

MEMORANDUM

Date: April 19, 2024
To: Greg Ablett, City of Edmonton, Planning Coordination, Development Services
Cc: Olivia Ryan, City of Edmonton
Croy Johnson, Beljan
Jeff Booth, Situate
Mark Huberman, HTCI
From: William Minchin, WATT Consulting
Our File No: 4193.T01
Subject: St Anthony's School Redevelopment Transportation Review

1.0 INTRODUCTION

The City of Edmonton continues to plan for the future. As articulated in City Plan, the development of medium-density developments where urban development is planned and integrated with premium transit facilities and services represents a strategic goal of the City.

On behalf of Beljan, Situate is in the process of advancing an application to rezone several lots in the Old Strathcona Neighbourhood from PS to MU (Mixed Use) with a maximum height of 30.0m and a maximum floor area ratio of 5.5 to accommodate a mid-rise residential building with a very small amount of commercial floor area ("MU h30 f5.5 cf"). The municipal address is 10425 84 Avenue NW. The legal address of the development is Lots 9-15 & 26-32, and Closed Lane Block 80, Plan I, and Lot 26A, Block 80, Plan 288 RS.

Rezoning approval will allow Beljan to proceed with a development permit application for a new multi-unit building between 83 Avenue and 84 Avenue west of 104 Street. Approximately 275 market apartment residential units in an 8-storey building are proposed. A small ground-floor commercial area of about 3,600 ft² is also planned, likely along the 83 Avenue frontage (based on a review of the current site plan).

Based on the City's review of the rezoning application, the need to complete a traffic Review was identified.

1.1 Study Need and Purpose

Based on discussions with the City of Edmonton, the need to complete a Transportation Review was identified in support of the Rezoning Application.

The Mobility Assessment, completed at a rezoning level of assessment, investigates the potential rezoning impacts on area transportation infrastructure. Completion of the mobility assessment:

- Provides the City of Edmonton with a basis on which to assess the transportation implications associated with the proposed rezoning on existing and future land use and transportation infrastructure;
- Provides a rational basis on which to evaluate if the type and scale of the development is appropriate for this particular development area and what improvements may be necessary, on and/or off of the site, to provide for safe and efficient pedestrian, bicycle, and traffic flow;
- Identifies and addresses transportation-related issues that may be of concern to neighbouring residents, and property owners; and
- Provides a basis for identifying roadway, intersection, transit, pedestrian, and bicycle-related strategies that can be considered at more detailed levels of planning (i.e., Development Permit stage).

The transportation framework was generally premised on:

- increasing transportation choices for resident population user groups; and
- supporting active transportation modes.

1.2 Area of Significant Traffic Influence

The area of significant traffic and parking influence has been identified as 83 Avenue and 84 Avenue between 104 Street and 105 Street and the North-South Alley located on the east side of the St. Anthony's School Building.

2.0 SITE CONTEXT - EXISTING AND FUTURE CONDITIONS

The St. Anthony's School Building is located immediately to the west of a North-South Alley that connects 83 Avenue and 84 Avenue. The development parcel shares the block with Heritage House to the west (a medium-density apartment building), Strathcona Baptist Church located in the northeast corner of the block, and the South Side Memorial Home/Chapel (located in the southeast corner of the development block).

The redevelopment site currently accommodates a public surface parking lot that accommodates about 115 stalls. Access to this parking lot is from 83 Avenue across an existing protected bidirectional bicycle lane located on the north side of 83 Avenue. A small Impark Lot is located in the southwest corner of the development block, south of Heritage House; this surface parking lot accommodates about 25 to 30 stalls.

MEMORANDUM

WATT CONSULTING GROUP

Date: 2024-04-19

Page 3 of 11

To: Greg Ablett, City of Edmonton, Planning Coordination, Development Services

Subject: St Anthony's School Redevelopment Transportation Review

83 Avenue functions as a one-way eastbound roadway and the intersection of 83 Avenue and 104 Street is traffic signal controlled. No parking is allowed on the north side of the roadway. The intersection of 83 Avenue and 105 Street is controlled by all-way stop controls.

84 Avenue operates as a one-way westbound roadway. The intersection of 84 Avenue and 105 Street is stop-controlled in the westbound direction. No parking is allowed on the north side of the roadway.

Figure 1 presents an illustration of the development site and surrounding roadways.

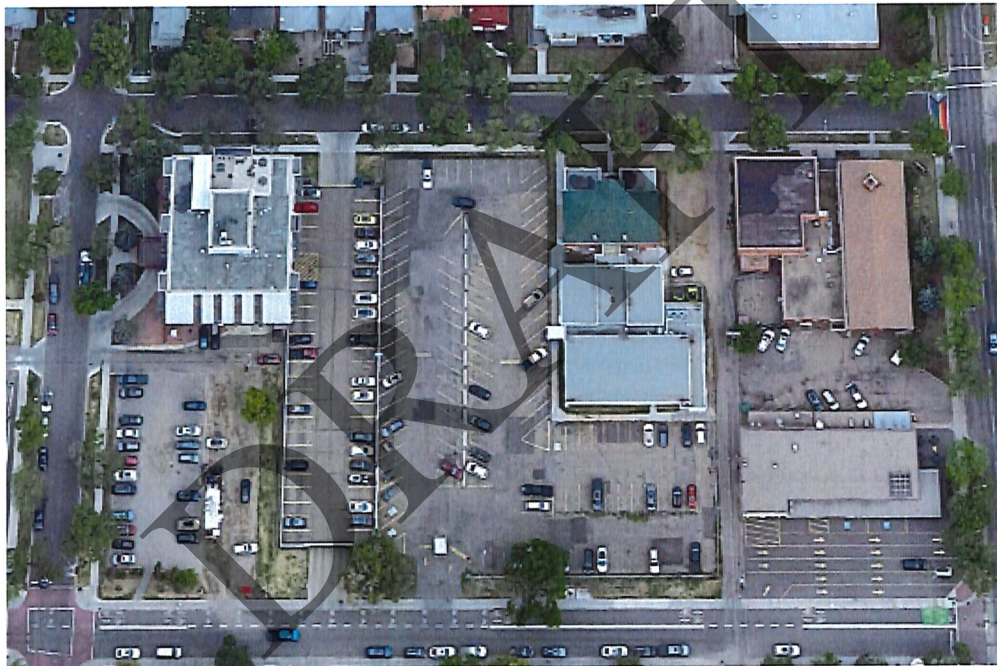


Figure 1: Site Context

The North-South Alley between 83 Avenue and 84 Avenue which borders the development parcel to the east is about 5.03m wide (about 16.5 feet), based on a review of the Real Property Report. The width of the hard-surfaced area within the alley would appear to be in the order of 5m.

The alley appears to be an improved alley and appears to be hard-surfaced for virtually the full width of the existing alley right-of-way. Power poles are present along the east side of the North-South Alley; however, based on casual observations, the power pole locations do not appear to impede alley traffic movements.

The North-South Alley appears to be in satisfactory condition. The sightlines for traffic exiting the North-South Alley at 83 Avenue and at 84 Avenue are relatively clear under

current operating conditions. Current traffic volumes in the alleys are currently low, and capacity or operational issues were not observed and are not expected.

2.1 83 Avenue Bicycle Lanes

A protected bi-directional bicycle lane is located along the north side of 83 Avenue. The bicycle lane is protected with a raised delineator other than where the bicycle lane crosses existing parking lot access locations, including the parking lot access to the development parcel. It is understood that this access will be closed as part of the redevelopment of the lot which will allow the raised delineator to be extended by about 22m.

Based on a review of City of Edmonton bicycle count data,¹ the protected bicycle lanes on 83 Avenue are well utilized.

Over the year, monthly two-way bicycle volumes ranged from 5,500 vehicles to 24,500 vehicles per month. The protected bicycle lanes accommodated an average of about 21,000 per month during the peak 7-month period of April to October.

Daily, bicycle movements ranged from about 100 two-way riders per day in the winter to a peak of about 1,450 two-way per day riders in June. The busiest months of the year daily also generally occur between April and October.

2.2 Whyte Avenue Improvement Program

Identified by The City Plan, the Old Strathcona Area has been identified as a priority growth area with two primary corridors. It is anticipated that the Old Strathcona area will witness a population growth over the foreseeable future.

In anticipation of increased density and its impact area's public realm spaces, the City initiated the Old Strathcona Public Realm Strategy. One of the recommendations of the overall strategy is to reduce parking in the greater Old Strathcona area (on and off-street) and to consider dedicating carriageway space within the 82 Avenue corridor to accommodate Mass Transit technology. This strategy would reduce vehicle capacity within the 82 Avenue corridor but would facilitate an increased mode split to transit for area residents, including future residents of the St. Anthony's redevelopment.

¹ Eco Counter - Cyclist & Pedestrians | Tableau Public, 2023 data

3.0 SITE PLAN REVIEW

The redevelopment of the site includes the construction of about 275 residential units including ground floor townhouses and Live Work units in the southwest corner of the building. A small commercial precinct of about 3,260 ft² has been identified to be located in the southeast corner of the building.

The location of the commercial area aligns with the north-south alley which provides easy access to the Whyte Avenue commercial area.

A total of about 85 underground and 12 surface parking spaces are planned. The 12 surface parking spaces will be located on the west side of the alley north of 83 Avenue. Access to the below-grade parking garage will also be taken off the alley south of 84 Avenue.

Figure 2 includes a reproduction of the draft site plan.

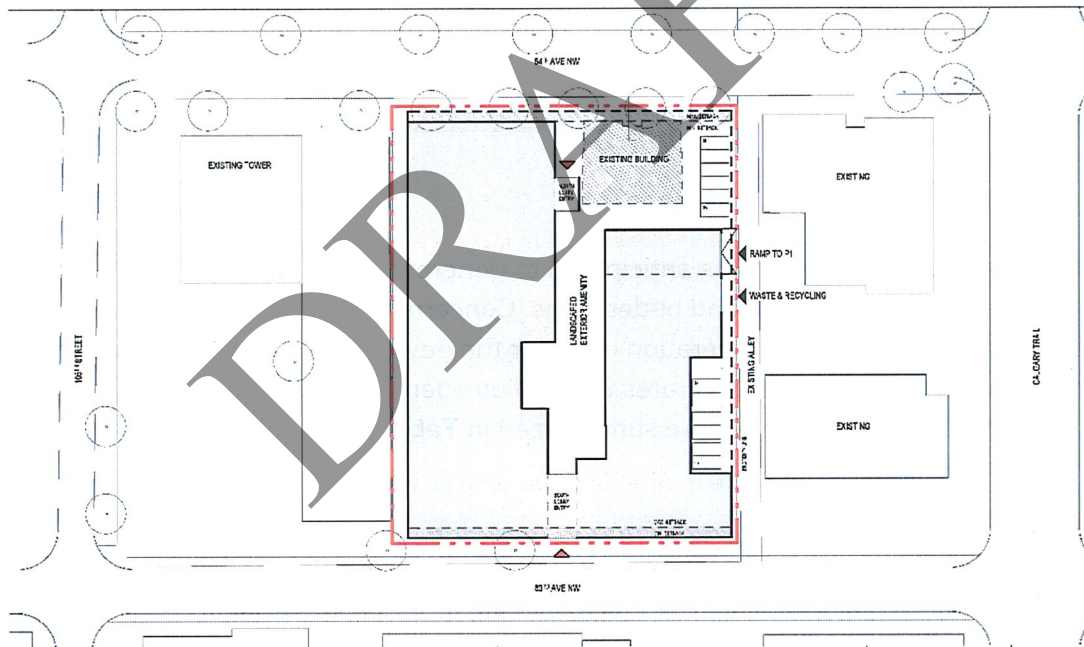


Figure 2: (Draft) Site Plan

4.0 TRAFFIC REVIEW

4.1 Existing Traffic Volumes

Table 1 summarizes a historical overview of traffic movements on study area roadways including 83 Avenue and 105 Street.

As presented, traffic volumes on 83 Avenue and 106 Street generally range between 1,900 and 2,300 vehicles per day (vpd). Traffic movements on 105 Street are in the

order of 5,500 vpd. These traffic volumes can be compared to traffic movements on Whyte Avenue between 104 Street and 106 Street which are in the order of 25,000 to 27,000 vpd.

Table 1: Area Roadway Daily Traffic Volumes

Year	83 Avenue West of 105 Street	83 Avenue West of 106 Street	105 Street North of 82 Avenue	106 Street North of 82 Avenue
Average Volume	2,100	1,900	5,500	2,300
2015	2,200	1,800	6,000	1,700
2016	2,100	1,700	5,700	1,600
2017	2,100	1,800	5,700	2,300
2018	2,000	1,700	5,400	2,200
2019	2,100	1,800	5,600	2,300
2020	1,800	1,600	4,800	2,000
2021	2,000	1,800	5,200	2,200
2022	2,100	1,900	5,500	2,300

4.2 Site Traffic Generation

The St. Anthony's development is anticipated to generate person trips by various modes including auto, bicycle, transit, and pedestrians. Concerning auto trips, AM peak hour, PM peak hour, and daily trip generation rates for the development were applied based on the accepted City of Edmonton rates for medium-density residential developments. The trip generation rates applied are summarized in **Table 2**.

Table 2: Site Trip Generation Rates

Land Use	AM Peak Hour	PM Peak Hour	Daily
Medium Density Residential (CoE RA7 & RA8 Apartment Housing)	0.34 trips/du; 17% in, 83% out	0.40 trips/du; 63% in, 37 % out	5.81 trips/du; 50% in, 50% out

Table 3 summarizes the projected gross (unadjusted) trip generation associated with the proposed development based on 275 residential units.

Table 3: Gross Trip Generation Estimates (Unadjusted)

Land Use	AM Peak Hour			PM Peak Hour			Daily		
	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT
Residential	94	16	78	110	70	40	1,600	800	800

The base trip generation estimates summarized in Table 3 reflect all trips anticipated if there was no significant influence from other factors such as the location of the development to downtown, the University, the Whyte Avenue commercial precinct, and the availability of transit and alternative mode accommodation in the vicinity of the plan area. As such, the trip generation totals summarized in Table 3 should be adjusted to reflect an increase in mode split to alternative transportation modes (transit, walking, cycling).

Based on information contained within the 2016 Municipal Census, about 43% of residents within the Strathcona Neighbourhood use transit, walk, ride their bike, or use other non-auto modes to get to work (calculated excluding 'no response'). The City of Edmonton trip generation rates summarized in Table 2 were collected in primarily suburban areas with limited access to transit. It is anticipated that the rates summarized would reflect areas with a mode split to transit, walking, and cycling in the order of 5% to 10%.

For this assessment, a mode split adjustment factor of 35% was applied to the gross trip generation rates to better reflect the 2016 census mode split to alternative modes (estimated to be about 43%). **Table 4** summarizes the net auto trip generation for the proposed residential development.

Table 4: Net Trip Generation Estimates (Adjusted for Mode Split)

Land Use	AM Peak Hour			PM Peak Hour			Daily		
	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT
Residential – Gross Trips	94	16	78	110	70	40	1,600	800	800
Non-Auto Mode Split	33	6	27	39	25	14	560	280	280
Net Trips	61	10	51	71	45	26	1,040	520	520

Under the build-out scenario, the development could generate in the order of about 61 gross two-way trips during the AM peak hour, 71 gross two-way trips during the PM peak hour, and about 1,040 gross two-way trips daily.

Given that there are currently about 115 existing parking spaces within the development parcel which are anticipated to be well used during the course of a typical day and weekend (noting the Site's proximity to the Old Strathcona Farmers Market), the construction of 97 resident and commercial parking spaces are not anticipated to change or alter the traffic characteristics on adjacent neighbourhood roadways.

Given the limited amount of commercial floor area, the number of vehicular trips generated by commercial land uses is considered to be negligible. It is anticipated that the majority of commercial patrons will be walk and bike trips.

4.3 Commentary on the North-South Alley

Within Downtown Edmonton and in Main Street areas, alleys are typically used to provide site access to reduce the number of vehicle/pedestrian conflict points in high pedestrian areas. As a result, alleys are often projected to accommodate more traffic than historically measured. Historical alley thresholds (less than 1,000 vpd) reflect the potential magnitude of traffic that can be typically accommodated for two-way operations. As volumes increase, the potential for vehicles to meet in the alley increases, resulting in increased delays as vehicles pass each other.

Under current operating conditions, the North-South Alley accommodates very few vehicles. It has been estimated that between 100 and 300 daily trips use the North-South Alley between 83 Avenue and 84 Avenue. The introduction of the St. Anthony's Redevelopment Building could add between 250 and 350 two-way daily trips to North-South Alley traffic movements (northbound and southbound). The addition of between 250 and 350 two-way vehicle trips in combination with existing traffic movements would suggest that the North-South Alley could accommodate between 350 and about 650 vpd. This magnitude of traffic activity is below typical alley two-way volume thresholds.

The overall magnitude of projected traffic is anticipated to be able to be accommodated with slow traffic speeds. Supplementary traffic speed limit signs, stop signs at 84 and 83 Avenue, and alley lighting in the alley should be installed.

Considering the role and function of the North-South Alley, its anticipated daily traffic volume, and in the context of the North-South Alley's location within the overall network, from a site design perspective, a minimum clear alley Right of Way width of 6.0m should be considered. The need to upgrade the North-South Alley was not identified to be required based on anticipated traffic movements.

5.0 TRANSPORTATION DEMAND MANAGEMENT

To build upon the site's location and accessibility and to enhance the site's ability to promote alternative travel modes, it is highly encouraged that Beljan consider the implementation of a TDM plan at the Development permit stage of application. This will promote and direct prospective residents to pursue traveling without the use of a car, which ultimately will lead to reduced vehicle car ownership for the building.

TDM strategies and objectives can complement and reinforce other policies such as the use of alternative modes and non-auto modal split targets. The implementation of TDM measures can enhance the livability of the development area by controlling the number of vehicles through a reduction in parking spaces.

Local City characteristics play an important role in determining the status, image, and acceptability of different types of travel behaviour. The private automobile has social and cultural attributes that go well beyond its role as a transportation mode. For TDM strategies to be effective, the strategies must recognize and acknowledge local City of Edmonton cultural factors.

Based on a review of the site plan, the redevelopment of the St. Anthony's School Building offers an environment where convenient transportation options are available for area residents, including excellent public transit, pedestrian, and bicycle networks, which provide a connection to the University of Alberta as well as a wide range of employment, retail, activity centres, and amenities located nearby. These factors combine to allow for a reduced need for residents to own a private vehicle and are strongly supportive of the development of a building with a reduced residential parking supply.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Development of the Recommended Traffic and Parking Plan

The development of the overall traffic and parking plan for the St. Anthony's development parcel represents an integrated transportation plan. The transportation plan builds upon and leverages existing and future transportation systems planned for this sector of the Old Strathcona Neighbourhood.

6.2 Key Study Findings

The City of Edmonton should continue to be mindful of evolving mobility choices, technology, and consumer preferences, and their potential implications for vehicle ownership and travel demands, particularly for developments located near high-speed transit. The City should continue to look for opportunities to undertake and support City Building goals and overarching city policies related to land use intensification, the development of more efficient and friendly neighbourhoods, and increased use of alternative travel modes.

The transportation plan will provide a system that balances the various modes of transportation—pedestrians, private vehicles, transit, and bicycles—in a manner that strengthens the overall area's transportation system, appropriate to the objectives of City Plan. Based on the traffic and parking analysis completed, it has been determined that:

- the adjacent neighbourhood roadway network should be capable of providing safe and convenient access for vehicles associated with the redevelopment of the site as a multi-family building at acceptable levels of traffic service while the existing transportation infrastructure is anticipated to provide high levels of pedestrian, cyclist, transit, and vehicle access to the site;

- the relative location of the development to existing and future residential development activity, retail and commercial areas, employment opportunities, the immediately adjacent bicycle infrastructure, and transit will continue to allow for transit, bicycle, and walk-trip opportunities which should reduce the reliability of the automobile as the primary means of transportation;
- The development setback on the east side of the building should allow for a 6.0m wide North-South Alley right of way;
- Given the level of development intensity, the need to upgrade the North-South Alley to a commercial alley along the east side of the development between 83 and 84 Avenue has not been identified from a traffic accommodation perspective;
- The power poles in the North-South Alley do not need to be relocated or removed as they should not interfere with traffic operations;
- The relative increase in North-South Alley movements associated with the new multi-family building on neighbourhood roadways and any identified concerns regarding the development burdening vehicular and pedestrian egress routes out of the neighbourhood has not been concluded; and
- To acknowledge changes and modifications to building footprints and land use schedules that could occur as a result of more detailed planning and design exercises, supplemental mobility evaluations should be completed at the Development Permit stage of planning to assist in determining roadway/bicycle interfaces, etc. that may be required and the extent of these requirements.

6.3 Study Recommendations

The mobility review has concluded that the proposed redistricting can be accommodated from a traffic accommodation and operational perspective and should not create any adverse traffic or safety issues for any road user groups within the plan area. **The development should not unduly interfere with or affect, area traffic or intersection characteristics, and the level of traffic activity projected to be generated by the development is relatively low and can be accommodated.**

To enhance pedestrian accommodation and safety and to mitigate the impacts of the new multi-family building the following recommendations are advanced:

- Install stop signs on the north approach of the North-South Alley and 83 Avenue and the south approach of the North-South Alley and 84 Avenue;
- The development should allow for a 6.0m wide North-South alley;
- The owner will be required to remove any existing accesses from the subject parcel to 83 Avenue in conjunction with development construction.

MEMORANDUM

Date: 2024-04-19

WATT CONSULTING GROUP

Page 11 of 11

To: Greg Ablett, City of Edmonton, Planning Coordination, Development Services

Subject: St Anthony's School Redevelopment Transportation Review

Sincerely,

WATT Consulting Group



William Minchin, MSc PEng

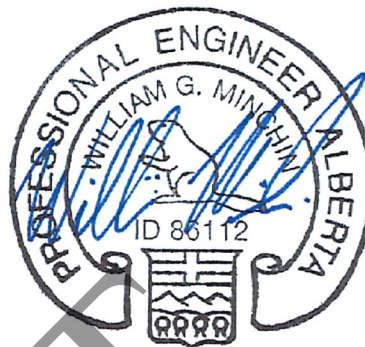
Transportation Engineer

T 780-800-2957 ext. 733

D 403-569-8724 **C** 825-865-9455

E wminchin@wattconsultinggroup.com

#WEAREWATT



2024-04-23

**PERMIT TO PRACTICE
WATT CONSULTING GROUP LTD.**

RM Signature 

RM APEGA ID #: 251987

Date: 2024-04-23

PERMIT NUMBER: P003818

The Association of Professional Engineers and
Geoscientists of Alberta (APEGA)