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Jasper House, 12021 - Jasper Avenue
LDA22-0148 Rezoning Application
Mobility Assessment

Final Report, Version 6.6

Prepared for

Jasper House GP Inc.

Date

March 29, 2024

Project No.

21-081

CORPORATE AUTHORIZATION

This document entitled "Jasper House, 12021 - Jasper Avenue, LDA22-0148 Rezoning Application, Mobility Assessment" was prepared by Huberman Transportation Consultants Inc. (HTCI) for the benefit of Jasper House GP Inc. Information and data in the report reflect HTCI's best professional judgment in light of the knowledge and information available to HTCI at the time of preparation.

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TABLE OF CONTENTS

EXHIBITS

TABLES

1. INTRODUCTION

1.1 Preface

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

On behalf of Jasper House GP Inc., Situate Inc. is in the process of advancing an application (LDA22-0148) to rezone a surface parking lot and the Jasper House residential building located in the west sector of the Oliver Neighbourhood from a Direct Development Control Provision to a Site-Specific Development Control Provision (DC). The development site is located in the City Centre Node.

Rezoning approval will allow for a new high-rise mixed-use residential tower with an underground parking garage to be developed on a surface parking lot while retaining and restoring the existing Jasper House residential building. The redistricting application and the subsequent development permit application align with City Plan policy for the Centre City Node.

1.2 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 Transportation Review generally investigates the potential impacts of the proposed mixed-use development on the area's transportation infrastructure. Completion of the mobility assessment will:

- Provide the City with a basis on which to assess the transportation implications associated with proposed rezoning (on existing and future transportation infrastructure);
- Provide a rational basis on which to evaluate if the type and scale of the development that could be constructed is appropriate for this particular 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;
- Identify and address transportation-related issues that may be of concern to neighbouring residents, businesses, and property owners; and
- Provide 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).

1.3 Setting the Stage

Transportation accommodation (for all user groups) generated by the new mixed-use, multi-storey development requires an integrated, balanced, and coordinated transportation mobility plan. Understanding the demands placed on the area's transportation infrastructure represents an important dimension in assessing overall development impacts. Aligning the mobility network, land use, and public realm improvements (multi-modal integration) will contribute to the strengthening of Oliver Neighbourhood's economic sustainability.

The need to identify an overarching management plan for active modes, transit, traffic circulation, site and loading access, parking access, and drop-off access—a plan that recognizes all modes of transportation—will allow for a holistic transportation plan to be developed at the Development Permit stage of application. The plan should acknowledge and recognize other development-related activities within the immediate area. The location of the project site will allow all population user groups to take full advantage of alternate mode accessibility.

Developing a transportation mobility plan framework and identifying complementary TDM strategies at this stage of the planning process will assist in safeguarding that area roadways can perform satisfactorily, that parking accommodation and access facilities and routes are strategically located and appropriately sized, that the overall transportation system is designed to current geometric roadway standards, and that the overall plan responds to City, landowner and community desires and expectations.

1.4 Project Understanding and Scope

Based on the Pre-Application Meeting Minutes (March 24, 2021) and discussions with City representatives, the City of Edmonton is seeking additional information on the following:

- Description of the existing area transportation infrastructure including on-street parking;
- The review of the proposed off-street parking supply;
- Commentary on existing and future daily traffic volumes on study area roadways;
- Estimating multi-modal trip generation (walking, cycling, transit, and driving) for the proposed development during the AM and PM peak hours, based on the City's rates, industry best practices (based on the locational context of the development);
- Establishing trip distribution and assignment for trips generated during peak hours;
- Commenting on traffic operations at study area intersections and roadways;
- Commenting on-site access operations and access design elements; and
- Visual representations of area alternative mode facilities and discussions on the current and future alternative mode level of service, and
- Suggestions to improve pedestrian/cyclist experience (gap identification) if and where applicable.

It is understood that intersection capacity analysis was not required for this project due to the site context and location.

1.5 Study Purpose

In response to the identified scope, the traffic review attempted to answer four main questions.

First, what are the current characteristics associated with the development parcel, and what are the anticipated development characteristics associated with the application? 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 possible development initiative based on anticipated building and tenant characteristics? And finally, does the application represent an appropriate district for the subject lands in consideration of neighboring properties and adjacent roadway infrastructure characteristics, and what if any are the candidate mitigative solutions required to address site design considerations at more detailed levels of planning and assessment?

1.6 Study Goals and Objectives

The development of a sustainable all-modes plan framework to service levels of development as may be contemplated represents the central focus of the assignment. Transportation improvements and strategies required to accommodate site-generated traffic on area roadways and intersections are identified. Although ensuring ease of access to and from the development by passenger cars is important, roadways and intersections in the area are built out and opportunities to expand these facilities are limited.

The assessment acknowledges service, waste, and emergency vehicle movements and access. In this fashion, cumulative impacts can be evaluated. Recommended strategies for mitigating any impacts are advanced.

The traffic management plan reflects current realities and future trends, to the extent that they can be anticipated. In this context, the primary objectives of the transportation mobility plan include:

- Supporting and augmenting the existing active modes network to enhance and assist neighbourhood and community-building and to provide ease of access to transit and active modes;
- Encouraging walking and cycling as safe and attractive ways to move from the development site to the City's pedestrian and bicycle network for people of all ages and abilities at acceptable levels of service;
- Managing vehicular travel through a careful examination of on-site parking;
- Helping to recreate attractive neighbourhood streets that are vibrant destinations in and of themselves; and
- Ensuring emergency vehicle access.

1.7 Study Methodology

The study methodology employed represents a combination of multi-modal plan development along with traditional traffic impact analysis. The study follows the City of Edmonton's Traffic Review guidelines with an additional emphasis on pedestrian, bicycle, and transit access. In addition to reviewing the potential impacts on the adjacent City-owned transportation infrastructure, the study considers the transportation interface between the site and the adjacent community. The methodology recognizes and acknowledges that continued growth within the City Centre Node cannot be evaluated solely on its impact on road capacity and intersection operations. The methodology acknowledges that key roadways in this sector of the Oliver Neighbourhood represent major travel corridors. For these reasons, transportation impact studies must identify program and infrastructure requirements and improvements necessary to move people via active mode networks.

In addition, the methodology de-emphasizes the development site and its immediate environment as the primary scale of analysis. The methodology benefits by considering the area at large and takes an area-wide approach with attention to the urban context where the redevelopment site is located. At this larger scale, there is a better ability to understand the various elements that work together to shape travel demand, including but not limited to multi-modal transportation infrastructure and services, and how a mixed-use residential building at the intersection of 121 Street and 100 Avenue can be integrated into the larger neighbourhood context.

1.8 Area of Significant Traffic Influence

For this assessment, the primary area of significant traffic influence included 100 Avenue, 121 Street, Jasper Avenue east of 121 Street, and the 121 Street and Jasper Avenue intersection.

1.9 Documentation Review

During the report's preparation, the following documentation was reviewed:

- City of Edmonton, City Plan (2020);
- City of Edmonton, Transportation Impact Assessment (TIA) Guidelines, 2016;
- City of Edmonton, Infill Development Supplement (2021);
- City of Edmonton Access Management Guidelines, Version 2, 2022
- City of Edmonton Complete Streets Design and Construction, Roadways, 2021
- Imagine Jasper Internet Research
- Victoria Promenade Bicycle Pilot Project Internet Research and Public Engagement Sessions
- TBD Architecture, Jasper House Urban Design Brief, October 27, 2023

1.10 Report Organization

In addition to this introductory section, this report contains five chapters. A summary of existing and future area conditions including a review of roadway, parking, transit, and bicycle facilities is included in **Chapter Two.** This background information helped inform the preparation of the mobility assessment.

Chapter Three reviews a number of the key characteristics associated with the rezoning application and preliminary information regarding the multi-story building being considered upon rezoning approval.

Chapter Four includes a summary of the projected traffic characteristics associated with the development parcel. A multi-modal mobility review is presented in **Chapter Five** while C**hapter Six** includes the summary of the report findings.

2. TRANSPORTATION CONTEXT, PRE-DEVELOPMENT CONDITIONS

2.1 Preface

The review of existing conditions includes a qualitative assessment of the level of service provided for several multi-modal transport options including transit, walking, cycling, and vehicular traffic activity and parking. These modes were reviewed in terms of existing conditions near the subject development site and, where required, were reviewed from a more neighbourhood context (to review overall neighbourhood connectivity). The baseline data provides a foundation for assessing and integrating active mode movements and traffic and parking accommodation associated with the redevelopment of the existing surface parking lot. Given the site's location in a densely populated neighbourhood with excellent access to transit and bike infrastructure, opportunities to develop the site with a greater emphasis on integrating and promoting the use of active modes can be considered.

2.2 Site Location

The proposed residential development site is located in the Centre City Node (City Plan). The development parcel is located on the east side of 121 Street, south of Jasper Avenue, and is bordered by 100 Avenue to the south, and the existing Jasper House residential tower to the east. The site currently accommodates surface parking associated with the Jasper House residential development.

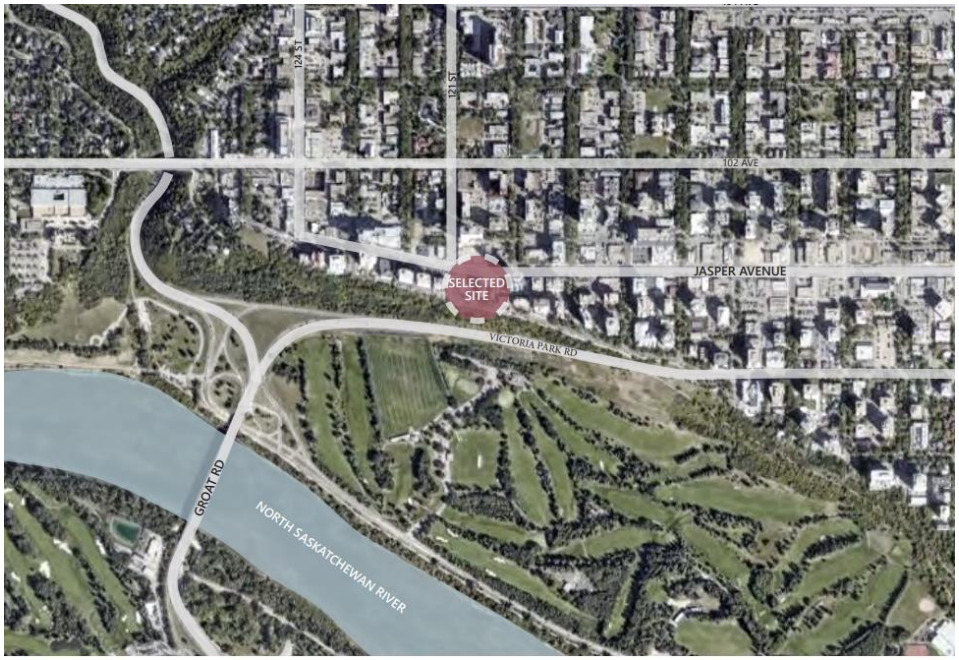


Exhibit 2.1: Site Context Plan

2.3 Existing Area Land Use

The area within which the site is located is best characterized as a mixed-use environment. Existing commercial land uses in the area are diverse and include street-oriented commercial uses and professional offices predominantly located on Jasper Avenue. Several high-density residential developments are located in this sector of the Oliver Neighbourhood, including The Glenora and The Athabascan Apartment towers which are both approximately 17 storeys in height and the Pearl Tower (35 storeys), located on the south side of Jasper Avenue at 120 Street. The Oliver Residences building is located on the north side of Jasper Avenue between 122 Street and 123 Street.

2.4 Future Area Land Use

This sector of the City Centre Node represents if not one of the highest, the highest density residential areas within the City of Edmonton. Residential development within the area supports the City's major employment centres including the downtown and Government precincts. It is also located in very close proximity and with easy access to the University area.

The sector of the Oliver Neighbourhood within which the development is planned is undergoing re-development and intensification. Over the next 10 to 15 years, the Oliver Neighbourhood will continue to evolve as a primary area for higher-density multi-unit housing in the City. The neighbourhood will continue to contain an eclectic blend of housing types, including family-oriented units and commercial uses.

It is anticipated that additional mid and high-rise residential developments will occur on the north side of Jasper Avenue between 123 Street and 124 Street, on 124 Street north of Jasper Avenue, and along 122 Street north of Jasper. The timing of these residential development projects is unknown at this time.

2.5 Neighbourhood Travel to Work Profile

Located approximately 2.8 km west (Site Location) of the City's downtown core, the Oliver Neighbourhood is one of the City's older City neighbourhoods. Given its population density and its location relative to Edmonton's downtown core and employment areas, the Oliver neighbourhood sees a higher-than-average commuter mode split to alternate modes.

Based on information contained within the 2016 Municipal Census, about 46% of residents within the Oliver neighbourhood use transit, walk, or ride their bike to work by private automobile (or as a passenger). Public transit use (21%) and walk trips (20%) represent the majority of non-auto trips. Less than 3% of residents travel to work by bicycle (Source: 2016 Municipal Census). As presented in **Table 2.1,** the number of home-to-work trips made by transit, walking, or bicycle by residents in Oliver significantly exceeds Citywide home-to-work averages (44% versus 18%).

Table 2.1: City of Edmonton Municipal Census Results – Mode of Transportation Home to Work

Main Mode	Number	Neighbourhood Percentage	City Wide Percentage
Car/Truck/Van (as Driver)	3,264	50.28	72.7
Car/Truck/Van (as Passenger)	168	2.59	4.61
Public Transit	1,401	21.58	13.41
Walk	1,312	20.21	3.76
Bicycle	147	2.26	1.03
Other	140	2.16	2.55
No Response	60 0	.92	2.27
Total	**6,492**	**100.00**	**100.00**

It is recognized that this profile information is somewhat dated and was collected in advance of the introduction of a segregated bicycle facility on 102 Avenue. Notwithstanding, it is anticipated that as the Oliver Neighbourhood continues to intensify and with the introduction of additional bicycle facilities, the new Transit Network Redesign, and in the future, West Valley Line LRT, that mode splits to alternate modes will only continue to increase. It is anticipated that the travel mode profiles reflected in the 2016 census may underestimate and understate the current (2022) mode split to alternate modes.

2.6 Roadway Network

The development parcel is ideally located to take advantage of a strong roadway network. The transportation context of the study area is represented by a standard grid of streets with pedestrian facilities typically provided on both sides of the roadway. **Table 2.2** summarizes the operating characteristics of each street.

Table 2.2: Existing Roadway Characteristics (adjacent to the site)

ROADWAY	CLASSIFICATION	POSTED SPEED	FACILITIES			
			Parking	Bike Route	Bike Lanes	Bus Stops
Jasper Avenue	Arterial	50 km/h	Yes	Yes	No	Yes
121 Street	Collector	40 km/h	Yes	Yes	Yes	No
100 Avenue	Collector	40 km/h	Yes	Yes	Yes	No

Jasper Avenue is an arterial roadway that runs east/west along the north boundary of the site and serves as a major east/west route linking the downtown area with the Oliver Neighbourhood. East of 121 Street, Jasper Avenue's cross-section includes four eastbound lanes (including a flex curbside parking lane), two westbound through lanes, and a parking lane. Monolithic sidewalks are provided on both sides of Jasper Avenue.

EPark two-hour paid parking is available along the south curb line but is somewhat restricted due to peak hour bans. EPark Zones 6036 and 6038 are located on the north side of Jasper Avenue on either side of 123 Street. These two zones have parling restrictions associated with their use.

121 Street, which represents the west boundary of the site and continues north across Jasper Avenue, is designated as a collector roadway. The short length of 121 Street adjacent to the west boundary of the development site represents the transition of 100 Avenue (east-west) as it curves to intersect with Jasper Avenue. The corridor is one-way northbound, widening to accommodate three approach lanes at the intersection with Jasper Avenue. A southbound dedicated bicycle lane is also provided. Sidewalks are located along both sides of the roadway. The intersection of 121 Street and Jasper Avenue is a four-legged traffic signal-controlled intersection. The north approach accommodates two-way traffic.

The ***100 Avenue*** roadway segment between 121 Street and Victoria Park Road provides access to adjacent residential development, including access to the existing surface parking located on the subject site. The corridor is one-way westbound and includes a single travel lane and a parking lane. The westbound travel lane represents a shared bicycle lane; a dedicated eastbound bicycle lane is provided on the south side of the corridor.

It is noted that 100 Avenue is a district connector bike route that will be redesigned through the future Oliver Neigbourhood Renewal Project.

2.7 Future Roadway Network

Jasper Avenue is currently undergoing a reconstruction effort as per the City's Imagine Jasper (109 Street to 124 Street) and Jasper Avenue New Vision (92 Street to 109 Street) initiatives to restore and elevate the avenue, giving it a consistent look and feel, highlighting the downtown core and providing a safe and enhanced experience for those who walk, bike, drive or use transit.

The City has prepared a series of improvement plans for the Jasper Avenue corridor. The plans for Jasper Avenue between 116 Street and 124 Street include wider sidewalks and narrower travel lanes (two lanes in each direction. Pockets of on-street parking will be provided. More north-south roadways will be traffic signal controlled providing enhanced pedestrian crossing protection.

A far-side transit stop and a parking bay have been identified on the eastbound curb lane of Jasper Avenue along the frontage of the proposed development site. At the intersection of Jasper Avenue and 121 Street, Imagine Jasper includes a separated northbound bicycle lane on the approach to the intersection, in line with the existing northbound bicycle lane north of Jasper Avenue. It is also of note that the intersections of 122 Street and 123 Street with Jasper Avenue have been identified as future traffic signal-controlled intersections in the City's improvement plans for Jasper Avenue. (A pedestrian-actuated signal is planned for 124 Street immediately north of Jasper Avenue).

It is not anticipated that any of the local roadways within the Oliver Neighbourhood will be significantly altered in the future other than the introduction of sidewalk bulbing at their approaches to Jasper Avenue.

2.8 Existing Traffic Volumes

A review of City of Edmonton traffic data information was completed (Source: City of Edmonton 2011 to 2018 AAWDT Report). The intersection of Jasper Avenue/121 Street was most recently counted by the City of Edmonton in May 2017. The 2017 turning movements are presented in **Exhibit 2.1**.

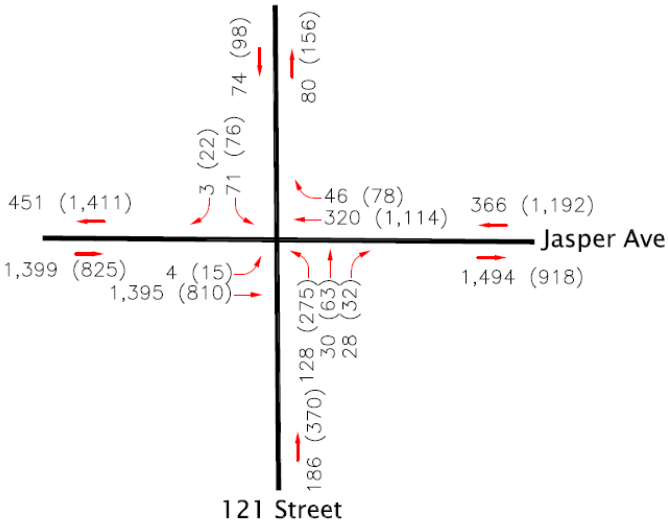


Exhibit 2.1: 2017 Turning Movements Volumes AM (PM)

To supplement this information, 2018 traffic data collected by Bunt & Associates at Jasper Avenue/123 Street was also reviewed. **Table 2.3** summarizes available historical two-way traffic volume information on several roadways located close to the development site.

Table 2.3: City of Edmonton Traffic Volume Summary for Selected Roadway Links

Roadway Link	COUNT DATE	SOURCE	TWO-WAY TRAFFIC VOLUME		
			DAILY	AM	PM
Jasper Avenue east of 123 Street	October 10, 2018	Bunt & Associates	-	1,895	2,175
Jasper Avenue west of 121 Street	May 2, 2017	City of Edmonton	23,505	1,850	2,235
Jasper Avenue east of 121 Street	May 2, 2017	City of Edmonton	23,555	1,860	2,110
121 Street south of Jasper Avenue	May 2, 2017	City of Edmonton	2,960	185	370

Average Annual Weekday Daily Traffic (AWDT) historical data was reviewed for the Jasper Avenue corridor and is summarized in **Table 2.4**.

Table 2.4: Historical Daily Traffic Volumes

ROADWAY	2016	2017	2018	2019	2020	2021	2022
Jasper Avenue west of 121 Street	17,200	23,500	22,300	23,000	19,600	21,000	21,900
Jasper Avenue west of 120 Street	18,200	23,600	22,400	23,100	19,700	21,100	22,000
100 Avenue west of 119 Street	2,000	3,000	2,900	3,000	2,600	2,800	3,000
121 Street North of Jasper Avenue	3,500	2,700	2,600	2,700	2,300	2,500	2,600

As indicated in Table 2.4, daily traffic volumes along Jasper Avenue are starting to rebound to pre-Covid traffic levels. It is anticipated that traffic movements along Jasper Avenue between 116 Street and 124 Street will likely continue to fluctuate with the implementation of Imagine Jasper and West LRT construction on Stony Plain Road.

2.9 Existing Intersection Operations

The intersection of Jasper Avenue and 121 Street is a key intersection in Edmonton. The intersection accommodates a significant volume of traffic activity, particularly during the AM and PM Peak Hours. Notwithstanding that Jasper Avenue accommodates high traffic volumes, the one-way nature of 121 Street south of Jasper and the small number of left turns (eastbound to northbound) allows this intersection to operate at acceptable levels of service under traffic signal control.

2.10 Future Traffic Volumes

The year 2025/2036 has been selected as the horizon year as it is anticipated that the mixed-use building could be constructed and operational by 2026.

Background traffic is the component of traffic on the adjacent streets that would be present regardless of any development of the subject site. A general growth rate is normally applied to the existing traffic to reflect the ongoing growth caused by new developments and general population increases in the area.

The development site is located in a well-established neighbourhood and there are not a significant number of vacant parcels in the immediate area. Any future development in the City Centre Node is anticipated to be the result of redevelopment activities.

Notwithstanding that traffic volumes along the Jasper Avenue corridor have been forecast to decrease following the implementation of the Imagine Jasper plan, a growth rate of 1% per year has been applied to all movements at the Jasper Avenue/121 Street intersection to account for approved and future redevelopment in the area in the short term. Forecast 2024 turning movements are presented in **Exhibit 2.2** and are anticipated to represent a conservative estimate of traffic activity.

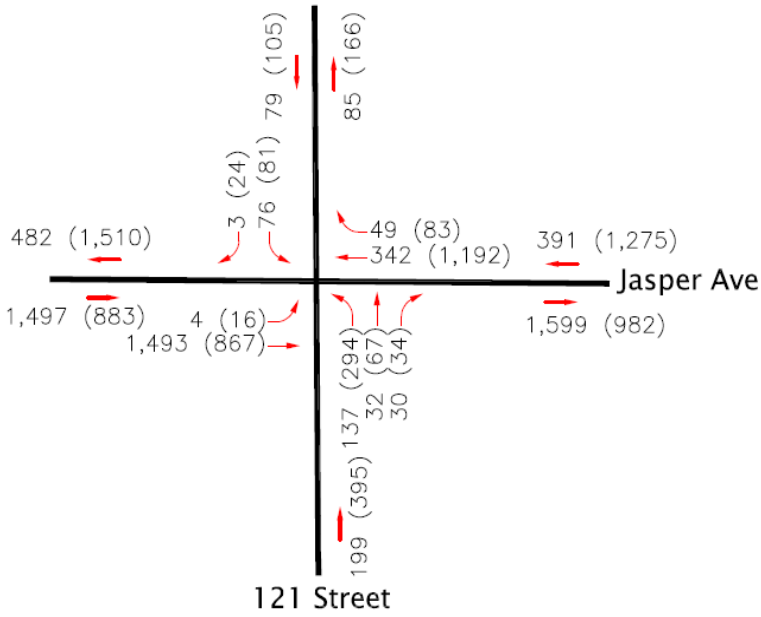


Exhibit 2.2: Forecast 2025 Background Traffic AM (PM)

2.11 Pedestrian Facilities

A grid network forms the majority of the road network in this area of Oliver which provides for high pedestrian connectivity. The network includes a high number of intersections and shorter links between intersections. Sidewalks are provided on both sides of streets and avenues near

The proposed development site is well located to take advantage of pedestrian corridors located in the vicinity of the development parcel. All roadways abutting the development parcel have either monolithic or boulevard sidewalks. The traffic signal-controlled intersection of Jasper Avenue /121 Street accommodates crossing on the north, south, and east approaches. Upon implementation of the Imagine Jasper plan, pedestrians are planned to be accommodated on all four approaches.

The redevelopment site is classified as "Very Walkable" with an 80-point score out of 100 using the website Walk Score, indicating that most errands can be accomplished on foot. This measure of walkability examines the site's proximity to schools, restaurants, banks, coffee shops, parks, grocery stores, and entertainment. Overall, the development site is located within proximity to an array of essential everyday amenities which makes walking an attractive and realistic mode for existing and future residents.

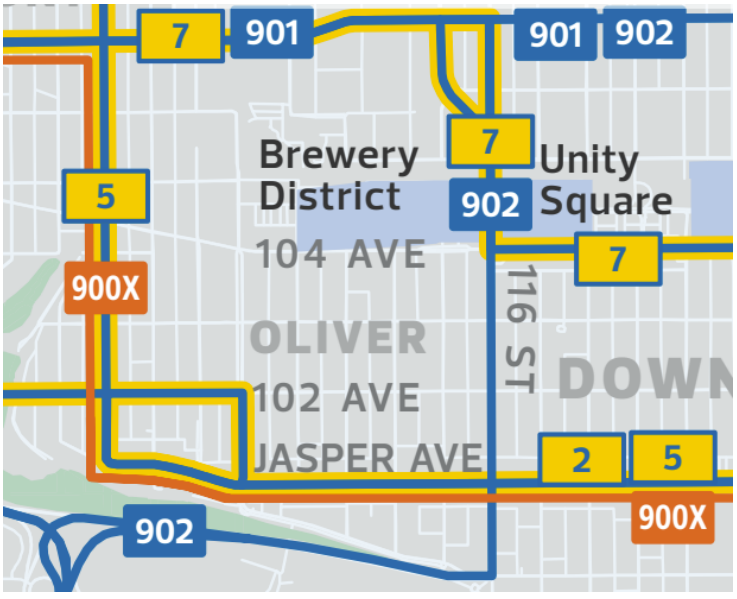
Table 2.5: Sidewalk Review

ROADWAY	TYPE	LOCATION	CONDITION	DEFICIENCY
Jasper Avenue	Mono Sidewalk	Both Sides	Good	None
121 Street	Boulevard Sidewalks	Both sides	Good	None
100 Avenue	Boulevard Sidewalks	Both sides	Good	None

2.12 Transit Facilities

Transit is a significant mode in the Oliver Neighbourhood. A review of the neighbourhood profile identified that almost 22% of Oliver Neighbourhood residents took transit for work-related trips in 2016. It is anticipated that the mode split to transit will increase over time with the introduction of Valley Line West LRT.

Existing transit routes near the site provide excellent transit access for this area of Oliver. Based on a review of the current City of Edmonton Transit Route maps, the development parcel is well-positioned from a transit accommodation perspective



Jasper Avenue is a designated Transit Corridor with bus stops located between 120 Street and 121 Street in proximity to the development site. Transit routes adjacent to and in the vicinity of the site provide excellent transit access for the proposed development. There are approximately 13 bus stops within a 400m radius of the redevelopment site.

No missing sidewalk links were identified that would limit pedestrian access to transit stops.

Table 2.6 summarizes the transit routes operating from these stops.

Table 2.6: Existing Transit Routes

ROUTE	DESCRIPTION
2 (Frequent Route)	WEM - Stadium – CLVW OWL
5 (Frequent Route)	Westmount - Coliseum
900X (Express Route)	Lewis Farms – Downtown
902 (Bus Route)	NAIT - University

Route 2 will operate between West Edmonton Mall and the Stadium Transit Centre through the downtown core while ***Route 5*** will operate between the Westmount Transit Centre and the Coliseum Transit Centre through the downtown area via 107 Avenue, 124 Street, and Jasper Avenue. Both Route 2 and Route 5 will provide a 15-minute frequency Monday to Friday and on weekends. The development will also be served by Express **Route 900X**. Route 900X will operate between Lewis Farms and the Downtown area along 102 Avenue and Jasper Avenue. Route 902 will operate between the Jasper Pace terminal and Downtown via 107 Avenue and 124 Street.

The development site is classified as "Good Transit" with a 59-point score out of 100 using the website Walk Score1, indicating that transit is convenient for most trips. There are many nearby transit options. Bus service operating from Bus Stop #1077 located adjacent to the project site will provide a very convenient and fast option for transit commuting to downtown from the project site.

Making transit use as comfortable, safe, and convenient as possible will facilitate a modal shift notwithstanding that the number of transit routes along Jasper Avenue may decline with the introduction of the Valley Line West LRT. It is anticipated that the transit network will continue to provide convenient transit access to all areas of the City. The development site is well-designed to allow residents, employees, and visitors to consider using transit as a primary mode of transportation. Building doors are centrally located to provide easy access to transit stops located close to the development site.

2.12.1 Future Transit Facilities

The City of Edmonton has identified the expansion of the existing LRT network as a priority to meet Edmonton's growing transportation needs. The continued development of the West Valley Line LRT on Stony Plain Road will be a major mode-split catalyst. The future Brewery/120 Street Stop will be located on 104 Avenue between 119 Street and 120 Street approximately 700 from the project site. The location of the proposed development will be well-connected to future LRT expansions. The 104 Avenue/Stony Plain Road corridor is currently under construction to accommodate the Valley Line West LRT.

To leverage this public investment in transit infrastructure and to support increased transit ridership, the design of the mixed-use residential building will prioritize the needs of pedestrians and cyclists as potential transit users.

2.13 Existing Cycling Facilities

The study area is generally well-connected for cyclists. Based on a review of the City of Edmonton Bicycle Route Map, several existing bicycle routes in the area exist and include:

- Jasper Avenue between 110 Street and 121 Street has a defined bus/taxi/bike lane during peak hours only (this may change with the Imagine Jasper Project);

- 121 Street between Jasper Avenue and 106 Avenue is a signed on-street bike route. This link provides a connection to a signed on-the-roadway bike route east-west on 102 Avenue and connects to a separate bike path north between 106 Avenue and 118 Avenue;
- 100 Avenue between 116 Street and 121 Street includes a contra-flow bike lane for eastbound bike traffic. Bikes can also travel westbound on the roadway;
- Protected bicycle lanes on 102 Avenue west of 124 Street to Railtown Park and west to Groat Bridge, shared bicycle lanes from Groat Bridge west on 102 Avenue; and
- Wadhurst Road Shared roadway, lower traffic.

Based on a review of City Plan, and discussions with City of Edmonton representatives, the City will be enhancing the cycling infrastructure in the west sector of the City Centre Node. The City is planning to upgrade the 121 Street bicycle route as part of the Oliver Neighbourhood Renewal program. The type of bicycle route upgrade and the timing of the upgrade are undetermined at this time. The City is also contemplating a new bicycle route on 100 Avenue between 109 Street and 121 Street and on Victoria Park Road between 116 Street and the Groat Bridge. In this regard, the City of Edmonton implemented a Bicycle Pilot Project on 100 Avenue generally between 117 Street and 121 Street. The pilot project, which was installed on July 9, included:

- The removal of curbside parking on the north side of 100 Avenue;
- An eastbound bike lane and a westbound bike lane each separated from vehicles with flex posts and parking curbs—the same materials used in the Downtown Bike Network;
- Traffic calming on the northside of 100 Avenue between 116 and 117 Street to encourage slower speeds; and
- Pavement markings, parking curb, and flex posts to narrow the roadway and create a sharper entry angle at the entrance to Victoria Promenade

Appendix A includes a series of illustrations of the 100 Avenue Pilot project bicycle corridor including how the City accommodated an existing layby in front of the Fairmont by wrapping the one-way bicycle lane between the layby and the existing sidewalk.

Although the Pilot Project identified positive impacts on speeding, shortcutting, and cyclist behaviours, the City's Pilot project installation did not meet the needs of a broader cross-section of community members. Through the City's public engagement process and program, area residents raised concerns about issues such as reduced building access for seniors and for people who use mobility aids, loss of convenient vehicle access, aesthetics, the impact of winter, and safety overall.

In response to the City's Public Engagement program, the City decided to make adjustments to the Victoria Promenade Pilot Project. These include the removal of the north side bike lane and lowering the speed limit along the Victoria Promenade to 30 km/h. The bike lane on the south side, as well as the traffic calming on 100 Avenue east of 117 Street and between 116 Street and 117 Street, remain in place.

The findings from the Victoria Promenade project will be used to inform a permanent bicycle installation as part of the implementation of Edmonton's Bike Plan. At this time, the City believes that it is inappropriate to alter or change the 100 Avenue roadway cross-section to accommodate any private development initiative located adjacent to 100 Avenue. The completion of the Oliver Neighbourhood Renewal Project anticipated later this decade will assist in developing an approved modal priority plan within the 100 Avenue right of way.

The proposed development site plan continues to maintain the existing 100 Avenue north curb alignment (no new laybys are proposed).

Exhibit 2.3 illustrates the Transit and Active Modes Network in the vicinity of the development site while **Exhibit 2.4** more clearly illustrates the location of the Brewery LRT Stop on 104 Avenue between 119 Street and 120 Street.

Exhibit 2.3: Transit and Active Modes Network

Exhibit 2.4: The Brewery LRT Stop on 104 Avenue

2.14 Parking Characteristics

On Jasper Avenue, two-hour parking is located in the westbound curb lane between 118 Street and 121 Street. Restricted parking is available during certain times of the day on the south side of Jasper Avenue.

It is acknowledged that on-street spaces in this area have historically been well-utilized with peak periods of parking demand occurring generally in the late morning and early afternoon. It is anticipated that on-street parking will change with the completion of the Jasper Avenue improvement program.

2.15 Existing Car Share Facilities

The subject parcel is located within the Communauto Car Share FLEX Zone where all FLEX trips start and end.

2.16 Truck Routes

There are no designated truck routes immediately adjacent to the development parcel. Near the development parcel, 107 Avenue, 116 Street north of 104 Avenue, and 104 Avenue east of 116 Street are designated 24-hour truck routes. Access to and from the development parcel by truck must be from one of these designated truck routes.

3. DEVELOPMENT PROJECT CHARACTERISTICS

3.1 Site Context and Location

The development is located south of Jasper Avenue and east of 121 Street. The westerly segment of 100 Avenue which runs alongside the top of the bank of the North Saskatchewan River (Victoria Promenade) abuts the development parcel to the south. The subject site currently consists of Jasper House (a 12-storey apartment building accommodating 115 residential units) and a surface parking lot. The redevelopment will result in the displacement of the existing surface parking lot. The legal description of the parcel is Lots 9 - 13, Block 19, Plan 3549AE while the municipal address is 12021 - Jasper Avenue NW, T5K 0P2. The site is about 3,392.1 m^2 in area.

The development of a mixed-use residential building on this parcel supports City Plan and City of Edmonton residential infill initiatives. The development site is located three blocks east of 124 Street which has been identified as a Primary Corridor (City Plan). The development is planned to accommodate street-oriented neighbourhood commercial uses which are not auto-oriented, and which will foster pedestrian activity in the area.

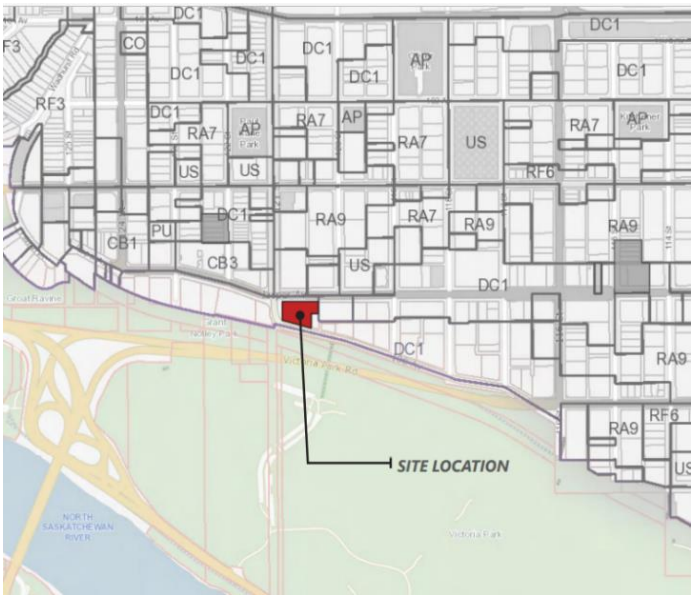


Exhibit 3.1: Current Zoning

3.2 Existing Zoning

The proposed development parcel is located within the Centre City Node (Sub Area 5 of the Oliver ARP) and is currently zoned as a DC parcel (Area 7) as illustrated in **Exhibit 3.1**.

3.3 Description of Proposed Development

Jasper House GP Inc. intends to construct a 30-storey mixed-use building, accommodating **224 residential** units and about **14,653 ft^2 of commercial floor area** along the Jasper Avenue frontage. The residential units will include one-bedroom, one-bedroom plus den, 2-bedroom, and 3-bedroom units. This land use schedule reflects the most current land use concept statistics available at the time of rezoning application submission.

Exhibit 3.2 (Source: TBD Architecture, October 27, 2023) presents a preliminary ground floor site plan (Source: TBD Architecture, August 2022). It is anticipated that more refined site plans will be included with the Development Permit Application.

The primary site access will be from 100 Avenue (Victoria Promenade). The access attempts to maximize the use of the existing 100 Avenue site access. The existing Jasper Avenue access located on the east side of the Jasper House Apartment Building will remain. A key feature of the site plan is the development of a multi-modal circulation plaza that will facilitate pedestrian movements between Jasper Avenue and 100 Avenue.

The 100 Avenue site access will provide access to the underground parking garage. A limited number of off-street parking stalls will be located on the east side of the site access drive aisle. These parking spaces, which will provide parking opportunities for the new and existing residential buildings are best described as drop-off and visitor parking spaces and will be managed by an on-site parking Management Program.

Although these spaces could be used for quick drop-off purposes if vacant, it is anticipated that visitor parking demands between the two buildings (339 total residential units) will likely result in these spaces being well utilized throughout the day. Curb stops will be employed where parking stalls abut a sidewalk.

Exhibit 3.2: Jasper House Site Plan

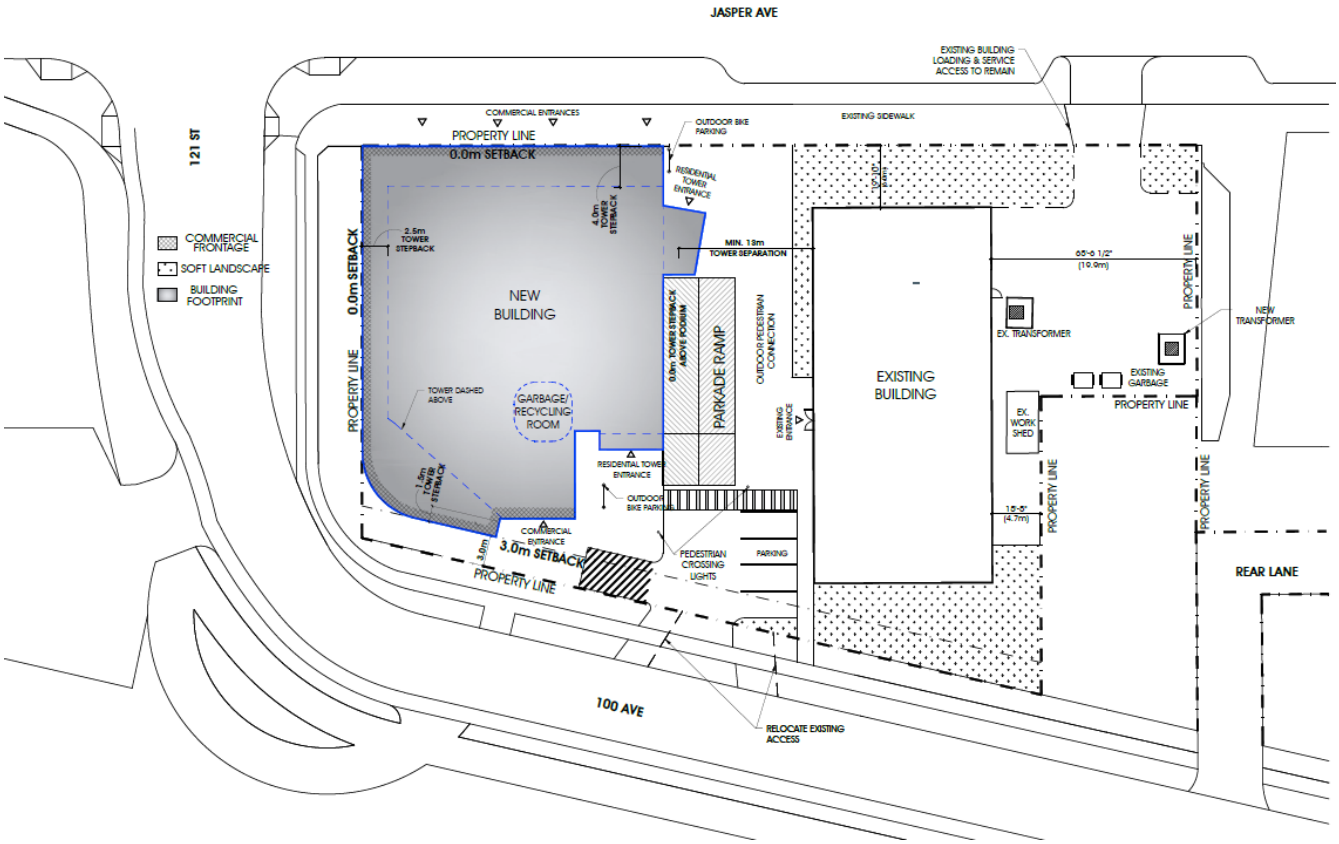
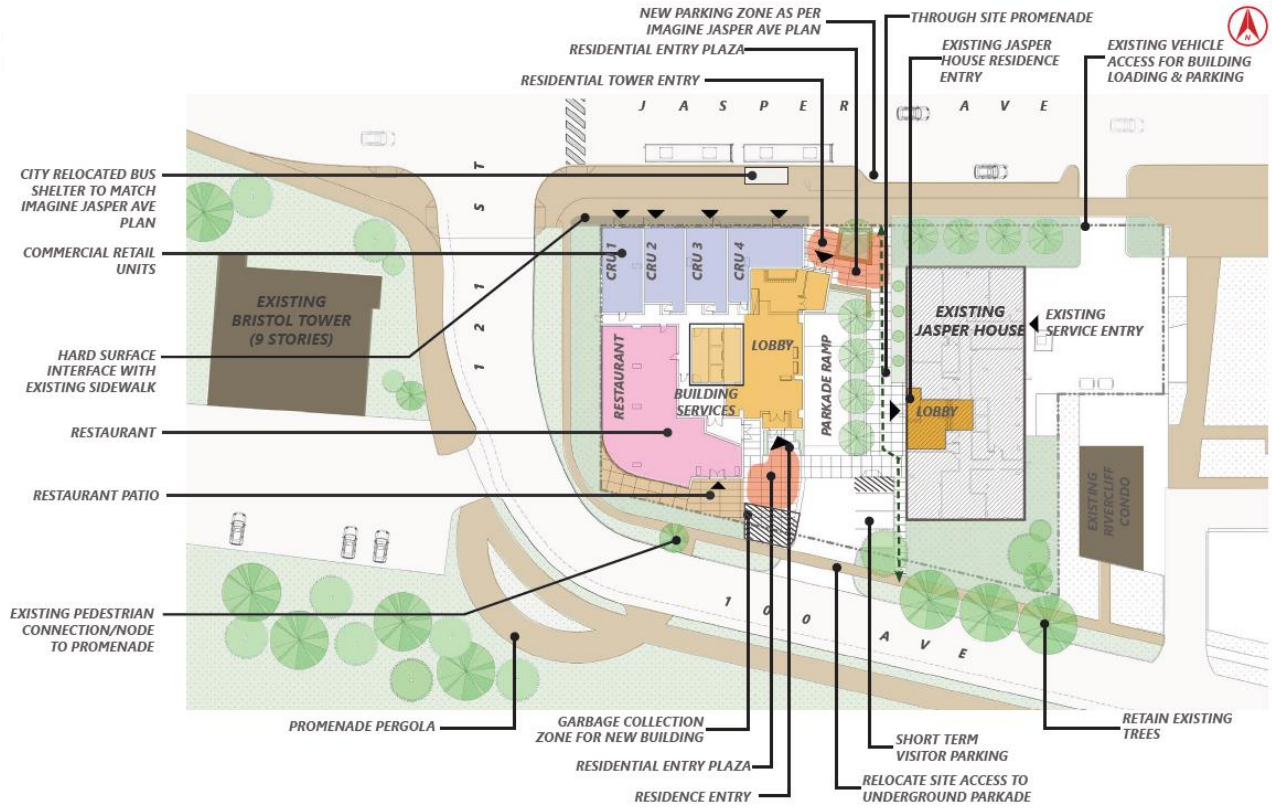
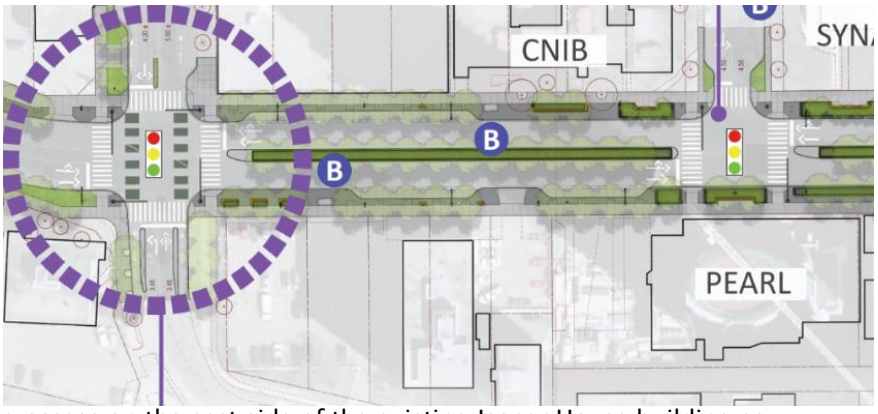


Exhibit 3.3 (Source: TBD Architecture, Urban Design Brief), October 27, 2023) illustrates many of the site's features including residential entry zones, waste management areas, short-term parking locations, and the site promenade.

Exhibit 3.3: Proposed Site Organization





Respecting the Imagine Jasper Project, the site plan accommodates a future layby on the south side of Jasper Avenue east of 121 Street. The layby has been positioned to accommodate two far-side transit buses immediately to the east of 121 Street as per the approved Imagine Jasper Project. The Jasper Avenue layby has been terminated in advance of the existing access on the east side of the existing Jasper House building as proposed in the Jasper Avenue Vision.

It is anticipated that the layby will accommodate a commercial loading zone in combination with general parking spaces. It is anticipated that the final design of the Jasper Avenue layby will be further reviewed and coordinated with the City at the Development Permit application stage.

3.4 On-Site Parking Supply

A 5-level underground parking garage accommodating about 233 stalls is proposed to be constructed under the new tower. This parking garage will accommodate the future tower (224 units) and parking associated with the existing Jasper House residential building (115 units). Access to underground parking will be located between the existing residential building and the new residential tower.

The parking garage will accommodate commercial tenant employees, visitor parking, and resident parking. No general public parking in the parkade is being considered.

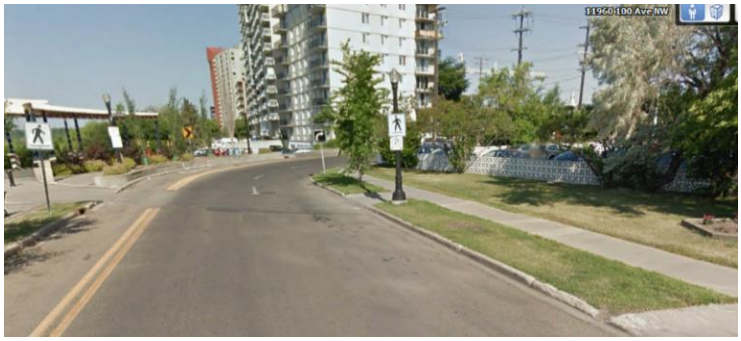
Based on a review of available parking plans, an over-supply of off-street parking is not being provided within the building. This magnitude of parking translates into a blended parking ratio of about 0.69 spaces per unit (based on 339 residential units). A limited number of surface parking stalls are being planned. An over-supply of parking could promote increased auto use and represent an inefficient use of space and financial resources. Providing a minimum but marketable amount of parking will assist in promoting increased transit use and other alternative transportation modes.

3.5 Pedestrian Accommodation

A primary focus of the development plan is to maintain appropriate pedestrian circulation to and from and around the site and to promote pedestrian activity on Jasper Avenue and 100 Avenue. The development includes a multi-modal circulation space that will link Jasper Avenue and 100 Avenue as well as linking the new residential tower with the Jasper House Building.

No additional vehicular sidewalk crossings are proposed. The existing sidewalks along Jasper Avenue, 100 Avenue, and 121 Street will be maintained and connected to the development at the street level. Safe, continuous, and clearly defined pedestrian routes will be provided and pedestrian/vehicle conflict areas have been kept to a minimum.

A component of the pedestrian plan includes the realignment of the existing 100 Avenue crosswalk. Currently, the crosswalk is painted diagonally across 100 Avenue. The proposed pedestrian plan includes realigning the crosswalk such that it is perpendicular to 100 Avenue traffic.



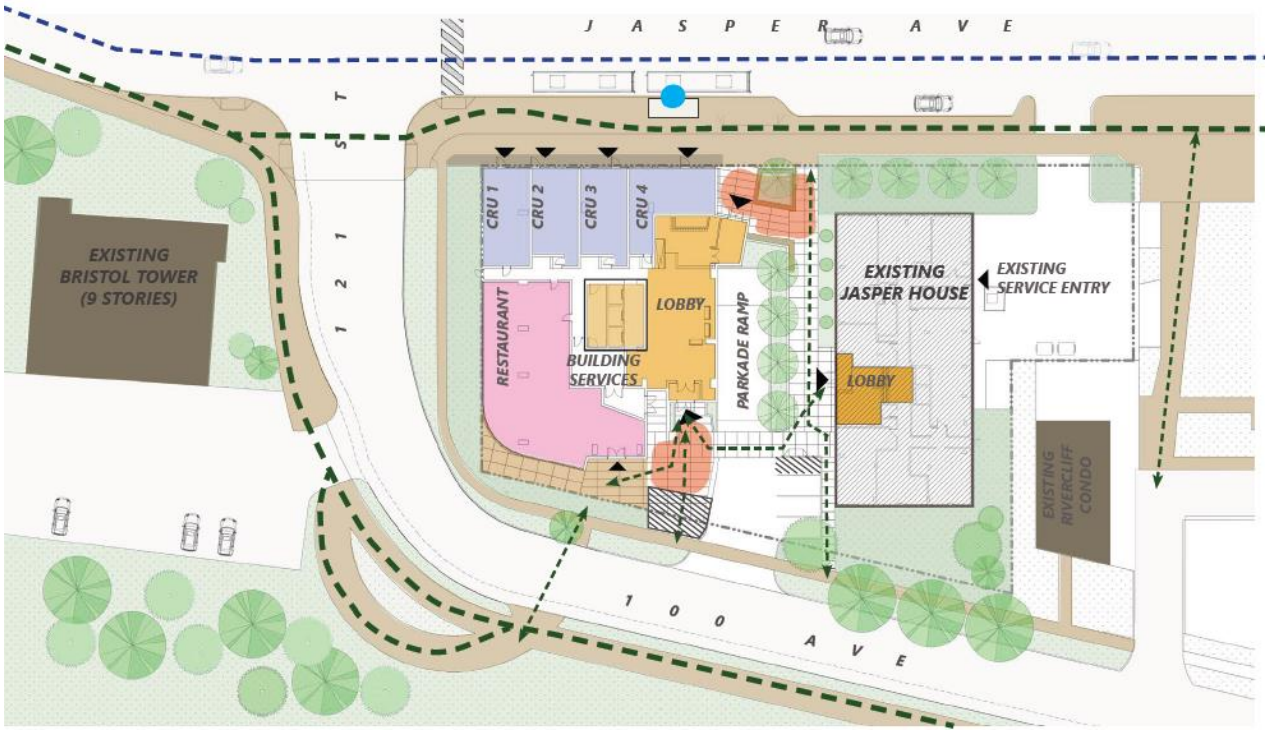
Given the relatively high pedestrian activity in the general area, it will be necessary to develop design strategies at more detailed levels of planning to integrate the pedestrian environment in the plaza with adjacent roadway movements in a safe manner.

It is anticipated that enhanced lighting, wayfinding signs, and physical features such as bollards and textured /coloured surfacing materials may be employed in the development of an integrated pedestrian interface within the multi-modal plaza. Similarly, it is anticipated that at the Development Permit stage of planning, a more detailed pedestrian and vehicular plan will be developed to integrate the service vehicle zone and the waste management zone.

A pedestrian crossing light will be installed at the Underground Parking Garage access.

Exhibit 3.4 (Source: TBD Architecture, October 27, 2023, Urban Design Brief) presents an illustration of the on and off-site pedestrian movement corridors.

Exhibit 3.4: Illustration of the On and Off-site Pedestrian Movement Corridors



3.6 Bicycle Accommodation

Easily accessible and appropriate bicycle accommodation will be provided for residents, employees, and visitors including visitors generated by the commercial retail units.

Secure bicycle storage/stalls will be located in the parking garage. It is anticipated that there will be accommodation for about 75 secure bicycle stalls. About 12 bicycle stalls will be located at the surface (6 stalls per residential entrance).

There are no plans to provide a separate entrance into the building for bicycles. Given that bicycle parking will be provided in the underground parking garage, the parkade access ramp will be shared by vehicles and bicycles, and bicycles will be permitted on the parkade drive aisles. Additional details on bicycle accommodation and supply will be provided with the Development Permit stage of application.

It is anticipated that a more detailed discussion on interactions between vehicle traffic and cyclists as well as options and preferred mitigating strategies will be completed through discussions with Transportation upon submission of the Development Permit Application. Area bicycle routes and facilities will facilitate the use of bicycles as a primary transportation mode.

3.7 Service Vehicle Loading and Waste Management

Residential waste will be picked up by the City of Edmonton while commercial waste bins will be stored in a garbage room. It is anticipated that the residential waste will be collected about three (3) times per week.

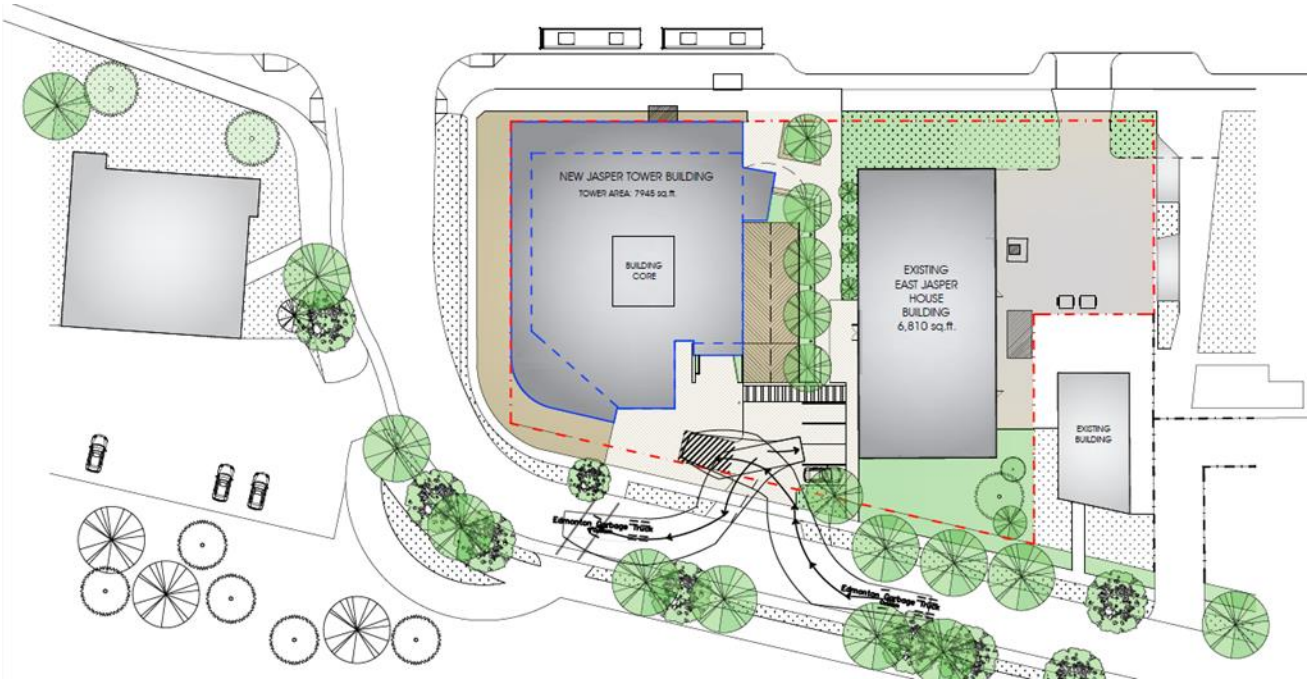
The location of a loading and unloading on-site maneuvering area (located off of 100 Avenue for the new residential tower) will be designed to minimize any impacts on vehicle, pedestrian, or bicycle movements within the multi-modal plaza area or access to the parking garage. Waste generated by the new building will be collected in bins located inside the building. Bins will be pulled to the south plaza for waste pickup. At more detailed levels of planning and design care and attention will be given to ensuring that waste management vehicles can maneuver safely.

Given the site characteristics and to ensure that all waste management operations occur within the site, it may be necessary for waste management vehicles to negotiate a three-point movement. It is anticipated that one of the short-term parking spaces will be restricted to parking only after 5 PM and on weekends to provide additional maneuvering space for waste management operations.

Waste for the existing 115 units will be collected from the current location from the Jasper Avenue access. Waste is picked up on-site and the waste management vehicle back up across the Jasper Avenue sidewalk.

It is also noted that building management will be advised to ensure that snow removal occurs as and when required in the winter months to prevent snow and ice accumulations that could prevent the movement of bins in the winter. **Exhibit 3.5** presents a preliminary sketch of the on-site waste management vehicle movements.

Exhibit 3.5: Preliminary Sketch of Waste Management Vehicle Movements



4. SITE TRAFFIC CHARACTERISTICS

4.1 Gross Trip Generation

The market apartment AM and PM peak hour and daily trip generation rates are based on the City of Edmonton's trip generation rates for Apartment Housing.

The retail area is primarily anticipated to provide convenience and service commercial land uses for building residents, neighbourhood residents, employees, and visitors surrounding the site. Trip generation rates for standalone convenience stores or restaurants within a suburban context would significantly overestimate the vehicle trip-making activity for the proposed commercial uses; therefore, average rates published for ITE LUC 826 – Specialty Retail from the Trip Generation Manual, 10th Edition were applied.

The base trip rates used in the assessment are summarized in **Table 4.1**.

Table 4.1: Base Trip Generation Rates

LAND USE	SOURCE	AM PEAK HOUR (IN/OUT)	PM PEAK HOUR (IN/OUT)	DAILY (IN/OUT)
Residential	City of Edmonton	0.34 trips/unit (17%/83%)	0.40 trips/unit (63%/37%)	5.81trips/unit (50%/50%)
Retail	ITE LUC 826	0.94 trips/1,000 SF (62%/38%)	3.81 trips/1,000 SF (48%/52%)	37.75 trips/1,000 ft² (50%/50%)

Table 4.2 summarizes the projected two-way AM peak hour, PM peak hour, and daily vehicle trips anticipated to be generated by the proposed development (224 units) and the existing Jasper House residential building (115 units), representing a total of 339 units and 14,653 ft² of commercial floor area)

Table 4.2: Gross Trip Generation Estimates Based on 339 Residential Units

LAND USE	AM PEAK HOUR			PM PEAK HOUR			DAILY		
	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT
Residential	115	20	95	136	86	50	1,970	985	985
Retail	14	9	5	56	27	29	550	275	275
TOTAL	**129**	**29**	**100**	**192**	**113**	**79**	**2.520**	**1,260**	**1,260**

The proposed development is expected to generate approximately 129 two-way trips in the AM peak hour, 192 two-way trips in the PM peak hour, and about 2,520 two-way trips daily without considering any mode split reductions. Mode split reductions should be considered given the location of the development relative to employment areas, available transit, and that the commercial space is anticipated to be geared toward pedestrian-oriented land uses.

4.2 Trip Distribution and Mode-Split

4.2.1 Residential Land Use

The base trip generation estimates summarized in 4.2 reflect all trips anticipated to be generated if there was no significant influence from other factors such as the location of the plan area to downtown Edmonton 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 4.2 were adjusted to reflect an increase in mode split to alternative transportation modes (transit, walking, cycling).

The City of Edmonton's 2018 Origin-Destination Car Driver Trips spreadsheets for the 2030 horizon were reviewed to determine the distribution of site-generated residential trips within Edmonton and the surrounding areas. Mode split factors were applied to the residential trips generated to/from various sectors of the capital region based on the accessibility to LRT, surface transit, bicycle network infrastructure, and the proximity of the destination to the site. Based on the above, the following mode splits to transit and active modes were applied:

- Downtown – 90%
- University, Downtown Fringe – 80%
- NW, NE, SW, SE Inner, West Inner – 25%
- NE, SE, SW, West Suburb – 10%

Based on the above mode split assumptions, the resulting overall mode split to account for the increased use of alternative modes is summarized in **Table 4.3**.

Table 4.3: Mode Split to Transit and Active Modes

TIME PERIOD	INBOUND	OUTBOUND
AM Peak Hour	24.8%	36.4%
PM Peak Hour	40.6%	34.2%
Daily	39%	37.6%

Based on information contained within the 2016 Municipal Census, about 46% of residents within the Oliver neighbourhood use transit, walk, or cycle to work. The assumed mode split to alternative modes for the proposed development is anticipated to be appropriate.

4.2.2 Commercial Land Use

Based on the location of the development and anticipated commercial land uses, it has been assumed that 50% of trips to the commercial land uses will be non-auto trips. Non-auto trips are anticipated to include pedestrian trips from the residential portion of the proposed building as well as from adjacent residential developments.

Notwithstanding this finding, commercial trips have not been assigned to the development's site access.

4.2.3 Net Trip Generation Estimates

Table 4.4 summarizes the anticipated peak hour trip generation upon the application of mode split reduction factors. Based on the mode split assumptions, the net trips anticipated to be generated by the proposed development are in the order of 75 AM peak hour two-way trips and 84 PM peak hour two-way trips. The combined magnitude of traffic activity projected to be generated by the proposed new residential tower and the existing Jasper House Apartment Building is anticipated to be less than about 1.5 trips per minute in both the AM and PM peak hours.

Table 4.4: Net Trip Site Generation Estimates

LAND USE	AM PEAK HOUR			PM PEAK HOUR			DAILY	
	TOTAL	IN	OUT	TOTAL	IN	OUT	IN	OUT
Residential	75	15	60	84	51	33	601	615
TOTAL	**75**	**15**	**60**	**84**	**51**	**33**	601	615

4.3 Trip Assignment

The magnitude of site-generated traffic activity anticipated is low. While fewer than 100 peak hour trips may be noticeable on lower volume corridors such as 100 Avenue (121 Street), higher volume roadways commonly experience volume fluctuations of magnitudes greater than this during peak hours on a day-to-day basis.

Although identified in Table 4.2, the traffic review did not include retail site-generated trips in the assignment as these trips are not planned to park on-site or within the parking garage. It is anticipated that auto-oriented patrons generated by the commercial land uses will take advantage of short-term on-street parking; therefore, for this assessment, trips generated by the commercial land uses have not been assigned to/from the off-street parkade. These trips could include pass-by trips or multi-stop shopping trips. Retail patrons are anticipated to find parking on Jasper Avenue, 100 Avenue, and 121 Street north of Jasper Avenue.

Although retail patrons were not assumed to use the parkade, a nominal number of employee site-generated trips have been added in the AM and PM Peak Hours to reflect employee parking in the parking garage. A nominal 5 inbound and 5 outbound employee trips have been added in the AM and PM Peak Hours.

Site-generated trips were assigned to the adjacent roadway network. Given the single site access and the one-way nature of 100 Avenue, all inbound site trips were generated to the 100 Avenue corridor, approaching from the east. Outbound trips were assigned at the 121 Street/Jasper Avenue intersection based on the existing distribution of northbound traffic at the intersection.

The trip assignment was completed for the weekday AM and PM peak hours. The assignment of the site-generated trips is presented in **Exhibit 4.1**.

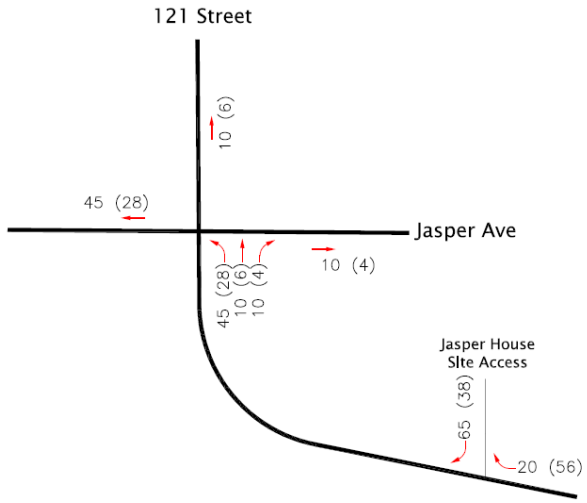


Exhibit 4.1: Site-Generated Trip Assignment AM (PM)

4.4 Total Traffic

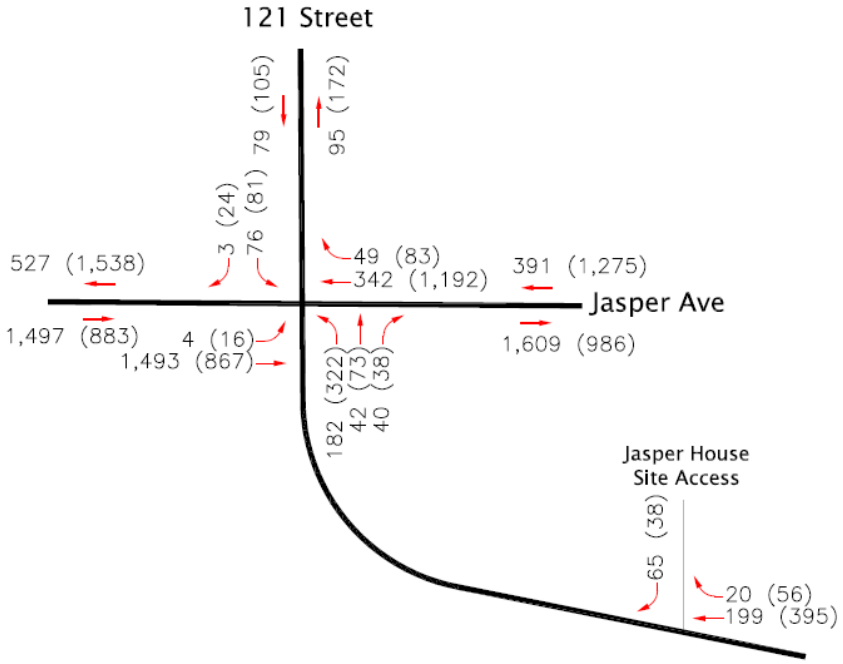
Total traffic forecasts at the Jasper Avenue/121 Street intersection were prepared by adding the corresponding background traffic volumes together with the traffic anticipated to be generated by the proposed development, including the traffic generated by the existing Jasper House Apartment (which is already included in the Background Traffic movements.

The total traffic forecasts at the site access intersection were prepared by assuming that the traffic on the south approach of 121 Street is also present at the site access approach along 100 Avenue.

Total traffic projections are deemed conservative for two reasons. Firstly, given that the site access to the Bristol Tower (on the west side of 121 Street) is located between the Jasper House site access and Jasper Avenue, the traffic assumed along 100 Avenue at the site access represents a conservative estimate of traffic activity.

In addition, the existing background traffic at the Jasper Avenue/121 Street intersection includes trips generated by the existing Jasper House residential apartment. As such the assessment of site-generated trips continues to represent a conservative as the existing Jasper House site-generated traffic that travels through the Jasper Avenue and 121 Street intersection has been double-counted. **Exhibit 4.2** presents the total traffic volumes estimated.

Exhibit 4.2: Total Traffic Estimate AM (PM)



4.5 Commentary on the Total Traffic

Although Increases in traffic movements are anticipated on Jasper Avenue, on 121 Street/100 Avenue south of Jasper Avenue, and along 121 Street north of Jasper Avenue, it has been determined that the incremental increase in traffic activity between the 2024/2025 background traffic movements and the total traffic movements (in 2024) are negligible.

As presented, the incremental increase in volume for individual turning movements is relatively small and only represents a small percentage of the background traffic movements.

Increases in travel movements have been estimated to be small and manageable and only represent a small percentage of background traffic movements. The largest increases that may be observed are in the westbound direction on Jasper Avenue in the AM Peak Hour and 121 Street northbound. All other movements on Jasper Avenue during the AM and PM Peak Hours are less than 1%.

It has been identified that the incremental increase in site-generated traffic will not materially interfere with or affect anticipated traffic operations at the Jasper Avenue and 121 Street traffic signal-controlled intersection. Increases in southbound left-turns, through movements, and right-turn movements are small. A single westbound traffic lane on 100 Avenue should be able to accommodate forecast traffic movements.

5. MULTI-MODAL TRANSPORTATION ASSESSMENT

5.1 Introduction

The construction of a mixed-use residential building in the Oliver Neighbourhood represents a strategic development initiative. The transportation plan prepared for the new building should build upon the policies and goals enshrined in City Plan through the development of a sustainable, vibrant, well-designed, and easily accessible building. The locational attributes associated with the development parcel will allow for a sustainable, multi-modal traffic and parking program to be developed that supports key City of Edmonton strategic goals and policies.

5.2 Sustainability Concepts

Redevelopment of the subject parcel represents an excellent opportunity for Jasper House GP Inc. to consider and implement where feasible, components associated with sustainable development and to provide leadership in implementing policies to ensure sustainable future growth. The residential density in the mixed-use building is conducive to supporting transit as a major transportation mode. The overall site design attempts to minimize conflict points between vehicles, pedestrians, and bicycles.

To ensure that the development project will be constructed and operated sustainably, the traffic and parking plan should consider synergies that can be developed between various user groups. The relative location of the project to existing and future residential development activity, retail and commercial areas, employment opportunities, and transit will continue to allow for transit and walk trip opportunities which should reduce reliance on the automobile as the primary means of transportation. From an urban design and parking planning perspective, the development of a sustainable mixed-use development has the following advantages:

- reduces site-generated traffic and parking demands as a result of land use synergies,
- allows people to walk to their destinations: and;
- allows for a more compact development to facilitate pedestrian movement activity.

5.3 Site Infrastructure Elements

Several site/building features will facilitate access by sustainable transportation modes. These features can directly influence the intensity and level of use of alternative transportation modes.

5.3.1 Urban Form

The mixed-use building is planned to be oriented towards Jasper Avenue and 100 Avenue. Providing ease of access to adjacent pedestrian corridors provides for excellent connectivity to transit, pedestrian, and bicycle routes. The residential densities in the building are conducive to supporting transit as a major transportation mode. The overall site design attempts to minimize conflict points between vehicles, pedestrians, and bicycles, and appropriate sight distances have been provided in the overall site design.

The introduction of a plaza linking Jasper Avenue and 100 Avenue will facilitate the movement of pedestrians/bicycles between Jasper Avenue and 100 Avenue safely. Pedestrian corridors will be kept as wide as physically possible.

5.3.2 Parking Supply

An over-supply of off-street parking is not being provided. An over-supply of parking could promote increased auto use and represent an inefficient use of space and financial resources. The parking supply should be based on projected parking demands as opposed to artificial market pressures. Providing an appropriate supply of off-street parking will assist in promoting increased transit use and other alternative transportation modes.

The Edmonton Zoning Bylaw regulates the maximum number of parking spaces that can be provided at residential developments that are located about 600m of a future LRT stop, or a future LRT station, 150m of a Transit Avenue, or located within the boundaries of the Main Streets Overlay. The proposed residential tower is about 700m south of the Brewery/120 Street LRT stop, is located within 150m of a Transit Avenue (Jasper Avenue), and falls within the Main Streets Overlay.

Based on current parking regulations, the maximum number of parking spaces that could be developed within the site has been calculated to be 287 residential stalls (not including parking associated with the existing Jasper House building. The proposed parking plan includes the construction of 233 below-grade spaces or about 80% of the maximum number of parking spaces allowed (not including parking spaces associated with the existing Jasper House building).

5.3.3 Transit Considerations

Existing transit routes along Jasper Avenue will provide excellent transit access for the proposed development. Given the level of transit service already provided in the vicinity of the proposed development, no changes to transit routing or frequency are proposed. The introduction of low-floor LRT along Stony Plain Road (the development parcel is located within about 700m of the Brewery /120 Street LRT stop on 104 Avenue in the future and the introduction of a “frequent” mass transit bus route on Jasper Avenue (associated with the 1.25M Population Scenario) will further increase transit utilization opportunities.

The development site is well-designed to allow residents, employees, and visitors to consider using transit as a primary mode of transportation.

5.3.4 Pedestrian Considerations

No new driveway accesses to Jasper Avenue or 100 Avenue are proposed; therefore no new pedestrian conflicts are introduced along the adjacent roadway. The existing sidewalks along Jasper Avenue, 121 Street, and 100 Avenue will be maintained and connected to the development at street level. Safe, continuous, and clearly defined public pedestrian routes will be provided and pedestrian/vehicle conflict areas will be kept to a minimum.

The multi-modal hard-surfaced corridor linking Jasper Avenue and 100 Avenue will be designed to accommodate pedestrians, cyclists, passenger cars, surface parking, loading, and waste management vehicles safely. The multi-modal plaza will use such features as pavement materials, landscaping, and bollards to assist in developing clear delineations between pedestrian /bicycle and vehicle maneuvering areas.

Exhibit 5.1: Landscape Design Intent (Source: TBD Architecture, Jasper House, March 2024)

5.3.5 Bicycle Accommodation

Easily accessible and appropriate bicycle accommodation will be provided. Secured bicycle facilities will be located within the parking garage. Short-term bicycle parking spaces will be distributed throughout the project area. The continued designation of the 100 Avenue bicycle connector will facilitate the use of bicycles as an important transportation mode.

5.4 Transportation Demand Management

The redevelopment of the subject parcel represents an excellent opportunity for Jasper House GP Inc. to consider and implement Transportation Demand Management (TDM) strategies and tactics to ensure sustainable future growth given the project's location in a somewhat roadway capacity-constrained area. The effective application of TDM measures is considered a cost-effective means to reduce the need for additional roadway and parking infrastructure. TDM strategies and objectives 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.

At the appropriate time (Development Permit Application), a TDM plan is recommended to be developed and implemented for prospective residents to enhance their ability to travel, to as great a degree as possible, without the use of an automobile, thereby reducing the need for residents to own a car. TDM strategies for residential developments can be divided into two categories.

- Pre-occupancy: things that need to be done while the development is being designed (i.e. planning for the central pedestrian plaza;) and
- Post-occupancy: things that can be done once people are using the development.

Pre-occupancy actions are critical because they are most likely to determine how attractive, convenient, and safe alternative travel modes will be once the site is occupied. Before a site is occupied, it can be designed to be convenient and safe for pedestrians and cyclists, and vehicle parking can be provided to meet but not exceed demand.

5.4.1 TDM Strategies

Upon the development of the new mixed-use building, to encourage and support lifestyle adjustments to achieve better sustainability, Jasper House GP Inc. could consider developing site-specific TDM programs for their tenants or advise their tenants of possible TDM measures that address specific parking and transportation initiatives associated with the daily transportation needs of building residents, employees, and visitors. The implementation of a TDM program could discourage tenants from owning automobiles and could encourage the use of transit and other alternative modes to help achieve long-term city plan goals.

TDM plans, measures, and initiatives to achieve an increased non-auto modal split and to reduce single-occupant vehicles could include the following.

- Parking Management:
  - Parking pricing and unbundled parking;
- Cycling:
  - Provide bicycle parking above minimum City bicycle space requirements;
  - Implement a bike-share program; and
  - Construct a bike wash and bike maintenance facility.

Of the aforementioned strategies, the likely TDM tactics could include unbundling parking, parking pricing, constructing a bike wash station, and implementing a bike-share program. A more complete review of possible and applicable TDM strategies and measures will be considered with the Development Permit Application.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Study Synopsis

Jasper House GP Inc. is proposing to rezone an existing surface parking lot associated with the existing Jasper House residential apartment in the City Centre Node precinct. The site is located in the southeast quadrant of Jasper Avenue and 121 Street. The site currently is zoned as a DC Zone. Upon approval of a Site-Specific DC Zone, Jasper House GP Inc. intends to construct a high-rise mixed-use building accommodating 224 residential units. The existing Jasper House apartment accommodates 115 residential units. A blended parking ratio of 0.69 spaces per unit is being planned.

6.2 Development of the Recommended Traffic and Parking Plan

The overall traffic and parking plan for the 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 Oliver Neighbourhood. The mobility plan for the development acknowledges the location of the site, existing and future alternative transportation modes, and long-term City mobility goals and includes measures that discourage automobile use. The mobility plan includes the introduction of a TDM plan which can discourage owning and using automobiles to help achieve long-term City goals.

The site access plan includes the use of the existing parking lot access to 100 Avenue. The existing access to Jasper Avenue east of the Jasper House Apartment Building will remain. The planned layby on Jasper Avenue being designed as part of the Jasper Avenue Vision will be accommodated. It is anticipated that the Jasper Avenue layby will primarily function as a commercial loading zone during daytime operations and as a general parking zone in the evenings and weekends.

6.3 Key Study Findings

A multi-modal transportation analysis was completed that indicated minimal transportation impacts are expected upon the operation of a mixed-use building. Traffic volumes projected to be generated by the mixed-use development are generally low. Conversely, the traffic volumes on Jasper Avenue are relatively high but are not expected to see a perceptible difference with the development of this site.

Study area intersections adjacent to the site are anticipated to continue to operate at acceptable levels of service during weekday AM and PM peak hours with the addition of site-generated traffic. From a traffic accommodation and operational perspective, site-generated traffic should not create any adverse traffic or safety issues for any road user groups within the plan area.

The traffic impact assessment concluded that the proposed rezoning application which upon approval would allow for 224 residential units and a commercial floor area (14,653 ft^2) is projected to have a very negligible impact on the traffic operations on the existing and future adjacent roadway system and would not negatively impact the operations of study area intersections.

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 can be accommodated.: The existing transportation infrastructure is anticipated to provide high levels of pedestrian, cyclist, transit, and vehicle access to the site. There are multiple ways to access the development site from the abutting roadway network. **The proposed site plan does not modify the existing 100 Avenue north curb.**

Off-street parking will be provided in a below-grade (233 space) parking garage. The development will include ground floor non-auto oriented commercial land uses which will continue to support the development of a high-quality pedestrian-oriented commercial corridor along Jasper Avenue.

As a core neighbourhood, several multi-modal transportation facilities serve this area of the Oliver Neighbourhood including sidewalks, bike lanes, and transit routes. The parking requirements for the development were determined based on market and tenant marketing conditions and requirements. The development will achieve or exceed Edmonton Zoning Bylaw bicycle requirements.

6.4 Conclusions

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 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.

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, shared street opportunities, etc. that may be required and the extent of these requirements if the design changes substantially.

The development site is located adjacent to a Transit Avenue and is within walking distance (about 700m) of the future Brewery/120 Street LRT stop. The development project will support the vision of a sustainable, walkable area and encourage the use of the surrounding streets by the public and building occupants. 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.

6.5 Study Recommendations

The establishment of a balanced multi-modal transportation system that prioritizes investments in sustainable forms of transport are recommended. The transportation plan provides a system that balances the various modes of transportation—pedestrians, private vehicles, transit, and bicycles - in a responsible manner that strengthens the overall area's transportation system, appropriate to the purpose and design objectives of City Plan. Minimizing the number of new parking spaces and not increasing the number of site accesses will promote a sustainable development and the use of alternative transportation modes.

It is recommended that the City of Edmonton support the proposed redistricting application from a Direct Development Control Provision (DC) to a Site-Specific Development Control Provision (DC).

In this regard, the following is recommended:

- Should the site design or development density substantially change at the development Permit level of planning, it is recommended that Jasper House GP Inc., discuss any further study requirements and scope directly with Subdivision and Development Coordination before any work is undertaken on any updates to the Transportation Mobility Assessment; and

- The owners consider the implementation of TDM programs at the Development Permit stage of application and post-occupancy stages of development including:
    - From a financial perspective, consider the cost and amount of parking;
    - Market the site with unbundled parking;
    - Adjust the number of bicycle spaces as required based on tenant demands and as demands change between auto and bicycle use characteristics;
    - Consider a bike-sharing program; and
    - Plan for a bike wash and maintenance facility.
- The Oliver Neighbourhood Renewal Project (construction initiation 2026) and the Imagine Jasper Avenue Project are expected to undergo design and/or construction within the 2023-2026 budget cycle within this area of the City. As an impacted stakeholder, Jasper House GP Inc. should monitor these two construction projects as development plans progress.

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APPENDIX A

Pre-Development Roadway Illustrations

Illustrations of the 100 Avenue Bicycle Project