



August 28, 2024
03-23-0088

Adil Hasan
Vice President, Operations
Hasco Development Corp
Suite 202, 9811-34 Avenue
Edmonton, T6E 5X9

Dear A. Hasan:

**Re: 7814 83 Street Rezoning
Traffic Memo v2.0 – Draft**

Bunt & Associates Engineering Ltd. (Bunt) has been retained by Hasco Development Corp to prepare a Traffic Memo level of assessment for the proposed rezoning of the site located at 7814 83 Street. Based on the City of Edmonton Transportation Impact Assessment Guidelines 2016 Edition, a Traffic Memo includes a review of existing conditions (land use, transportation network, traffic volumes) and the trip generation characteristics anticipated to be associated with the proposed development.

It is understood that as part of the rezoning process, the City has identified the need for a Traffic Memo to understand the net change in traffic volumes anticipated for the site and to determine whether further study is required.

1. EXISTING CONDITIONS

1.1 Area Land Use and Roadways

The site's location within the King Edward Park neighbourhood of Edmonton is identified in **Figure 1**. The site is currently zoned Parks and Services (PS) and accommodates the Al-Mustafa Academy and Humanitarian Society in the east sector of the plan area and associated playing fields in the west sector of the site.

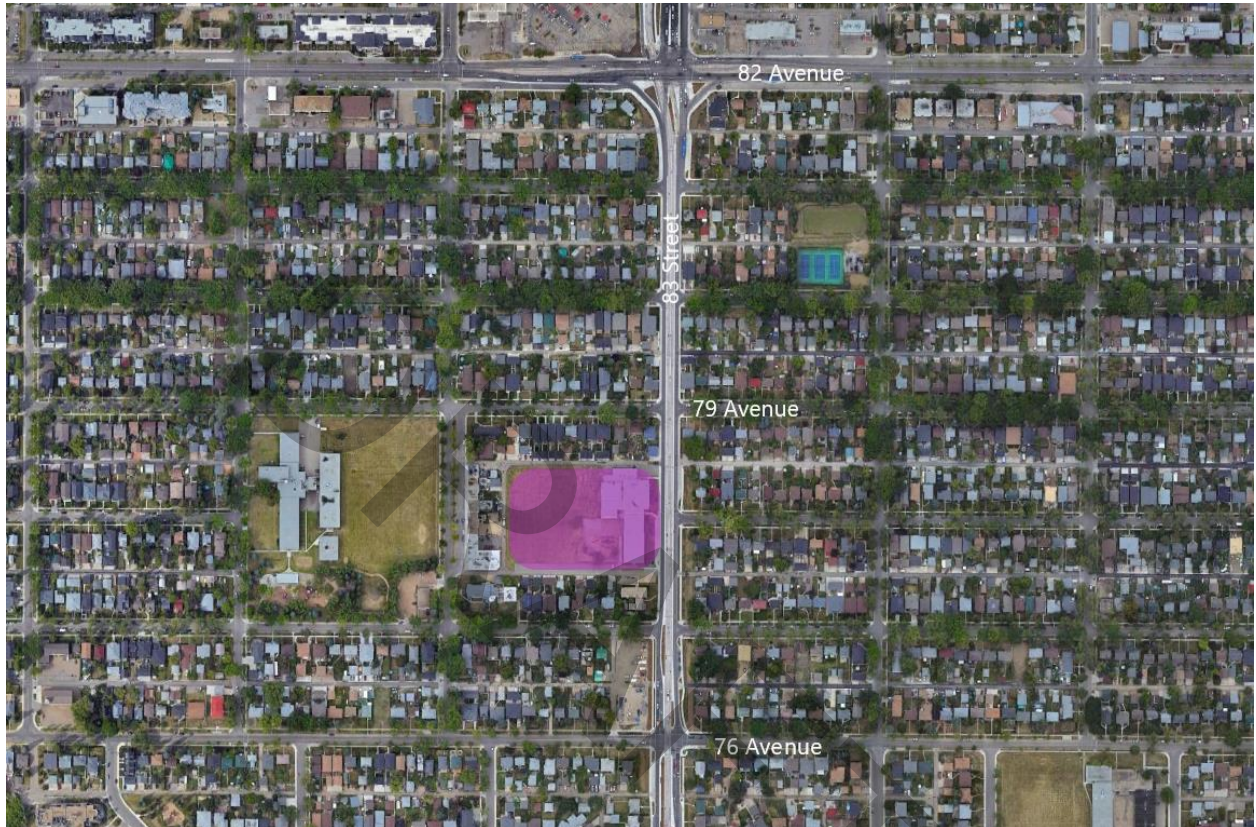
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Figure 1: Site Location



The Al-Mustafa Academy and Humanitarian Society (the Academy) is a Private School currently accommodating 300 students in grades K-12 and 27 staff.

The rezoning site is bounded by 83 Street on the east side and by alleys on the remaining three sides. 83 Street is a two-lane arterial roadway, with the Valley Line surface LRT running between the northbound and southbound lanes.

The 4.0m north-south alley on the west side of the site (West Alley) provides rear access to the neighbourhood commercial site that is bound by the same three alleys and by 85 Street on its west side. It is noted that on-street parking is provided along the service road that runs along the west frontage of the neighbourhood commercial site between the southerly east-west alley and 79 Avenue and is anticipated to be the primary patron parking area for the commercial uses.

The 4.0m wide residential east-west alley on the north side of the site (North Alley) provides rear access to 14 single-family homes that back onto the north side of the alley. The alley also provides access to approximately 14 surface parking spaces associated with the subject site on the south side of the alley. A power line and associated power poles run along the south side of the alley adjacent to the subject site.

The 4.0m wide residential east-west alley on the south side of the site (South Alley) provides rear access to adjacent land uses on the south side of the alley including 8 single-family residential homes, 10 parking spaces associated with the Willowbrae Childcare Academy, and a two-car garage associated with the St. Jung Ha Sang Catholic Parish. The alley also provides access to approximately 40 perpendicular parking spaces associated with the subject site available along the north side of the alley. A power line and associated power poles run along the south side of the alley.

1.2 Traffic Volume

1.2.1 Network Traffic

Historical Average Annual Weekday Daily Traffic (AAWDT) volumes on 83 Street north of 79 Avenue are available from the City of Edmonton database. **Table 1** summarizes the historical traffic volume along the corridor less than one block removed from the subject site. As presented the daily traffic volume on 83 Street is in the order of 15,000 vehicles per day.

Table 1: 83 Street AADT

LAND USE	2018	2019	2020	2021	2022
83 Street north of 79 Avenue	15100	15600	13300	14300	14900

The adjacent alleys will also continue to accommodate traffic generated by the adjacent land uses, which is anticipated to be low.

1.2.2 Site Traffic

The subject site itself currently accommodates traffic demand associated with Academy operations including staff and student pick-up/drop-off and parking activity.

The Institute of Transportation Engineers (ITE) Trip Generation Handbook (11th Edition) has been used to estimate the trip generating potential of the existing site. The trip rates used to generate an estimate of school site trip generation potential are summarized in **Table 2**.

Table 2: School Trip Generation

LAND USE	DENSITY	TIME PERIOD	RATE	TRIPS		
				IN	OUT	TOTAL
Private K-12 School	300 Students	AM Peak Hour	0. 79 trips/student (63%/37%)	149	88	237
		PM School Peak Hour	0. 53 trips/student (42%/58%)	67	92	159
		PM Peak Hour	0. 17 trips/student (43%/57%)	22	29	51
		Daily	2. 48 trips/student (50%/50%)	372	372	744

Notwithstanding the above estimate, it is understood that 90% of students are currently bussed to/from the site, suggesting that the trip generating potential of the site exceeds the actual trip generation being experienced. It is noted that a layby is provided along 83 Street adjacent to the school to accommodate school bus activity.

1.3 Transit

The Valley Line travels from Mill Woods in the southeast to 102 Street downtown. The nearest LRT Stations to the subject site are the Bonnie Doon Stop (located 800m to the north, north of 82 Avenue) and the Avonmore Stop (located 650m to the south at 73 Avenue).

In addition to LRT service, the following on-demand bus stops are the closest to the subject site:

2234 (81 Street & 76 Avenue WB) – On Demand

2320 (81 Street & 76 Avenue EB) – On Demand

2138 (81 Street & 76 Avenue SB) – On Demand

1.4 Pedestrian and Bicycle Accommodation

With respect to bicycle routes, both 76 Avenue (east-west) and 79 Street (north-south) are on-street bicycle routes (shared roadway). With respect to pedestrian accommodation, sidewalks are developed along both sides of 83 Street (arterial roadway) and 76 Avenue (collector roadway) and the network of local roadways in the vicinity of the site.

2. PROPOSED REZONING

2.1 Development Concept

The rezoning proposed for the site is MU (Mixed Use) with a maximum height of 23m and a maximum floor area ratio (FAR) of 3. 0.

The development concept for the subject site includes bisecting the site into an east sector (which includes the existing school) and a west sector representing the redevelopment area. The school land use represents a permitted use within the currently proposed MU zone and is anticipated to remain in place long-term.

The development concept currently being considered for the redevelopment area, illustrated in **Figure 2**, includes two six-storey buildings, each with 89 units for a total of 178 residential units. With respect to on-site parking, 34 surface parking stalls and 178 underground parking stalls are proposed, representing a parking ratio of 1.19 spaces/unit (inclusive of visitor parking). Access to associated parking is proposed to be provided from the West Alley.

A north-south pedestrian connection between the east sector and the west sector is planned, and it is understood that an east-west pedestrian connection will also be required to be provided along the length of the site (on either the north side or the south side, to be confirmed) to provide connectivity to 83 Street.

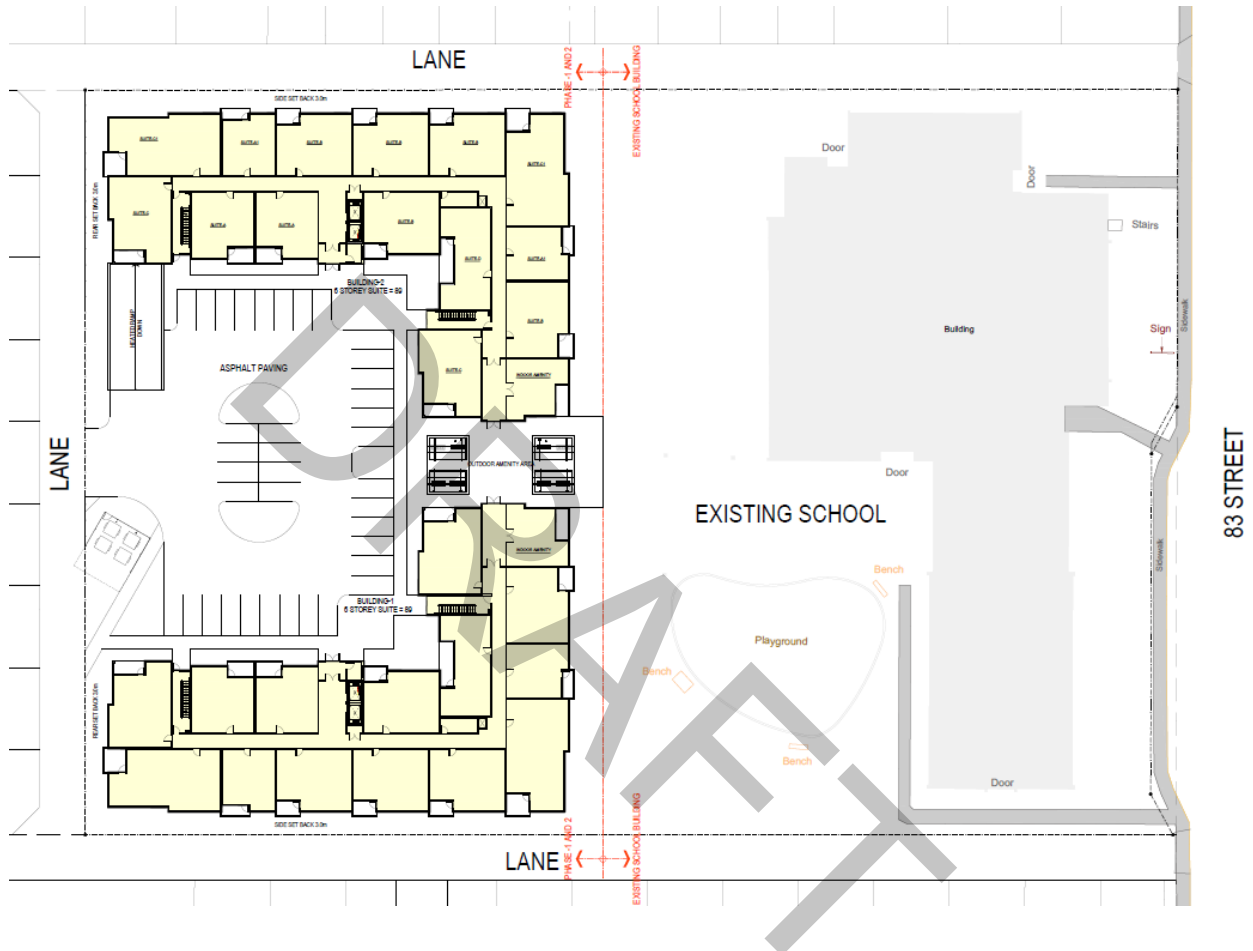
While the existing school in the east sector represents a permitted use in the proposed zone and is anticipated to remain in place long-term, for the purpose of the rezoning traffic review, future redevelopment of the east sector has been considered. Future redevelopment of the east sector has been assumed to generally mirror that planned for the west sector; however, some of the ground floor has been assumed to include commercial land uses fronting onto 83 Street instead of residential uses.

For the purpose of this review, the land use schedule summarized in **Table 3** has been assumed in consideration of redevelopment of the site in its entirety.

Table 3: MU Land Use Schedule

LAND USE	WEST SECTOR	EAST SECTOR	TOTAL
Apartment Housing	178 units	164 units	342 UNITS
Retail	-	15,000 sf	15,000 SF

Figure 2: West Sector Development Concept



2.2 Trip Generation

The trip rates used to generate an estimate of residential redevelopment trip activity are consistent with City of Edmonton recommended rates for Apartment Housing. Given the site's location, a reduction of 25% has been applied to the Apartment Housing rate to account for increased mode split to transit. This mode split reduction is consistent with the mode split to transit exhibited by other neighbourhoods with convenient access to LRT (as per municipal census data).

The Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition) has been referenced to estimate the trips anticipated to be generated by the East Sector ground floor commercial land use. The trips associated with the ground floor commercial land use have been reduced by 25% to account for internal trips and mode split to alternative modes. Base trip generation rates are summarized in **Table 4**, and the trip generation estimate is summarized in **Table 5**.

Table 4: Trip Generation Rates

LAND USE	SOURCE	AM PEAK HOUR OF ADJACENT STREET (IN/OUT)	PM PEAK HOUR OF ADJACENT STREET (IN/OUT)	DAILY - WEEKDAY (IN/OUT)
Apartment Housing	City of Edmonton	0. 34 trips/du (17%/83%)	0. 40 trips/du (63%/37%)	5. 81 trips/du (50%/50%)
Retail	ITE Land Use 822 Strip Retail Plaza <40,000sf	2. 36 trips/1,000sf (60%/40%)	6. 59 trips/1,000sf (50%/50%)	54. 45 trips/1,000sf (50%/50%)

Table 5: Redevelopment Net Trip Generation Estimate

LAND USE	DENSITY	AM PEAK HOUR			PM PEAK HOUR			DAILY - WEEKDAY		
		IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Residential West Sector	178 units	10	50	60	45	26	71	517	517	1,034
Mode split reduction	25%	3	13	16	12	7	19	130	130	260
WEST SECTOR RESIDENTIAL SUBTOTAL		7	37	44	33	19	52	387	387	774
Residential East Sector	164 units	9	46	55	41	24	65	476	476	952
Mode split reduction	25%	3	12	15	11	6	17	119	119	238
EAST SECTOR RESIDENTIAL SUBTOTAL		6	34	40	30	18	48	357	357	714
Retail	15,000 sf	21	14	35	49	49	98	408	408	816
Mode split reduction	25%	6	4	10	13	13	26	102	102	204
SUBTOTAL RETAIL		15	10	25	36	36	73	306	306	612
TOTAL		28	81	109	99	73	173	1,050	1,050	2,100

2.2.1 Trip Generation Comparison - Existing vs Proposed Total Redevelopment Program

Table 6 compares the trip generation estimates for the existing school versus the redevelopment of the entire site, notwithstanding that the trip generating potential of the existing school operation does not necessarily translate to equivalent trips on the adjacent alley network. As shown in Table 6, the redevelopment of the entire site is anticipated to generate less traffic than typical school operations in the AM peak hour and is anticipated to generate more traffic than typical school operations in the PM peak hour of adjacent street traffic and on a daily basis. It is noted that the trip generation associated with the PM peak hour of the school generator is in line with the PM peak hour trip generation of the potential redevelopment of the entire site.

Table 6: Trip Generation Comparison

LAND USE	AM PEAK HOUR			PM SCHOOL PEAK HOUR			PM PEAK HOUR			DAILY - WEEKDAY		
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
West Sector + East Sector Redevelopment	28	81	109	99*	73*	173*	99	73	173	1,049	1,049	2,098
Existing School Site Potential	149	88	237	67	92	159	22	29	51	372	372	744
DIFFERENCE	-121	-7	-128	32	-19	14	77	44	122	677	677	1354

*PM Peak hour of the adjacent street of the proposed development.

2.2.2 Current Development Proposal

As noted previously, the school is anticipated to be a long-term use and only the west sector is proposed to be redeveloped in the short term. In order to better understand the traffic associated with the current redevelopment proposal, trip generation estimates were developed based on the retention of the existing school and redevelopment of the west sector only, as summarized in **Table 7**.

Table 7: Trip Generation - Combined School and West Sector Residential Redevelopment

LAND USE	AM PEAK HOUR			PM SCHOOL PEAK HOUR			PM PEAK HOUR			DAILY - WEEKDAY		
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Proposed Redevelopment	7	37	44	33*	19*	52*	33	19	52	387	387	774
Existing School Site Potential	149	88	237	67	92	159	22	29	51	372	372	744
TOTAL	156	125	281	100	111	211	55	48	103	759	759	1518

*PM Peak hour of the adjacent street of the proposed development.

As the school is an existing use, the redevelopment of the west sector only is anticipated to increase peak hour traffic accessing the site by 44 to 52 two-way vehicles during peak hours and up to 774 two-way trips on a daily basis.

2.3 Trip Distribution

A review of historical peak hour traffic flows on 83 Street suggests fairly balanced northbound/southbound traffic splits during peak hours. Given the divided nature of 83 Street with the LRT running down the centre and the limited all-directional intersection opportunities, it is anticipated that vehicles approaching the site from the south on 83 Street will use 76 Avenue and 85 Street to access the adjacent alley system to access the site. Vehicles leaving the site to the south will use the adjacent alley system to return to 83 Street.

It is anticipated that vehicles approaching the site from the north will use the adjacent alley system to access the site directly from 83 Street. Vehicles leaving the site to the north will either navigate south to the 76 Avenue all-directional intersection to go north on 83 Street or will navigate north to 82 Avenue via the area local road network.

3. SUMMARY

Although access to 83 Street is limited to right in/right out movements at the alley intersections, the availability of alleys along the north, south, and west sides of the site provides sufficient opportunities to access the site without concentrating volumes on any one alley segment. Therefore, the magnitude of additional traffic activity anticipated to be generated by the redevelopment proposal (774 vpd to 1,354 vpd), in combination with background traffic anticipated to be generated by existing alley-adjacent land uses, is anticipated to continue to be appropriate for residential alley operations.

Yours truly,
Bunt & Associates



Nicole Farn, P. Eng.
Senior Transportation Engineer

Written with respect and gratitude for the Traditional Territories upon which we work and live.

This document entitled "7814 83 Street Rezoning Traffic Memo v2" was prepared by Bunt & Associates for the benefit of "Hasco Development Corp" in support of a rezoning application. The analysis and conclusions/recommendations in the report reflect Bunt & Associates' best professional judgment based on the knowledge and information available to Bunt & Associates at the time of preparation.

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