

# TECHNICAL MEMORANDUM

**DATE:** January 31, 2021

**PROJECT NO:** 20-026

**PROJECT:** **Lynnwood Apartments, 150 Street South of 89 Avenue, Jasper Park Neighbourhood, LDA19-0397**

**SUBJECT:** **Traffic Memo – Final Report**

**TO:** Beljan Development, Attention: Chris Dulaba

**FROM:** Mark Huberman, P. Eng.

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## 1. INTRODUCTION

### 1.1 Background

Beljan Development is proposing to construct a multi-story residential building on the east side of 150 Street between 87 and 89 Avenues. The development shares a north-south alley with Lynnwood Centre, a neighbourhood scale, multi-tenant commercial building. Although the new apartment building will displace an existing gravel parking area typically used by Lynnwood Centre employees, the development will include a surface parking lot to continue to accommodate Lynnwood Centre employee parking through an owner-operated parking management program.

The legal address is Lots 14A and 14B, Block 1, Plan 8222153, and Lots 15-18, Block 1, Plan 5572HW. The development lands are located within the Jasper Park Neighbourhood.

The multi-story development could include up to 101 residential units. Access to an underground parking garage is planned from the existing north-south alley on the east side of the residential building.

To better understand the transportation characteristics associated with this development initiative, Huberman Transportation Consultants Inc. (HTCI) prepared a traffic memo that includes a review of the mobility-related aspects of the development given the increased intensification of the development parcel.

In completing this study, a review was completed of the Jasper Park and Lynnwood Community Walking Map and Jasper Place Neighbourhood Profile information, and the City of Edmonton TIA Guidelines document. In addition, a review was completed of the City of Edmonton's Bus Network Redesign Plan.

Discussions with representatives of the Urban Form and Corporate Strategic Development, Planning Coordination Group were completed in combination with attending to the site on several occasions to complete casual observations of traffic activity and existing conditions.

## 1.2 The Redistricting Proposal

Beljan Development has submitted a rezoning application to amend the City of Edmonton Zoning Bylaw 12800 from DC2 973.1 and RF1 to a new DC2 Zone. A Site-Specific Direct Development Control Provision (DC2) has been submitted for the following reasons:

- To provide a clear direction and certainty on the proposed design, built form, and massing of the building;
- To provide a minimum of five 3-bedroom units suitable to accommodate families; and
- To provide amenity space specific to children as a means to attract families to the building.

## 1.3 When is a Transportation Impact Assessment (TIA) Required

A TIA is typically required to support the mobility aspects of a proposed development that has the potential of generating a significant number of new transit riders or vehicular traffic that could potentially change the mobility patterns and conditions and which may necessitate upgrades, additions, or changes to the existing street, transit, or multimodal network in the immediate area of the development parcel. Based on a review of the literature, as a rule of thumb, if a development has the potential of generating more than 100 person trips per hour (considering all modes) for any given peak period for any given mode, a TIA would likely be required.

It is not anticipated that the Lynnwood Apartment development will generate more than 100 person trips per hour in any peak hour for any mode. In light of the above and, in combination with a review of the City of Edmonton TIA Guidelines, a brief traffic memo has been prepared. The intent of this memo is to understand the net change in traffic volumes between the currently approved zone and the proposed land use district and determine whether further study or analysis is required.

## 1.4 Study Purpose and Scope

The primary purpose of this Technical Brief was to address the sensitivity in trip making activity between the existing approved DC2 and RF1 Zones and the proposed DC2 Rezoning application. This will allow for a determination if the adjacent and area roadway network continues to be capable of appropriately accommodating the anticipated incremental increase in site-generated traffic movements. The Traffic Memo also provides commentary where appropriate on candidate mitigative solutions to address any identified alternative mode issues or concerns.

The traffic review attempted to answer four questions. First, what are the current and proposed site development characteristics associated with the development parcel? Secondly, what are the current and future roadway, intersection, and traffic characteristics immediately adjacent to the development parcel? Thirdly, what are the anticipated traffic demands associated with this development initiative based on anticipated tenant characteristics and best practices? And finally, does the proposed rezoning application represent an appropriate up zone for the subject lands in consideration of neighbouring properties and adjacent roadway infrastructure characteristics and associated traffic movements.

Based on scoping discussions with the City of Edmonton, intersection capacity analysis was not required for this project due to the context of the site and the size of the development.

In general, the study allows the Client Group and interested residents to better understand the traffic characteristics and requirements associated with the rezoning application. The review was based on theoretical and observational traffic evidence, site observations and best-case studies, and a review of applicable planning and transportation planning documents.

## 2. THE DEVELOPMENT PROPOSAL

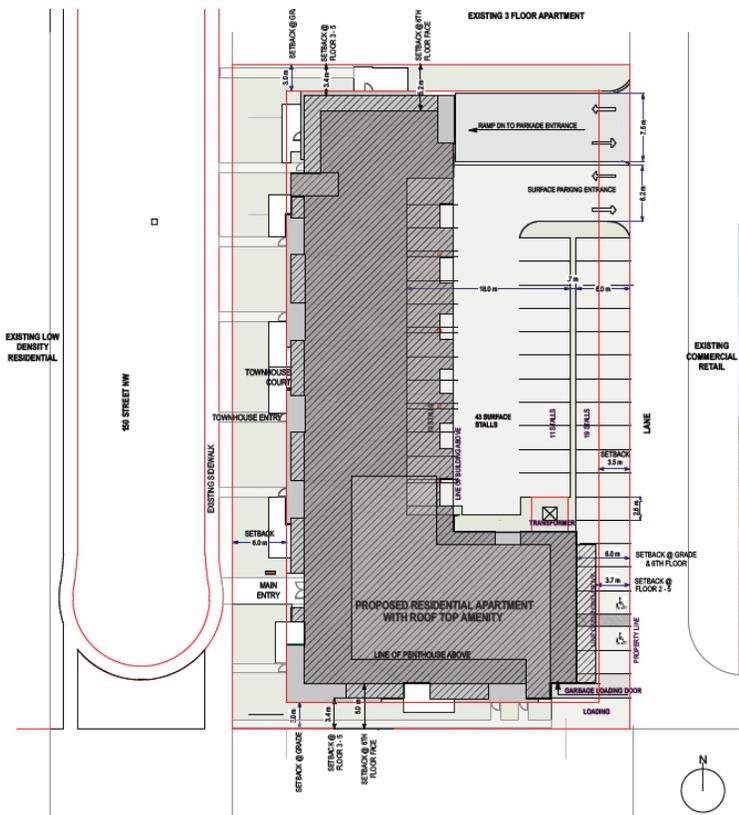
### 2.1 Development Description

The proposed multi-family development parcel is located on the east side of 150 Street generally between 87 Avenue and 89 Avenue. Based on the DC2 Provisions, a maximum of 101 residential units are being planned within a 6 - story building. Of these units, eight (8) units will be townhouse units of which 6 units will front onto 151 Street.

The residential building is planned to include an underground parking garage (50 spaces) which will take access from the existing north-south alley as well as a surface parking lot located between the east face of the building and the north-south alley. Approximately 43 spaces have been programmed to be developed in this area of which about 18 spaces will be located immediately adjacent to the north-south alley.

Based on a review of the current DC2 Zone, it has been determined that an incremental increase in possibly 92 residential units would be realized.

The development parcel is located to the west of the Lynnwood Commercial development and is separated from the commercial building by an existing north-south alley. The site is located across from several infill development residences and older single-family homes and a 3-storey apartment building immediately to the north. It is noted that 150 Street has been terminated at an existing east-west alley that currently provides access to a McDonald's Restaurant and a Domo gas bar. The existing east-west alley represents the south edge of the residential parcel.



The development parcel is located near schools and commercial developments. Located in the Jasper Park Neighbourhood, the roadway pattern immediately adjacent to the development parcel reflects a grid system of roadways that maximize access from the development parcel to the adjacent arterial roadway network.

### 3. EXISTING CONDITIONS

#### 3.1 Adjacent Roadway Network Overview

The roadway network surrounding the development area is mature. At this time, existing development adjacent to the neighbourhood roadway network generally constrains any roadway expansion opportunities.

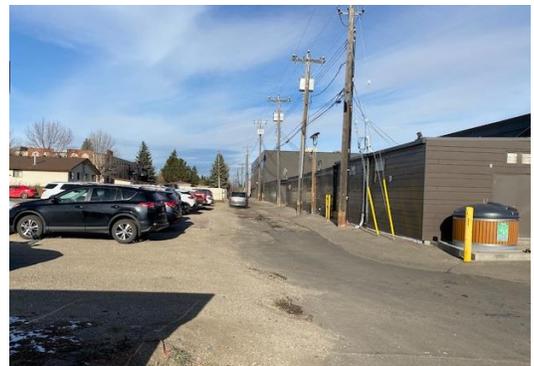


The development parcel is located immediately to the east of 150 Street, which is best characterized as a local roadway. Parallel parking is currently allowed on both sides of the roadway. Mono sidewalks are located on both sides of the roadway.

The intersection of 150 Street and 89 Avenue is controlled by yield signs in the northbound and southbound directions. 150 Street south of the cul-de-sac maintains the same roadway cross-section as that portion of 150 Street north of the cul-de-sac area. The 150 Street roadway carriageway is about 11m wide.

The intersection of 150 Street and 87 Avenue is stop signed controlled in the southbound direction. 87 Avenue through the 150 Street intersection includes 2 eastbound and 2 westbound travel lanes separated by a narrow median. The intersection of 87 Avenue and 149 Street is traffic signal controlled.

89 Avenue is best classified as a local roadway. This roadway extends from 149 Street to 152 Street. The roadway accommodates parking on both sides of the roadway. A sidewalk is located on the north side of the roadway. The width of 89 Avenue is about 11 m wide. The intersection of 89 Avenue and 149 Street is traffic signal controlled.



As mentioned, the key roadways surrounding and adjacent to the development parcel are constructed to their ultimate cross-sections.

The north-south alley located between the residential apartment building and the Lynnwood Commercial Building will provide the primary means of vehicular access to the development. The north-south alley intersects 89 Avenue to the north and the existing east-west alley to the south.

**Schedule A** attached includes a series of photographs of the development area.

### 3.2 Existing and Future Traffic Activity

#### *Existing Traffic*

A review of City of Edmonton traffic databases was completed. It was determined that 149 Street north of 89 Avenue accommodates about 25,000 (2018 City of Edmonton Count) while 87 Avenue west of 149 Street accommodates about 20,000 vpd. Specific traffic data for 150 Street and 89 Avenue is not available from City databases. However, based on the context of the site, it is expected that volumes on 89 Avenue are in the same range as other segments of 89 Avenue where traffic data is available. It is anticipated that 89 Avenue likely accommodates about 1,000 two-way trips per day based on a review of other segments of 89 Avenue where traffic data is available. Traffic activity on 150 Street is anticipated to be low.

#### *Traffic Capacity and Operations*

Site visits were completed during the AM and PM peak hours of adjacent roadway activity.

Traffic volumes on the local roads adjacent to the site are very low, and no capacity issues were observed. The roadway width along 89 Avenue can accommodate passing maneuvers and passing maneuvers are not a concern.

#### *Future Traffic*

The area within which the development parcel is located is mature. It is not anticipated that any significant traffic increases will be realized along 89 Avenue (subject to other possible redevelopment activity which is unknown at this time). It is expected that minimal traffic growth will be encountered along 89 Avenue.

Traffic volumes on 149 Street and 87 Avenue could increase in the future in response to traffic diversions resulting from West LRT construction and operations. However, increased opportunities for alternative travel modes in the area (e.g., bike lanes, transit service) may continue to decrease vehicular traffic demand).

### 3.3 Alley Conditions

The north-south alley provides access to existing residential developments located on the west side of the alley, to loading doors located on the west side of the Lynnwood Commercial development, and to a small pocket of surface parking used by Lynnwood Commercial employees. Based on casual observations completed, about 15 to 20 vehicles were historically parked in the surface parking lot.



A power line runs along the east side of the alley. Based on on-site observations, the pole locations do not impede traffic movements.



### 3.5 Pedestrians and Bicycle Accommodation

Momo sidewalks are located on both sides of 150 Street. Para-ramps have been constructed at all four corners of the 150 Street and 89 Avenue intersection. A mono sidewalk exists on the north side of 89 Avenue. It is noted that there is currently no sidewalk located on the south side of 89 Avenue between 150 Street and the north-south alley. There is however a passenger/commercial loading zone constructed in front of an existing apartment building (Birchhaven Manor). There are no marked or unmarked pedestrian traffic control paint line-markings on 89 Avenue at 150 Street.

There are no designated bicycle routes in the immediate area of the development parcel. The closest signed bicycle route is 142 Street and 87 Avenue which provide cycling access into the river valley and 76 Avenue. In the Jasper Park Neighbourhood, cyclists generally share the roadway with vehicles on relatively quiet streets.

## 4. TRIP GENERATION

### 4.1 Site Generated Traffic Activity

**Table 2.1** presents a summary of the projected trip generation rates for the subject development parcel based on current City trip rates.

**Table 2.1: Land Use Schedule**

LAND USE	TRIP RATE PER RESIDENTIAL UNIT		
	AM Peak Hour	PM Peak Hour	Daily
DC2 Apartments	0.34 (17%/83%)	0.40 (63%/37%)	5.81 (50%/50%)
DC2 Row Housing	0.36 (17%/83%)	0.44 (63%/37%)	5.44 (50%/50%)

**Table 2.2** presents a summary of the projected trip generation rates for the subject development parcel based on current City trip rates.

**Table 2.2: Potential Trip Making Activity**

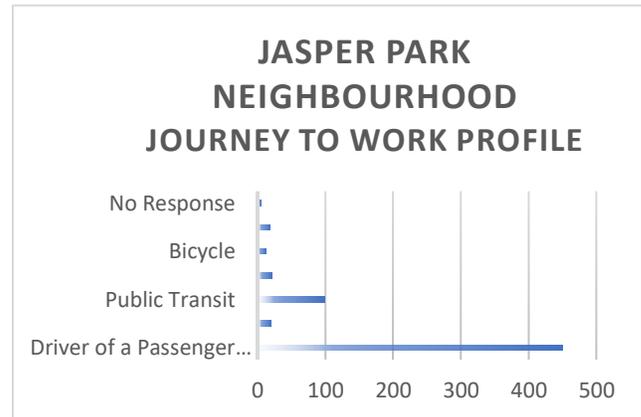
LAND USE ZONE	Units	AM Peak Hour	PM Peak Hour	Daily
DC2 Apartments	93	32 (6/26)	38 (24/14)	540
DC2 Row Housing	8	3 (1/2)	4 (3/1)	44
<b>Total</b>	<b>101</b>	<b>35 (7/28)</b>	<b>42 (27/15)</b>	<b>584</b>

As highlighted, the DC2 site accommodating about 101 residential units could generate about 35 two-way trips in the AM Peak Hour, 42 two-way trips in the PM Peak Hour, and about 584 daily trips.

#### **Multi-Modal Split Adjustment**

Edmonton's 2016 Municipal Census provides data on the primary mode of transportation from home to work with results organized by neighbourhood. Based on a review of the Jasper Park Neighbourhood journey to work profile, it has been determined that about 72 % of the work trips are made either as an auto driver or an auto passenger. This mode split to auto is in line with and consistent with overall City averages.

This finding would suggest that there is likely not a significant mode split adjustment factor that can be applied to the projected trip generation rates and resultant trip making activity assumed. It is possible with the new Transit Network Redesign being implemented in April 2021 could result in increased mode splits to transit.



#### 4.2 Trip Distribution and Assignment

Traffic generated by the proposed residential building has multiple opportunities to access the adjacent roadway network. Access to 149 Street north of 89 Avenue is available via 89 Avenue, access to 149 Street south is available via 89 Avenue, and the east-west alley directly onto 149 Street and 87 Avenue is easily accessible via the east-west alley and 150 Street. It is anticipated that all these site access opportunities will be used relatively equally.

### 5. MULTI-MODAL TRANSPORTATION ASSESSMENT

#### 5.1 Vehicle Operations

The intersections of 150 Street and 89 Avenue are yield sign controlled. Based on the low traffic volumes on 150 Street and 89 Avenue, traffic capacity issues are not expected at this location. This is consistent with the site observations. Similarly, traffic operational issues are not expected at the intersection of 150 Street and 87 Avenue. It is anticipated that most turning movements during peak hour activity will be southbound to westbound right-turn movements. It is noted that some gaps on 87 Avenue are a result of the traffic signal at 87 Avenue and 149 Street. It is noted that the intersection of 87 Avenue and 150 Street is on Traffic Safety's list for upgrades to the pedestrian crossing infrastructure (although any improvements are currently unfunded).

It is anticipated that the traffic signal controlled intersection on 149 Street at 89 Avenue and 87 Avenue can accommodate an incremental increase in traffic activity generated by the intensification of the development parcel and that no discernible change in traffic operations will be noticed.

#### 5.2 Transit

A Bus Network Redesign is underway as part of the City of Edmonton Transit Strategy. The new network is expected to provide routes along the same corridors in the study area; however, frequencies may change.

In the future (April 2021), the development parcel and other areas of the Jasper Park Neighbourhood will be served by Route 2 and Route 4 which are both Frequent Transit Network routes (FTN), and Route 904 (local). Route 2 and Route 4 will connect the neighbourhood to local destinations and other routes including the University and the downtown. These routes will have buses that come every 15 minutes or better, 7 days a week at most times of the day and most days of the week.

Based on discussions with Edmonton Transit representatives, redevelopment opportunities along 87 Avenue are considered good locations when considering frequent and convenient transit service. Providing transit facilities near higher density developments will help ensure access to facilities for the greatest number of residents.

Bus stops on 87 Avenue and 149 Street are roughly 200m walking distance from the development site. The development site is approximately 1.2 km walking distance from the future Meadowlark LRT Stop on the Valley Line West LRT route scheduled to begin in 2021 with an anticipated completion date of 2027.

### 5.3 Pedestrian and Facilities

As mentioned previously, monolithic sidewalks exist on 150 Street and the north side of 89 Avenue. It is understood that the City has requested that the DC2 Provisions include a regulation that as part of any development permit application, that the applicant construct a sidewalk on the south side of 89 Avenue between 150 Street and the north-south alley (approximately 45m). No additional sidewalk requirements have been identified. The City may wish to monitor pedestrian activity at 150 Street and 89 Avenue.

A pedestrian crossing sign on 89 Avenue would help pedestrians on 150 Street south of 89 Avenue cross 89 Avenue to access the north side sidewalk on 89 Avenue to access transit pads on 149 Street.

Bicycle Parking is proposed to be provided following the Zoning Bylaw to the satisfaction of the Development Officer in consultation with Subdivision and Development Coordination (Transportation). A minimum of 60 long term Bicycle Parking spaces will be provided in a secure facility within the building that is easily accessible to cyclists via access ramps, or a route through the building that facilitates easy and efficient transportation of bicycles. A minimum of 10 short term Bicycle Parking spaces for visitors will be provided in an easily accessible location.

Based on a review of the Edmonton Bike Plan, 153 Street has been identified as a future neighbourhood route and 87 Avenue is a future District Connector route. It is anticipated that cyclists will continue to share low volume roadways.

### 5.4 Parking Review

A total of 93 parking spaces will be developed in a combination of below-grade and surface parking areas. Of these spaces, about 19 spaces will be shared use parking spaces. These spaces which are located adjacent to the north-south alley will likely be available for employees associated with the Lynnwood Commercial Building and for visitors. After hours and on weekends, these stalls could be used primarily as visitor parking spaces. The shared-use parking program will be operated as an owner-operated parking management program. The future design of the parkade access portal (retaining wall height and the location of any card readers) will comply with City of Edmonton development regulations.

Parallel parking on 150 Street is currently unrestricted. Based on casual observations completed, there will be opportunities for visitors to park in front of the building. Consideration should be given to designating a commercial/passenger loading zone in front of the apartment's main entrance.

## 5.5 Alley Operations

No current operational issues were observed in the alley. Traffic volumes are very low, so vehicle conflicts are not expected; however, in the case of two vehicles traveling in opposite directions in the alley, there are opportunities for vehicles to allow others to pass.

It is suggested that the City consider the introduction of improved curbside signing on the south 89 Avenue curb line to enhance alley/street interface sightlines and that the City considers implementing a yield sign to control northbound traffic on the alley. It is also suggested that enhanced traffic control signing be introduced at the base of the north-south alley and the east-west alley.



## 6. TRANSPORTATION DEMAND MANAGEMENT

### 6.1 General

The effective application of Transportation Demand Management (TDM) measures is considered as a cost-effective means to reduce the need for additional roadway and parking infrastructure. TDM strategies can complement and reinforce other policies such as the use of alternative modes of transportation 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 the number of parking spaces.

### 6.2 Transportation Demand Management Strategies

Once the new residential apartment is constructed and operational, to encourage and support lifestyle adjustments to achieve better sustainability (reduced automobile travel), Beljan Development could consider developing site-specific transportation demand management programs for their residents or advise residents of possible transportation demand management measures that address specific transportation initiatives associated with the daily transportation needs of building residents, employees and visitors.

Beljan Development may consider “unbundling” parking spaces from lease or sale agreements. In this scenario, the underground parking spaces will be rented or sold separately for the residential units rather than automatically including parking spaces within the basic rent or unit cost structure. This is a more equitable practice (as opposed to including parking in the basic rent or cost structure) and can result in reduced off-street parking requirements and reduced travel activity.

Transportation Demand Management plans, measures, and initiatives to achieve an increased non-auto modal split and to reduce single-occupant-vehicles could also include:

- Car share memberships;
- Transferable transit passes;
- Additional secure bicycle parking and bicycle maintenance facilities;
- Shared bicycle programs and space; and
- Parking pricing.

## 7. CONCLUSIONS

Several overarching City of Edmonton documents and transportation policies play an integral role in the City's sustainability initiatives. The proposed rezoning initiative mirrors many guidelines and goals as laid out in the City of Edmonton's Transportation Master Plan including Sustainability Principles and increased transit use and other alternative transportation modes.

### 7.1 Synopsis of Key Study Findings

To ensure the viability of the rezoning application from a traffic accommodation perspective, a multi-modal analysis was completed. A total of 101 units were assumed to be developed. This unit count represented an increase of about 92 units over the approved DC2 Zone. The proposed up-zoning of the development parcel was deemed to represent a more realistic density target as opposed to artificial market pressures and also allowed for certainty in the number of family-oriented units.

The assessment undertaken indicated that minimal transportation impacts are currently being experienced in the immediate area and that any significant changes to the mobility environment status quo are not expected should this development proceed. Traffic volumes on 150 Street, 89 Avenue, and the north-south alley are currently quite low and are projected to remain low with the buildout of this development. As a major neighbourhood, several multi-modal transportation facilities serve the area, including sidewalks, and transit routes. No current alley operational issues were observed.

### 7.2 Conclusions and Recommendations

The City of Edmonton 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.

It is recommended that the City of Edmonton support the proposed redistricting application. The multi-modal review has concluded that the proposed redistricting can be accommodated from a traffic operational perspective and should not create any adverse traffic or safety issues to any road user groups within the plan area. Enhanced pedestrian accommodation across 89 Avenue could be considered and limiting the location of parking on 89 Avenue should be considered at the north-south alley intersection to maintain appropriate sightlines. The redevelopment 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 can be accommodated.

**Huberman Transportation Consultants Inc.**



Mark Huberman, P. Eng.  
Senior Consultant

APEGA Permit Number 15103

Schedule A

