IBI GROUP

August 23, 2006

Mr. Malcolm Morris
Director of Transportation
Public Works & Emergency Services
City of Kingston
216 Ontario Street
Kingston, Ontario
K7L 2Z3

Dear Mr. Morris:

Kingston Regional Sports and Entertainment Centre Transportation Study
Resident Comments

As requested, we have reviewed the comments provided by Mr. Todd early August 2006 relating to the Kingston Regional Sports and Entertainment Centre Transportation Study and provide the following responses for your considerations.

Acceptable Walking Distances

The comments include issues relating to acceptable walking distances assumed in the subject study.

A 400 metre distance is a generally accepted standard for a walking distance for pedestrians making a daily/reoccurring trip and roughly equal to the "medium" acceptable walking distance (1200 ft) specified in the Victoria Transport Policy Institute's TDM Encyclopaedia.

We have reflected this assumption in Section 5.5 and Page 28 of our report:

"Maximum walking distances of 400 metres are considered acceptable for land development, parking facility and transit system design. For day-to-day operations of a transit system or development we support this assumption; however, the attractiveness of the destination and the frequency of the trip will affect a person's choice on acceptable walking distances."

During small and medium sized events at the subject facility, the majority of patrons will be able to find available parking within a 400 metre distance.

For capacity events, some patrons will need to seek available parking at more remote parking areas. We assumed an acceptable walking time of approximately 10 minutes for a capacity event condition, which generally translates into a 600 metre straight line distance. This assumption is further explained in Section 5.5 and Page 28 of our report.

In general, the walking environment between the subject site to the available parking supply is through active commercial/ restaurant land uses along sidewalks on one or both sides of the roadway.

Road Network Improvements

The comments include questions relating to the:

- Inclusion of the Wellington Street extension in the future road network; and
- Benefits of the Wellington Street extension to parking access.

Inclusion of Wellington Street - The Wellington Street extension will provide two additional arterial lanes of north-south capacity within the Kingston Core Area road network and one block west of the subject site. As stated in Section 4.1 and Page 18:

"Future analysis has not included the extension of Wellington Street to Montreal Street in order to reflect a worse case scenario as the extension is expected to improve traffic operations within the study area."

Although we have not completed explicit analysis of the improvement, IBI Group is of the opinion that operations on Montreal Street and Rideau Street will benefit from the construction of the Wellington Street extension.

Parking Benefits - The Wellington Street extension will provide direct arterial road access to/from the north to primary parking areas, namely the OHIP and Anglin Bay lots.

Data Collection

It was suggested that the subject report should have included the specific dates and times of the data collection efforts and inclusion of actual data in the report.

The level of detail provided (generally month and year) for the data collection efforts in Section 2.0 of the subject report is typical for a study of this nature with a large amount of data over the study area.

Castle Glenn Report

The comments suggested that the content and data from the Phase 1 Report prepared by Castle Glenn Consultants in May 2005 should not be referenced in the subject report.

IBI Group, through consultation with Castle Glenn Consultants and City of Kingston Staff, reviewed the data, analysis and findings outlined and referenced in the May 2005 Phase 1 report. We have utilized traffic and parking data from this effort, which we were of the opinion were relevant and defensible.

Planning Horizon

The selection of a 2011 horizon year was questioned.

The subject property is located in a relatively mature area of the City of Kingston. The 2011 horizon year was selected to capture a five year period of background growth and potential redevelopment during that time.

Consideration was given to analyzing additional long-term horizons; however,

- The road network in the area is relatively mature in the immediate vicinity of the subject site and the future analysis includes the planned localized road network improvements;

- Major road network improvements such as the third crossing and the Wellington Street extension will reduce the reliance on the La Salle Causeway and a number of roadways within the subject study area, thus providing better operating conditions;

- The future intersection operations during peak arrival and departure periods for the design event are generally well below capacity and additional background traffic is not expected to significantly alter these results, i.e., adding two more years of "background growth" is not going to change our overall study findings;

- While there is always the possibility for other future development to come on stream, we have included the full build out of the Block D development in the 2011 planning, which is the only fully approved development with the potential for substantial impacts within the study area. When future developments are proposed, they will be required to carry out their own transportation impact work, including any provisions for the Kingston Regional Sports and Entertainment Complex;

- A ten or twenty year horizon for such a development is generally not a requirement.

Future Background Travel Forecasts

IBI Group consulted with City of Kingston planning and transportation planning staff on a number of occasions through the preparation of the subject report with specific regard for development potential within the general vicinity of the proposed site. Block D development and an accepted general background growth rate were identified as an acceptable representation of background growth potential that was approved and/or being constructed.

Recent discussions with City of Kingston planning staff have indicated that development is proceeding on the Royal Artillery Lot at Queen and Bagot. Our understanding is that the development will include approximately 90 units. The additional traffic generation and potential loss of parking supply associated with this proposed development, will have little impact on the findings of the subject study.

No other active/approved developments were identified that would have a noticeable impact within the study area of the subject study.

The Wellington Street extension and the third river crossing were not included in the analysis, to demonstrate a lower capacity road network, i.e., a more conservative approach in an interim scenario.

Traffic Volumes

Concern was expressed regarding:

- Two-way volumes provided for the LaSalle Causeway in Exhibit 3-4 as opposed to showing directional splits;

- Effects of traffic signal control on the Ontario Street/Queen Street intersection volumes;

- Volume discrepancies along Queen Street between the King Street, Wellington Street and Bagot Street intersections;

- Decrease in volume on Ontario Street northbound between existing and future scenarios.

LaSalle Causeway Volumes - Two-way ATR volumes were collected for the La Salle Causeway but presented in an aggregate state (Exhibit 3-4) to demonstrate the reduction in background traffic levels

between the PM peak hour and the potential arrival of event patrons. The Barrack Street data was disaggregated by direction (Exhibit 3-3), as the peaking of Wolfe Island Ferry traffic in the westbound direction does lend itself to demonstrate this background traffic reduction. The peak hour turning movement counts at the Ontario Street/Place D'Armes intersection, provide directional representation of LaSalle Causeway volumes.

Queen Street/Ontario Street Volumes - Through discussions with City of Kingston staff, there have been some changes in traffic volumes as a result of traffic signal control installation. Specifically, some of the eastbound left turn traffic that previously utilized the Barrack Street/Ontario Street intersection have chosen to divert to the Queen Street/Ontario Street eastbound left turn. Likewise, the northbound left turn movement at Queen Street has increased subsequent to traffic signal control. Providing time for the traffic flows to stabilize, the City of Kingston is planning a future count at this intersection. Based on our analysis of the future conditions and the mature nature of the road network in this area, we are do not foresee this change in traffic control (and the overall changes in traffic flows) significantly impacting the subject study results.

Queen Street Volumes – There are a number of primary traffic generators/destinations between the three intersections, which could have a substantial effect on the volume of traffic leaving a particular intersection and arriving at the next. Notwithstanding this, Mr. Todd has correctly identified a data deficiency and IBI Group has followed up with City of Kingston Staff to obtain a revised count. Based on the City's most recent count at this location, the traffic volumes presented in Exhibits 3-6 and 4-4 at the Queen Street/King Street intersection appear to be high referencing the new count data and the adjacent intersection volumes. Accordingly, the figures and associated intersection analysis will be revised in an addendum to the subject report.

Ontario Street Volumes – The future analysis reflects two-way traffic flow on Place D'Armes. Accordingly, King Street and Wellington Street would become viable alternative routes to access the LaSalle Causeway from the south. Some northbound Ontario Street traffic has been reassigned to the Wellington Street route, given this new network opportunity.

<u>Intersection Analysis</u>

Concern was expressed regarding:

- The analysis of intersection operations in isolate conditions; and
- Wellington Street/Barrack Street intersection operations under all-way stop control.

Isolated Intersection Analysis - Synchro 6.0 and SimTraffic are industry-accepted standard analysis packages and are used as tools in an overall engineering assessment. Together these tools provide an assessment of progression between adjacent signalized intersections and are used as "starting points" for establishing actual green bands and progression. Typically, detailed calibration of signal offsets are completed in the field. Based on our review, we do not see major barriers to providing suitable progression for peak direction flow in this closely spaced network.

The calculation provided within the comments, netting a 203 metre queue, assumes that all vehicles arriving at the intersection are arriving randomly at the Ontario Street/Place D'Armes intersection and that they will all arrive during the red phase and queue. This is not an appropriate calculation given that it:

- Does not reflect the platooning of vehicles from the upstream Ontario Street/Barrack Street intersection and the ability to provide suitable progression into the green time provided for the northbound right turn at Ontario Street/Place D' Armes;

- Disregards the effective green time provided to the northbound right turn under future traffic signal control, which will include the northbound main phase and the right turn overlap with the westbound left turn phase; and

- Does not account for northbound right turn on red movements.

Wellington Street/Barrack Street Intersection Analysis – IBI Group can provide analysis output for this and other major unsignalized intersections in the study area, as analyzed in Synchro 6.0. We do not foresee any short-term capacity concerns associated with this intersection under all-way stop control, but do recommend that it be monitored as part of the City's regular course of business.

Use of Private Parking Facilities

The viability of relying on private parking facilities to supply the long-term parking for the subject development was questioned.

The City is well-aware of the potential for private parking losses in the downtown. The recently approved Kingston Core Area Transportation Review investigated future parking needs in the downtown and immediately surrounding area. It reported that about 300 parking stalls will be lost to known actual and planned development projects in the Core (i.e. Block D, Whig Building). In total, the review estimates that up to 1,750 additional parking stalls may be required in the core area to replace stalls lost to, and required by recently completed, ongoing, planned and **potential** site redevelopment. In response to the City's "New Direction" for transportation set in the Kingston Transportation Master Plan, the Review establishes a planning principle that the net supply of public and private parking in the core will not increase, but rather the City will establish a parking supply equilibrium, whereby over time, parking supply lost to redevelopment such as the subject project will be replaced in the core. This principle will be implemented over time with modifications to the parking provisions of the Kingston Zoning Bylaw, and with the addition of parking supply by the public and/or private sectors.

This balanced approach to the provision of parking is somewhat new to some cities, but is being followed by others as part of wider Transportation Demand Management policies geared towards increased use of alternative modes to access downtown areas, and their major attractions such as the subject project. This requires the public to adjust their travel behaviours towards increased walking, transit use, carpooling and other ways of accessing major downtown events. Successful examples can be seen with the new Labatts Centre in London, and the River Run Centre and Sports and Entertainment Centre in Guelph operating as major downtown destination, but using the existing parking supplies and an emphasis on transit service and walking.

Use of Hanson Street and Chown Garage

Issues were identified with regard to:

- Egress operational issues associated with Brock Street traffic and the exit processing time;

- The elevator capacity and an inability of event attendees to arrive to their vehicle in a timely manner; and

- Walking distances should have been measured to the centroid of the facility.

Pedestrian and Vehicle Access Issues – One of the foundations of a distributed parking system is the effective dispersion of event attendees in time and space. The merits are outlined in Section 5.5 of the subject report. Operational issues associated with a number of the parking facilities have been identified to the City of Kingston in Section 6.3.

Walking Distances – The walking distances/times quoted in the subject study are addressed in the preceding section.

Walking Times and Rates

Issues raised relating to the walking time calculations/considerations, are as follows:

- Walking speed assumptions of 1.2 m/s for an average person and 1.0 m/s for a senior may not be representative of typical rates; and

- Consideration should be given for barriers such as traffic control devices, grades and other delaying factors.

Walking Speeds – the walking speeds quoted are industry-accepted standards and generally reflect 85th percentile speeds.

Barriers – IBI Group completed an informal assessment of walking conditions along a number of the pedestrian routes between the subject site and major parking facilities including the Chown lot. We are of the opinion that the walking distances/times quoted are reasonable given the following:

- The utilization of the further lots by a large number of attendees will be associated with a limited number of capacity events. Tolerable walking distances are generally greater for non-reoccurring and special events;

- The traffic signal control policies in the downtown core, generally do not reflect excessive delay times for pedestrians;

- There are numerous routes in the downtown core which, present a pleasant walking environment to the available parking without major barriers to pedestrian travel;

- Patrons with mobility challenges or those wishing to have a shorter walk to the venue, can tailor the mode of travel, and their arrival and departure method/time to take advantage of transit services and closer lots.

Pedestrian Analysis

The issues raised as they relate to the pedestrian analysis, are as follows:

- The level of pedestrian flow detail provided in the subject report is inadequate;

- Sidewalk widths were not assessed and pedestrians will be using the travelled roadway to leave the site;

- Pedestrian safety concerns with the dispersed parking concept; and

- Redirecting pedestrians to use Wellington Street to access the OHIP and Anglin Bay lots is not feasible.

Pedestrian Flow Information – Pedestrian volumes were estimated to ensure that the intersection capacity analysis reflected, as best as possible, the friction caused by their movements during arrival and departure peak periods. Detail pedestrian flow calculations or diagrams are generally not a component of a TIS.

Pedestrian Congestion and Safety – It is expected that pedestrian congestion will occur subsequent to a major event; however, the quick dispersion in time and space associated with the distributed parking supply will limit the length of the occurrence and the conflict between major pedestrian flows and parking lot egress.

Wellington Street Access – IBI Group sees merit in attempting to direct pedestrian crossings to signalized intersection locations. The ability to do so will need to be monitored as the site becomes operational.

Parking Opportunities

Comments provided included issues relating to:

- Parking occupancy estimates specifically their application to a Friday night;
- The impacts of daytime events at the subject site;
- Impacts of a concurrent major event on the operations of a capacity event at subject site;
- The extent of the synergy between capacity events and existing downtown uses, and the potential impacts on present patrons/visitors.

Parking Occupancy Estimates – The surveys undertaken included Friday night counts and reflect current commercial and restaurant operations.

Daytime Events – Through discussions with City of Kingston staff and the facility operators, it is our understanding that daytime events generally do not create capacity event conditions. The operator assesses the ability to accommodate specific daytime events, such as circuses, on an event-by-event basis.

Concurrent Events – Section 5.13 of the subject report identifies this issue to the City of Kingston and the facility operators. Special events and concurrent events are planned and designed for on an event-by-event basis. Section 5.2 of the subject report identifies the rational for design level assumptions for transportation planning and the subject study.

Synergy with Existing Uses – IBI Group is not aware of any readily available research that documents transportation synergy between uses, beyond those typically assumed for mixed-use or commercial areas. It is our understanding that the City expects that the downtown streets, restaurants and commercial areas to be busy during the arrival and departure of large events at the subject site. IBI Group has not attempted to quantify the extent that patrons of a capacity event will also be an existing or new patron of other uses in the downtown. As such the assumption of no overlap in patrons provides a conservative approach.

Concurrent Events

Responses to the concerns relating to the Chown Street garage usage and concurrent events have been addressed in preceding sections.

Transit Operations

It is suggested in the comments that:

- The cost of providing reasonable transit service to and from events has not be considered; and

- Transit operators will be challenged to provide a dedicated service given the unpredictable end times of hockey and other major events.

Transit Costs – As outlined in Section 5.11 of the subject report, the pre-event arrival can be supported by the existing transit routes, albeit with changes to service routing and headways. Given the substantial change in use (parking lot to entertainment venue), Kingston Transit anticipates there will be changes to the transit demands and servicing in this area of the City. Post-event departure of major events will occur during off-peak transit periods. The costs of providing additional transit service, including dedicated transit vehicles staged at the site, have been discussed with the City and are not of the magnitude that would be prohibit their provision for large events.

Dedicated Transit Service – Section 5.11.2 outlines some service improvements that would facilitate dedicated transit service at the time of event departure including a relocated downtown transit terminal or an on-street transit vehicle staging area. For major events, real-time communication between the facility and transit operations could be established and would facilitate timely staging of transit services. It is IBI Group's experience that Halifax, Windsor, St. Catharines, Peterborough, Oshawa, Sudbury and Guelph provide specialized transit service after hockey games, special events and/or concerts in a similar manner that as being suggest for the subject site.

Expansion of the KRSEC to 6,000 Seats

The comments provided centre around the lack of:

- Detailed analysis of the impacts of the additional 1,000 person attendance; and

- Analysis of a longer term horizon, such as 2026, for the 6,000 person capacity.

Detailed Analysis – Exhibit 5-20 of the subject report outlines the incremental traffic and parking requirements of the additional 1,000 attendees. Based on the intersection operations and parking analysis completed for the pre and post-event scenarios for a 5,000 person capacity, IBI Group is content that the additional demands can be accommodated on the road network and through the parking supply and demand provisions outlined in Section 5.14.2.

2026 Analysis – A response to this point is provided in the preceding section dealing with the planning horizons.

Management Levels

It is suggested that the impact study should provide some guidance on managing/operating the site such as wayfinding for parking.

The subject report identifies the need for an advance parking information system and a real-time wayfinding guide sign system to direct patrons to readily available parking and alternative parking. Based on our knowledge of the road network and available parking, IBI Group did not identify any major barriers to implementing an effective wayfinding parking system.

The design and ultimate operations of this system will need to be undertaken by the site operator and is not typically the subject of a TIS.

General Concerns

Other general concerns included:

- The ability of event attendees to take full advantage of the parking capacity;
- Pick-up and drop-off provisions for elderly persons;
- No access to the report appendices; and
- Overall parking supply assumptions during peak events.

Parking Availability – The response is provided in the preceding section.

Pick-up and Drop-off Activities – The intention is not to restrict private pick-up and drop-off activities at the site. As with many major sporting and concert facilities, patrons and commercial operators quickly understand the merits of avoiding pick-up activities in the immediate vicinity of the site after a major event. These patrons have the opportunity to arrive early and take advantage of parking areas that are located in close proximity to the site.

Report Appendices – Access to the report appendices should be arranged through the City of Kingston.

Parking Assumptions – the points made in Section 5.4 and 5.14.2 are to demonstrate that there are a number of conservative assumptions built into the parking supply and demand analysis. The parking supply philosophy applied to the subject site is a significant departure from that applied at the Memorial Centre and other major venues that have significant on-site parking. The parking supply and demand assumptions provided in the subject report reflect that the proposed site will rely more heavy on transit use and on substantial changes in patron travel and parking practices. We are of the opinion that the changes required to support the assumptions are attainable.

Summary

I trust this summary provides the City with an appropriate level of detail to address the subject comments. Once you have a chance to review our response, please contact me to discuss any further requirements or follow-up action.

Yours truly,

IBI GROUP

Russell Brownlee, P. Eng
Associate

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