



Ref. No. 201-06164-00

June 17 2020

Ms. Ashley Blissett, P. Eng.
Senior Development Engineer
Halifax Regional Municipality
PO Box 1749
HALIFAX NS B3J 3A5

RE: Traffic Impact Statement, Proposed AKOMA Multi-Use Development, Main Street, Dartmouth

Dear Ms. Blissett:

AKOMA is preparing plans for a multi-use development on the south side of Main Street, Dartmouth, from approximately 200 meters west of Westphal Way intersection to Cherry Brook Road (Figure 1). The development, which is to be completed in four phases over the next ten years, will include approximately 80 senior's housing units, a 24 bed AKOMA Children's Centre, 224 apartment units, 22 townhouse units, 8 single family dwellings and 54,800 SF of commercial space (Table 1).

Table 1 - Development Phasing and Land Use Details				
Phase	Estimated Timing	Location Description (Figure 1)	Land Use	Units
1	2020 and 2021	East of Wilfred Jackson Way	Re-zoning only	n/a
2	2020 to 2022	West of Wilfred Jackson way	Senior's Housing	80
3	2021 to 2026	West of Westphal Way to east boundary of Linwood Estates	Single Family and Townhouses	20
			Mid-Rise Apartments	138
			AKOMA Children's Centre	24
			Commercial	27,400 SF
4	2025 to 2030	East of Westphal Way	Townhouses	10
			Mid-Rise Apartments	86
			Commercial	27,400 SF

Description of Main Street - Main Street adjacent to the site is a four lane arterial street with a speed limit of 70 km/h. The street is designated as Trunk 7, a section of the primary east - west road between Dartmouth and Sheet Harbour. The section of street from the west site boundary to Wilfred Jackson Way has asphalt curbs and sidewalks, which are in very poor condition, as well as bike lanes, on both sides of the street (Photos 1, 3 to 6, 9 and 10). The section from Wilfred Jackson Way to Cherry Brook Road has excellent concrete curbs and sidewalks on both sides of the street (Photo 2).

Transit Service - Halifax Transit provides service with Routes 61 and 68 on Main Street adjacent to the site.

Traffic Volumes - HRM obtained the following traffic volume data on Main Street during 2017:

- A turning movement count at the Westphal Way intersection at the end of January indicated two-way volumes of 2000 vehicles per hour (vph) during the AM peak hour and 2350 vph during the PM peak hour.
- A machine count at an unspecified location in the study area (between MacLaughlin Road and Lake Major Road) during mid-June indicated two-way volumes of approximately 2100 vph during the AM peak hour and 2500 vph during the PM peak hour.

Description of Site Accesses - Phases 1 and 2 will access Main Street at the existing Wilfred Jackson Way intersection about 160 meters west of Cherry Brook Road intersection (Photos 1 and 2). Visibility is good on both Main Street approaches to the intersection.



Photo 1 - Looking west on Main Street towards Westphal Way from Wilfred Jackson Way.



Photo 2 - Looking east on Main Street towards Cherry Brook Road from Wilfred Jackson Way.

Phase 3 will have accesses at the existing Westphal Way signalized intersection (Photos 3 and 4), near an existing driveway about 130 meters west of Westphal Way (Photos 5 and 6), as well as a connection to Linwood Estates to Giberson Drive (Photos 7 and 8) at the Trinah Court / Robertt Lane intersection. Giberson Drive is a paved suburban street with open ditches that provides a connection to Main Street by way of Broom Road. Visibility is good on approaches to all intersections.



Photo 3 - Looking west on Main Street from Westphal Way intersection.



Photo 4 - Looking east on Main Street from Westphal Way intersection.



Photo 5 - Looking west on Main Street from site driveway 130 m west of Westphal Way.



Photo 6 - Looking east on Main Street towards Westphal Way from west site driveway.



Photo 7 - Looking west on Giberson Drive towards Broom Road.



Photo 8 - Looking east on Giberson Drive towards Trinah / Robertt intersection.

While the primary access for Phase 4 will be at a new driveway on Main Street approximately 130 meters east of the Westphal Way signalized intersection (Photos 9 and 10), access will also be possible from the Westphal Way intersection. Visibility is good on both approaches to the proposed new driveway.



Photo 9 - Looking west on Main Street towards Westphal Way from proposed new driveway.



Photo 10 - Looking east on Main Street from proposed new driveway east of Westphal Way.

Trip Generation Estimates - Trip generation estimates for the proposed land uses, prepared using published trip generation rates and equations from *Trip Generation, 10th Edition*, are included in Table 2.

Table 2 - Trip Generation Estimates for AKOMA Development Phases 1 to 4									
Land Use ¹	Units ²	Trip Generation Rates ³				Trips Generated ³			
		AM Peak		PM Peak		AM Peak		PM Peak	
		In	Out	In	Out	In	Out	In	Out
Trip Generation Estimate for Phase 1									
Existing Land Uses (Requesting zoning change only)						n/a	n/a	n/a	n/a
Trip Generation Estimate for Phase 2									
Senior Adult Housing (Land Use 252)	80 units	0.07	0.13	0.14	0.12	6	10	11	10
Trip Generation Estimate for Phase 3									
Single Family (Land Use 210)	20	0.19	0.56	0.63	0.37	4	11	13	7
Mid-Rise Apartment (Land Use 221)	138 units	AM Peak Hour Ln(T) = 0.98 Ln(x) - 0.98 PM Peak Hour Ln(T) = 0.96 Ln(x) - 0.63				12	35	37	24
Small Office Building (Land Use 712)	13.7 KGFA	1.59	0.33	0.78	1.67	22	5	11	23
Specialty Retail ⁴ (Land Use 826)	13.7 KGLA	0.76	0.60	1.19	1.52	10	8	16	21
Total Estimated Trip Generation Phase 3						48	59	77	75
10% Reduction for Non-Auto Usage ⁵						5	6	8	8
Adjusted Trip Generation Estimates for Phase 3						43	53	69	67
Trip Generation Estimate for Phase 4									
Single Family (Land Use 210)	10	0.19	0.56	0.63	0.37	2	6	6	4
Mid-Rise Apartment (Land Use 221)	86 units	AM Peak Hour Ln(T) = 0.98 Ln(x) - 0.98 PM Peak Hour Ln(T) = 0.96 Ln(x) - 0.63				8	22	23	15
Assisted Living (Land Use 254)	24 beds	0.12	0.07	0.10	0.16	3	2	2	4
Small Office Building (Land Use 712)	13.7 KGFA	1.59	0.33	0.78	1.67	22	5	11	23
Specialty Retail ⁴ (Land Use 826)	13.7 KGLA	0.76	0.60	1.19	1.52	10	8	16	21
Total Estimated Trip Generation Phase 4						45	43	58	67
10% Reduction for Non-Auto Usage ⁵						5	4	6	7
Adjusted Trip Generation Estimates for Phase 4						40	39	52	60
Total Adjusted Trip Generation Estimates for all Development Phases									
Total Adjusted Trips for Built-Out Development						89	102	132	137
NOTES:	1. Rates and equations are for indicated Land Use Codes, <i>Trip Generation, 10th Edition</i>, Institute of Transportation Engineers, 2017, except as noted. 2. Units are 'Number of Apartments'; KGLA is 'Gross Leasable Area x 1000 square feet'; KGFA is 'Gross Floor Area x 1000 square feet'; 'Single Family' rates have been used for proposed townhouse units. 3. Rates are 'vehicles per hour per unit'; trips generated are 'vehicles per hour for peak hours'. 4. Since <i>10th Edition</i> does not include Specialty Retail, rates for Land Use 826 from the <i>9th Edition</i> have been used. Since there is no published rate for the AM peak hour of adjacent street for this Land Use, and since AM peak hour trips to Specialty Retail are generally low, AM trip rates have been assumed to be 50% of the PM rate with reversal of the directional split. 5. While the Halifax Integrated Mobility plan has a target for 14% non-auto trips within the Outer Suburban Region, a 10% reduction for non-auto trips has been considered appropriate for the proposed development.								

The following factors have been considered when preparing trip generation estimates in Table 2:

- Since Phase 1 only involves a request to change zoning, trip generation is not applicable for that phase of the development.
- Since details of proposed commercial land uses in Phases 3 and 4 are not available, it has been assumed that 50% would be office space and 50% specialty retail.
- The proposed AKOMA Children's Centre will provide residential services for children and youth with a range of programs that are dedicated to enhancing their well being and providing a safe and nurturing place for children age 3-13 with development and behavioural needs. Trip generation rates for Assisted Living have been used to estimate peak hourly trips for the Centre.
- While the *Halifax Integrated Mobility Plan* has set 2031 non-auto trip goals of 14% for the Outer Suburban areas, a 10% reduction for non-auto trips is considered to be reasonable for this development.

Summary of Trip Generation Estimates - After consideration of the above factors for build-out of the four development phase during the next ten years, it is estimated that the proposed mixed use development will generate approximately 191 two-way vehicle trips (89 entering and 102 exiting) during the 2030 AM peak hour and 269 two-way vehicle trips (132 entering and 137 exiting) during the 2030 PM peak hour. AM and PM peak hourly trip generation estimates are summarized by development phase in Table 3.

Table 3 - Summary Trip Generation Estimates by Development Phase							
Development Phase ¹	Estimated Build-Out Year ²	Trips Generated ³					
		AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
1	2021	n/a	n/a	n/a	n/a	n/a	n/a
2	2022	6	10	16	11	10	21
3	2026	43	53	96	69	67	136
4	2030	40	39	79	52	60	112
1 to 4	2030	89	102	191	132	137	269

Distribution of Site Generated Trips - Site generated trips are expected to be distributed to Main Street in the following manners:

- Phases 1 and 2 trips (2022) will use the Wilfred Jackson Way intersection towards the east end of the development.
- Phase 3 trips (2026) will be able to use the following accesses:
 - a. Westphal Way intersection (signalized)
 - b. Existing driveway west of Westphal Way
 - c. Giberson Drive (Linwood Estates) and Broom Road
- Phase 4 trips (2030) will be able to use the following accesses:
 - a. Westphal Way intersection (signalized)
 - b. New driveway east of Westphal Way
 - c. Giberson Drive (Linwood Estates) and Broom Road

Summary -

1. The proposed AKOMA development, which is to be completed in four phases over the next ten years, will include approximately 80 senior's housing units, a 24 bed AKOMA Children's Centre, 224 apartment units, 22 townhouse units, 8 single family dwellings and 54,800 SF of commercial space

2. Main Street adjacent to the site is a four lane arterial street with bike lanes on both sides and a speed limit of 70 km/h. While most of the street section has asphalt curbs and sidewalks, which are in very poor condition, the eastern section from Wilfred Jackson Way to Cherry Brook Road has excellent concrete curbs and sidewalks on both sides of the street.
3. Machine and turning movement counts obtained by HRM during 2017 indicated Main Street two-way volumes of 2000 to 2100 vehicles per hour (vph) during the AM peak hour and 2350 to 2500 vph during the PM peak hour.
4. Halifax Transit provides service with Routes 61 and 68 on Main Street adjacent to the site.
5. It is estimated that the 2030 build-out of the mixed use development will generate approximately 191 two-way vehicle trips (89 entering and 102 exiting) during the AM peak hour and 269 two-way vehicle trips (132 entering and 137 exiting) during the PM peak hour. AM and PM peak hourly trip generation estimates are summarized by development phase in Table 4.

Table 4 - Summary Trip Generation Estimates by Development Phase							
Development Phase	Estimated Build-Out Year	Trips Generated (vph)					
		AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
1	2021	n/a	n/a	n/a	n/a	n/a	n/a
2	2022	6	10	16	11	10	21
3	2026	43	53	96	69	67	136
4	2030	40	39	79	52	60	112
1 to 4	2030	89	102	191	132	137	269

6. Phases 3 and 4, which include the majority of site generated trips and are expected to be developed and built-out by 2030, will have four different accesses to Main Street:
 - a. Proposed new driveway east of Westphal Way
 - b. Westphal Way intersection (signalized)
 - c. Existing driveway west of Westphal Way
 - d. Giberson Drive (Linwood Estates) and Broom Road,

Conclusions -

7. The moderate numbers of trips estimated to be generated by the development over the next ten years which will be distributed to several access points, including an existing signalized intersection, are not expected to have a significant impact on traffic operations of Main Street intersections or the regional street network.
8. The construction of Highway 107 from Lake Loon to Preston, which Nova Scotia Department of Transportation and Infrastructure Management has been planning for many years and which may be built by 2030, will result in a significant reduction in through traffic on Main Street.

If you have any questions, please contact me by Email to ken.obrien@wsp.com or telephone 902-452-7747.

Sincerely,

Original Signed

Ken O'Brien, P. Eng.
Senior Traffic Engineer
WSP Canada Inc.

