

5 January 2016

OUR REF: 602835-01000

Windmill Green Fund LPV
1306 Wellington Street West
Suite 201
Ottawa, ON K1Y 3B2

Attention: Dan Clement

Dear Dan:

Re: Zibi Ontario Phase 1A Response to City of Ottawa Comments related to Transportation

1. Introduction

This letter report has been prepared to address to the transportation-related comments received from the City of Ottawa, dated November 24th, 2015 on the preliminary circulation of the Site Plan Application for Zibi Ontario Phase 1A. Previous transportation planning documents prepared by Parsons for the proposed development include: *Domtar Lands Redevelopment - Multi-Modal Transportation Impact Study* dated 21 April 2014; and *Zibi Ontario Phase 1A Transportation Impact Study* dated 4 September 2015. A *Preliminary Multi-Modal Assessment of the Booth Street Corridor* dated 10 December 2015 has also been completed to assist in formulating a construction phasing plan for Booth Street. This was submitted to the City of Ottawa, and is attached.

2. Comments and Responses

This section provides the original comments from the City in plain font and the corresponding responses from Parsons are indicated in *italics*.

Transit Services

100. Peak period and all-day transit service is provided along Booth St in the vicinity of the site by Routes 105 and 8 respectively. Additional service is also provided by Routes 27, 40, 95 and 96 during select time periods.

Parsons Response: *Noted and the Proponent has been advised.*

101. As a condition of approval, bus shelter pads, bus shelters and loading areas are required at the signaled intersection of Phase 1 of the development. Please refer to the Draft Booth Street Complete Street Design for the suggested bus stop, shelter and transit stop loading area. The applicant shall construct the shelter pads, shelters and loading areas at no cost to the City, as per City specification.

Parsons Response: *Noted and the Proponent has been advised.*

102. If other City reviewers' comments result in a change to the road network or bus stop locations or a re-distribution of land use, Transit Services is to be consulted prior to draft approval or the final design of any subsequent roadway or intersection modification.

Parsons Response: *Noted and the Proponent has been advised.*



103. If any road modifications are required as a result of this application, Transit Services must be consulted to ensure all impacts and possible changes to transit provision are identified, and where applicable, transit service facility improvements are incorporated into the design.

Parsons Response: *Noted and the Proponent has been advised.*

Street Lighting

Future considerations are as follows:

104. If there are any proposed changes to the existing roadway geometry, the City of Ottawa Street Light Asset Management Group is required to provide a full street light design. Upon completion of proposed roadway geometry design changes, please submit digital Micro Station drawings with proposed roadway geometry changes to the Street Lighting Department, so that we may proceed with the detailed street light design and coordination with the Street Light maintenance provider and all necessary parties. Be advised that the applicant will be 100% responsible for all costs associated with any Street Light design as a result of the roadway geometry change.

Parsons Response: *Noted and the Proponent has been advised.*

105. Alterations and /or repairs are required where the existing street light plant is directly, indirectly or adversely affected by the scope of work under this circulation, due to the proposed road reconstruction process. All street light plant alterations and/or repairs must be performed by the City of Ottawa's Street Light maintenance provider.

Parsons Response: *Noted and the Proponent has been advised.*

106. Be advised that the applicant will be 100% responsible for all costs associated with any relocations/modifications to the existing street light plant.

Parsons Response: *Noted and the Proponent has been advised.*

Traffic Signals

Future considerations:

107. If there are any future proposed changes in the existing roadway geometry, the City of Ottawa Traffic Operations Unit is required to complete a traffic signal plant design.

Parsons Response: *Noted and the Proponent has been advised.*

108. If the proposed traffic signals are warranted/approved for installation and RMA approved, please forward an approved geometry detail design drawings (Dwg digital format in NAD 83 coordinates) including base mapping, existing and new underground utilities/sewers, and approved pavement marking drawing in separate files for detail traffic plant design lay out.

Parsons Response: *RMA will be prepared and geometry, once approved, will be forwarded to the City.*

109. Please send all digital (CADD) design files to Peter.Grajcar@ottawa.ca 613-580-2424 x23035.

Parsons Response: *Noted and agreed.*

Traffic Engineering and Control

110. Traffic Operations does not agree with the proposed functional plan without bus bays and has expressed concerns with safety and operations, in a memo dated 11 Aug 2015 to Planning and Growth Management. Please remove statements that City Traffic Operations staff has tentatively agreed to the proposed design.



Parsons Response: Noted that City Traffic Operations has concerns with the Functional Plan. However, on the whole, we have been advised that the City supports the proposed Functional Plan.

111. The modeling of the Booth Street and Site access intersection does not reflect how this signal would operate. There are errors in the coding of the eastbound phase. Pedestrian actuations at the signal should be modelled given the high volume of assumed non-motorized trips. Bus blockages should be modelled considering the number of assumed transit trips, the proposed bus stop locations and buses stopping in the traffic lane. These items will affect the level of service at the signalized intersection.

Parsons Response: We have liaised with Cathy Kourouma at City Traffic Operations and updated the analyses. See table below. The modifications were found to have minimal impact to intersection performance. Updated SYNCHRO files are available upon request.

Table 1: Updated Projected Booth/Site Intersection Performance

Booth/Site	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection “as a whole”		
	LoS	max. v/c or avg. delay (s)	Movement	Delay (s)	LoS	v/c
Phase 1A	E(D)	0.98(0.90)	SBT(NBT)	24.5(34.4)	E(D)	0.95(0.88)
Phases 1 - 8	F(E)	1.17(0.98)	SBT(NBT)	69.0(31.8)	F(E)	1.12(0.94)
Total Zibi	F(F)	1.17(1.01)	SBT(NBT)	68.2(34.1)	F(E)	1.12(0.97)
Note: Analysis of signalized intersections assumes a PHF of 0.95 and a saturation flow rate of 1800 veh/h/lane.						

112. As previously commented, the intersection of Booth Street and War Museum is not a “T” intersection but a four legged intersection with a pathway on the east side. It is a heavily used crossing for cyclist and modelling should reflect this as well as increased usage with the assumed future non-motorized modes in the area.

Parsons Response: We have liaised with Cathy Kourouma at City Traffic Operations and updated the analyses. See table below. The modifications were found to have minimal impact to intersection performance. Updated SYNCHRO files are available upon request.

Table 2: Updated Projected Phase 1A Booth/War Museum Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection “as a whole”		
	LoS	max. v/c or avg. delay (s)	Movement	Delay (s)	LoS	v/c
Booth/War Museum	A(A)	0.58(0.50)	SBT(NBT)	11.0(7.9)	A(A)	0.56(0.49)
Note: Analysis of signalized intersections assumes a PHF of 0.95 and a saturation flow rate of 1800 veh/h/lane.						

113. Further to the comments on page 7 regarding the anomaly of the traffic count at Booth Street and War Museum, the City has a September 10, 2014 Miovision count for “Booth Street/ Chaudière Bridge Domtar Signal”. Use this count for review purposes.

Parsons Response: The September 2014 intersection turning movement count was not available when the original TIS was prepared in April 2014. We have since obtained and reviewed updated traffic count. The difference between the September 2014 traffic count and the assumed traffic volumes outlined in the original TIS is approximately 10 to 45 veh/h during the morning and afternoon peak hours. As this represents a small percentage of the overall traffic volumes, this modification was found to have minimal impact to intersection performance. The updated traffic volumes are included in the intersection performance analysis in Table 1.

114. As indicated during review of the MMTIS, the study area only includes Booth Street from Eddy Street/Alexandre-Taché Boulevard/ Laurier Street to Wellington Street. This is not consistent with the City's Transportation Impact Assessment guidelines for a development of this size and does not address the impacts to the local transportation network. Intersection evaluations should also identify projected queue lengths as per the guidelines.

Parsons Response: *The study area and methodology were discussed with and agreed upon by Ottawa, Gatineau and NCC Staff as part of the initial study scoping exercise undertaken in early 2014. No further work is proposed with regards to MMTIS.*

115. To indicate the impacts of this development and the proposed functional design, the TIS should clearly indicate that in order to reach an acceptable level of service, not only is the "removal" of approximately 30% (380 veh/hr) of existing southbound traffic during the am peak required, future volumes used for the traffic analysis do not include any background traffic growth and an auto mode share of only 25-35% for site generated trips is assumed. All these factors do not seem realistic for Phase 1 of the development and "not identifying where surplus traffic would go" will have serious impacts to the road, pedestrian and cycling network in the area.

Parsons Response: *For Phase 1A development, the trip generation has been re-evaluated assuming the existing modal shares (55% auto). The resulting number of two-way vehicle trips is approximately 100 veh/h, which is considered relatively benign given through volumes within the subject Corridor. Also note that the current Phase 1A of the Zibi development proposal includes 61 residential units and 12,408ft² retail in Block 205A and 34,900ft² of commercial/retail in Block 208, whereas the Phase 1A TIS (Sept 2015) assumed greater development.*

It should also be noted that the "removal" of 360 veh/h is related to full development (3M ft²) of both the Quebec and Ontario sites as well as development of LeBreton Flats, Bayview Yards, City Center and 14 other Gatineau sites to the land use types and densities documented. This topic has no relevance to Phase 1A of the Zibi development.

116. The TIS refers to the City of Gatineau addressing their own cross-sectional preferences. The City of Gatineau recently presented 4 scenarios that show various cross sections that are not consistent with the Functional Plan presented in the TIS.

Parsons Response: *Based on a review of the Mobility Impact Study prepared by CIMA+ (October 2015), there is general consistency in the network at the transition point at the Chaudière Crossing. It is noted that the preferred Alternative Scenario 2-B identified by the CIMA+ report does place a greater emphasis on providing vehicular capacity on Eddy Street approach to/from Boulevard Alexandre-Taché. At the transition point there is traffic lane balance and continuity in the bicycle lane and sidewalk facilities.*

Transportation Planning

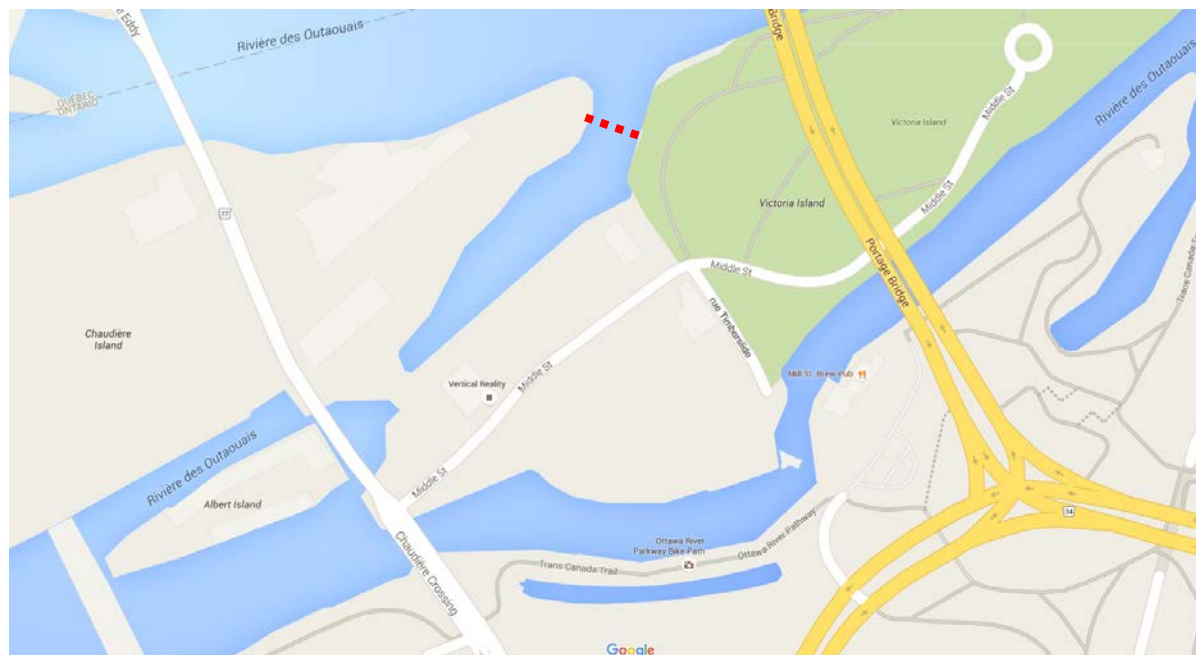
117. The extent of paved areas for pedestrian and cyclists are difficult to read on the site plan within the development and in public ROW. It is difficult to read and understand how this proposal ties into existing and future pedestrian, cycling and multi-use pathway networks. This makes it difficult to ensure that the intent is communicated and that City policy and objectives are being fulfilled. The proponent should resubmit with a plan that clearly identified pedestrian and cycling surfaces along internal roads and along the public streets.

Parsons Response: *An updated sidewalk, pathway and cycling network plan within the site would be beneficial. The Proponent and Architect have been advised.*

118. As part of the development approval, the proponent should provide a multi-use pathway bridge from the end of Chaudière Island over the sluice channel to the north end of Victoria Island. This distance of approx 40 to 45 metres could be spanned by prefabricated bridge structures such as used in other locations along the Capital Pathway system. This would provide a choice not to travel along Booth and

more direct pedestrian access to sidewalks and buses on the Portage Bridge and to the cycling facilities as well.

Parsons Response: *This location (see map) is not within Phase 1A, but the concept is one that needs to be discussed with the Proponent.*



Transportation Engineering

119. Booth Street is designated as an Arterial Road within the City's Official Plan with a ROW protection. A 9.0 metre widening on the east side of Booth may or may not be required pending the outcome of the Interprovincial Transit Study. The ROW limits are to be shown on all the drawings.

Parsons Response: *Based on early 2014 discussions with the City's Transportation Planning Group, we were advised that a 9m widening on the east side is no longer required for transit purposes.*

120. ROW interpretation – Land for a road widening will be taken equally from both sides of a road, measured from the centreline in existence at the time of the widening if required by the City. The centreline is a line running down the middle of a road surface, equidistant from both edges of the pavement. In determining the centreline, paved shoulders, bus lay-bys, auxiliary lanes, turning lanes and other special circumstances are not included in the road surface.

Parsons Response: *Noted and the Proponent has been advised.*

121. The consultant should review the sight distance to the access and any obstructions that may hinder the view of the driver.

Parsons Response: *The proposed Phase 1 driveway connection to Booth Street is three lanes wide with one inbound and two outbound lanes. The only potential sight line obstruction is the proposed building (Block 207) located in the southwest corner of the intersection. Based on information provided by the Project Architect, a 4.5m by 4.5m sight triangle can be achieved in this quadrant.*

Because this intersection is traffic signal controlled, and because the eastbound (out of the site) left-turn and through movements can only advance on a green light, there are no sight lines issues associated with these movements. Regarding the eastbound right-turn adjacent to the 4.5m by 4.5m sight triangle, if vehicles are

considering turning right on red, they have good sight distances looking north on Booth Street, and acceptable sight lines for pedestrians on the adjacent sidewalk because of the 4.5m by 4.5m sight triangle.

122. Phase 1 of the full development at 4 Booth Street should review conditions at the time of completion/occupancy of this phase.

Parsons Response: Agreed.

123. The site generated volumes are based on a 70% modal share of trips by walking, cycling and transit. This is very optimistic and should be reconsidered for Phase 1. A requirement for monitoring, evaluation and any possible remediation should be part of site plan conditions to ensure that projected targets are met.

Parsons Response: For Phase 1A development, the trip generation has been re-evaluated assuming the existing modal shares (55% auto). Please refer to the attached Preliminary Multi-Modal Assessment of the Booth Street Corridor dated 10 December 2015.

The City and Proponent will need to work together in identifying an appropriate monitoring program.

124. With the review of site generated person trips, an analysis of vehicle trips was completed but there was no analysis of the impact of pedestrian, cycling and transit modes with regard to facility requirements. With the high modal share for these modes, the impact on pedestrian crossings at the intersection and requirement for addition buses are examples of impact that need to be explored in more detail.

Parsons Response: Please refer to the attached Preliminary Multi-Modal Assessment of the Booth Street Corridor dated 10 December 2015.

125. The proposed road design on Booth Street/Chaudière Bridge at the access is currently under circulation for comment. Design decisions may impact the access design on the site plan.

Parsons Response: Noted.

126. This road design is required as part of the Road Modification Approval process. The proposed road modifications will require the delegated authority approval from the Manager of Development Review, Suburban Services.

Parsons Response: Noted. An RMA will be prepared.

127. Access for large trucks is of concern and difficulties with movements will negatively impact this failing intersection. It is unclear as to how the WB20 trucks would maneuver into the Hydro site.

Parsons Response: The proposed site driveway/Booth intersection accommodates WB20 trucks and has been reviewed by Wally Dubyk and others. Once on-site WB20's drive forward into the Hydro site, do all maneuverings on the Hydro site, then drive out in a forward direction. The site driveway has been designed to accommodate these turn requirements.

128. Curb to curb width on Booth Street/Chaudière Bridge should provide adequate space to allow vehicles to pass a stopped vehicle and allow for efficient operation of large snow removal equipment.

Parsons Response: Noted, which is why bicycle lanes and not cycle tracks are proposed on the Bridge.



129. The concrete sidewalks should be 2.0 metres in width and be continuous and depressed through the proposed accesses (please refer to the City's sidewalk and curb standard drawing SC7.1 for unsignalized entrance).

Parsons Response: *Noted.*

130. It is unclear where the proposed road works on Booth Street begin and end. The proposed road design must tie into existing conditions and also be designed for ultimate road works (future road cross section).

Parsons Response: *The proposed road works on Booth Street extend from the south end of the Chaudière Bridge to the north end of the War Museum signalized driveway. There is an interim phasing being considered that would reduce the southern extent of the road works to approximately 150m south of the main site driveway.*

131. The Tactile Walking Surface Indicator (TWSI) should be provided at pedestrian crossings.

Parsons Response: *Noted.*

132. A separate proposed pavement markings and signage drawings are to be provided.

Parsons Response: *This will be provided as part of the RMA submission.*

133. The Owner is responsible for identifying the type and location of existing signage that will be removed from within the Right-of-Way to accommodate the development site. The Owner is responsible for providing the Project Manager with a detailed drawing identifying the type and position of the existing signs and roadway pavement markings along the site frontage.

Parsons Response: *Noted and the Proponent has been advised.*

134. Bicycle parking spaces are required as per Section 111 of the Ottawa Comprehensive Zoning By-law. Bicycle parking spaces should be located in safe, secure places near main entrances and preferably protected from the weather. Please identify the location of the bicycle parking spaces.

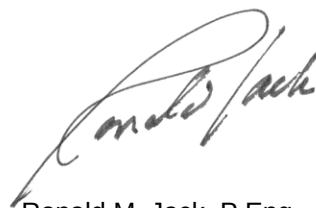
Parsons Response: *Noted and both the Proponent and Architect have been advised.*

Based on the foregoing, the proposed Zibi Ontario Phase 1A development continues to be recommended from a transportation perspective. If there are any questions, please call.

Sincerely,

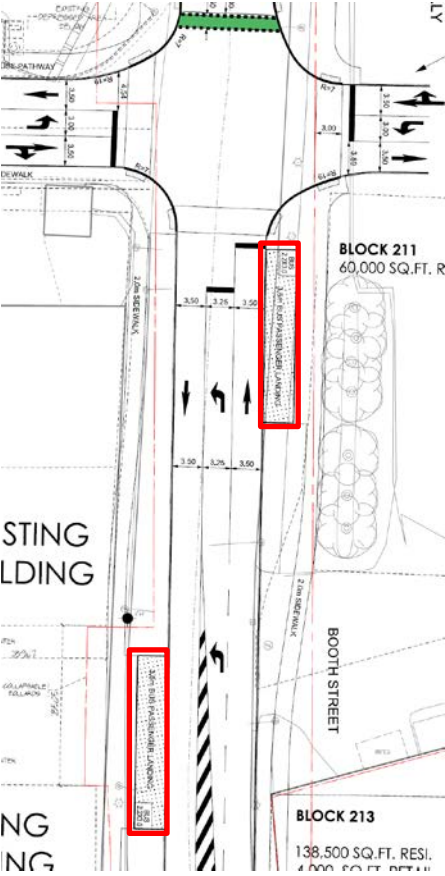
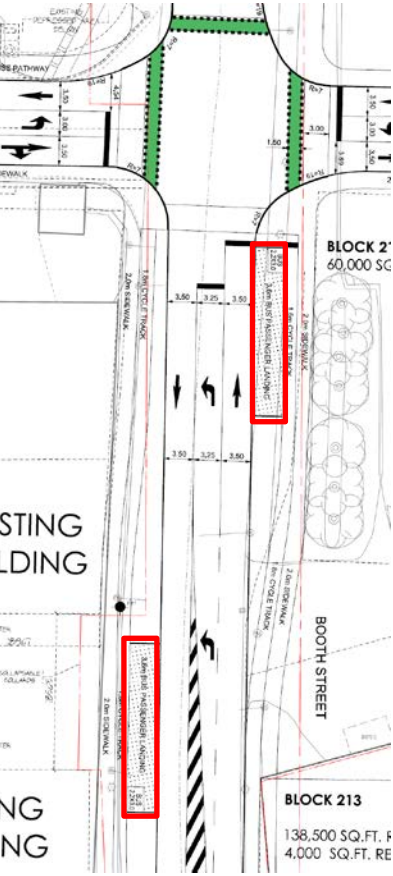


Mark Baker, P.Eng.
Manager, Traffic/Transportation Planning Group
Ottawa Operations



Ronald M. Jack, P.Eng.
Vice President Transportation
Manager Ottawa Operations



Travel Mode	Corridor Geometry		
	Existing	Interim	Ultimate
Pedestrians	- South of the site intersection, sidewalks are currently provided along both sides of Booth. - North of the site intersection, 2m sidewalk provided only on east side of Chaudière Crossing. - There is no formal pedestrian crossing on the north leg of the site intersection (south leg only).	- South of the site intersection, 2m sidewalks to be provided along both sides of Booth. - North of the site intersection, 2m sidewalk provided only on east side of Chaudière Crossing. - Formal pedestrian crossing on all legs of the site intersection.	- South of the site intersection, 2m sidewalks to be provided along both sides of Booth. - North of the site intersection, 2m sidewalks to be provided on both sides of Chaudière Crossing (future cantilever sidewalk on west side). - Formal pedestrian crossing on all legs of the site intersection.
Bicycle	No dedicated cycling facilities.	No dedicated cycling facilities (although space for ultimate cycle track reserved)	- South of site intersection, 1.8m cycle track to be provided on both sides of Booth. - North of site intersection, 2m bike lane to be provided on both sides of Chaudière Crossing
Transit	- There are currently no bus stops in the immediate area serving the site. Buses would stop in the shoulder lane to accommodate passenger boarding/alighting. - If provided at the proposed ultimate location, there would be no opportunity for transit amenities at the southbound stop.  - In the northbound direction, there may be room for some temporary transit amenities. 	Proposed 3.6m wide passenger landing area in both directions. Buses would stop in the single available through lane to accommodate passenger boarding/alighting. 	Proposed 3.6m wide passenger landing area in both directions. Buses would stop in the single available through lane to accommodate passenger boarding/alighting. 
Auto	- Current capacity constraint within the corridor is the Chaudière Crossing with only a single wide travel lane in each direction. - The existing Booth/Domtar (site) intersection is signalized, but not heavily utilized in terms of turning movements into/from the subject site. There is one approach lane from the north (served by a single lane crossing the bridge), and two from the south (merging to a single lane once through the intersection and approaching the bridge). - The critical movement during both peak hours is the southbound movement; volumes are 1,400 veh/h in the AM peak and 1,000 veh/h in the PM peak; during the AM peak, v/c ratio is 0.98, delays close to 30 sec, and average queue lengths of several hundred metres. - Phase 1A is expected to generate approximately 100 veh/h two-way (new and pass-by trips to/from the site) assuming existing modal shares (55% auto) during the afternoon peak hour. - The northbound left-turn movement into the site is projected to range between 20 and 30 veh/h during peak times, and acceptable gaps in the southbound traffic flow may be difficult to find and delays high, especially in the morning. During off-peak hours, this will be less of an issue with lower volumes on the bridge. - The projected performance for the intersection overall is LoS D(C), with the following critical movements: - SBT in the AM peak hour (v/c ratio of 1.04, delay 50 sec, average queue > 400m) - SBT in the PM peak hour (v/c ratio of 0.87, delay 25 sec, average queue ~140m) - NBT/L in the AM peak hour (v/c ratio of 0.43, delay 5 sec, average queue < 15m) - NBT/L in the PM peak hour (v/c ratio of 0.64, delay 10 sec, average queue < 50m) - The analysis indicates that the northbound left-turn volume, resulting in intersection LoS E, is 50 veh/h in the AM peak hour and 100 veh/h in the PM peak hour.	- The capacity constraint within the corridor is likely to become the site intersection. The design features only a single through lane on each approach (with auxiliary NBL lane) as well as less green time available for the north-south movement with increased side-street traffic. - The full build-out of Phase 1 is expected to generate approximately 130 veh/h two-way (new and pass-by trips to/from the site) assuming higher non-auto modal shares (25-35% auto) than exist today. Supporting infrastructure must be in place to achieve these high non-auto modal shares, including high quality pedestrian/cycling facilities and transit service/amenities. - The projected performance for the intersection is LoS F(D), with the following critical movements: - SBT in the AM peak hour (v/c of 1.09, delay 70 sec, average queue >400 m) - SBT in the PM peak hour (v/c of 0.80, delay 15 sec, average queue ~100 m) - NBT in the AM peak hour (v/c of 0.62, delay 10 sec, average queue ~ 100 m) - NBL in the AM peak hour (v/c of 0.40, delay 30 sec, average queue <10 m) - NBT in the PM peak hour (v/c of 0.91, delay 30 sec, average queue ~140m) - NBL in the PM peak hour (v/c of 0.15, delay 5 sec, average queue < 10m)	- As identified in the TIS, at full build-out, the Booth/Domtar (site) intersection is projected to be operating at capacity during peak hours. - The projected performance for the intersection is LoS F(E), with the following critical movements: - SBT in the AM peak hour (v/c of 1.20) - NBT in the PM peak hour (v/c of 1.02)