



November 6, 2013

BY E-MAIL: bliss.edwards@ottawa.ca

City of Ottawa
Planning and Growth Management Branch
110 Laurier Ave. W., 4th Floor,
Ottawa, Ontario K1P 1J1

**Attention: Ms. Bliss Edwards, MCIP RPP
Planner, Development Review**

Dear Ms. Edwards:

**Reference: Residential Development – 1040 Somerset Street West
Community Transportation Study (CTS)/Transportation Impact Study (TIS)
Addendum #1
Our File No. : 112191**

A Community Transportation Study (CTS)/Transportation Impact Study (TIS) was submitted to the City in April 2013, in support of Zoning By-Law Amendment and Site Plan Control applications for the above property.

The purpose of this addendum is to outline changes to the proposed site plan, address transportation comments received from the City on August 2, 2013 and provide additional intersection analysis in support of revised recommendations. A comprehensive comment/response letter to all technical circulation comments is provided under separate cover.

1.0 REVISED DEVELOPMENT

The proposed development has been revised and now includes a 32 storey residential tower with:

- 284 condominium units,
- 206 m² of commercial retail floor space, and
- 162 underground parking spaces.

An additional 55 bicycle parking spaces are to be provided on-site for a total of 229 spaces. No changes have been made to the proposed vehicular access. A copy of the revised site plan is attached for reference.

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2.0 EXISTING CONDITIONS

2.1 Existing Transit Facilities

The CTS/TIS indicated that the bus stops located on the southwest and northeast corner of Bayswater/Somerset are within a walking distance of approximately 90m from the site and a shelter is provided at both stops. This statement should be revised to indicate that both bus stops are approximately 120m from the northwest corner of the site and are identified with a stop flag/pole.

The CTS/TIS indicated that bus stops #6649 and #6651 at the southeast and northwest corners of Preston/Somerset are a walking distance of 450m from the site. This statement should be revised to indicate a walking distance of 430m.

It should be further clarified that the site is approximately 400m from the Bayview O-Train Station and 540m from the Bayview Bus Rapid Transit (BRT) Station via the newly constructed multi-use pathway. Figure 6 of the CTS/TIS has been revised to accurately identify the Bayview BRT Station and the Bayview O-Train Station.

Revised Figure 6: Bayview BRT Station, O-Train Station and Bus Stops



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It should be noted that Route 2 and Route 85 are significant east-west routes with high levels of service providing frequencies on average of 12-15 minutes during the a.m. and p.m. peak periods in both the east and westbound directions.

2.2 Existing Transit Operations

The existing loading profiles for the adjacent segment of Route 2 and for Route 85 at Preston/Somerset were obtained from OC Transpo. The peak hour loading is summarized in the following table.

Table 1: Existing Peak Hour Loading

Direction	AM Peak (Persons/hr)			PM Peak (Person/hr)		
	Load	Capacity	%	Load	Capacity	%
<i>Route 2</i>						
Eastbound	160	225	71%	90	180	50%
Westbound	80	180	44%	120	225	53%
<i>Route 85</i>						
Northbound	170	225	76%	180	225	80%
Southbound	215	225	96%	240	225	107%

It should be noted that the above results are based on standard 40 foot buses with an assumed capacity of 45 persons/trip. Articulated and double-decker buses are typically added to meet the demand.

The critical loading for Route 2 is currently operating at 71% capacity in the eastbound direction during the a.m. peak hour. The critical loading for Route 85 is currently operating above the assumed capacity in the southbound direction during the p.m. peak hour.

3.0 TRAVEL DEMAND FORECASTING

3.1 Planned Transit Network Changes

It should be noted that construction of the Confederation Line – a Light Rail Transit (LRT) Line – began this year with the opening of the line set for 2018. The Confederation Line will extend from Tunney's Pasture to Blair Station and will consist of 13 stations. The future Bayview LRT

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Station will be approximately 400m north of the subject site. This station will be the main point of transfer between the Confederation Line (east-west) and O-Train (north-south).

The CTS/TIS notes that Phase 1, Increment 2 of the phasing of transit infrastructure projects includes the twinning and converting of the current O-Train corridor to LRT from Bayview to South Keys Station. A draft of the updated TMP was released on October 9, 2013. The preferred long-term option identified in the TMP update continues to include LRT from Bayview Station to Riverside South, with connections to the Ottawa Airport and to Gatineau. However, an Affordable Network has been developed as part of the TMP update to allow the City to meet as many of their policy goals as possible within its projected funding envelope. The projects identified in the Affordable Network would be implemented as a single project to bring LRT east, west and south in advance of the previous schedule proposed in the 2008 TMP. The Affordable Network includes an extension of the existing O-Train from Greenboro Station to Bowesville Station with new stations at Gladstone, Walkley, South Keys and Leitrim. The extension of the O-Train and construction of the new stations is recommended for early implementation but not before the commissioning of the Confederation Line in 2018.

In 2010, the City reinitiated the Carling-Bayview CDP process and shortly thereafter, detailed investigations began on three Districts centered around three LRT stations (2 existing, 1 future): Bayview, Gladstone and Preson-Carling. In 2012, the City re-strategized the Carling-Bayview CDP process. Each District became its own CDP area, with the Bayview Station District CDP approved by Council in late spring 2013 and the Preston-Carling CDP on course and expected to be completed in early 2014. The subject site is located within the Gladstone District CDP area, and it is understood that Planning and Growth Management will begin work on this CDP in the near future.

3.2 Transit Ridership Growth

General ridership growth projections for the build-out year (2016) and the 5 year horizon (2021) were obtained from OC Transpo. The projected annual growth from 2014 to 2016 is 2.2% and the projected annual growth from 2016 to 2021 is 3.3%. These growth rates were applied to the existing peak hour loading to estimate the future peak hour loading.

3.3 Trip Generation

The estimated number of person trips generated by the revised development is shown in the following table.

Table 2: Revised Person Trips

Land Use	ITE Vehicle Trips		x 1.35 →	Person Trips	
	AM Peak	PM Peak		AM Peak	PM Peak
Residential Condominium/ Townhouse	119 vph ¹ 20 in, 99 out	141 vph 94 in, 47 out		161 pph ² 27 in, 134 out	190 pph 127 in, 63 out
Specialty Retail	7 vph 3 in, 4 out	27 vph 12 in, 15 out		9 pph 4 in, 5 out	36 pph 16 in, 20 out
Total				170 pph 31 in, 139 out	226 pph 143 in, 83 out

1. vph = Vehicle Per Hour
2. pph = Persons Per Hour

The auto-driver trip shares identified in the CTS/TIS were based on observed percentages in the 2005 *Trans O-D Survey Report* specific to the Ottawa West District. The 2011 O-D Survey results are now available and have been reviewed for the purpose of this addendum. The results show no significant change when compared to the 2005 results and therefore no revision of the modal shares identified in the CTS/TIS is required.

A breakdown of the projected trips by modal share is shown in the following table.

Table 3: Revised Site Traffic by Modal Share

Travel Mode	Modal Share	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
<i>Proposed Residential Condominium/Townhouse</i>							
Total Person Trips		27	134	161	127	63	190
Auto Driver	55%	15	74	89	70	35	105
Auto Passenger	10%	3	13	16	13	6	19
Transit	25%	6	34	40	31	16	47
Non-Auto	10%	3	13	16	13	6	19
<i>Proposed Specialty Retail</i>							
Total Person Trips		4	5	9	16	20	36
Auto Driver	40%	2	2	4	6	8	14

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Travel Mode	Modal Share	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
Auto Passenger	10%	0	0	0	2	2	4
Transit	10%	0	1	1	2	2	4
Non-Auto	40%	2	2	4	6	8	14
<i>Total Proposed</i>							
Total Person Trips		31	139	170	143	83	226
Auto Driver		17	76	93	76	43	119
Auto Passenger		3	13	16	15	8	23
Transit		6	35	41	33	18	51
Non-Auto		5	15	20	19	14	33

The revised development is expected to generate 13 fewer vehicle trips in the a.m. peak and 17 fewer vehicle trips in the p.m. peak compared to the original trip generation identified in the CTS/TIS. No significant change in the outcome of the screenline analysis, intersection analysis, or assessment of turn lane requirements is anticipated as a result of the revised site traffic. The results of CTS/TIS are therefore considered to be valid and conservative from this perspective.

3.4 Transit Trip Distribution

The data presented in Table 6 of the CTS/TIS has been updated to reflect Exhibits 6-2 and 6-3 of the *2011 Trans O-D Survey Report*, attached for reference.

Table 4: Top Origins/Destinations of Ottawa West Area Trips

	Origin of Arrivals	% Trips	Destination of Departures	% Trips
AM Peak Hour	Ottawa West	26%	Ottawa West	32%
	Merivale	13%	Ottawa Centre	13%
	Bayshore/Cedarview	13%	Merivale	12%
	Ottawa Inner Area	7%	Ottawa Inner Area	11%
PM Peak Hour	Ottawa West	38%	Ottawa West	32%
	Merivale	11%	Bayshore/Cedarview	12%
	Bayshore/Cedarview	11%	Merivale	12%
	Ottawa Inner Area	10%	Ottawa Inner Area	8%

The data presented in the above table indicates that approximately 35% of all trips generated by the Ottawa West Area in the AM and PM peak hours have an origin or destination within the Ottawa West Area. The top origins and destinations for all external trips generated by the Ottawa West Area are the Merivale, Ottawa Centre, Ottawa Inner Area, Bayshore/Cedarview and Kanata-Stittsville regions.

The distribution of transit trips identified in the CTS/TIS has been adjusted to account for a component of residents from the proposed development that may access transit at the Bayview BRT station via the newly built multi-use path that extends north-south along the east side of the O-Train corridor.

As the distance from the site to the Bayview BRT station is comparable to the distance from the site to Preston Street and transit customers often prefer a trip that does not involve a transfer, the portion of transit trips previously assigned to Route 85 at Preston is now assumed to be shared equally between the Bayview BRT station and Route 85 at Preston, resulting in the following distribution:

- 50% of all new transit trips will use Route 2 on Somerset Street;
- 25% of all new transit trips will use the Route 85 on Preston Street;
- 25% of all new transit trips will use the express/high-frequency routes along the Transitway via the Bayview BRT station.

Applying these percentages to the projected transit trip volumes presented in **Table 3** above yields the following passenger loadings:

AM Peak Hour

- 21 people (4 alighting, 17 boarding) at Stops #8039 / #8027 on Somerset Street;
- 10 people (1 alighting, 9 boarding) at Stops #6649 / #6651 on Preston Street;
- 10 people (1 alighting, 9 boarding) at the Bayview BRT station.

PM Peak Hour

- 25 people (17 alighting, 8 boarding) at Stops #8039 / #8027 on Somerset Street;
- 13 people (8 alighting, 5 boarding) at Stops #6649 / #6651 on Preston Street;
- 13 people (8 alighting, 5 boarding) at the Bayview BRT.

4.0 REVISED IMPACT ANALYSIS

4.1 Future Transit Operations

Future transit operations were assessed by combining the projected ridership growth with the anticipated site generated transit trips. The resulting 2016 and 2021 peak hour loading is summarized in the following tables.

Table 5: Projected 2016 Peak Hour Loading

Direction	AM Peak (Persons/hr)			PM Peak (Person/hr)		
	Load	Capacity	%	Load	Capacity	%
<i>Route 2</i>						
Eastbound	186	225	83%	106	180	59%
Westbound	95	180	53%	139	225	62%
<i>Route 85</i>						
Northbound	184	225	82%	201	225	89%
Southbound	236	225	105%	262	225	116%

Based on the 2016 projections, Route 2 is expected to operate at 83% capacity in the eastbound direction during the a.m. peak hour. Route 85 is expected to operate above the assumed capacity in the southbound direction during the a.m. and p.m. peak hours.

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In order to accommodate the projected 2016 loading, increased service is recommended for Route 85 in the southbound direction during the a.m. and p.m. peak hours.

Table 6: Projected 2021 Peak Hour Loading

Direction	AM Peak (Persons/hr)			PM Peak (Person/hr)		
	Load	Capacity	%	Load	Capacity	%
<i>Route 2</i>						
Eastbound	216	225	96%	121	180	67%
Westbound	110	180	61%	164	225	73%
<i>Route 85</i>						
Northbound	214	225	95%	236	225	105%
Southbound	276	225	123%	307	225	136%

Based on the 2021 projections, Route 2 is expected to operate at 96% capacity in the eastbound direction during the a.m. peak hour. Route 85 is expected to operate above the assumed capacity in both directions during the a.m. and p.m. peak hours.

In order to accommodate the projected 2021 loading, increased service is recommended for Route 85 in both directions during the a.m. and p.m. peak hours.

4.2 Turn Lane Requirements

The CTS/TIS identified the need for a dedicated westbound left turn lane. In order to address the need for a westbound left turn lane, a number of alternative solutions have been considered to date. A summary of the alternatives is provided below. It should be noted that each alternative would include the provision of traffic signals at the Somerset/Breezhill intersection.

1. Provision of WB left turn lane with removal of the bike lane for a distance of 60m east of Breezhill (note: the bike lane starts/ends at the Somerset/Breezhill intersection)
2. Split phase signal timing at the Somerset/Breezhill intersection and no WB left turn lane
3. Peak hour restriction of WB left turns (Monday to Friday, 4 - 6 p.m.) at the Somerset/Breezhill intersection and no WB left turn lane
4. Underground connection between 1050 and 1040 Somerset, with combined access via the laneway
5. Provision of WB left turn lane with reduced sidewalk widths, no inner boulevards, and relocated pedestrian lights for a distance of 60m east of Breezhill (or maintain current

- sidewalk widths and provide reduced lane widths)
6. Monitoring to confirm requirement for WB left turn lane

Option 1 was considered during the preparation of the CTS/TIS but ruled out as it creates a discontinuity in the cycling network by interrupting the connection between the shared use lanes west of Breezehill and the bike lanes east of Breezehill.

Option 2 involves separate green phases for eastbound and westbound traffic, ie. all traffic on the westbound approach would proceed while all traffic on the eastbound approach waits and vice versa. This avoids the need to provide a dedicated WB left turn lane. As noted in the CTS/TIS, this option was ruled out as it fails to provide acceptable Levels of Service based on City standards.

Option 3 was identified as the recommended solution in the CTS/TIS, with the qualification that the WB left turn would be restricted during the p.m. peak of adjacent street traffic and not during the peak hour of the Devonshire Public School. It was not intended that traffic along Laurel should be increased during regular school hours. Nevertheless, options 4, 5, and 6 have now been considered in an effort to address concerns raised by the City regarding the previous recommendation to restrict the WB left turn movement during the p.m. peak hour.

Option 4 has been considered in response to the technical circulation comments provided by the City. The combined traffic generated by both developments is consistent with the typical traffic volumes of a local roadway with minimum lane widths of 3.5m as opposed to a public laneway. The 1050 Somerset proposal includes widening the laneway to 6 metres however this is the maximum width that can be provided based on the location of an overhead utility pole line. The overhead line extends between Somerset and the 417, approximately 0.5km to the south. Modification of the laneway to a public road standard would change its function from land access only to land access and traffic movement with a direct impact on the community. It would require property acquisition and burying the overhead line between Somerset and Laurel and possibly beyond.

The design implication of using the laneway to access both developments is that a westbound left turn lane would be required on Somerset at the laneway. The spacing of the laneway from Breezehill is approximately 45m and this distance is insufficient to accommodate the required length of the turn lane and taper. The left turn lane would still need to be developed east of Breezehill and carried through the proposed signalized intersection. From an operational perspective there is no advantage in moving the site traffic further west and it results in an unconventional arrangement of accessing one building through another instead of a driveway connection to the adjacent roadway.

Finally, any underground connection between 1040 and 1050 would need to be made at the third level of parking or deeper to avoid conflicts with the services under Breezehill which include a 1350mm diameter watermain, a 1350mm diameter storm sewer and a 1050mm sanitary sewer. Providing a vehicular connection under Breezehill has major cost implications.

In summary, using the laneway to access both developments would have a significant impact on the community, provide no advantage from an operational perspective and be cost prohibitive.

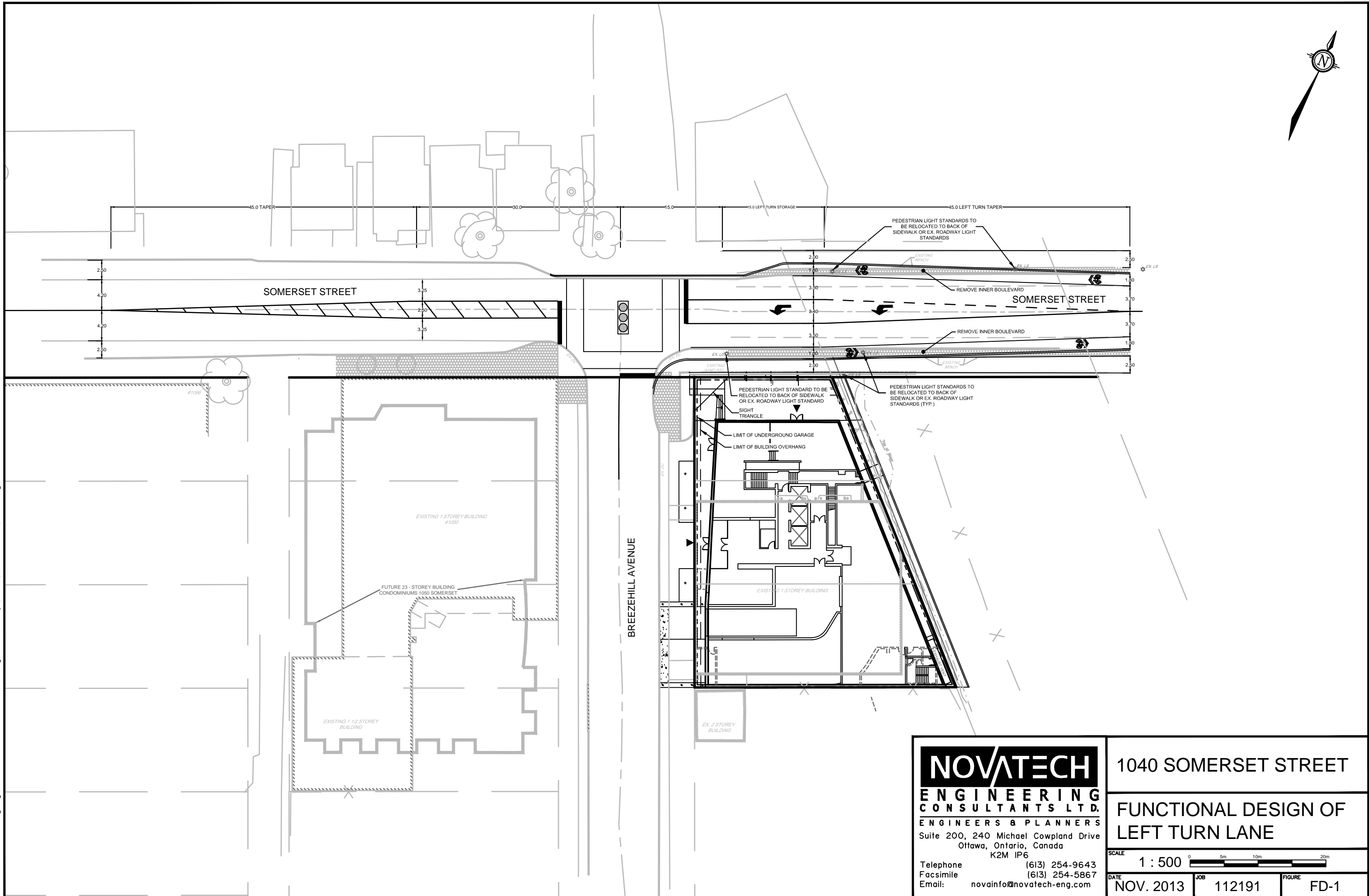
Option 5 has been considered in response to the City's request for more detailed information on lane widths, clearances and the potential for passing on the right. The westbound approach currently consists of 2.5m sidewalks, 1m inner boulevards, 1.8m bike lanes and two 3.7m general travel lanes. Pedestrian lighting is located in the inner boulevards on either side of the overpass. Further review of the existing geometry suggests that a 3.4m left turn lane could be accommodated through the elimination of the inner boulevards for a minimum distance of 60m across the bridge, relocation of the pedestrian lighting to the back of sidewalk or to the streetlight poles at the back of the guardrail, and a reduction of the sidewalk widths to 2m. The functional design of the proposed left turn lane is shown in **Figure 1**. If reduced sidewalk widths are not desired, an alternative cross section with 3.25m general travel lanes and a 3m left turn lane could be considered.

This option accommodates the left turn and through vehicular movements, avoids the need for turn restrictions at Breezehill and alleviates the concern of encroachment into the dedicated bike lane, however, it requires a modification of the recently reconstructed cross-section on Somerset Street.

Option 6 was raised at a meeting with City staff on October 7, 2013 as a possible solution where signals would be installed at the Somerset/Breezehill intersection with monitoring for a period of 3 years following 80% occupancy to confirm if any further modifications are required. It was agreed that additional capacity analysis should be completed to show if acceptable operating conditions could be expected with the provision of traffic signal control and no WB left turn lane. The additional analysis has been completed and is discussed in **Section 4.4** of this addendum.

4.3 Safety and Operations

In addition to traffic signals at the Somerset/Breezehill intersection, a continuous advance warning beacon was recommended in the CTS/TIS based on the available sight distance for vehicles traveling west on Somerset Street. These beacons can be used as a reinforcement of the "Traffic Signals Ahead" warning sign where the visibility of a signalized intersection is restricted. An example of an advance warning beacon located on the westbound approach of the Hunt Club Road/Airport Parkway intersection is shown in **Figure 2**.



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1040 SOMERSET STREET

FUNCTIONAL DESIGN OF
LEFT TURN LANE

SCALE 1 : 500

DATE	JOB	FIGURE
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Figure 2: Advance Warning Beacon, Hunt Club/Airport Parkway



A minimum advance placement distance of 140m is recommended on Somerset Street east of Breezehill Avenue based on Table 4 of the Ontario Traffic Manual Book 6, as shown in **Figure 3**.

Figure 3: Minimum Advance Placement Distance



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4.4 Analysis of Traffic Signals at Somerset/Breezehill

Additional analysis has been completed for the 2021 total traffic projections identified in the CTS/TIS assuming standard two-phase traffic signal operation at Somerset/Breezehill, no WB left turn lane and no peak hour turn restrictions. The results are summarized in the following table and detailed reports are attached for reference.

Table 7: Analysis of Signals at Somerset/Breezehill – 2021 Total Traffic

Intersection	AM Peak			PM Peak		
	max. v/c or Delay	LOS	Movement	max. v/c or Delay	LOS	Movement
Somerset / Breezehill	0.51	A	EBT/R	0.66	B	WBT/L

The results show acceptable operating conditions in 2021 based on the projected total traffic volumes. A maximum queue of 80 metres is expected for the westbound approach of the Somerset Street/Bayswater Avenue intersection in the weekday PM peak. A maximum queue of 65 metres is expected for the eastbound approach of the Somerset Street/Breezehill Avenue intersection in the weekday PM peak. Sufficient storage is available for the projected queue lengths as the spacing between the Bayswater Avenue and proposed Breezehill Avenue stop bars is approximately 85 metres.

Based on the above results the provision of traffic signals at the Somerset Street/Breezehill Avenue intersection is recommended with a 3 year monitoring period following 80% occupancy to confirm if any further modifications are required.

5.0 PROVISIONS FOR NON-AUTO MODES

Additional detail on the pedestrian connection between the paved plaza in front of the proposed retail and the sidewalk along the south side of Somerset Street is provided as follows. A flush connection will be provided for a distance of 7.4m or approximately 40% of the site's frontage. Concrete steps are then introduced for a distance of 8m, extending to the proposed relocation of the guardrail concrete end treatment. Two steps are developed, one at a time, in an easterly direction along Somerset. Hand rails will be provided at the steps as shown on the proposed site plan.

A set of steps has been introduced behind the low wall at the northwest corner of the site connecting the Breezehill Avenue sidewalk to the paved plaza.

A 3m pathway has been added along the eastern edge of the site cantilevered into the O-Train corridor. The pathway can be accessed from the Somerset Street sidewalk by passing through the paved plaza. This piece of pathway could ultimately be used to provide access to the future rapid transit station at Gladstone.

6.0 ON-SITE DESIGN

6.1 Proposed Access

The CTS/TIS indicated that the new access to the underground parking will have a width of 6.1m and the loading access immediately to the north will have a width of 4m. These measurements are taken at the face of the proposed building, 1.6m back from the property line. The loading access should not be considered a second access to the site in terms of the Private Approach By-law as it is not to be used by the public on a regular basis.

An 11.5m wide curb depression is proposed across the loading and underground parking access. Using the wall between the two accesses as a reference point, the depressed width in front of the loading access is 4.8m at the property line and the depressed width in front of the parking access is 6.7m at the property line. The curb and sidewalk will be continuous and depressed across the accesses in accordance with the City's standard.

The revised site plan identifies an opening in the wall between the loading and underground parking accesses to provide increased visibility between the two areas. Bollards have been added on either side of the curb depression to draw increased attention to the pedestrian/vehicle conflict zone.

The southerly building wall coincides with the property limit and the access to the underground parking is adjacent to the wall and therefore less than the required 3m away from the property line. Due to the shape and size of the site, it's not possible to meet the minimum offset as moving the access further to north will increase the sharpness of the turn at the bottom of the ramp and make the layout of the underground parking unworkable. A waiver of the Private Approach By-law will be required.

6.2 On-Site Parking

Based on the revised number of units, a minimum of 128 resident parking spaces, 54 visitor parking spaces, and five retail parking spaces are required for a total of 217 parking spaces. A total of 141 spaces are proposed for resident parking and 21 spaces are proposed for visitor parking.

Based on the shape and size of the property, seven levels of underground parking are proposed to meet the minimum parking requirement of the Zoning By-law for resident parking. Providing additional levels of underground parking at 1040 Somerset is cost prohibitive. A reduced visitor parking rate of 0.083 spaces per dwelling unit excluding the first 12 units has been requested as part of the ZBL amendment application. The proposed on-site visitor parking meets the requested rate of 0.083 spaces per dwelling unit excluding the first 12 units.

The ZBL identifies a minimum requirement of 142 bicycle parking spaces as part of the proposed development. The proposed on-site bicycle parking has been increased from 174 spaces to 229, four of which will be located at ground level, 63 spaces on the mezzanine level, 98 spaces on the first three levels of underground parking and 64 spaces on the remaining four levels of underground parking.

7.0 COMMUNITY IMPACTS

School Area warning signs are provided on Breezehill north and south of the Devonshire Public School and along Laurel east and west of Breezehill. In addition to the School Area warning signs, School Speed Zone warning signs could be considered to establish a reduced speed limit in proximity of the school.

The City of Ottawa Speed Zoning Handbook (August 2011) establishes the criteria for determining when School Areas and School Speed Zones are warranted. The factors to be considered include:

- School type
- Road classification
- Fencing characteristics
- Property line separation
- Location of school entrance
- Location of sidewalks

When a reduced speed is warranted the new speed limit is implemented on school days only, and, in urban areas, between 7:00 and 9:30 a.m. and between 2:00 and 5:00 p.m. In accordance with the *Highway Traffic Act*, the reduction of the speed limit within a school speed zone is never greater than 20 km/hr. Based on the attached worksheet a School Speed Zone is warranted for the Devonshire Public School.

School Speed Zone flashing beacons are supplementary devices that area typically considered for rural applications as opposed to the subject urban setting.

8.0 TRANSPORTATION DEMAND MANAGEMENT

As noted in the CTS/TIS, the permanent TDM components of the proposal currently include:

- reduction of on-site vehicle parking for residents
- provision of on-site bike storage lockers
- pursuing the provision of on-site car sharing

The proposed on-site resident parking only marginally exceeds the minimum requirement of the ZBL. Minimizing the on-site parking will force residents to consider alternative modes of travel apart from car ownership. To compensate for the reduced amount of on-site vehicular parking, bike storage lockers are proposed on each level of underground parking and at the mezzanine level.

In addition to the reduced on-site vehicle parking and the on-site bike storage lockers, the developer plans to pursue the provision of on-site car sharing. Other nearby VrtuCar car sharing stations currently include the high-rise apartment building at 57 Bayswater, the commercial building at 950 Gladstone (southeast of Gladstone/Loretta), and the convenience store at 102 Fairmont (southwest of Gladstone/Fairmont). To qualify as a new location, the site has to be feasible in terms of the number of users it will serve. Upon project completion, VrtuCar will be requested to assess the feasibility of adding this site as a new location.

Hook-ups for electric cars could be provided in accordance with user demand.

An additional permanent TDM solution could include communal office/studio/meeting spaces to support home business; these spaces could have facilities such as Broad band, wifi and other office services. These spaces create the opportunity to run a home business but also provide office support spaces and facilities to receive clients or conduct meeting.

Nearby off-site pedestrian enhancements include the newly constructed multi-use pathway along the east side of the O-Train corridor. Residents will be able to take advantage of the shorter, more direct route from the site to the Bayview BRT Station and O-Train Station.

As noted in the CTS/TIS, temporary TDM measures could include providing free transit passes/car share memberships to residents for one year. This helps to reinforce positive travel choices and behaviours early in the tenancy.

9.0 CONCLUSIONS AND RECOMMENDATIONS

The following provides a summary of the main conclusions and recommendations of this addendum:

- Based on an assumed capacity of 45 persons per trip, OC Transpo Route 2 is currently operating at 71% capacity in the eastbound direction during the a.m. peak hour. Route 85 is operating above capacity in the southbound direction during the p.m. peak hour.
- In order to accommodate the projected 2016 loading, increased service is recommended for Route 85 in the southbound direction during the a.m. and p.m. peak hours.
- In order to accommodate the projected 2021 loading, increased service is recommended for Route 85 in both directions during the a.m. and p.m. peak hours.
- Additional intersection analysis shows acceptable operating conditions assuming standard two-phase traffic signal control at Somerset/Breezehill with no WB left turn lane and no peak hour turn restrictions.
- Based on the results of the additional analysis, the provision of traffic signals at the Somerset Street/Breezehill Avenue intersection is recommended with a 3 year monitoring period following 80% occupancy to confirm if any further modifications are required.
- Based on the shape and size of the property, seven levels of underground parking are proposed to meet the minimum parking requirement of the Zoning By-law for resident parking. Providing additional levels of underground parking at 1040 Somerset is cost prohibitive. The proposed amount of on-site visitor parking satisfies the requested rate of 0.083 spaces per dwelling unit excluding the first 12 units.
- The proposed on-site bicycle parking has been increased from 174 spaces to 229, four of which will be located at ground level, 63 spaces on the mezzanine level, 98 spaces on the first three levels of underground parking and 64 spaces on the remaining four levels of underground parking.
- A School Speed Zone is warranted for the Devonshire Public School and should be considered to establish a reduced speed limit.
- The proposed on-site vehicle parking for residents only marginally exceeds the minimum requirement of the Zoning By-law.
- An additional permanent TDM solution could include communal office/studio/meeting spaces to support home business; these spaces could have facilities such as Broad band, wifi and other office services. These spaces create the opportunity to run a home business but also provide office support spaces and facilities to receive clients or conduct meeting.

We trust that this Addendum adequately addresses the City's comments relating to the original CTS/TIS. Please call to discuss any further comments or questions.

Yours truly,

NOVATECH ENGINEERING CONSULTANTS LTD.

Prepared By:



Jennifer Luong, P.Eng.
Project Manager

Cc. Neil Malhotra, Claridge Homes

Attach.: Revised Site Plan
2011 Trans O-D Survey Report, Exhibits 6-2 and 6-3
Intersection Analysis Reports (2021 Total Traffic)
School Speed Zone Worksheet

Table 6-2: AM Peak Period Person-Trips – All Modes, All Purposes (26 districts)

District Name	O/D	1	50	100	120	140	180	200	240	260	300	350	360	400	425	450	500	560	600	625	650	700	750	800	820	840	845	9999	Total	
Ottawa Centre	1	3,470	1,160	310	190	680	180	600	340	170	130	-	20	-	30	40	140	-	610	310	-	50	50	30	20	-	-	40	8,570	
Ottawa Inner Area	50	9,420	17,180	1,960	1,450	4,270	830	3,260	1,750	830	630	70	60	250	340	150	970	20	1,330	670	-	200	40	130	110	-	10	180	46,110	
Ottawa East	100	3,400	3,670	7,280	2,110	2,370	540	1,610	460	280	600	70	40	40	50	20	260	90	790	450	-	20	10	50	100	90	10	120	24,530	
Beacon Hill	120	1,880	1,380	1,750	5,170	1,850	170	540	610	240	760	60	10	30	50	-	170	40	440	240	10	-	30	70	40	90	-	80	15,710	
Alta Vista	140	4,180	4,970	1,940	2,690	16,220	1,980	3,010	1,160	830	1,050	110	140	160	460	160	660	20	710	360	-	40	40	20	220	10	10	130	41,280	
Hunt Club	180	3,320	3,060	960	380	7,990	8,550	3,130	580	540	630	50	190	870	440	180	420	60	380	170	-	-	-	70	80	30	-	200	32,280	
Merivale	200	4,710	4,710	780	580	3,690	960	13,980	4,960	2,850	460	10	10	340	790	200	1,200	70	400	180	-	70	10	40	30	30	-	250	41,310	
Ottawa West	240	4,270	3,080	310	150	1,550	360	3,340	8,280	1,940	220	40	50	-	160	80	840	70	730	170	40	60	20	30	70	60	70	90	26,080	
Bayshore/Cedarview	260	3,510	2,860	310	550	2,330	230	4,710	4,870	14,570	310	20	40	70	700	190	2,420	380	620	220	-	-	-	50	60	-	20	190	39,230	
Orleans	300	7,330	4,800	2,840	4,180	5,890	950	1,940	1,460	1,210	29,900	1,000	70	170	200	70	500	70	1,530	460	10	60	50	200	40	10	-	450	65,390	
Rural East	350	450	250	160	350	430	140	340	60	50	1,970	820	30	10	60	20	30	-	70	30	-	-	-	-	-	-	40	-	230	5,540
Rural Southeast	360	690	830	260	480	1,550	1,210	960	190	180	290	170	4,440	570	580	520	260	-	110	-	-	-	-	-	-	-	-	-	450	13,740
South Gloucester / Leitrim	400	930	530	240	240	1,970	1,100	770	290	170	50	-	210	3,680	310	120	140	40	90	10	-	-	20	10	-	20	-	110	11,050	
South Nepean	425	3,820	2,270	630	370	2,360	920	4,310	1,830	3,230	330	20	250	100	17,260	580	1,800	80	840	260	-	60	40	-	-	10	20	130	41,520	
Rural Southwest	450	620	580	120	90	690	220	840	400	810	70	-	390	220	970	4,280	1,850	80	120	70	-	-	-	-	-	-	-	320	12,740	
Kanata - Stittsville	500	4,560	3,350	660	280	1,810	490	3,410	2,020	5,010	290	100	50	60	690	1,130	30,360	1,050	670	160	100	-	20	20	-	30	30	350	56,700	
Rural West	560	430	380	80	70	180	80	720	170	760	-	-	20	60	30	160	3,250	4,020	140	50	-	-	10	20	-	-	-	730	11,360	
Île de Hull	600	880	440	240	50	190	50	130	170	70	80	10	-	-	50	-	30	-	1,590	730	150	-	50	270	30	90	30	-	5,330	
Hull Périphérie	625	2,640	1,350	550	310	420	50	260	360	470	200	10	30	20	40	30	30	-	3,580	10,310	430	580	260	1,550	500	240	90	130	24,440	
Plateau	650	1,800	1,040	130	130	680	80	190	760	110	80	-	-	20	40	-	230	-	2,360	3,550	2,440	570	90	630	280	70	40	40	15,360	
Aylmer	700	2,660	1,050	500	250	480	160	520	770	470	90	30	-	-	40	60	190	50	2,630	2,850	550	10,110	310	830	240	-	30	70	24,940	
Rural Northwest	750	680	240	190	90	300	110	250	310	100	40	-	-	10	40	-	60	-	750	1,560	150	860	3,620	530	20	50	40	250	10,250	
Pointe Gatineau	800	2,790	1,470	420	560	740	70	320	450	60	70	30	-	30	-	10	80	10	2,640	4,310	100	160	130	12,040	2,780	540	360	120	30,290	
Gatineau Est	820	1,720	700	290	250	270	120	310	310	130	60	20	-	-	20	10	60	20	1,900	2,400	100	320	60	4,860	11,020	440	380	290	26,060	
Rural Northeast	840	800	500	100	80	320	20	30	170	70	20	-	70	-	20	-	50	-	990	2,010	190	190	360	3,170	2,210	3,240	1,060	120	15,790	
Masson-Angers	845	250	240	90	50	70	-	100	140	-	30	-	-	20	-	-	10	-	410	970	30	110	90	930	1,150	300	6,810	150	11,950	
External	9999	10	10	-	-	30	50	30	40	80	10	20	-	-	-	-	50	50	-	-	-	40	20	-	30	-	20	20	120	630
Total		71,220	62,100	23,100	21,100	59,330	19,620	49,610	32,910	35,230	38,370	2,660	6,120	6,730	23,370	8,010	46,060	6,220	26,430	32,500	4,340	13,480	5,310	25,580	19,000	5,410	9,030	5,340	658,180	

Values may not add due to rounding.

Table 6-3: PM Peak Period Person-Trips – All Modes, All Purposes (26 districts)

District Name	O/D	1	50	100	120	140	180	200	240	260	300	350	360	400	425	450	500	560	600	625	650	700	750	800	820	840	845	9999	Total
Ottawa Centre	1	5,590	9,890	3,230	1,390	3,860	2,960	4,260	3,820	3,410	6,780	420	700	780	3,520	620	4,250	330	970	2,430	1,530	2,450	520	2,940	1,540	1,020	310	60	69,580
Ottawa Inner Area	50	3,480	25,500	4,520	1,190	5,070	2,800	4,750	2,630	3,240	4,220	290	910	590	2,150	670	2,930	330	560	1,300	920	870	500	1,170	750	380	160	140	72,020
Ottawa East	100	480	2,320	11,350	2,230	2,550	1,040	700	670	500	3,260	160	350	110	400	160	750	120	210	320	170	330	180	390	240	180	140	60	29,370
Beacon Hill	120	260	1,250	2,420	6,490	1,950	300	330	250	430	4,050	150	410	260	290	50	460	20	40	320	10	330	120	410	150	280	80	60	21,170
Alta Vista	140	1,190	4,900	3,650	1,810	19,660	6,860	3,610	1,890	1,820	6,270	420	1,560	1,760	2,350	580	1,920	300	210	520	490	550	210	850	560	170	160	140	64,410
Hunt Club	180	550	1,730	570	420	3,400	9,870	1,320	610	450	1,180	170	860	1,280	870	300	740	70	80	120	60	90	160	170	140	50	10	90	25,360
Merivale	200	1,080	3,760	1,320	760	2,990	3,230	17,860	4,780	6,640	1,800	330	730	710	4,630	970	3,730	560	140	180	50	380	450	370	410	70	80	270	58,280
Ottawa West	240	720	3,140	580	480	1,110	990	5,050	14,220	4,580	1,320	20	120	170	1,760	420	1,950	280	120	370	820	560	150	480	180	150	130	60	39,930
Bayshore/Cedarview	260	570	1,400	330	260	1,100	630	4,850	3,340	16,260	1,060	100	240	200	3,510	680	5,740	830	30	390	80	460	210	60	70	80	-	320	42,800
Orleans	300	380	1,240	1,270	1,480	2,030	480	470	130	420	33,700	1,700	200	110	330	90	740	60	100	340	30	80	20	70	200	70	30	300	46,070
Rural East	350	10	80	60	10	190	30	110	-	40	1,240	660	140	10	-	20	150	-	10	30	-	30	-	10	30	-	-	120	2,980
Rural Southeast	360	70	130	130	40	240	460	260	120	160	120	110	3,550	370	140	360	40	20	30	10	-	-	30	10	-	20	-	250	6,670
South Gloucester / Leitrim	400	110	480	90	90	360	530	260	200	160	230	10	920	3,410	250	510	110	60	-	-	20	-	10	-	30	-	20	10	7,870
South Nepean	425	190	540	20	80	570	360	1,560	360	1,420	120	20	190	290	18,430	1,130	980	20	-	70	30	50	10	10	30	80	-	20	26,580
Rural Southwest	450	70	210	30	60	120	240	470	120	510	30	20	560	250	630	3,400	1,310	100	-	30	-	80	50	30	20	-	40	260	8,640
Kanata - Stittsville	500	240	1,680	380	180	780	570	1,840	1,100	3,780	710	20	340	210	1,500	1,410	37,470	3,520	30	10	170	120	120	120	90	20	10	170	56,590
Rural West	560	50	70	60	20	70	70	240	150	440	90	-	-	20	110	40	1,660	3,670	-	20	-	110	20	20	-	-	-	230	7,160
Île de Hull	600	860	1,610	530	350	720	310	420	730	670	1,240	50	100	90	780	90	780	70	1,590	4,040	2,190	2,470	690	2,630	1,930	1,210	540	30	26,720
Hull Périphérie	625	330	800	380	330	250	230	340	270	200	500	40	-	10	230	60	200	50	1,510	12,070	3,440	2,500	1,410	4,000	2,520	1,690	1,040	110	34,510
Plateau	650	160	190	20	10	50	-	60	40	40	10	-	-	-	-	-	60	-	150	1,490	3,620	900	220	180	100	200	50	-	7,550
Aylmer	700	150	180	50	-	30	-	60	50	10	130	20	-	-	60	-	30	-	310	1,360	660	11,020	710	430	210	120	90	10	15,690
Rural Northwest	750	20	40	10	-	70	60	110	-	10	90	-	-	20	30	-	110	10	40	300	160	380	3,000	230	190	410	110	70	5,470
Pointe Gatineau	800	100	230	60	60	210	100	110	30	40	170	-	20	20	-	20	70	10	520	2,670	500	1,080	290	15,820	5,330	2,690	1,150	60	31,360
Gatineau Est	820	60	20	150	100	160	80	20	50	20	90	-	-	-	-	20	90	-	140	940	230	200	120	4,210	10,300	1,740	810	10	19,560
Rural Northeast	840	20	40	-	120	-	30	40	60	50	20	60	-	20	20	30	90	-	130	470	30	60	200	740	650	3,270	490	40	6,680
Masson-Angers	845	-	20	110	-	30	-	20	80	-	-	50	-	20	20	10	40	-	180	330	90	30	30	600	390	1,030	6,970	-	10,050
External	9999	10	190	260	170	170	210	290	140	150	430	100	450	100	50	460	760	620	40	170	20	80	190	290	90	150	360	470	6,420
Total		16,750	61,640	31,580	18,130	47,740	32,440	49,410	35,840	45,450	68,860	4,920	12,350	10,810	42,060	12,100	67,160	11,050	7,140	30,300	15,320	25,210	9,620	36,240	26,150	15,080	12,780	3,360	749,490

Values may not add due to rounding.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	342	69	35	177	55	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97			0.99	0.97	
Frt	0.977				0.920	
Fit Protected				0.992	0.980	
Satd. Flow (prot)	1644	0	0	1682	1497	0
Fit Permitted				0.894	0.980	
Satd. Flow (perm)	1644	0	0	1503	1497	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	22				87	
Link Speed (k/h)	50			50	50	
Link Distance (m)	108.9			435.9	50.2	
Travel Time (s)	7.8			31.4	3.6	
Confl. Peds. (#/hr)		74	74			
Confl. Bikes (#/hr)		58				24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	2%	0%	2%
Parking (#/hr)	0			0	0	
Adj. Flow (vph)	372	75	38	192	60	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	447	0	0	230	147	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.13	0.99	0.99	1.13	1.13	0.99
Turning Speed (k/h)		14	24		24	14
Turn Type	NA		Perm	NA	NA	
Protected Phases	2			6	8	
Permitted Phases			6			
Minimum Split (s)	30.2		30.2	30.2	26.9	
Total Split (s)	42.0		42.0	42.0	28.0	
Total Split (%)	60.0%		60.0%	60.0%	40.0%	
Maximum Green (s)	36.8		36.8	36.8	22.1	
Yellow Time (s)	3.3		3.3	3.3	3.3	
All-Red Time (s)	1.9		1.9	1.9	2.6	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	5.2			5.2	5.9	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	18.0		18.0	18.0	13.0	
Flash Dont Walk (s)	7.0		7.0	7.0	8.0	
Pedestrian Calls (#/hr)	10		10	10	5	
Act Effct Green (s)	36.8			36.8	22.1	
Actuated g/C Ratio	0.53			0.53	0.32	
v/c Ratio	0.51			0.29	0.28	
Control Delay	10.0			10.6	9.9	
Queue Delay	0.2			0.0	0.0	
Total Delay	10.1			10.6	9.9	
LOS	B			B	A	
Approach Delay	10.1			10.6	9.9	
Approach LOS	B			B	A	
Queue Length 50th (m)	21.8			15.6	5.5	
Queue Length 95th (m)	32.0			28.0	17.4	
Internal Link Dist (m)	84.9			411.9	26.2	
Turn Bay Length (m)						
Base Capacity (vph)	874			790	532	



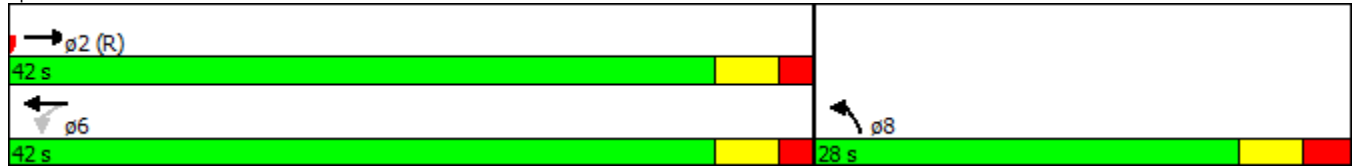
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Starvation Cap Reductn	60			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.55			0.29	0.28	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green
 Natural Cycle: 60
 Control Type: Pretimed
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 10.2
 Intersection Capacity Utilization 56.2%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 1: Breezehill & Somerset





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	401	61	61	429	42	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98			0.99		
Frt	0.982				0.929	
Fit Protected				0.994	0.977	
Satd. Flow (prot)	1663	0	0	1685	1553	0
Fit Permitted				0.893	0.977	
Satd. Flow (perm)	1663	0	0	1505	1553	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	17				51	
Link Speed (k/h)	50			50	50	
Link Distance (m)	108.9			435.9	50.3	
Travel Time (s)	7.8			31.4	3.6	
Confl. Peds. (#/hr)		74	74			
Confl. Bikes (#/hr)		58				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	2%	0%	2%
Parking (#/hr)	0			0	0	
Adj. Flow (vph)	436	66	66	466	46	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	502	0	0	532	97	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.13	0.99	0.99	1.13	1.13	0.99
Turning Speed (k/h)		14	24		24	14
Turn Type	NA		Perm	NA	NA	
Protected Phases	2			6	8	
Permitted Phases			6			
Minimum Split (s)	30.2		30.2	30.2	26.9	
Total Split (s)	43.0		43.0	43.0	27.0	
Total Split (%)	61.4%		61.4%	61.4%	38.6%	
Maximum Green (s)	37.8		37.8	37.8	21.1	
Yellow Time (s)	3.3		3.3	3.3	3.3	
All-Red Time (s)	1.9		1.9	1.9	2.6	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	5.2			5.2	5.9	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	18.0		18.0	18.0	13.0	
Flash Dont Walk (s)	7.0		7.0	7.0	8.0	
Pedestrian Calls (#/hr)	10		10	10	5	
Act Effct Green (s)	37.8			37.8	21.1	
Actuated g/C Ratio	0.54			0.54	0.30	
v/c Ratio	0.55			0.66	0.19	
Control Delay	13.1			16.3	11.2	
Queue Delay	1.4			0.0	0.0	
Total Delay	14.5			16.3	11.2	
LOS	B			B	B	
Approach Delay	14.5			16.3	11.2	
Approach LOS	B			B	B	
Queue Length 50th (m)	38.2			45.5	4.3	
Queue Length 95th (m)	63.2			77.3	14.0	
Internal Link Dist (m)	84.9			411.9	26.3	
Turn Bay Length (m)						
Base Capacity (vph)	905			812	503	

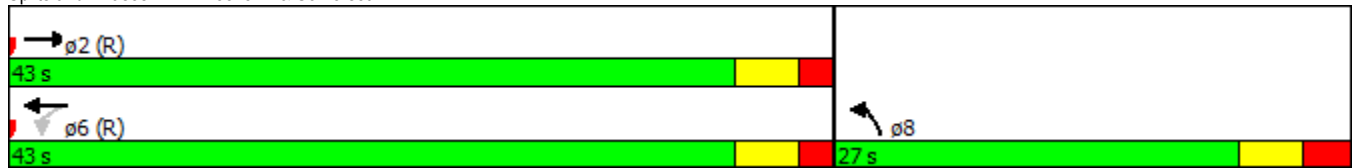


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Starvation Cap Reductn	218			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.73			0.66	0.19	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Natural Cycle: 60
 Control Type: Pretimed
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 15.0
 Intersection LOS: B
 Intersection Capacity Utilization 73.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: Breezehill & Somerset





City Operations - Public Works

School Area and School Speed Zone Worksheet

School Name: Devonshire Public School

Street: Breezehill Speed Limit: 50

Surveyor: _____ Date (dd/mm/yyyy): October 3, 2013

Comments: _____

Installation Factors	Maximum Point Value (MPV)	Description	Weighting Factor (WF)	Weighting Factor for this School	Score (MPV*WF)	
School T ype	40	Elementary	1.0	1.0	40	
		Middle/Junior High School	0.4			
		High School	0.2			
		Post Secondary/ College/ University	0.0			
Road C lassification	20	Urban Land Use		1.0	20	
		Local	N/A			1.0
		Minor Collector	Local			0.75
		Collector	Collector			0.5
		Major Collector/Minor Arterial	Arterial			0.25
		Major Arterial/Expressway	Expressway			0.0
Fencing	20	Fully Traversable	1.0	0.5	10	
		Partially Traversable	0.5			
		Non-Traversable	0.1			
Property L ine Separation	10	Abuts Roadway	1.0	1.0	10	
		Within 50 Metres	0.5			
		Further than 50 Metres	0.0			
School E ntrance	5	Main Entrance / Multiple Secondary Entrances	1.0	1.0	5	
		Secondary Entrance	0.6			
		None	0.0			
S i dewalks	5	None or Non-School Side	1.0	0.0	0	
		School Side	0.6			
		Both Sides	0.0			
TOTAL SCORE (Sum of T, C, F, L, E, and S) =					85	

Total Score	Area or Speed Zone ?
0 - 40	Nothing
41 - 64	School Area
65 - 80	School Area or School Speed Zone *
81 - 100	School Speed Zone

* Local conditions must be considered in detail in order to determine the appropriate treatment. Wherever possible, mitigation measures should be explored that would reduce the score so that marginal school speed zones can be avoided. The reasons for the final decision should always be documented.

School Area Warranted?	
School Speed Zone Optional?	
School Speed Zone Warranted?	yes

Figure 34 – School Area and School Zone Input Worksheet