Memo

SUBJECT
155 Dun Skipper Drive Transportation Impact Assessment Addendum #1
DATE
December 12, 2024

DEPARTMENT
Transportation Engineering

COPIES TO

TO
Mr. Omkar Atwal

OUR REF
\148290 155 Dun Skipper Road - Internal Documents\6.0_Technical\6.23_Traffic\03_Reports
PROJECT NUMBER
148290

NAME
Eric McLaren
eric.mclaren@arcadis.com

In 2019, a Transportation Impact Assessment (TIA) was prepared by IBI Group (now part of Arcadis) in support of a Zoning By-law Amendment (ZBLA) application for the 155 Dun Skipper Drive (formerly 4836 Bank Street) development. At the time that the original TIA was prepared, the concept for the proposed development included a hardware store (now constructed), hotel, restaurant, and a commercial building.

The site plan has since been revised and the hotel building has been replaced with a proposed nine-storey mixed-use seniors apartment building. Trip generation estimates indicate that the proposed change in land use will result in a nominal increase of up to only three (3) two-way vehicle trips for the site during the weekday morning peak hour, and a reduction during the weekday afternoon peak hour. Given the low magnitude of this increase, the network impacts evaluated in the TIA will remain unchanged. This addendum to the TIA has been prepared to summarize any localized impacts of the proposed land use changes.

The following topics have been discussed as part of this addendum:

1. Land uses
2. Trip generation estimates
3. Swept path analysis
4. Parking review
5. Transportation demand management (TDM)

Proposed Development

Table 1 summarizes the land uses included in the previous version of the site plan, as evaluated in the 2019 TIA.

Table 1 Previous Land Uses

Building	Land Use	Size
Building 'A'[1]	Hardware Store (incl. Drive-Thru Shed)	2,997 m^2
Building 'B'	Hotel	Approximately 125 rooms
Building 'C'	Restaurant (incl. Drive-Thru Facility)	502 m^2
Building 'D'	Commercial	987 m^2

[1] *Now constructed.*

The site plan has since been revised and the following land uses are proposed for Building 'B'. No land use changes are currently proposed to any of the other buildings on the site.

Table 2 Revised Building 'B' Land Uses

Building	Land Use	Size
Building 'B'	Senior Apartments	141 units
	Retail	878 m^2

The revised site plan for the proposed development has been provided in **Appendix A**.

Trip Generation

The peak hour person-trip generation of Building 'B' was calculated using appropriate vehicle trip generation rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition) and converted to person-trips using a 1.28 conversion factor, in accordance with the City of Ottawa TIA Guidelines.

Table 3 summarizes the person-trip generation associated with Building 'B'.

Table 3 Person-Trip Generation

Land Use	Size	Peak Period	Person Trips per Hour		
			In	Out	Total
252: Senior Adult Housing - Multifamily	141 units	AM	12	24	36
		PM	26	20	46
822: Strip Retail Plaza	878 m^2	AM	22	14	36
		PM	47	48	95
Grant Total		**AM**	**34**	**38**	**72**
		PM	**73**	**68**	**141**

With the inclusion of a residential land use in the development, it is expected that there may be some internal trips that will occur between the senior apartment building and both the existing and future commercial buildings. These internal trips must be subtracted from the total trip generation of the site in order to obtain the external trip generation. The NCHRP Report 684 Internal Trip Capture tool was used to estimate the internal trip generation of the site, and the results are provided in **Appendix B**[1]. The results of the internalization analysis indicate that during the afternoon peak hour the following number of internal person-trips are projected:

- 12 inbound trips and eight outbound trips associated with the residential component of Building 'B' will remain internal to the site.
- Two inbound trips and three outbound trips associated with the commercial component of Building 'B' will remain internal to the site.
- Six inbound trips and nine outbound trips associated with Buildings 'A', 'C' and 'D' will remain internal to the site.

No internal person-trips are projected during the weekday morning peak hour.

[1] The internalization analysis considered the trip generation of Building 'B' as well as the trip generation of the other three existing/proposed buildings on the site.

Consistent with the 2019 TIA, the mode share targets for the site are assumed to remain the same as the existing mode share distribution of the surrounding community. Note that the mode share targets used in this report differ from the 2019 TIA as mode share data specific to land use is now available through the 2020 TRANS Trip Generation Manual. **Table 4** summarizes the existing and target mode share distribution for residential and commercial land uses in the South Gloucester/Leitrim Traffic Assessment Zone (TAZ).

Table 4 Existing and Target Mode Shares

Travel Mode	Existing and Target Residential Mode Share[1]	Existing and Target Commercial Mode Share[1]
Auto Driver	52%	72%
Auto Passenger	16%	17%
Transit	22%	3%
Bicycle	1%	0%
Walk	9%	8%

[1] *Average of existing weekday morning and afternoon peak period mode shares.*

In addition to reductions due to internal trips between the residential and commercial land uses, it is also expected that some of the vehicle-trips generated by the commercial component of Building 'B' will be pass-by trips diverted from existing traffic on Bank Street. The ITE Trip Generation Manual indicates that approximately 40% of vehicle trips to/from the commercial component of the building will be pass-by trips.

The internal person-trips estimated using the NCHRP Report 684 Internal Trip Capture tool have been subtracted from the person-trip estimates in **Table 3** to obtain the estimated number of external person-trips. These external person-trips were subsequently subdivided by mode based on the mode share targets in **Table 4** and vehicle-trips to/from the commercial component of Building 'B' were then further subdivided into pass-by and new trips. The resulting number of person-trips by mode generated by Building 'B' is summarized in **Table 5**.

Table 5 Person Trips by Mode

Travel Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto Driver	22	23	45	40	38	78
➢ *New Trips*	*22*	*23*	*45*	*27*	*25*	*52*
➢ *Pass-By Trips*	-	-	-	*13*	*13*	*26*
Auto Passenger	6	6	12	10	10	20
Transit	3	6	9	4	4	8
Bicycle	-	-	-	-	-	-
Walk	3	3	6	5	5	10
Internal	-	-	-	14	11	25
Grand Total	**34**	**38**	**72**	**73**	**68**	**141**

Table 6 compares the vehicle-trip generation of Building 'B' from the 2019 TIA with the vehicle-trip generation associated with the revised land uses.

Table 6 Vehicle-Trip Generation Comparison

Source	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
2019 TIA	25	17	42	27	26	53
Table 5 (New Trips)	22	23	45	27	25	52
Change	**-3**	**6**	**3**	**0**	**-1**	**-1**

Overall, the proposed change in land use is expected to result in a net increase in new vehicle-trips of three vehicles per hour in the weekday morning peak hour and a net decrease of one vehicle per hour in the weekday afternoon peak hour. It can therefore be concluded that the proposed change in land use will have a negligible net impact on the surrounding road network.

Swept Path Analysis

Swept path analysis was undertaken to confirm the functionality of the site using a fire truck, a front-loading waste collection vehicle, a heavy single-unit (HSU) truck, and a moving truck. The results of the swept path analysis are provided in **Appendix C** and indicate that there will be no issues with vehicle circulation.

Parking Review

Table 7 summarizes the parking requirements associated with the site. The parking requirements for the commercial components of the site are based on the “Shopping Centre” requirements.

Table 7 Parking Summary

Building	Land Use	Parking Space Type	Minimum Parking Requirement	Proposed Parking Supply
Building ‘A’	Hardware Store	Visitor	70	148
	Warehouse	Visitor	40	
Building ‘B’	Senior Apartments	Resident	141	141
		Visitor	29	53
	Retail	Visitor	32	
Building ‘C’	Restaurant (incl. Drive-Thru Facility)	Visitor	18	33
Building ‘D’	Commercial	Visitor	36	12
Total for Building ‘A’ and ‘B’		**Resident**	**141**	**141**
		Visitor	**171**	**201**
Total for Building ‘A’, ‘B’, ‘C’ and ‘D’		**Resident**	**141**	**141**
		Visitor	**225**	**246**

In the interim when only Building ‘A’ and ‘B’ are constructed, there will be sufficient parking to meet the minimum resident and visitor parking requirements. Designated spaces will not be provided for residential visitor parking and instead residential and commercial visitor parking will be shared.

Once the site is fully built out, the proposed number of resident and visitor parking spaces will meet and exceed the minimum parking requirements.

A total of ten accessible parking spaces (five Type ‘A’ spaces and five Type ‘B’ spaces) will be provided with Building ‘A’ and ‘B’, with an additional three spaces (two Type ‘A’ spaces and one Type ‘B’) provided when Building ‘C’ and ‘D’ are constructed. In the interim when only Building ‘A’ and ‘B’ are constructed, five Type ‘A’ spaces and four Type ‘B’ spaces will be required. Once Building ‘C’ and ‘D’ are constructed, an additional Type ‘B’ space will be required. As such, the minimum accessible parking requirements have been met. The parking space widths, lengths and access aisle widths meet the City of Ottawa Accessibility Design Standards requirements as well.

In terms of bicycle parking, Building ‘B’ will include 40 exterior bicycle parking spaces and 35 underground spaces. A total of 71 and four (4) spaces are required for the residential and commercial components of the building, therefore, the minimum bicycle parking requirement is met.

As the commercial component of Building ‘B’ is less than 2,000 m^2, no loading space is required as per the Zoning By-law. Despite the fact that a loading space is not required, a pick-up/drop-off and loading zone has been provided at the main entrance to the building. This area is approximately 40m long which is sufficient for several passenger vehicles and/or large delivery/moving trucks to use simultaneously. This area could also accommodate emergency response services and provide them with a location to park near the main entrance to the building.

The total commercial space for the full site (Building ‘A’, ‘B’, ‘C’ and ‘D’) will equal 4,928 m^2. For a commercial site of that size, a minimum of one loading space is required. Two loading spaces are proposed, thereby exceeding this requirement.

The Zoning By-law specifies the following size requirements for parking facilities:

- Drive aisles must be a minimum of 6.0m in width inside the parking garage and 6.7m in width in the ground-level parking lot.
- Regular parking spaces must be a minimum of 5.2m long and 2.6m wide

The proposed parking facility has been reviewed and meets the above requirements.

Transportation Demand Management (TDM)

A number of pedestrian pathways will be provided within the proposed development and connect at several locations to the existing sidewalks on Dun Skipper Drive and the future sidewalks on Bank Street. The proposed development will therefore have excellent connectivity to the existing and future pedestrian network.

The presence of on-site retail land uses will also permit future residents to meet some of their daily needs by non-auto modes of transportation. There are also bus stops on Dun Skipper Drive near Cedar Creek Drive, less than a 200m walking distance from the building, thereby providing residents access to transit as well. To further encourage the use of sustainable travel modes, multi-modal information packages will be provided to first time residents upon move-in. This is expected to help establish sustainable travel patterns from the start.

The proposed development has been designed to be supportive of TDM by locating the building close to the street with parking at the rear and side, minimizing walking distances to sidewalks and transit stops, ensuring visibility of pedestrians from the building, targeting low operating speeds on-site, providing wayfinding signage as

required, providing a pick-up/drop-off area near the main entrance, and separating long-term and short-term parking where possible.

Additionally, the following post-occupancy TDM program will be implemented: periodic travel surveys, local area maps of transit stops and cycling and pedestrian facilities, separating the cost of parking from monthly rent, and providing all new residents multimodal information packages. A number of additional measures may also be considered if there is enough interest from residents.

The City of Ottawa's TDM-Supportive Development Design and Infrastructure Checklist and TDM Measures Checklist were completed for the proposed development and are provided in **Appendix D**.

Conclusion

Trip generation estimates indicate that the proposed change in land use for Building 'B' will result in a nominal net increase of three two-way vehicle trips in the weekday morning peak hour, and a net decrease of one vehicle trip in the weekday afternoon peak hour. As such, it has been concluded that the proposed change will have a negligible impact on the intersection capacity analysis presented in the 2019 TIA.

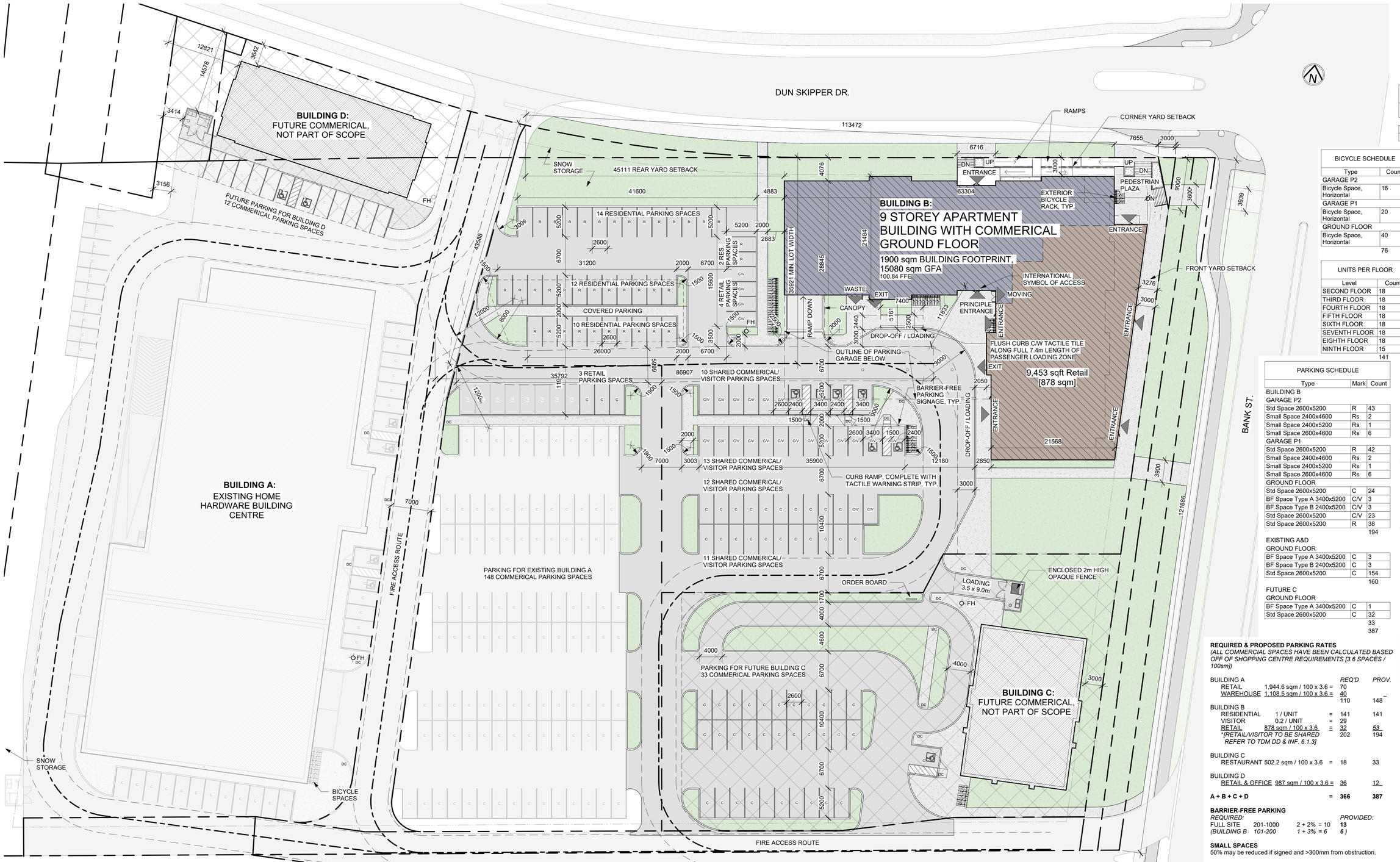
Swept path analysis has been completed which has confirmed that fire trucks, waste collection vehicles, delivery trucks and moving trucks will be able to circulate within the site without any issues. A review of the proposed parking facilities also confirms that it meets the Zoning By-law requirements.

The presence of on-site retail land uses and nearby transit bus stops will ensure that residents can meet some of their daily needs via non-auto modes of transportation. The site has been designed to support TDM by providing convenient access to adjacent pedestrian and transit facilities, targeting low on-site operating speeds, providing a pick-up/drop-off area at the main entrance to the building as well as a number of other design elements. To further encourage the use of sustainable travel modes, a suite of post-occupancy TDM measures will be implemented including periodic travel surveys, displaying transit, pedestrian and cycling maps, separating the cost of parking from rent and providing multi-modal information packages to residents upon move-in. Additional TDM measures may be considered if sufficient interest is expressed by future residents.

In conclusion, it is the overall opinion of Arcadis that the proposed development can be safely accommodated by the adjacent road network.

Mr. Omkar Atwal
December 12, 2024

Appendix A: Site Plan



DO NOT SCALE DRAWINGS

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK.

DRAWINGS NOT TO BE USED FOR CONSTRUCTION UNLESS STAMPED AND SIGNED BY THE CONSULTANT.

THESE DRAWINGS HAVE BEEN DESIGNED IN COMFORMANCE WITH THE ONTARIO BUILDING CODE.

Revisions

Revision Number	Revision Date	Revision Description
1	2024-02-20	MINOR VARIANCE
2	2024-12-09	MINOR VARIANCE r1

BICYCLE SCHEDULE	
Type	Count
GARAGE P2	
Bicycle Space, Horizontal	16
GARAGE P1	
Bicycle Space, Horizontal	20
GROUND FLOOR	
Bicycle Space, Horizontal	40
	76

UNITS PER FLOOR	
Level	Count
SECOND FLOOR	18
THIRD FLOOR	18
FOURTH FLOOR	18
FIFTH FLOOR	18
SIXTH FLOOR	18
SEVENTH FLOOR	18
EIGHTH FLOOR	18
NINTH FLOOR	15
	141

UNIT MIX		
Name	Area	Count
1 BEDROOM A3	670 ft²	16
1 BEDROOM A1	690 ft²	16
1 BEDROOM A5	710 ft²	8
1 BEDROOM A2	750 ft²	16
1 BEDROOM A4	750 ft²	16
1 BEDROOM A6	750 ft²	2
1 BEDROOM A6	760 ft²	2
1 BEDROOM A4	790 ft²	8
1 BEDROOM A4	840 ft²	3
2 BEDROOM B3	990 ft²	4
2 BEDROOM B2	1050 ft²	8
2 BEDROOM B1	1080 ft²	7
2 BEDROOM B4	1080 ft²	3
2 BEDROOM B1	1090 ft²	7
2 BEDROOM + DEN C2	1100 ft²	4
2 BEDROOM B1	1100 ft²	7
2 BEDROOM B1	1110 ft²	7
2 BEDROOM +DEN C1	1410 ft²	7
		141

87 [62%] 1 BEDROOM
54 [38%] 2 BEDROOM

PARKING SCHEDULE		
Type	Mark	Count
BUILDING B		
GARAGE P2		
Std Space 2600x5200	R	43
Small Space 2400x4600	Rs	2
Small Space 2400x5200	Rs	1
Small Space 2600x4600	Rs	6
GARAGE P1		
Std Space 2600x5200	R	42
Small Space 2400x4600	Rs	2
Small Space 2400x5200	Rs	1
Small Space 2600x4600	Rs	6
GROUND FLOOR		
Std Space 2600x5200	C	24
BF Space Type A 3400x5200	C/V	3
BF Space Type B 2400x5200	C/V	3
Std Space 2600x5200	C/V	23
Std Space 2600x5200	R	38
		194
EXISTING A&D		
GROUND FLOOR		
BF Space Type A 3400x5200	C	3
BF Space Type B 2400x5200	C	3
Std Space 2600x5200	C	154
		160
FUTURE C		
GROUND FLOOR		
BF Space Type A 3400x5200	C	1
Std Space 2600x5200	C	32
		33
		387

AMENITY AREA

	REQ'D	*PROPOSED*
TOTAL	6sqm/UNIT (870sqm)	1510
COMMUNAL	>50% TOTAL	560
BALCONIES	N/A	950

Interior of Building contains enough Amenity Area that no exterior Amenity Area is needed

BICYCLES	*REQ'D*	*PROPOSED*
RESIDENTIAL		
0.5 PER UNIT	71	71
RETAIL		
1/250sqm GFA	4	4

TOTAL 75 (40 EXTERIOR, 35 UNDERGROUND WITHIN THE 92 TENANT STORAGE LOCKERS)

REQUIRED & PROPOSED PARKING RATES
(ALL COMMERCIAL SPACES HAVE BEEN CALCULATED BASED OFF OF SHOPPING CENTRE REQUIREMENTS [3.6 SPACES / 100sm])

			REQ'D	*PROV.*
BUILDING A				
RETAIL	1,944.6 sqm / 100 x 3.6	=	70	
WAREHOUSE	1,108.5 sqm / 100 x 3.6	=	40	
			110	148
BUILDING B				
RESIDENTIAL	1 / UNIT	=	141	141
VISITOR	0.2 / UNIT	=	29	
RETAIL	878 sqm / 100 x 3.6	=	32	53
**[RETAIL/VISITOR TO BE SHARED REFER TO TDM DD & INF. 6.1.3]*			202	194
BUILDING C				
RESTAURANT	502.2 sqm / 100 x 3.6	=	18	33
BUILDING D				
RETAIL & OFFICE	987 sqm / 100 x 3.6	=	36	12
A + B + C + D		**=**	**366**	**387**

BARRIER-FREE PARKING

REQUIRED:			*PROVIDED:*
FULL SITE	201-1000	2 + 2% = 10	**13**
(BUILDING B	*101-200*	*1 + 3% = 6*	***6)***

SMALL SPACES
50% may be reduced if signed and >300mm from obstruction.

LOADING SPACES

REQUIRED:		*PROVIDED:*
FULL SITE	1 MIN. FOR 2000-4999sqm [4928sqm]	2
BUILDING B	0 FOR 1000-1999sqm [878sqm]	0
	[3m wide Loading & Drop-off Area Provided]	

ZONING TABLE		
Provision	Required	Provided
Minimum Lot Area	No Minimum	7398 sqm
Minimum Lot Width	No Minimum	35.9m
Minimum Front Yard	3m	3.2m
Minimum Corner Side Yard	3m	3.2m
Minimum Interior Side Yard	3m	3.2m
Minimum Rear Yard	7.5m	45.1m
Maximum Building Height	18m	34.2m

Alexander Wilson Architect Inc
Admiralty Place
103-20 Gore Street
Kingston Ontario, K7L 2L1
t: 613.545.3744 ext 213
f: 613.545.1411

Stamp

Project
4836 Bank Street Seniors Apartments

Drawing
SITE PLAN

Drawn By		Checked By	-
Scale	As indicated	Date	2024-12-09 8:20:02 PM
Project No.	2330	Revision	2
Drawing No.	A010		

1:1

Mr. Omkar Atwal
December 12, 2024

Appendix B: Internal Trip Generation

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	155 Dun Skipper Drive	**Organization:**	Arcadis
Project Location:		**Performed By:**	EM
Scenario Description:		**Date:**	2024-10-01
Analysis Year:		**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				288	155	133
Restaurant				0		
Cinema/Entertainment				0		
Residential				36	12	24
Hotel				0		
All Other Land Uses[2]				0		
				324	167	157

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail	1.00			1.00		
Restaurant						
Cinema/Entertainment						
Residential	1.00			1.00		
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	324	167	157
Internal Capture Percentage	0%	0%	0%
External Vehicle-Trips[5]	324	167	157
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	0%	0%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	0%	0%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	155 Dun Skipper Drive
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	155	155	1.00	133	133
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	12	12	1.00	24	24
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	39		17	0	19	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	5	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		50	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	12		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	26	0	0		0
Hotel	0	6	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	0	155	155	155	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	12	12	12	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	0	133	133	133	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	24	24	24	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	155 Dun Skipper Drive	**Organization:**	Arcadis
Project Location:		**Performed By:**	EM
Scenario Description:		**Date:**	2024-10-01
Analysis Year:		**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				398	188	210
Restaurant				0		
Cinema/Entertainment				0		
Residential				46	26	20
Hotel				0		
All Other Land Uses[2]				0		
				444	214	230

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail	1.00			1.00		
Restaurant						
Cinema/Entertainment						
Residential	1.00			1.00		
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail					338	
Restaurant						
Cinema/Entertainment						
Residential		338				
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	12	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	8	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	444	214	230
Internal Capture Percentage	9%	9%	9%
External Vehicle-Trips[5]	404	194	210
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	4%	6%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	46%	40%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	155 Dun Skipper Drive
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	188	188	1.00	210	210
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	26	26	1.00	20	20
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	4		61	8	55	11
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	8	4	0		1
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		15	0	0	1	0
Retail	0		0	0	12	0
Restaurant	0	94		0	4	0
Cinema/Entertainment	0	8	0		1	0
Residential	0	18	0	0		0
Hotel	0	4	0	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	8	180	188	180	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	12	14	26	14	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	12	198	210	198	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	8	12	20	12	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Mr. Omkar Atwal
December 12, 2024

Appendix C: Swept Path Analysis

DUN SKIPPER DR.

BANK ST.

BUILDING A:
EXISTING HOME HARDWARE BUILDING CENTRE

BUILDING B:
9 STOREY APARTMENT BUILDING WITH COMMERICAL GROUND FLOOR
1900 sqm BUILDING FOOTPRINT,
15080 sqm GFA
100.84 FFE

BUILDING C:
FUTURE COMMERICAL, NOT PART OF SCOPE

BUILDING D:
FUTURE COMMERICAL, NOT PART OF SCOPE

FUTURE PARKING FOR BUILDING D
12 COMMERICAL PARKING SPACES

PARKING FOR EXISTING BUILDING A
148 COMMERICAL PARKING SPACES

FUTURE PARKING FOR BUILDING C
56 COMMERICAL PARKING SPACES

14 RESIDENTIAL PARKING SPACES
12 RESIDENTIAL PARKING SPACES
COVERED PARKING
10 RESIDENTIAL PARKING SPACES
2 RES. PARKING SPACES
4 RETAIL PARKING SPACES
3 RETAIL PARKING SPACES
10 RETAIL PARKING SPACES
13 RETAIL PARKING SPACES

SNOW STORAGE
45111 REAR YARD SETBACK
RAMPS
CORNER YARD SETBACK
ENTRANCE
EXTERIOR BICYCLE RACK, TYP.
PEDESTRIAN PLAZA
INTERNATIONAL SYMBOL OF ACCESS
FRONT YARD SETBACK
WASTE
EXIT
MOVING
CANOPY
PRINCIPLE ENTRANCE
RAMP DOWN
PROPOSED LOADING
OUTLINE OF PARKING GARAGE BELOW
FLUSH CURB C/W TACTILE TILE ALONG FULL 7.4m LENGTH OF PASSENGER LOADING ZONE
9,453 sqft Retail
[878 sqm]
BARRIER-FREE PARKING SIGNAGE, TYP.
CURB RAMP, COMPLETE WITH TACTILE WARNING STRIP, TYP.
DROP-OFF LOOP
FIRE ACCESS ROUTE
ORDER BOARD
LOADING 3.5 x 9.0m
ENCLOSED 2m HIGH OPAQUE FENCE
BICYCLE SPACES

Chevrolet Express 4500 (2016)

	mm
Width	: 2410
Track	: 1957
Lock to Lock Time	: 6.0
Steering Angle	: 31.7

DUN SKIPPER DR.

BANK ST.

BUILDING A:
EXISTING HOME HARDWARE BUILDING CENTRE

BUILDING B:
9 STOREY APARTMENT BUILDING WITH COMMERICAL GROUND FLOOR

1900 sqm BUILDING FOOTPRINT,
15080 sqm GFA
100.84 FFE

BUILDING C:
FUTURE COMMERICAL, NOT PART OF SCOPE

BUILDING D:
FUTURE COMMERICAL, NOT PART OF SCOPE

9,453 sqft Retail [878 sqm]

14 RESIDENTIAL PARKING SPACES
12 RESIDENTIAL PARKING SPACES
COVERED PARKING
10 RESIDENTIAL PARKING SPACES
7 RES. PARKING SPACES
4 RETAIL PARKING SPACES
3 RETAIL PARKING SPACES
10 RETAIL PARKING SPACES
13 RETAIL PARKING SPACES
CURB RAMP, COMPLETE WITH TACTILE WARNING STRIP, TYP.
PARKING FOR EXISTING BUILDING A
148 COMMERICAL PARKING SPACES
FUTURE PARKING FOR BUILDING C
56 COMMERICAL PARKING SPACES
FUTURE PARKING FOR BUILDING D
12 COMMERICAL PARKING SPACES

SNOW STORAGE
45111 REAR YARD SETBACK
RAMPS
CORNER YARD SETBACK
ENTRANCE
EXTERIOR BICYCLE RACK, TYP.
PEDESTRIAN PLAZA
INTERNATIONAL SYMBOL OF ACCESS
FRONT YARD SETBACK
WASTE
EXIT
MOVING
CANOPY
RAMP DOWN
PRINCIPLE ENTRANCE
DROP-OFF / LOADING
OUTLINE OF PARKING GARAGE BELOW
FLUSH CURB C/W TACTILE TILE ALONG FULL 7.4m LENGTH OF PASSENGER LOADING ZONE
BARRIER FREE PARKING SIGNAGE, TYP.
DROP-OFF / LOADING
ORDER BOARD
LOADING 3.5 x 9.0m
ENCLOSED 2m HIGH OPAQUE FENCE
BICYCLE SPACES
FIRE ACCESS ROUTE
FIRE ACCESS ROUTE

Aerial Fire

	m
Width	2540
Track	2540
Lock to Lock Time	6.0
Steering Angle	37.0

DUN SKIPPER DR.

BANK ST.

BUILDING A:
EXISTING HOME HARDWARE BUILDING CENTRE

BUILDING B:
9 STOREY APARTMENT BUILDING WITH COMMERICAL GROUND FLOOR

1900 sqm BUILDING FOOTPRINT,
15080 sqm GFA
100.84 FFE

BUILDING C:
FUTURE COMMERICAL, NOT PART OF SCOPE

BUILDING D:
FUTURE COMMERICAL, NOT PART OF SCOPE

FUTURE PARKING FOR BUILDING D
12 COMMERICAL PARKING SPACES

PARKING FOR EXISTING BUILDING A
148 COMMERICAL PARKING SPACES

FUTURE PARKING FOR BUILDING C
56 COMMERICAL PARKING SPACES

14 RESIDENTIAL PARKING SPACES

12 RESIDENTIAL PARKING SPACES

COVERED PARKING

10 RESIDENTIAL PARKING SPACES

7 RES. PARKING SPACES

4 RETAIL PARKING SPACES

3 RETAIL PARKING SPACES

10 RETAIL PARKING SPACES

13 RETAIL PARKING SPACES

CURB RAMP, COMPLETE WITH TACTILE WARNING STRIP, TYP.

45111 REAR YARD SETBACK

SNOW STORAGE

RAMP DOWN

CANOPY

WASTE

EXIT

DROP-OFF / LOADING

OUTLINE OF PARKING GARAGE BELOW

PRINCIPLE ENTRANCE

INTERNATIONAL SYMBOL OF ACCESS

MOVING

ENTRANCE

RAMPS

CORNER YARD SETBACK

EXTERIOR BICYCLE RACK, TYP.

PEDESTRIAN PLAZA

FRONT YARD SETBACK

FLUSH CURB C/W TACTILE TILE ALONG FULL 7.4m LENGTH OF PASSENGER LOADING ZONE

9,453 sqft Retail
[878 sqm]

BARRIER FREE PARKING SIGNAGE, TYP.

EDGE OF FIRE ROUTE

FIRE ACCESS ROUTE

ORDER BOARD

LOADING
3.5 x 9.0m

ENCLOSED 2m HIGH OPAQUE FENCE

BICYCLE SPACES

SNOW STORAGE

HSU

	mm
Width	: 2600
Track	: 2600
Lock to Lock Time	6.0
Steering Angle	: 40.0

HSU
MC-SU (CA)

DUN SKIPPER DR.

BANK ST.

BUILDING A:
EXISTING HOME HARDWARE BUILDING CENTRE

BUILDING B:
9 STOREY APARTMENT BUILDING WITH COMMERICAL GROUND FLOOR
1900 sqm BUILDING FOOTPRINT,
15080 sqm GFA
100.84 FFE

BUILDING C:
FUTURE COMMERICAL, NOT PART OF SCOPE

BUILDING D:
FUTURE COMMERICAL, NOT PART OF SCOPE

FUTURE PARKING FOR BUILDING D
12 COMMERICAL PARKING SPACES

PARKING FOR EXISTING BUILDING A
148 COMMERICAL PARKING SPACES

FUTURE PARKING FOR BUILDING C
56 COMMERICAL PARKING SPACES

FIRE ACCESS ROUTE

SNOW STORAGE

45111 REAR YARD SETBACK

14 RESIDENTIAL PARKING SPACES

2 RES. PARKING SPACES

12 RESIDENTIAL PARKING SPACES

COVERED PARKING

10 RESIDENTIAL PARKING SPACES

4 RETAIL PARKING SPACES

RAMP DOWN

OUTLINE OF PARKING GARAGE BELOW

3 RETAIL PARKING SPACES

10 RETAIL PARKING SPACES

13 RETAIL PARKING SPACES

CURB RAMP, COMPLETE WITH TACTILE WARNING STRIP, TYP.

BARRIER-FREE PARKING SIGNAGE, TYP.

DROP-OFF / LOADING

RAMPS

CORNER YARD SETBACK

ENTRANCE

PEDESTRIAN PLAZA

EXTERIOR BICYCLE RACK, TYP.

WASTE

EXIT

CANOPY

PRINCIPLE ENTRANCE

INTERNATIONAL SYMBOL OF ACCESS

MOVING

FRONT YARD SETBACK

FLUSH CURB C/W TACTILE TILE ALONG FULL 7.4m LENGTH OF PASSENGER LOADING ZONE

9,453 sqft Retail
[878 sqm]

ORDER BOARD

LOADING
3.5 x 9.0m

ENCLOSED 2m HIGH OPAQUE FENCE

FH

SNOW STORAGE

BICYCLE SPACES

10312
1483 5385

Wayne Titan

	mm
Width	2578
Track	2438
Lock to Lock Time	6.0
Steering Angle	45.0

Mr. Omkar Atwal
December 12, 2024

Appendix D: Transportation Demand Management

TDM-Supportive Development Design and Infrastructure Checklist:
Residential Developments (multi-family or condominium)

Legend

REQUIRED	The Official Plan or Zoning By-law provides related guidance that must be followed
BASIC	The measure is generally feasible and effective, and in most cases would benefit the development and its users
BETTER	The measure could maximize support for users of sustainable modes, and optimize development performance

		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	1.	**WALKING & CYCLING: ROUTES**	
	1.1	**Building location & access points**	
BASIC	1.1.1	Locate building close to the street, and do not locate parking areas between the street and building entrances	☑
BASIC	1.1.2	Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	☑
BASIC	1.1.3	Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	☑
	1.2	**Facilities for walking & cycling**	
REQUIRED	1.2.1	Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations *(see Official Plan policy 4.3.3)*	☐ N/A - No rapid transit near site
REQUIRED	1.2.2	Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible *(see Official Plan policy 4.3.12)*	☑

	TDM-supportive design & infrastructure measures: *Residential developments*		Check if completed & add descriptions, explanations or plan/drawing references
REQUIRED	1.2.3	Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks *(see Official Plan policy 4.3.10)*	☑
REQUIRED	1.2.4	Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps *(see Official Plan policy 4.3.10)*	☑
REQUIRED	1.2.5	Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians *(see Official Plan policy 4.3.11)*	☑
BASIC	1.2.6	Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	☑ Provided walking routes from building to stoplights which provide access to transit stop across the street. Refer to A010
BASIC	1.2.7	Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	☑ Will provide. Refer to A010
BASIC	1.2.8	Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility	☑ Internal Roads through parking lot will be designed for low operating speeds
	1.3	**Amenities for walking & cycling**	
BASIC	1.3.1	Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails	☑ Refer to landscape drawings
BASIC	1.3.2	Provide wayfinding signage for site access (where required, e.g. when multiple buildings or entrances exist) and egress (where warranted, such as when directions to reach transit stops/stations, trails or other common destinations are not obvious)	☑ Will provide

		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	2.	**WALKING & CYCLING: END-OF-TRIP FACILITIES**	
	2.1	**Bicycle parking**	
REQUIRED	2.1.1	Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible *(see Official Plan policy 4.3.6)*	☑
REQUIRED	2.1.2	Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas *(see Zoning By-law Section 111)*	☑
REQUIRED	2.1.3	Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored *(see Zoning By-law Section 111)*	☑
BASIC	2.1.4	Provide bicycle parking spaces equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists	☑ Expected number of resident owned and visitor bicycles is as per zoning
	2.2	**Secure bicycle parking**	
REQUIRED	2.2.1	Where more than 50 bicycle parking spaces are provided for a single residential building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers *(see Zoning By-law Section 111)*	☑
BETTER	2.2.2	Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments	☐ Not Providing, but tenant storage lockers will be sized to fit excess bicycles
	2.3	**Bicycle repair station**	
BETTER	2.3.1	Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	☐ Not Providing, but may provide in the future if enough interest from residents
	3.	**TRANSIT**	
	3.1	**Customer amenities**	
BASIC	3.1.1	Provide shelters, lighting and benches at any on-site transit stops	☐ N/A, no on site transit stops
BASIC	3.1.2	Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	☐ N/A, no site transit stops abutting site
BETTER	3.1.3	Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☐ N/A, no on site transit stops

		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	4.	**RIDESHARING**	
	4.1	**Pick-up & drop-off facilities**	
BASIC	4.1.1	Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	☑ Drop off and Pick up area provided, refer to A010
	5.	**CARSHARING & BIKESHARING**	
	5.1	**Carshare parking spaces**	
BETTER	5.1.1	Provide up to three carshare parking spaces in an R3, R4 or R5 Zone for specified residential uses *(see Zoning By-law Section 94)*	☐ Not Providing, but may provide in the future if enough interest from residents
	5.2	**Bikeshare station location**	
BETTER	5.2.1	Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	☐ Not Providing
	6.	**PARKING**	
	6.1	**Number of parking spaces**	
REQUIRED	6.1.1	Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	☑
BASIC	6.1.2	Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	☐ Not Providing
BASIC	6.1.3	Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly *(see Zoning By-law Section 104)*	☑ Will share retail and visitor spaces, refer to A010
BETTER	6.1.4	Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking *(see Zoning By-law Section 111)*	☐ Not necessary for residents, not providing for retail
	6.2	**Separate long-term & short-term parking areas**	
BETTER	6.2.1	Provide separate areas for short-term and long-term parking (using signage or physical barriers) to permit access controls and simplify enforcement (i.e. to discourage residents from parking in visitor spaces, and vice versa)	☑ Will separate where possible. Majority of long term parking will be in parking garage. Visitor spaces will be indicated with signs

TDM Measures Checklist:
Residential Developments (multi-family, condominium or subdivision)

Legend

BASIC — The measure is generally feasible and effective, and in most cases would benefit the development and its users

BETTER — The measure could maximize support for users of sustainable modes, and optimize development performance

★ — The measure is one of the most dependably effective tools to encourage the use of sustainable modes

		TDM measures: *Residential developments*	Check if proposed & add descriptions
	1.	**TDM PROGRAM MANAGEMENT**	
	1.1	**Program coordinator**	
BASIC ★	1.1.1	Designate an internal coordinator, or contract with an external coordinator	☐ No official designation, but property owner will perform similar work
	1.2	**Travel surveys**	
BETTER	1.2.1	Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	☑ By property owner
	2.	**WALKING AND CYCLING**	
	2.1	**Information on walking/cycling routes & destinations**	
BASIC	2.1.1	Display local area maps with walking/cycling access routes and key destinations at major entrances *(multi-family, condominium)*	☑ Will provide in apartment lobby area
	2.2	**Bicycle skills training**	
BETTER	2.2.1	Offer on-site cycling courses for residents, or subsidize off-site courses	☑ If enough interest by residents

			TDM measures: *Residential developments*	Check if proposed & add descriptions
		3.	**TRANSIT**	
		3.1	**Transit information**	
BASIC		3.1.1	Display relevant transit schedules and route maps at entrances *(multi-family, condominium)*	☑ Will provide in apartment lobby area
BETTER		3.1.2	Provide real-time arrival information display at entrances *(multi-family, condominium)*	☐ Will not provide at this time
		3.2	**Transit fare incentives**	
BASIC	★	3.2.1	Offer PRESTO cards preloaded with one monthly transit pass on residence purchase/move-in, to encourage residents to use transit	☐ Will not provide at this time
BETTER		3.2.2	Offer at least one year of free monthly transit passes on residence purchase/move-in	☐ Will not provide
		3.3	**Enhanced public transit service**	
BETTER	★	3.3.1	Contract with OC Transpo to provide early transit services until regular services are warranted by occupancy levels *(subdivision)*	☐ Will not provide at this time
		3.4	**Private transit service**	
BETTER		3.4.1	Provide shuttle service for seniors homes or lifestyle communities (e.g. scheduled mall or supermarket runs)	☑ Will provide if enough interest from residents for this service
		4.	**CARSHARING & BIKESHARING**	
		4.1	**Bikeshare stations & memberships**	
BETTER		4.1.1	Contract with provider to install on-site bikeshare station (*multi-family)*	☐ Will not provide at this time
BETTER		4.1.2	Provide residents with bikeshare memberships, either free or subsidized *(multi-family)*	☐ Will not provide
		4.2	**Carshare vehicles & memberships**	
BETTER		4.2.1	Contract with provider to install on-site carshare vehicles and promote their use by residents	☐ If enough interest, may provide in the future
BETTER		4.2.2	Provide residents with carshare memberships, either free or subsidized	☐ Will not provide
		5.	**PARKING**	
		5.1	**Priced parking**	
BASIC	★	5.1.1	Unbundle parking cost from purchase price *(condominium)*	☐ N/A, not a condo
BASIC	★	5.1.2	Unbundle parking cost from monthly rent *(multi-family)*	☑ Parking spaces will be leased separately

			TDM measures: *Residential developments*	Check if proposed & add descriptions	
		6.	**TDM MARKETING & COMMUNICATIONS**		
		6.1	**Multimodal travel information**		
BASIC	★	6.1.1	Provide a multimodal travel option information package to new residents	☑	
		6.2	**Personalized trip planning**		
BETTER	★	6.2.1	Offer personalized trip planning to new residents	☐	Will not provide at this time