

February 5, 2019

Veronica Marsman, MSW, RSW
 Property Manager
 AKOMA Holdings Incorporated
 1018 Main Street
 Dartmouth, NS B2W 4X9

Dear Ms. Marsman:

RE: *Traffic Impact Statement for Proposed Rezoning Application for AKOMA Holdings Property*

This letter addresses the transportation impacts expected to be associated with the proposed rezoning and development application for the AKOMA Holdings property, whose extent is illustrated in Figure 1. The site plan, as of January 21, 2019, is illustrated in Figure 2. The property is proposed to be rezoned to allow a mix of residential, mixed commercial-residential and institutional uses (see Table 1), primarily along the Highway 7/107 corridor.

1489 Hollis Street

PO Box 606

Halifax, Nova Scotia

Canada B3J 2R7

Telephone: 902 421 7241

Fax: 902 423 3938

E-mail: info@cbcl.ca

www.cbcl.ca

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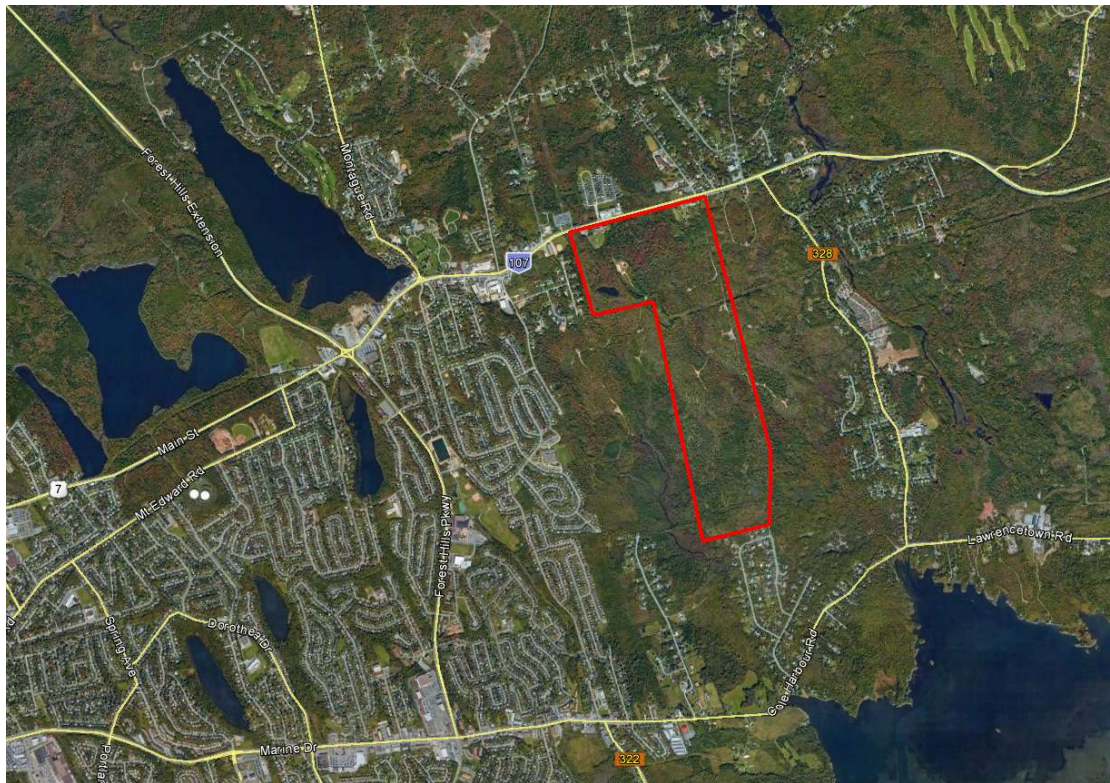


Figure 1 Study Area

We note that the proposed site plan suggests a number of new access roads on to Highway 7/107 that may present operational issues. This Traffic Impact Statement comments on the anticipated impacts of the proposed development, but does not assess the feasibility of the proposed road network or evaluate the impacts of additional vehicular trips generated by the proposed development.



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Figure 2 Proposed Site Plan (January 21, 2019)



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Table 1 Proposed Development Statistics

	Existing	Proposed	
Institutional space - Akoma Family Centre, Bauld Centre, Old Home (ft²)	200,000		
Residential			
Single unit dwellings (units)			20
Residential building/hotel		4 x 160 =	640
Senior residential complex		2 x 90 =	180
South End 15-acre (units)			32
Residential Sub-Total (units)			872
Commercial area - restaurant			
Main St. Hwy 7 frontage (ft²)		9 x 10,000 =	90,000
Old Miller Road extension frontage (ft²)		3 x 10,000 =	30,000
Commercial Sub-Total (ft²)			120,000
Athletic Complex (ft²)			381,263
Burial & Cremation Grounds (acres)			26.4

To establish existing and future background traffic conditions for the study area, we have reviewed the *Traffic Study and Benefit Cost Analysis for the Proposed Highway 107 Lake Loon to Preston* report (CBCL, June 2015). The proposed redevelopment of the AKOMA properties is expected to occur over several phases; for the purposes of this TIS the horizon years 2020 and 2030 have been considered, consistent with the Highway 107 report. Review of that report's traffic forecasts on Highway 7/107 for these horizon years suggests the following vehicular volumes:

- In 2020, 2,160 vehicles (1,810 westbound, 350 eastbound) during the weekday AM peak hour, and 2,260 (570 westbound, 1690 eastbound) during the weekday PM peak hour (see Figure 3);

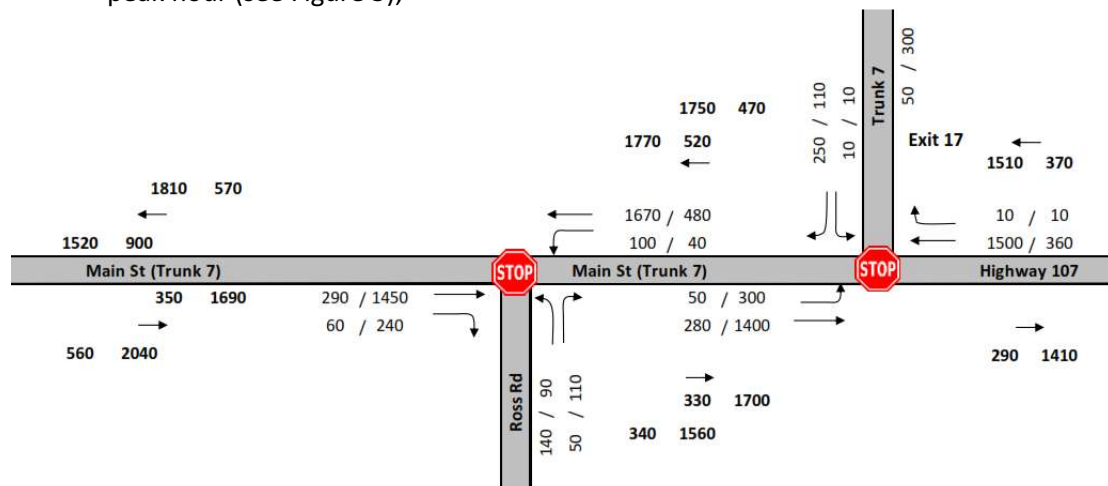


Figure 3 2020 Traffic Volumes – source: Traffic Study and Benefit Cost Analysis for the Proposed Highway 107 Lake Loon to Preston report (CBCL, June 2015)

- In 2030, 2,450 vehicles (2,050 westbound, 400 eastbound) during the weekday AM peak hour, and 2,570 vehicles (650 westbound, 1920 eastbound) during the PM peak hour (see Figure 4)

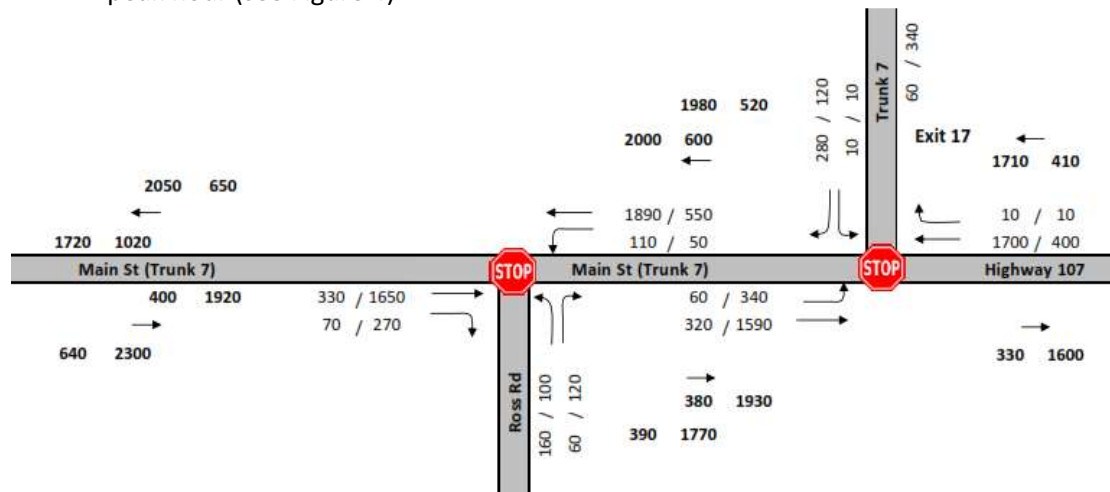


Figure 4 2030 Traffic Volumes

source: *Traffic Study and Benefit Cost Analysis for the Proposed Highway 107 Lake Loon to Preston report (CBCL, June 2015)*

Trip Generation

Trip forecasting for the proposed development was undertaken based on trip generation rates published by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th edition. It was assumed that commercial buildings would attract different activities, including restaurants, offices, and banks. Commercial areas were therefore evaluated assuming the Shopping Centre land use code. While the commercial space is divided in two areas, for the purposes of this analysis it was considered as a single, cohesive commercial area of 120,000 ft². As per ITE guidelines, a pass-by rate of 34% was applied to account for existing road traffic that would be attracted to the new commercial uses. It also was considered that some internal interaction would occur between the proposed commercial and residential uses, therefore reducing the number of net new trips on the road. Both the athletic complex and the burial grounds were assumed to generate most of their activity outside of peak adjacent road traffic times; they were therefore excluded from this analysis and not included in the trip generation exercise. Furthermore, Old Miller Road is not intended to connect across the property to Highway 7/107; the South End 15-acre residential development will therefore access on to Main Street via Old Miller Road, and its trip generation was considered separately. The resulting trip generation is summarized in Table 2.

Overall the North End of the proposed development would be expected to generate:

- **462** (139 in, 323 out) new trips during the weekday **AM peak hour**
- **766** (424 in, 342 out) new trips during the weekday **PM peak hour**.

The South End 15-acre plot would generate:

- **32** (8 in, 24 out) new trips during the weekday **AM peak hour**
- **38** (24 in, 14 out) new trips during the weekday **PM peak hour**.



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Table 2 Trip Generation

		AM Peak Hour			PM Peak Hour		
	Units	In	Out	Total	In	Out	Total
North End							
Residential							
Broom Lake single unit dwellings		25%	75%	$T = 0.7(x) + 9.74$	63%	37%	$\ln(T) = 0.9 \ln(x) + 0.51$
Land Use 210 Single Family Homes (units)	20	6	18	24	16	9	25
Residential building/hotel		20%	80%	$T = 0.49(x) + 3.73$	65%	35%	$T = 0.55(x) + 17.65$
Land Use 220 Apartment (units)	640	63	254	317	241	129	370
Senior residential complex		34%	66%	0.2	54%	46%	0.25
Land Use 252 Senior Adult Housing - Attached (units)	180	12	24	36	24	21	45
Residential Sub-Total		81	296	377	281	159	440
Internal site interaction		-8	-10	-18	-43	-30	-73
Residential External Trips		73	286	359	238	129	367
Commercial							
Main St. Hwy 7 + Old Miller Road extension frontage		62%	38%	$\ln(T) = 0.61 \ln(x) + 2.24$	48%	52%	$\ln(T) = 0.67 \ln(x) + 3.31$
Land Use 820 Shopping Centre (1,000 ft ²)	120	108	66	174	325	352	677
Commercial Sub-Total		108	66	174	325	352	677
Internal site interaction		-8	-10	-18	-43	-30	-73
Commercial External Trips		100	56	156	282	322	604
Commercial Pass-by (34%)		-34	-19	-53	-96	-109	-205
Total New Trips on Highway 7/107		139	323	462	424	342	766
South End							
South End 15-acre		25%	75%	$T = 0.7(x) + 9.74$	63%	37%	$\ln(T) = 0.9 \ln(x) + 0.51$
Land Use 210 Single Family Homes (units)	32	8	24	32	24	14	38

Comparison of the trip generation with background traffic suggests that, should full buildout occur in 2020, site-generated traffic would account for close to 17% of Highway 7/107 corridor traffic during the weekday AM peak hour, and 25% during the weekday PM peak hour.

If full buildout occurs in 2030, site traffic account for less than 16% of corridor traffic during the weekday AM peak hour, and 23% during the weekday PM peak hour (see Table 3).

The impacts on the local roads of the trips associated with development of the South End is expected to be negligible.



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Table 3 Horizon Year Site Traffic on Highway 7/107 corridor

	AM Peak Hour	PM Peak Hour
Site Traffic	462	766
2020 Future Background Volume	2,380	2,260
2020 Future Total Volume	2,842	3,026
2020 Percentage Site Traffic	16.3%	25.3%
2030 Future Background Volume	2,450	2,570
2030 Future Total Volume	2,912	3,336
2030 Percentage Site Traffic	15.9%	23.0%

Trip Distribution

Based on the forecasting of the Highway 107 report, we have extracted the following trip distribution for the North End of the site:

- 84% westbound and 16% eastbound during the AM peak hour
- 25% westbound and 75% eastbound during the PM peak hour

Conclusions

We have reviewed the proposed site plan and development statistics and can offer the following comments.

Based on the latest development statistics, the North End development would be expected to generate 462 (139 in, 323 out) new trips during the weekday AM peak hour and 766 (424 in, 342 out) new trips during the weekday PM peak hour. Depending on the horizon year of the site's full buildout, the site-generated traffic would account for 17%-26% of total Highway 7/107 corridor vehicular traffic. The South End residential development is forecasted to generate 32 (8 in, 24 out) new vehicular trips during the weekday AM peak hour and 38 (24 in, 14 out) new trips during the weekday PM peak hour; these trips are expected to have a minor impact on Old Miler Road and Main Street.

Review of existing and future traffic volumes on Highway 7/107 suggests that the majority of this vehicular volume would be destined towards and originating from Dartmouth and Halifax. Along Highway 7/107, this would entail heavy left-turning movements out of the site during the weekday AM peak hour, and heavy right turns entering the site during the weekday PM peak hour. Due to the limited scope of this Traffic Impact Statement, the operational conditions at the proposed and existing intersections servicing the site were not assessed.



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The site plan proposes a number of new access roads on to Highway 7/107 to service the generated vehicular volume. We note that some of them pose operational issues in terms of visibility around curves, and intersection spacing. We also point out that, while current zoning allows lots fronting the Highway 7/107 to have adequate access for ingress and egress onto the corridor, NSTIR generally prefers to minimize the number of new roads and driveways on to a major arterial road, and may request that the site plan consolidate new access roads.

Yours truly,

CBCL Limited

Prepared by:
Emanuel Nicolescu, MCIP, LPP
Transportation Planner
Direct: **902-421-7241 Ext. x2633**
E-Mail: **enicolescu@cbcl.ca**

Reviewed by:
Audrey Muir, MITE
Senior Transportation Consultant

Project No: 160246.05

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