included from the estimated KRSEC event parking demand only, since existing patrons pay after 5:30 p.m.;
- Where on-street parking is charged for, the rate is assumed to be $4.50, which represents a three hour duration at $1.50 per hour;
- For all scenarios except the status quo, expenses include the cost of two pay & display machines, increased parking lot lighting, additional enforcement, event parking management, parking attendants/ambassadors and operational expenses such as garbage monitoring;
- The cost of additional transit services has been supplied by the City at $500 per event, and the annual cost is estimated at approximately $33,500 per year based on 67 events with an attendance of 3,000 or more. If event patrons using transit were charged $1.00 for the ride home after the event, revenue of approximately $16,100 would be expected. Transit costs and revenues are excluded from the reported net revenues and expenses; and
- The revenue from 51 parking spaces used by suite holders has not been included in the analysis.

While it is suggested that on-street paid parking should be implemented on a regular basis to include, at a minimum, all Friday evenings, but preferably all Friday and Saturday evenings, this parking policy decision will be considered within the context of the City's parking rate review presently underway.

5.5 Enforcement Requirements

As indicated previously, by-law enforcement resources are currently limited after 5:30 p.m., mainly because existing parking by-laws do not require paid parking after 5:30 p.m. at on-street meters and off-street unattended lots. If paid parking were required for events, additional by-law enforcement staff would be required to monitor parking at on-street meters and at off-street pay and display lots.

Regardless of the need for parking payment, additional by-law enforcement staff would be required to deal with improper parking such as blocking driveways and parking in no stopping areas.

The need for parking enforcement would be minimized by the use of pre-sold parking, and the use of attended parking lots. Pre-sold parking would be validated at the entry to the parking lot prior to the event, and if an entire lot is used for pre-sold parking, no further enforcement would be

necessary. Likewise, attended parking lots have controlled access points and do not require enforcement. A parking strategy that encourages the use of pre-sold parking and attended parking lots will therefore minimize the need for by-law enforcement.

If on-street parking is prohibited on event nights on sections of King Street and Barrack Street in proximity to the KRSEC site as discussed in Section 5.2.3, enforcement would be required to ticket or tow vehicles parked in the no parking zones.

It is understood that additional by-law enforcement staff are not budgeted for at present, and the additional costs have been included in the financial analysis in the preceding section. For safety and security reasons, it is preferable to add staff in increments of two. The Supervisor of By-law enforcement considers that a minimum of two additional staff would be required on weeknights. Additional staff may be required on Saturdays when the existing number of by-law enforcement staff is lower.

It is recommended that existing policies related to out of province tourists, grace periods, and first hour of parking free at attended lots be maintained on event nights until completion of the City's Parking Rate Review.

5.5.1 ENFORCEMENT ISSUES

Depending on the parking strategy adopted, a number of issues may arise for enforcement. Assuming that some form of paid event parking is adopted, a policy will be required for treatment of vehicles parked in lots prior to event parking period. For example, a car could be parked legally in the pay and display lot at the Drury lot up until 5:30 p.m. on an event day. If pre-paid event parking is implemented at the Drury lot, all parked vehicles would need to vacate the lot at 5:30 p.m. Similarly, at pay and display lots where a flat rate for event parking is implemented, vehicles already in the lot and staying beyond 5:30 p.m. would all need to purchase a new parking ticket to be in compliance. Signage that event parking rates will be in effect must be in place at affected parking lots prior to vehicles arriving in the morning so that drivers are aware of the need to either move their vehicle before 5:30 p.m. or pay an additional fee to remain in the parking lot.

Enforcement options are to allow vehicles to remain but to issue a parking tag, or use a tow-away policy. Given the change in parking operations for event conditions, it is advisable to use a grace period to allow vehicles parked during the day to leave without incurring a fine. If no enforcement action is taken, event patrons may begin to park in lots prior to 5:30 p.m. in order to avoid the event parking rate.

Treatment of monthly permit holders parked in lots prior to 5:30 p.m. may or may not follow the same policy. It is understood that monthly parking permits are currently sold at the Barrack, Drury, Springer, Anglin and Fluhrer lots, all of which would be used by event patrons. The number of monthly permits issues at these downtown lots in proximity to the KRSEC site should be identified to review the extent of conflict that may occur, and determine the appropriate response.

A further enforcement issue is the treatment of vehicles parked at "convertible" accessible parking spaces in City lots, such as the existing spaces in the Frontenac lot. If some accessible parking spaces are used as regular parking spaces except during events, an issue may arise if the change from regular parking spaces to accessible parking spaces is made while cars are parked in the spaces. This is of particular concern since the fine for parking in an accessible parking space without a permit is $300. To address this issue, the parking spaces could be converted to accessible parking spaces the night before the event, allowing for a grace period for vehicles already parked in the parking spaces. This would ensure the parking spaces are freed up for use by patrons needing accessible parking the next day.

5.6 Parking Payment Conclusions

Based on the above analysis, the following conclusions are made:

- Charging for off-street parking an all event nights will provide the required net revenue and will limit the impact on parking in the downtown on non-event days and for non-event patrons;
- Charging for on-street parking will complement the off-street parking strategy and reduce the amount that must be charged at event parking lots;
- On-street paid parking on evenings should be implemented on a regular basis to avoid confusion, subject to the outcome of the Parking Rate Review;
- For events with over 3,000 attendees, pre-sold parking is recommended at the Drury and Anglin lots. Consideration could be given to extending pre-sold parking to the Barrack and King/Queen lots if sufficient demand for pre-sold parking exists;
- Pay and display parking with a flat rate for events is recommended at the existing City pay and display lots within a 600 metre radius of the KRSEC site (the Barrack, King/Queen, Angrove and Springer lots) and also at the Doug Fluhrer lot (currently permit only); and
- Based on the expected extent of event parking demand, it is recommended that the status quo be maintained at the existing attended lots (Hanson and Chown), but that monitoring of parking demands during events be carried out to determine if changes are required.

5.7 Recommended Parking Payment Option

Exhibit 5-2 below shows a comparison of two rate scenarios when off-street parking is assumed for all event nights, for all weekend nights and for Fridays and Saturdays only. The exhibit does not include any revenues from on-street parking, but assumes that on-street parking ban in close proximity to the site as discussed in Section 5.2.3 is implemented.

Exhibit 5-2 – Financial analysis assuming no on-street parking charges

	Scenario for off-street parking charges			
	No Charge	**Event Nights**	**Fri, Sat, Sun**	**Fri, Sat**
Number of event nights per year	**N/A**	**97**	**78**	**68**
$7.00 <200m charge, $5 <400m charge, $3 <600 m charge				
Annual revenue net of taxes	$ 35,202	$ 304,943	$ 243,497	$ 207,646
Annual expenses	$ 35,775	$ 156,089	$ 139,081	$ 127,582
Annual net revenue	-$ 573	**$ 148,854**	$ 104,416	$ 80,064
$8.00 <200m charge, $5 <400m charge, $3 <600 m charge				
Annual revenue net of taxes	$ 35,202	$ 325,602	$ 260,132	$ 222,101
Annual expenses	$ 35,775	$ 156,089	$ 139,081	$ 127,582
Annual net revenue	-$ 573	**$ 169,513**	$ 121,051	$ 94,519

The analysis indicates that with off-street parking charged for on all event nights, approximately $169,500 in annual net revenue would be expected if premium lots are charged at a flat rate of $8.00.

Exhibit 5-3 below shows a comparison of two rate scenarios when off-street parking is assumed for all event nights, and on-street parking payment is also required on all event nights.

Exhibit 5-3 – Financial analysis assuming on-street parking charges

Scenario for off-street and on-street parking charges	**Event Nights**
Number of event nights per year	**97**
$7.00 <200m charge, $5 <400m charge, $3 <600 m charge	
Annual revenue net of taxes	$ 403,954
Annual expenses	$ 191,864
Annual net revenue	**$ 212,090**
$8.00 <200m charge, $5 <400m charge, $3 <600 m charge	
Annual revenue net of taxes	$ 424,613
Annual expenses	$ 191,864
Annual net revenue	**$ 232,749**

The above exhibit indicates that inclusion of on-street parking payment for all event nights in addition to off-street paid parking would generate significant additional revenue. As noted previously, there are operational concerns with requiring payment for on-street parking on event nights only. Public expectation and awareness related to non-regular on-street parking requirements are likely to be problematic, which could cause difficulties with enforcement. However, it is recommended that the long term goal should be to move towards requiring paid on-street parking to achieve the objectives of the transportation operations plan as outlined in Section 1.2 of this report.

It is suggested that on-street paid parking should be implemented on a regular basis to include, at a minimum, all Friday evenings, but preferably all Friday and Saturday evenings, but this parking policy decision will be considered within the context of the City's parking rate review presently underway.

Based on the above analysis, it is recommended that off-street parking in the vicinity of the KRSEC be charged for during events at a flat rate of $8 for the lots in closest proximity to the facility, but without charging for on-street parking at this time.

6. OTHER PARKING MANAGEMENT AND OPERATION OPTIONS

6.1 Charter Buses

Large group bookings will be known in advance through the facility's ticketing system, which will allow advance planning for school bus/tour bus groups for events. Bus parking demand is likely to be highest for special events that draw school groups or seniors (i.e. hockey games unlikely to generate large bus numbers). The facility operator will need to work with the City to determine the bus parking needs for special events.

After large events of over 3,000 expected attendees where large numbers of patrons may be brought to the site on charted buses, it would be beneficial to have an on-street staging area for bus pick ups. This could be provided on Ontario Street outside the Police Station, where parking for approximately five buses could be provided. On evenings from September to April, bus parking during events for approximately 5-6 buses could be provided on south side of the Wolfe Island ferry dock, subject to approval by the MTO. These locations would be close to the Tim Horton's on Ontario Street and would be attractive to bus operators.

6.2 Taxis

At present, taxis use the north side of Barrack Street in front of Food Basics. Four metered parking spaces are provided in this area, and a no parking area immediately west of these spaces is used informally.

From discussions with the Kingston Area Taxi Commission, it is understood that the Commission finds the existing situation unsatisfactory and is interested in having dedicated taxi parking spaces for normal operation and also during events at the KRSEC. If a parking prohibition is imposed on event nights on Barrack Street as outlined in Section 5.2.3, the north curb on Barrack Street between King Street and Wellington Street could be signed for use by taxis as a staging area after events. Depending on the scale of the event and the results of opening event monitoring, it may be desirable to relocate the taxi staging area to Queen Street if potential for pedestrian conflict is observed.

6.3 KRSEC Facility Parking

As noted in Section 4.1.3, a total of 76 parking spaces are required for the KRSEC facility. In the short term, some of these parking spaces could be provided on the Police Station parking lot, without impacting other parking lots. It is understood that the KRSEC operator will be responsible for monitoring and enforcing the use of the 76 parking spaces required for the KRSEC facility, subject to being granted authority to have unauthorized vehicles towed. Upon redevelopment of the Police Station site, these spaces may have to be relocated to another lot. To reduce the impact on revenue generation, it would be preferable to have these spaces relocated to the Anglin lot, where it is anticipated that the event parking rate would be lower than at the immediately adjacent lots.

6.4 Event Parking in Residential Areas

Depending on the size of the event, the parking fees charged at lots, and the extent to which event patrons wish to park away from the KRSEC site to avoid congestion following an event, event patron parking may occur on streets in the residential area to the northwest of the KRSEC site. This may occur mainly in the area east of Sydenham Street, south of Raglan Road, and north of Queen Street.

It is recommended that monitoring be carried out during the first few events to determine the extent of on-street event parking in the residential neighbourhood. If monitoring indicates significant levels of event parking that create issues for residents such as increased noise levels, difficulty finding a parking space for residents with no off-street parking, or parking across driveways, the City could consider implementing a residential area event parking plan.

6.5 Parking Event Co-ordinator

The City will need to co-ordinate closely with the event operator to plan for the level of parking response required for the size of the event. Depending on the size of the event, there will be a need

to plan for pre-sold parking, deployment of event parking signage, and other issues such as co-ordination of additional by-law enforcement staff, and advising Kingston Transit if additional service is warranted based on ticket sales. It is recommended that a parking event coordinator position be created to cover all transportation related liaison activities between the City and the KRSEC operator.

7. CONSULTATION

Contact was made with selected stakeholders in the immediate vicinity of the KRSEC site, based on a list of stakeholders provided by the City.

Adjacent business owners and operators including the Food Basics and LCBO on Barrack Street have concerns about potential parking problems following the opening of the KRSEC. Since both businesses are currently open until 9 p.m. on Fridays, an overlap of parking demand will take place on event nights when event parkers are expected to begin to arrive from 6 p.m. for a 7:30 event, and each has concerns over how their customers will access their business after 6 p.m.

Both the LCBO and Food Basics stated that they already experience parking problems. The LCBO experiences people parking in their lot in order to visit other nearby businesses. The LCBO's current practice upon noticing a vehicle parked for an extended time is to check the store to see if anyone inside the store owns the vehicle, then call a tow truck company to remove the car. LCBO advised that they are concerned that they will have to devote additional resources to policing their parking lot on event nights. Food Basics uses security personnel to discourage people from parking in their spaces for the purpose of visiting an adjacent business.

Food Basics stated their wish to have additional parking spaces in the Barrack lot that would be under their control. During large events, consideration should be given to an attendant/parking ambassador to assist with restricting access to the existing Food Basics parking spaces to ensure that the spaces are not filled by event parking.

The Department of National Defence (DND) was contacted regarding parking impacts on Fort Frontenac and Normandy Hall. DND staff advised that they currently experience problems with downtown workers parking on the Normandy Hall site and walking downtown, and that they expect more significant problems during KRSEC events due to the proximity of Normandy Hall to the KRSEC site. DND is therefore planning to put a gate on the entrances from LaSalle Causeway to restrict access to their property.

8. TRANSIT OPERATIONS PLAN

Public transit will be an integral component of the Kingston Regional Sports and Entertainment Centre site operations, particularly for large evening events at the facility.

Existing transit service in the downtown area would not properly serve a capacity event in terms of routing and frequency, since up to 500 patrons are expected to use transit to get to and from a capacity event. However, some of the smaller events would not generate an appreciable demand for additional transit services. The transit plan will therefore include a threshold based on the size of the event that will trigger the provision of additional transit services. At this time, it is recommended that the threshold be events of 3,000 people or more.

Above the attendance threshold, event patrons attending events will be able to board additional services on Kingston Transit. It is recommended that regular transit fares apply to event attendees travelling to the KRSEC, and that a reduced fare of $1.00 apply for the return trip provided that a ticket stub from the event is presented to the bus operator upon boarding. It is recommended that the $1.00 ride home on transit be offered until the end of the service day to give event patrons the opportunity to remain downtown after the event. New farebox technology will be installed on Kingston Transit buses in the summer of 2008, and the fareboxes are expected to have the capacity to scan barcodes from KRSEC event tickets. In the interim period, the ticket stub could be surrendered to the bus operator on the ride taken after the event.

Below the attendance threshold of 3,000 patrons, no additional transit services will be provided, although Kingston Transit will have its normal evening services available for event patrons

Exhibits 8-1 and **8-2** below show the service changes proposed to provide an increased level of service for patrons taking transit to the KRSEC site.

Exhibit 8-1 – Day Time Service Changes (Monday - Saturday)

Route number	Change	Comments
1	Route Change	For half hour service route travels to Ontario St. (See ➡ on Map)
	Service Improvement	1 extra bus each for Cataraqui Centre and Montreal St. destinations
2	Service Improvement	1 extra bus in each direction
12	Route Change	TBA
	Bus Stop Change	Add Stop at on Ontario St. at Barrack St. (See ☆ on Map)
	Service Improvement	2 extra buses for eastbound Service – Just past the hour/half hour

Exhibit 8-2 – Evening & Sunday Service Changes

Route number	Change	Comments
1	Route Change	After 6pm route travels permanently down Princess St.
E2	Route Change	After 6pm route travels down Princess St. to King to Brock St. (See → on Map)
	Service Improvement	1 extra bus for Division and 1 Extra Bus for St. Lawrence College destinations.
E6	Service Improvement	1 extra bus for hourly on half hour service for St. Lawrence College/Gardiners Centre
	Route Change	Down Ontario St. and up Queen St. on event nights only. (See on Map)
18	Service Improvement	Weeknight service extended by 1 hour, additional service Saturday & Sunday evening.
	Service Improvement	Additional buses (TBA)

The additional buses for patrons after the event will be staged on Queen Street in areas where parking is currently restricted and will not require the removal of any on-street parking spaces.

The Kingston Transportation Master Plan identified the need to provide a more prominent transit terminal in the downtown core to improve transit level of service and provide an identifiable location for transfers. The Kingston Core Area (Integrated) Transportation Review also identified the need to relocate the transit terminal to an alternative location in the downtown core area. Having a transit

terminal within a short walking distance (less than 400 metres) of the KRSEC site would provide an improved level of service for event related demands, and increase ease of access to the KRSEC site for event patrons using transit.

8.1 Communications

Event patrons will be advised on the event website and the Kingston Transit website that Kingston Transit is providing additional services for events, and that holders of event tickets will be able to board Kingston Transit buses. It is understood that the event operator has agreed to advise patrons at each event over the public address system that transit services are available, and that the event ticket will allow reduced fare boarding of buses after the event. Maps showing the specific details of special additional services should be prepared for use on the Kingston Transit and KRSEC websites, and for potential use on a flyer or postcard that would be available to patrons.

8.2 Costs

The service changes will not result in any significant infrastructures costs. Some additional signs will be required for new bus stops, and there will be costs involved in producing communications materials. Operating costs for additional buses and staff time will also be incurred, although the addition of services following an event will have limited cost implications since the service additions are generally a bus making one run on each applicable route and then returning to the depot, or extending the duration of an existing route.

The overall costs of the additional transit services have been estimated by City staff at approximately $500 per event, and will only be incurred at events where 3,000 or more patrons are anticipated. This cost has not been factored into the financial analysis contained earlier in this report, but results in an annual cost of approximately $33,500 per year for 67 events with attendance of 3,000 or more patrons. As discussed earlier, revenue of approximately $16,100 would be generated by setting a $1.00 fare for event patrons after the event. The remainder of the transit costs could be funded from any parking revenues in excess of the target net revenue of $150,000.

Following a review of parking demands, revenues and traffic operations in the vicinity of the KRSEC site on event nights, changes could be implemented to move towards transit users paying the full cost of the transit service, or continued or increased subsidy to encourage additional use of transit.

8.3 Monitoring

Monitoring should be carried out to determine the extent to which event patrons use the services provided by Kingston Transit, and to review the need to change the levels of service or introduce new routes. New farebox technology to be implemented in mid 2008 will allow automated collection of data on the number of trips taken using event tickets, which will greatly simplify the monitoring process. Prior to the new technology, ticket stubs collected by bus operators will have to be counted manually, but can still be used to identify the number of event patrons using each route.

9. TRAFFIC MANAGEMENT PLAN

Traffic analysis conducted and summarized in the KRSEC Transportation Study of September 2006 indicated that:

- The Kingston Regional Sports and Entertainment Centre peak arrival and departure periods for an evening capacity event will occur outside the typical AM and PM road network peak hours;
- The distributed parking system will assist in reducing travel demands in the immediate vicinity of the site and on any one downtown route;
- The road network, including many of the intersections in the general vicinity of the proposed Kingston Regional Sports and Entertainment Centre site, will undergo a number of physical and operational improvements, as part of the City capital works programs in the next few years;
- The Wellington Street extension, if and when constructed will improve traffic access to the Kingston Regional Sports and Entertainment Centre facility and the associated parking areas;
- In general, the improved road network can accommodate:
    - The existing traffic volumes during an evening event;
    - Additional traffic associated with general traffic growth in the City and development specific growth; and
    - The traffic demands associated with travel to/from the Kingston Regional Sports and Entertainment Centre site and its associated parking areas.
- Follow-up monitoring can be used to fine tune special event signal timings and review critical areas such as the King Street/Place D'Armes intersection.

In general, total traffic volumes pre-event and post-event are expected to be lower than the peak hour volumes currently accommodated at adjacent intersections between 4:00 and 5:00 p.m. Accordingly, no major traffic capacity problems are expected, with the exception of short-term congestion caused by high pedestrian volumes leaving the site after an event. The Traffic Management Plan does not set out to implement large scale changes in traffic operation, and is instead more focused on monitoring event traffic conditions to generate an appropriate response to any operational issues that may arise.

9.1 Opening Events Monitoring Plan

The following section outlines a monitoring plan for each event, including observation locations and staffing requirements and data to be collected/observed. Findings from the monitoring will be used to adjust the parking, transit and traffic operations plan and will also be used to update the "frequently asked questions" section of the facility website.

IBI Group is prepared to work with the City to direct and/or conduct monitoring activities on opening events. It is likely that monitoring will be required for at least the first three events, and potentially selected events after that to ensure that any changes made to the traffic plan work as anticipated.

9.1.1 MONITORING ITEMS

Recognizing that the pre- and post-event peak conditions will likely be of a fairly short duration, the monitoring strategy will be focused on general observations rather than recording specifics. This will allow each monitoring team member to gather as much information as possible during the peak inbound and outbound activity, and will be further facilitated by pre-set templates for recording observations. The proposed monitoring plan is described in more detail below. A plan showing the recommended location of observation locations, and draft monitoring templates are attached in Appendix B.

Pre-event monitoring would commence at 1.5 hour priors to the event and run until 30 minutes after the event start time, and include the following:

- Traffic operations, including observations of queuing and potential conflicts;
- Off-street parking operations, including observations of queuing and delays at entry points, observations of parking capacity conditions, and delays at pay and display machines;
- On-street parking operations, including observations of drop-off activity and illegal stopping and standing; and
- Pedestrian operations, including areas of high crossing volumes at intersections and mid-block.

Monitoring during the event would include the following activities, focussed mainly on parking since event related traffic flows during an event are likely to be negligible:

- On-street parking operations, including utilization of on-street parking within 600 metres of the KRSEC site, and observations of improper parking; and
- Off-street parking, including utilization of City and private parking lots, and recording parking rates charged at private lots.

Post-event monitoring would commence at 30 minutes prior to the scheduled end of the event and run for 60 minutes after the actual event end time, and include the following:

- Traffic operations, including observations of queuing and potential conflicts, and the time at which traffic conditions return to normal levels;
- Off-street parking operations, including observations of queuing and delays at parking lot exit points and the duration of the delays;
- On-street parking operations, including observations of illegal stopping and standing activity, and observations of taxi activity;
- Pedestrian operations, including areas of high crossing volumes at intersections and mid-block; and
- Transit operations, including any delays to transit vehicles leaving the area.

Monitoring after the event In addition to the event night monitoring, which would take place immediately after the event, additional monitoring activity would take place in the days following the event. **Exhibit 9-1** below shows the type of information required and the relevant City or other entity responsible for providing the data.

Monitoring of transit ridership would be carried out through a review of farebox information after the event to establish records of ridership by event patrons on each route.

Monitoring of parking activity by use of financial data would also be carried out in the days following the event. A review of revenues from City lots should indicate the extent to which each lot experiences more than average demands. The extent to which pre-sold parking is used at each of the lots should also be reviewed.

Exhibit 9-1 – Data requirements for post event review

Responsible Body	**Data Required**
Facility Operator	Projected and actual attendance Actual event start and finish times Number of pre-sold parking passes sold with event ticketing Records of any complaints about parking, traffic, and transit availability
City Parking Operations	Actual pre-sold parking passes used at each lot Parking data from on-street and off-street pay and display machine records – time of arrival and selected duration of stay
Kingston Transit	Number of event patrons using each route to and from event Any issues with transit fare payment with event ticket
City By-law enforcement	Public complaints received related to parking Records of vehicles exceeding paid duration Records of improperly parked vehicles
Kingston Police	Records of any collisions or other traffic related incidents related to event traffic

Other Data Collection

It is recommended that automatic traffic recorders (ATRs) be installed to record hourly volumes and traffic patterns before and after an event. For the first major event over 4,000 attendance, it is recommended that a series of ATRs be set up at key locations to record traffic fluctuations on the main access routes to and from the KRSEC site. Counting at approximately seven locations listed in **Exhibit 9-2** below would provide a good indication of the impact of KRSEC events on traffic patterns and volumes.

Exhibit 9-2 – Recommended ATR locations for event traffic monitoring

Street	Location
LaSalle Causeway	East of Ontario Street
Wellington Street	North of Ordnance Street
Queen Street	West of Bagot Street
Princess Street	West of Montreal Street
Brock Street	West of Montreal Street
Wellington Street	South of Princess Street
King Street	South of Princess Street

Leaving the ATRs in place for a week would provide data on the background traffic levels. Depending on the event schedule, it may be possible to have the ATRs in place to record traffic from two separate events as well as background traffic conditions.

9.1.2 TEAM MAKEUP AND COMMUNICATION

For the opening events monitoring, it is recommended that the monitoring team be made up of City, KRSEC operator, and IBI Group staff. The team makeup will vary depending on the size of event, but it is recommended that City staff include representatives from By-law enforcement, Transit and Parking, Traffic Operations, and Police. Police personnel would not be required specifically for event monitoring, but would be expected to have a presence at the KRSEC for general patrolling and law enforcement purposes. The plan contained in Appendix B indicates recommended locations of monitoring personnel.

A key requirement will be communication of the start and finish of events to monitoring personnel, to ensure that all team members can record pre-event, during event and post-event observations in the correct category.

The monitoring plan will be focussed on recording traffic and parking conditions, but team members should be able to take an active role in traffic management by informing the relevant City staff of incidents such as collisions or illegal parking blocking a lane. For this reason, team members should be in contact with one another by radio or cell phone.

9.2 Wayfinding Plan and Traffic Circulation

Wayfinding and traffic circulation is closely related to parking management. Accordingly, this section focuses on traffic strategies to ensure that drivers travel as directly as possible to each parking lot. The intent will be to divert drivers to lots before they reach the KRSEC. Techniques available to achieve this goal include static and dynamic signs.

Static signs – can be designed as flip-down signs or permanent parking direction signs. Flip down signs could be useful to designate lots used for pre-sold parking, since these lots are in normal

operation during all other times and having permanent signage for KRSEC parking may be confusing.

Dynamic signs – can provide real time information of the number of vacant parking spaces in specific lots. This can be achieved by installing vehicle counting technology at each lot with automatic communication to electronic signs, or by having attendants on site to manually monitor parking lot occupancy and send a message to the sign by cell phone or other means. The bulk of City parking lots in the vicinity of the KRSEC site use pay and display technology and do not have entry and exit controls that would be useful in automatically counting parking lot occupancy. Technology that determines occupancy of individual spaces is available but given that the data will only be required on event parking nights, installation of this technology is not considered justified.

The bulk of large attendance events at the KRSEC site will be hockey games at which a number of the patrons will be season ticket holders and additional patrons will be regular attendees. These attendees will (after attending two or three games) likely have a preferred parking lot and will use the same route to get to and from the lot. The use of pre-sold parking will further help to result in patrons using pre-determined routes to and from parking lots. Considering the above, the benefits of dynamic signs are not expected to outweigh the costs of installation.

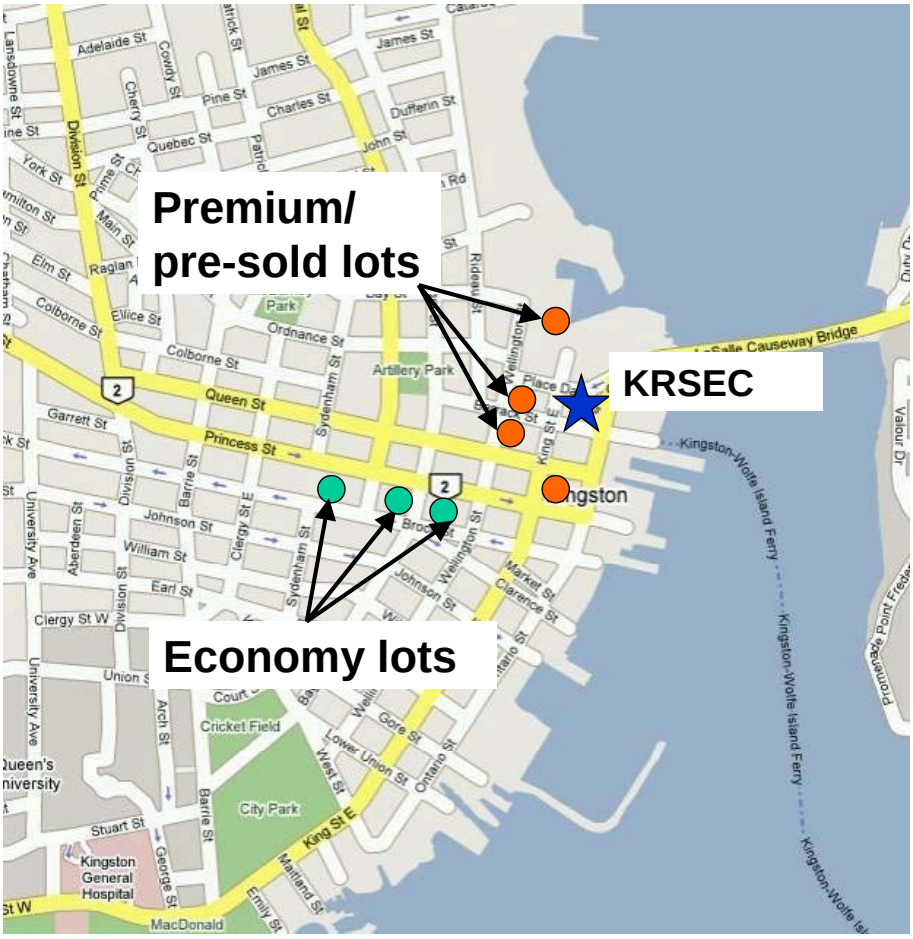
It is recommended that flip-down static signs or “sandwich board” type signs be installed at the entry points to the lots that are to be used for pre-sold parking. The lots used for pre-sold parking should include the Anglin and Drury lots for all events. For larger events, depending on the level of sales of pre-sold parking passes, the Barrack and King & Queen lots may also accommodate pre-sold parking. The signs at parking lot entrances will also need to include a “Lot Full” component that could be uncovered when the lot is at capacity, along with information on an alternative parking location.

The recommended strategy for wayfinding is based on the City’s existing permanent signs that direct people to public parking lots throughout the downtown. If results of monitoring indicate that excessive traffic circulation is occurring adjacent to the KRSEC site, supplementary signage for event patrons should be considered. To encourage event patrons to park in the City’s parking structures on Brock Street and reduce traffic demands in the immediate vicinity of the KRSEC site, a flip-down sign could be used on Princess Street west of Wellington Street to direct patrons to the north on Wellington Street for premium and pre-sold parking, and to the south on Wellington Street (towards the Hanson lot) for economy parking. Similarly, a sign could be installed at the intersection of King Street and Brock Street to direct patrons to economy parking.

It is also important that signage be provided for pedestrians, once they leave their vehicles (or transit). Pedestrian guide signs should be located at intersections close to key parking facilities and on key access routes to the KRSEC site such as King Street and Wellington Street. These signs do not need to convey a lot of information and could be considered as simple fingerboard type signs. Pedestrian signage for the KRSEC will need to designed in such a way so as not to detract from other destination signage, or the overall aesthetics of the downtown.

In addition to signage, the Internet is an important tool for wayfinding. Most “out-of-towners” attending an event at the KRSEC will likely use the Internet to find driving directions and to assess parking options. The KRSEC facility website should therefore provide access to a map showing the location of parking lots in proximity to the KRSEC site, including locations of premium/pre-sold lots and economy lots further from the site. An example of a parking location map highlighting the location of premium/pre-sold and economy lots is shown in **Exhibit 9-3** below.

Exhibit 9-3 – Example parking location map



The KRSEC website should also summarize the additional services provided for events, and should contain links to Kingston Transit website for further detailed information. The same information should be provided on the City's website.

9.3 Intersection Capacity Optimization and Traffic Signal Timing Options

As noted previously, total traffic volumes pre-event and post-event are expected to be lower than the peak hour volumes currently accommodated at adjacent intersections between 4:00 p.m. and 5:00 p.m. Accordingly, no major traffic capacity problems are expected, with the exception of short-term congestion caused by high pedestrian volumes leaving the site after an event.

Due to the general similarity between weekday p.m. peak hour traffic patterns and post-event traffic patterns, (i.e. dominant flows are headed out of the downtown) it is recommended that the City implement existing p.m. peak timing plans at intersections (where applicable) adjacent to KRSEC to accommodate post-event traffic flows. At some adjacent intersections, the existing signal timing set up switches out of the p.m. peak timing plan at 6:00 p.m., and the signal controllers would have to be set up to allow the p.m. peak plan to be brought back at the time of the event finish.

Should monitoring identify locations where changes to existing operations may be warranted, there are a range of tools that can be applied to optimize intersection capacity during events including:

- Signal timing changes, such as implementing a special event timing plan; and
- Selected turn restrictions, such as banning left turns at a particular intersection.

Additional measures that would alter traffic signal operation based on real-time identification of event traffic flows could also be considered. Detector loops could be placed in the pavement at exits from key parking lots to detect when a queue of a specific length has formed or when the detector is occupied for a specific percentage of time. Based on that detection, a specific signal timing plan could be implemented to provide additional green time for the appropriate direction of traffic at one or more traffic signal controllers. Based on the analysis contained in the KRSEC Transportation Study, and the distributed nature of the parking facilities, the use of this technology is not recommended at this time.

Changing lane markings and making geometric improvements such as adding auxiliary lanes could also be considered, but these would be permanent changes rather than temporary measures that could be deployed during events. Analysis carried out in the KRSEC Transportation Study did not identify any need for permanent geometric improvements or lane marking changes.

The 2006 KRSEC Transportation Study identified two likely critical locations where event traffic may cause difficulties; at the intersection of Ordnance Street and Wellington Street during pre-event conditions, and at the intersection of Place D'Armes and King Street during post-event conditions. Both of these locations are unsignalized intersections, so improvement options could include turn restrictions or manual control/supervision. For the first month of operation, and for the first capacity event, it is recommended that a police officer be present at the intersection of King Street and Place D'Armes before and after events to supervise pedestrian movements in particular.

In identifying potential intersection capacity improvements, it will need to be recognized that the transportation system must first and foremost be designed to operate optimally for normal conditions, and that changes to accommodate peak events should not impact on day-to-day operations.

9.4 Loading Operations

Two loading bays have been designed at the northwest corner of the KRSEC with access from Place D'Armes. Access to these loading bays will require trucks to make a reverse manoeuvre from the intersection of Place D'Armes and King Street. It is critical that these movements must be carried out under controlled circumstances.

A loading dock management plan is a key requirement for the successful operation of the loading docks. The loading dock management plan will be developed by the City in collaboration with the Operator and with the guidance of a tractor-trailer operations expert. For large events such as major concerts, the facility operator will have to stage the arrival of tractor-trailer units to load/unload in a timely fashion so as to avoid extended stopping on Place D'Armes. Staging will be organized by the facility operator and should make use of a remote location where the tractor-trailer units will be stored. The loading bay will generally be used for deliveries, including food and beverage; stage production deliveries for concerts/events; refuse and recycling removal; and potential for team bus parking for hockey games.

10. IMPLEMENTATION

In order to implement the recommended parking, transit and traffic management plans, a number of changes to existing by-laws and policies are required, as well as new infrastructure mainly related to signage. The following changes are considered necessary:

By-laws and policies

- The City's Parking By-law will require modification to require paid off-street public parking in the vicinity of the KRSEC site;
- The City's Parking By-law may require modification to allow for taxi standing in existing no-parking areas on Barrack Street and King Street during events at the KRSEC site;
- City staff will require delegated authority to temporarily close King Street between Barrack Street and Place D'Armes, and Barrack Street between Ontario Street and King Street for special loading requirements that may occur from time to time;
- Confirm agreement and conditions with KRSEC facility operator for loading dock management plan; and
- Confirm agreement and conditions with KRSEC facility operator for sharing attendance and pre-sold parking data to allow the City to plan for parking accordingly.

Infrastructure

- Parking lot signs to advise when event parking rates are in effect, including a "lot full" component able to be activated either manually or remotely;
- Event bus stop signs for bus staging area on Queen Street; and
- If determined necessary following traffic monitoring, wayfinding signs for event parking should be installed to direct patrons to premium or economy parking lots.

Marketing materials/public outreach

- Prepare maps showing parking lot locations, event parking pricing and pre-sold parking locations;
- Carry out media/education campaign to advise public of requirements for on-street and off-street parking payment in the KRSEC area;
- Prepare maps showing transit service enhancements, including new bus stops and boarding areas; and
- Ensure relevant maps are available via the KRSEC facility website, the City of Kingston website and Kingston Transit website.

A draft checklist to guide the implementation of pre-event/during event/post-event plans is contained in Appendix B.

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