URBANTRANS
Engineering Solutions Inc.

Traffic Impact Study (TIS)

Proposed Senior Apartment Building

1022 Gallagher Road
Burlington, ON

UT-25-110

March 3, 2026

URBANTRANS
Engineering Solutions Inc.

UrbanTrans Engineering Solutions Inc.
9275 Markham Road, Suite 146
Markham ON L6E 0H9
Tel: 437-236-7085
annosan@uteng.ca

March 13, 2026

BryDec Developments Inc.
3324 Guelph Line
Burlington ON L7P 0S7

Attention: Bryan Decunha

RE: Traffic Impact Study (TIS)
Proposed Senior Apartment Building
1022 Gallagher Road, Burlington, ON, L7T 2M6
Reference No.: UT-25-110

UrbanTrans Engineering Solutions Inc. has been retained by BryDec Developments Inc. (the "Client") to prepare a Traffic Impact Study (TIS) in support of Official Plan and Zoning By-Law Amendment for the proposed development at 1022 Gallagher Road, situated partially along Gallagher Road and Plains Road East, south of the Queen Elizabeth Way (QEW), east of Waterdown Road, and west of King Road.

The development comprises an 8-storey senior apartment building featuring 140 units and 6,701.89 m² of gross floor area (GFA). It includes one level of underground parking with 48 vehicular spaces, complemented by 64 bicycle parking spaces on the main level.

This report concludes the proposed development will have minimal traffic impacts to the immediate roadways and nearby intersections. It is understood that the City of Burlington is the Municipal authority to review and approve the Traffic Impact Study (TIS) for the proposed development. The Study is in accordance with the municipalities TIS Guidelines as well as the Terms of Reference comments received in a timely manner from the City Staff (see **Appendix A**).

We thank you for the opportunity to undertake this study. We trust the enclosed comply with your requirements. Should you have any questions, please do not hesitate to contact the undersigned.

Kind Regards,

UrbanTrans Engineering Solutions Inc.



Signature



Engineer's Seal

Annosan Srikantha, P.Eng.
President

DISCLAIMER

This document entitled '1022 Gallagher Road – Traffic Impact Study' or named part thereof (the "project") was prepared by UrbanTrans Engineering Solutions Inc. ("UrbanTrans") for the account of BryDec Developments Inc (the "Client"). This document is confidential and prepared solely for approval and commenting municipalities and their agencies in their review and approval of this project. The materials in this report reflect best judgement based on the information available at the time the document was issued. Any reliance on this document by any third party is strictly prohibited and UrbanTrans accepts no responsibility for damages, if any, suffered by any third party by reason of decisions made or actions based on this document.

RECORD OF REVISIONS

Revision	Date	Identification	Description
0	March 3, 2026	Final Report	Final Submission

TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 Background 1
1.2 Objective 1
1.3 Development Proposal 1
2.0 EXISTING CONDITIONS 3
2.1 Road Network 3
2.2 Transit Network 4
2.3 Active Transportation Network 5
2.3.1 Sidewalk Network 5
2.3.2 Bicycle Network 5
2.4 Traffic Data 6
2.5 Base Year (2026) Traffic Operations 7
3.0 FUTURE (2031) BACKGROUND CONDITIONS 8
3.1 Horizon Years 8
3.2 Growth Rate 8
3.3 Future (2031) Background Developments 8
3.4 Future (2031) Background Traffic Operations 9
4.0 FUTURE (2031) TOTAL CONDITIONS ..... **Error! Bookmark not defined.**
4.1 Site Generated Traffic ..... **Error! Bookmark not defined.**
4.2 Future (2031) Total Traffic Operations 12
5.0 MULTIMODAL TRANSPORTATION ACCESSMENT 14
5.1 Transit Mode Assessment 14
5.2 Pedestrian Mode Assessment 14
5.3 Bicycle Mode Assessment 15
6.0 TRANSPORTATION IMPACT ASSESSMENT 17
6.1 Site Access 17
6.2 On-site Circulation 17
6.3 Signage and Pavement Marking Plan 17
7.0 PARKING REQUIREMENT 17
7.1 City of Burlington Zoning By-Law 2020 17

7.2 Accessible Parking Requirement 18
7.3 Bicycle Parking Requirement 18
8.0 TRANSPORTATION DEMAND MANGEMENT (TDM) 19
8.1 TDM Incentives and Recommendations 19

LIST OF TABLES

Table 1 – Unit Schedule
Table 2 – Area Transit Context
Table 3 – Base Year (2026) Traffic Peak Hour Level of Service Analysis
Table 4 – Summary of Future Background Developments
Table 5 – Future (2031) Background Traffic Peak Hour Level of Service Analysis
Table 6 – Site Traffic Trip Generation
Table 7 – Trip Distribution (Auto Mode)
Table 8 – Future (2031) Total Traffic Peak Hour Level of Service Analysis
Table 9 – Transit Level of Service
Table 10 – Pedestrian Level of Service
Table 11 – Bicycle Level of Service
Table 12 – City of Burlington Zoning By-Law 2020 Vehicle Parking Requirement
Table 13 – City of Burlington Zoning By-Law 2020 Accessible Parking Requirement

LIST OF FIGURES

Figure 1 – Site Location
Figure 2 – Proposed Site Plan
Figure 3 – Burlington Transit System Map
Figure 4 – City of Burlington Existing Cycling Network
Figure 5 – Existing (2026) Year Traffic Volumes
Figure 6 – Future (2031) Background Traffic Volumes
Figure 7 – Site Generated Traffic Volumes
Figure 8 – Future (2031) Total Traffic Volume
Figure 9 - City of Burlington Bike Infrastructure Proposed Project Priority
Figure 10 – Turning Movement Template for Private Waste Collection Vehicles
Figure 11 – Turning Movement Template for Passenger Car
Figure 12 – Signage and Pavement Marking Plan (Ground Floor)
Figure 13 – Signage and Pavement Marking Plan (Parking Level P1)

LIST OF APPENDICES

Appendix A – Terms of Reference
Appendix B – Proposed Site Plan
Appendix C – Burlington Transit System Map
Appendix D – Existing Traffic Data and Signal Timing Plans
Appendix E – Base Year (2026) Traffic Level of Service Calculations
Appendix F – Future (2031) Background Traffic Level of Service Calculations
Appendix G – ITE Trip Generation
Appendix H – TTS Trip Distribution
Appendix I – Future (2031) Total Traffic Level of Service Calculations

1.0 INTRODUCTION

1.1 Background

UrbanTrans Engineering Solutions Inc. has been retained by BryDec Developments Inc. (the "Client") to prepare a Traffic Impact Study (TIS) in support of Official Plan and Zoning By-Law Amendment for the proposed development at 1022 Gallagher Road, situated partially along Gallagher Road and Plains Road East, south of the Queen Elizabeth Way (QEW), east of Waterdown Road, and west of King Road.

1.2 Objective

The study will assess the following components:

- Evaluate potential impacts of traffic changes prompted by the proposed development on municipal roadways and identify any infrastructure enhancements or mitigation measures warranted to ensure the road network will operate acceptably and safely upon completion of the proposed development.
- Determine whether the proposed vehicle supply conforms to the City's Zoning By-law requirements. UrbanTrans will recommend reduced parking rates and identify alternative strategies that can sufficiently accommodate the peak parking demand/requirement of the proposed development (if applicable).
- Simulate vehicle swept path analysis to determine adequate space requirements are provided for passenger car and waste collection.

1.3 Development Proposal

The development comprises an 8-storey senior apartment building featuring 140 units and 6,701.89 m² of gross floor area (GFA). It includes one level of underground parking with 48 vehicular spaces, complemented by 64 bicycle parking spaces on the main level. The proposed types of unit schedule are shown in **Table 1** below:

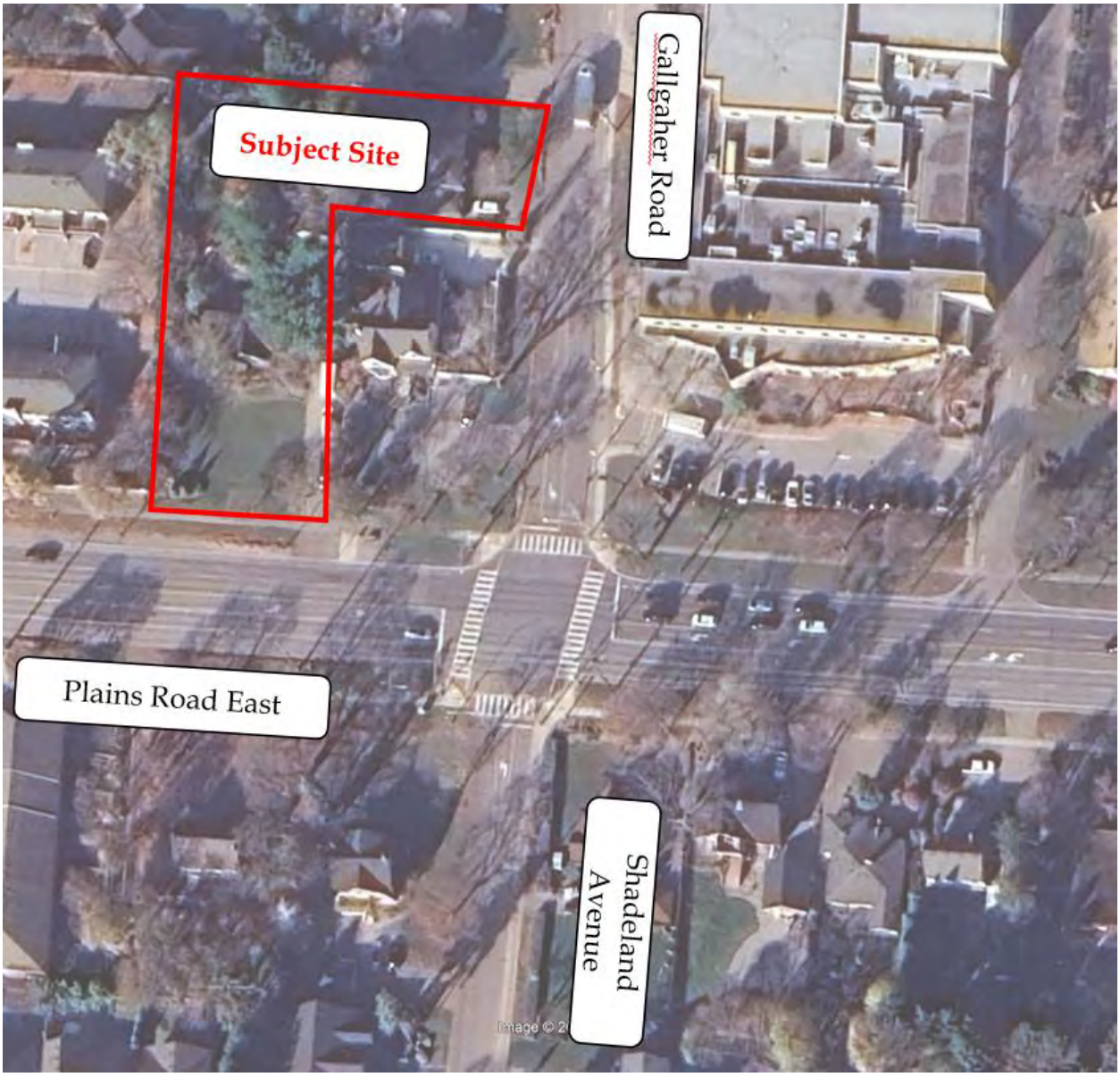
Table 1: Unit Schedule

Type of Unit	Area (sq. ft)	Amount
Type A	412	6
Type A+	347	22
Type B	283	41
Type C	424	16
Type C+	384	6
Type C++	414	6
Type D	270	16
Type D+	256	12
Type E	387	2
Type E+	322	11
Type F	317	1
Type G	434	1

TOTAL	**4,250**	**140**

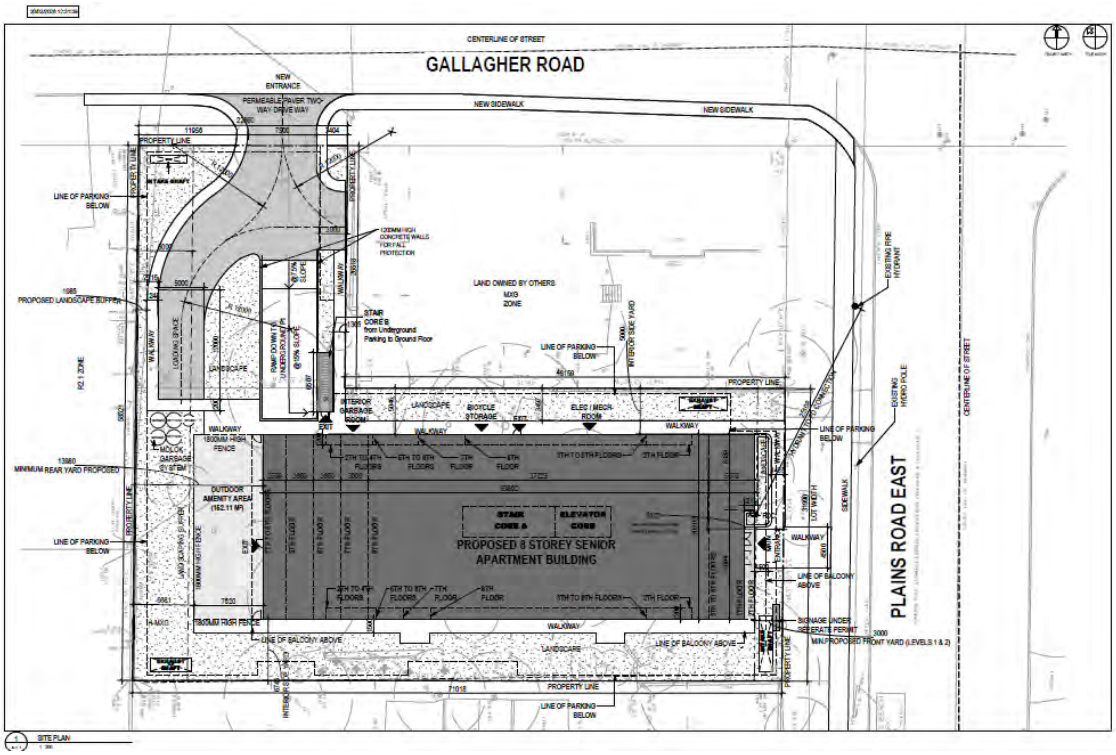
The location of the proposed development is illustrated in **Figure 1**. The proposed site plan is illustrated in **Figure 2**; **Appendix B** also provides a larger scale version of the proposed site plan.

Figure 1: Site Location



Source: Google Maps

Figure 2: Proposed Site Plan



Source: Lima Architects Inc.

2.0 EXISTING CONDITIONS

This section documents the transportation network in the study area in 2026, including existing roadways, transit services, active transportation network, traffic control measures, and intersection performances.

2.1 Road Network

To provide clarity throughout this report, Plains Road East has been given an east–west orientation, while Gallagher Road, Shadeland Avenue, and White Oak Drive are given a north–south orientation. On this basis, the characteristics of the roads and intersections within the vicinity of the subject site are described below:

- **Plains Road East** operates as an east–west arterial roadway under the jurisdiction of the City of Burlington. It extends from the Queen Elizabeth Way (QEW) ramp terminals to Waterdown Road. The road has a five-lane cross-section, including a center two-way left-turn lane, and features dedicated bike lanes in both directions. The posted speed limit is 60 km/hr.
- **Gallagher Road** operates as a north-south local road under jurisdiction of the City of Burlington. It operates as a 2-lane cross-section with one through lane and one left turn lane at the intersection with Plains Road East. It maintains a posted speed limit of 40km/hr.

- **Shadeland Avenue** operates as a north-south local road under the jurisdiction of the City of Burlington. It operates as a 2-lane cross-section with one through lane and one left turn lane at the intersection with Plains Road East. It maintains a posted speed limit of 40km/hr.

2.2 Transit Network

The proposed site is located within an area currently served by Burlington Transit and GO Transit. Bus stops are located within a walkable distance of 100m to 350m from the subject site. These services provide connections between the Aldershot area, downtown Burlington, Appleby GO Station and the broader regional transit network. The existing transit services in the vicinity of the subject site are illustrated in **Table 2** and **Figure 3**. The full version of Burlington Transit system map is provided in **Appendix C.**

Table 2: Area Transit Context

Bus Route	Route Description	Frequency	Distance From Subject Site
Burlington Transit Route 1 – Plains–Fairview	Two-way bus service along Plains Road East and Fairview Street, connecting Aldershot GO Station, downtown Burlington and Appleby GO Station, with stops on Plains Road East near the site.	14-30 minutes	100m
Burlington Transit Route 4 – Central	Two-way bus service along Plains Road East between Aldershot GO Station and Appleby GO Station via downtown Burlington, with stops on Plains Road East and supplementary neighborhood connections.	60 minutes	340m
GO Transit Route 18 (Plains Road East stops)	Regional bus services provide connections to Burlington GO Station and the Lakeshore West rail corridor.	13-16 minutes	100m

Figure 3: Burlington Transit System Map



Source: Burlington Transit System Map

2.3 Active Transportation Network

Active transportation network involves human-powered forms of travel with walking and cycling being the most dominant and can be combined with other modes such as public transit.

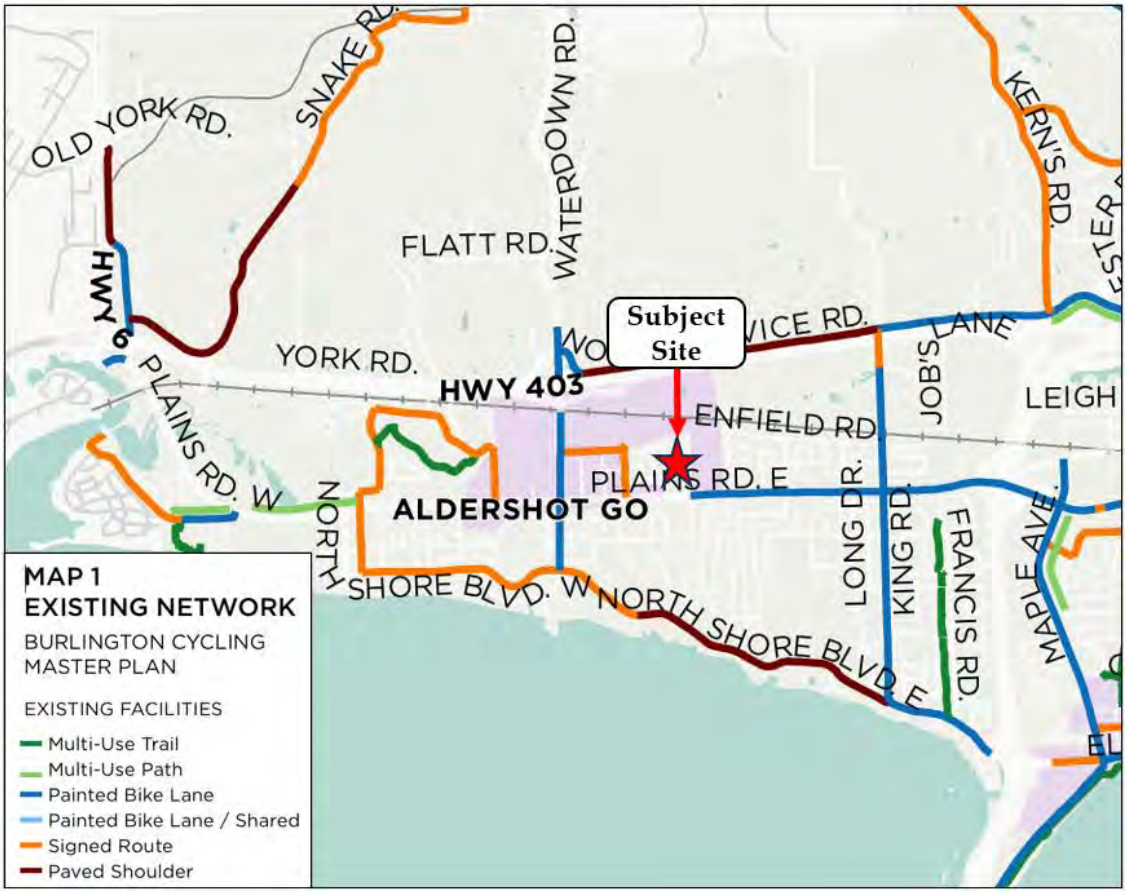
2.3.1 Sidewalk Network

Concrete sidewalks approximately 1.5 m wide are provided along both sides of Plains Road East and on the east side along Gallagher Road/Shadeland Avenue within the study area, offering continuous pedestrian connectivity to adjacent land uses and nearby transit stops. These facilities form an integral part of the local active transportation network and support safe pedestrian movements.

2.3.2 Bicycle Network

The City of Burlington's cycling network includes a range of facility types within the surrounding area. The existing network is illustrated in **Figure 4**. Dedicated on-street bicycle lanes are provided in both directions along Plains Road East, east of the Shadeland Avenue/Gallagher Road intersection.

Figure 4: City of Burlington Existing Cycling Network



Source: City of Burlington Cycling Plan, Map 1

2.4 Traffic Data

Based on discussion and acceptance from City Staff (see **Appendix A**), the study will review and evaluate the following intersections in the vicinity of the subject site:

- Plains Road East Gallagher Road/Shadeland Avenue (Signalized)
- Gallagher Road & Proposed Site Access (Unsignalized)
- Holy Rosary School – Plains Road E Access (Unsignalized)
- Holy Rosary School – Gallagher Road Access (Unsignalized)

The existing traffic volumes at the abovementioned study area intersections were undertaken by Spectrum Traffic Data Inc. on Wednesday, February 11, 2026, during the morning (7:00 AM to 10:00 AM) and afternoon (4:00 PM to 7:00 PM) peak hour periods.

Observed traffic volumes in the year 2026 are shown in **Figure 5**. The detailed traffic data and signal timing plans are provided for reference in **Appendix D**.

2.5 Base Year (2026) Traffic Operations

To assess the existing traffic conditions, UrbanTrans utilized window-based computer software Synchro Version 11 which incorporates the Highway Capacity Manual 2000 methodology (HCM 2000), to undertake capacity analysis (i.e., level of services, volume to capacity ratios, delays, queues, etc.) at the study area intersections during weekday AM and PM peak hour periods for the signalized and unsignalized intersections.

The detailed results of the analysis for base year (2026) existing traffic conditions are provided in **Appendix E** and summarized in **Table 3**.

Table 3: Base Year (2026) Traffic Peak Hour Level of Service Analysis

Intersection	Weekday AM Peak Hour					Weekday PM Peak Hour			
	Movement	Control Delay (s)	95th Queue (m)	V/C	LOS	Control Delay (s)	95th Queue (m)	V/C	LOS
Plains Road East Gallagher Road/Shadeland Avenue (Signalized)	OVERALL	8.3	-	0.47	A	5.1	-	0.45	A
	EBL	5.6	2.9	0.03	A	3.3	0.9	0.01	A
	EBTR	6.8	48.1	0.41	A	3.3	25.0	0.25	A
	WBL	6.1	4.4	0.08	A	3.6	5.0	0.08	A
	WBTR	5.8	28.1	0.26	A	4.1	47.8	0.41	A
	NBL	27.1	7.5	0.08	C	38.5	8.5	0.11	D
	NBTR	13.0	9.3	0.16	B	0.4	0.0	0.08	A
	SBL	36.4	28.2	0.48	D	42.2	15.7	0.26	D
	SBTR	11.6	11.4	0.24	B	17.4	8.2	0.15	B
Gallagher Road & Proposed Site Access (Unsignalized)	EBLR	0.0	0.0	<0.01	A	0.0	0.0	<0.01	A
	NBTL	0.0	0.0	<0.01	A	0.0	0.0	<0.01	A
	SBTR	0.0	0.0	0.04	A	0.0	0.0	0.03	A
Holy Rosary School – Plains Road E Access (Unsignalized)	EBL	9.4	1.8	0.07	A	11.6	0.2	0.01	B
	EBT	0.0	0.0	0.29	A	0.0	0.0	0.23	A
	WBT	0.0	0.0	0.25	A	0.0	0.0	0.49	A
	WBTR	0.0	0.0	0.18	A	0.0	0.0	0.26	A
Holy Rosary School – Gallagher Road Access (Unsignalized)	WBLR	12.6	12.5	0.36	B	9.0	0.6	0.03	A

The following observations are identified for the signalized and unsignalized intersections based on the intersection capacity operational analysis:

Plains Road East Gallagher Road/Shadeland Avenue (Signalized)

The intersection capacity analysis indicates that under existing conditions, the signalized intersection is expected to operate at acceptable levels of service based on overall intersection levels of service, v/c ratios and delay with no critical movements identified.

Gallagher Road & Proposed Site Access (Unsignalized)

The intersection capacity analysis indicates that under existing conditions, the unsignalized intersection is expected to operate at acceptable levels of service based on overall intersection levels of service, v/c ratios and delay with no critical movements identified.

Holy Rosary School – Plains Road E Access (Unsignalized)

The intersection capacity analysis indicates that under existing conditions, the unsignalized intersection is expected to operate at acceptable levels of service based on overall intersection levels of service, v/c ratios and delay with no critical movements identified. Please note the east drive is active with no modifications proposed.

Holy Rosary School – Gallagher Road Access (Unsignalized)

The intersection capacity analysis indicates that under existing conditions, the unsignalized intersection is expected to operate at acceptable levels of service based on overall intersection levels of service, v/c ratios and delay with no critical movements identified. Please note the east drive is active with no modifications proposed.

3.0 FUTURE (2031) BACKGROUND CONDITIONS

3.1 Horizon Years

In accordance with discussions held with City staff and the submitted Terms of Reference, a five-year (2031) planning horizon for the proposed development was adopted for assessment purposes.

3.2 Growth Rate

Based on the discussion with City staff, annual growth rate of 1.0% was applied along Plains Road E and Gallagher Road to estimate the future background traffic volume**.**

3.3 Future (2031) Background Developments

In addition to general corridor traffic growth, specific allowances have also been made to account for traffic generated by other area developments in the vicinity of the site that are either undergoing the approval process or under construction at the time of this study.

Following discussions with City Staff, UrbanTrans incorporated traffic from the following background developments into the Traffic Operations Analysis. **Table 4** shows summary of the future background developments taken into consideration:

- 1010 Downsview Drive & 355 Plains Road East,
- 35 Plains Road,
- 40-70 Plains Road East,
- 53-71 Plains Road East,
- 92 Plains Road East,
- 284-292 Plains Road East, and
- 484-490 Plains Road East.

Table 4: Summary of Future Background Developments

Site Address	Proposed Development Information
1010 Downsview Drive & 355 Plains Road East	8 storeys and 11 storeys mixed use buildings with 584 dwelling units and stacked townhouses.
35 Plains Road	12 storeys apartment building for residential use with 161 dwelling units.
40-70 Plains Road East	12 storeys apartment building for residential use with 389 dwelling units.
53-71 Plains Road East	18 storeys and 9 storeys apartment buildings for mixed use with 550 dwelling units.
92 Plains Road East	Residential condominium with 24 dwelling units
284-292 Plains Road East	7 storeys apartment building for residential use with 141 dwelling units.
484-490 Plains Road East	Two 8 storeys mixed use buildings with 280 dwelling units and seven townhouse blocks with 117 back-to-back townhouse units.

3.4 Future (2031) Background Traffic Operations

The total future (2031) background traffic volumes are the sum of the future background traffic volumes and traffic volumes generated by abovementioned background developments.

To assess the future (2031) background traffic conditions, UrbanTrans utilized window-based computer software Synchro Version 11 which incorporates the Highway Capacity Manual 2000 methodology (HCM 2000), to undertake capacity analysis (i.e., level of services, volume to capacity ratios, delays, queues, etc.) at the study area intersections during weekday AM and PM peak hour periods for the signalized and unsignalized intersections.

Future (2031) background traffic are shown in **Figure 6**. The detailed results of the analysis for future (2031) background traffic conditions are provided in **Appendix F** and summarized in **Table 5**.

Table 5: Future (2031) Background Traffic Peak Hour Level of Service Analysis

Intersection	Weekday AM Peak Hour					Weekday PM Peak Hour			
	Movement	Control Delay (s)	95th Queue (m)	V/C	LOS	Control Delay (s)	95th Queue (m)	V/C	LOS
Plains Road East Gallagher Road/Shadeland Avenue (Signalized)	OVERALL	9.2	-	0.50	A	5.5	-	0.52	A
	EBL	6.1	3.6	0.05	A	3.5	1.0	0.02	A
	EBTR	7.7	61.0	0.48	A	3.7	35.5	0.33	A
	WBL	6.9	4.7	0.10	A	4.0	5.6	0.11	A
	WBTR	6.5	38.6	0.34	A	5.1	70.2	0.52	A
	NBL	26.8	7.5	0.08	C	38.2	8.8	0.11	D
	NBTR	13.4	9.8	0.16	B	0.6	0.0	0.10	A
	SBL	36.6	30.5	0.50	D	42.2	16.3	0.27	D
	SBTR	11.2	12.2	0.26	B	16.9	8.3	0.15	B
Gallagher Road & Proposed Site Access (Unsignalized)	EBLR	0.0	0.0	<0.01	A	0.0	0.0	<0.01	A
	NBTL	0.0	0.0	<0.01	A	0.0	0.0	<0.01	A
	SBTR	0.0	0.0	0.04	A	0.0	0.0	0.03	A
Holy Rosary School – Plains Road E Access (Unsignalized)	EBL	10.2	2.1	0.09	B	12.9	0.3	0.01	B
	EBT	0.0	0.0	0.34	A	0.0	0.0	0.27	A
	WBT	0.0	0.0	0.31	A	0.0	0.0	0.57	A
	WBTR	0.0	0.0	0.21	A	0.0	0.0	0.30	A
Holy Rosary School – Gallagher Road Access (Unsignalized)	WBLR	12.8	12.7	0.36	B	9.3	0.6	0.03	A

The following observations are identified for the signalized and unsignalized intersections based on the intersection capacity operational analysis:

Plains Road East Gallagher Road/Shadeland Avenue (Signalized)

The intersection capacity analysis indicates that under future (2031) background conditions, the signalized intersection is expected to operate at acceptable levels of service based on overall intersection levels of service, v/c ratios and delay with no critical movements identified.

Gallagher Road & Proposed Site Access (Unsignalized)

The intersection capacity analysis indicates that under future (2031) background conditions, the unsignalized intersection is expected to operate at acceptable levels of service based on overall intersection levels of service, v/c ratios and delay with no critical movements identified.

Holy Rosary School – Plains Road E Access (Unsignalized)

The intersection capacity analysis indicates that under future (2031) background conditions, the unsignalized intersection is expected to operate at acceptable levels of service based on overall intersection levels of service, v/c ratios and delay with no critical movements identified. Please note the east drive is active with no modifications proposed.

Holy Rosary School – Gallagher Road Access (Unsignalized)

The intersection capacity analysis indicates that under future (2031) background conditions, the unsignalized intersection is expected to operate at acceptable levels of service based on overall intersection levels of service, v/c ratios and delay with no critical movements identified. Please note the east drive is active with no modifications proposed.

4.0 SITE GENERATED TRAFFIC VOLUMES

4.1 Proposed Development

The subject land is currently occupied by single family dwelling units at 235 Plains Road E and 1022 Gallagher Road forming a contiguous development block located partly on Gallagher Road and partly on Plains Road East. The development comprises an 8-storey senior apartment building featuring 140 units and 6,701.89 m² of gross floor area (GFA).

4.2 Trip Generation

The number of vehicular trips generated by the proposed development is estimated using the information contained in the ITE Trip Generation Manual (11th Edition) published by the Institute of Transportation Engineers (ITE). For the purpose of this assessment, the ITE Land Use Codes (LUC) 252 "Senior Adult Housing - Multifamily". Since $R^2 > 0.75$, fitted curve rates have been utilized for the proposed development as shown in **Appendix G**.

Table 6 summarizes the trip generation volumes for the proposed institutional development during the weekday AM and PM.

Table 6: Site Traffic Trip Generation

Land Use (Number of Units)		Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Senior Adult Housing (140 Units)	New Trip	9	19	28	20	15	35
TOTAL NEW TRIPS		**9**	**19**	**28**	**20**	**15**	**35**

Based on the trip generation calculations, the proposed development is estimated to generate a total of 28 two-way trips (9 inbound and 19 outbound) during the weekday morning peak hour and 35 two-way trips (20 inbound and 15 outbound) during the afternoon peak hour.

4.3 Trip Distribution and Trip Assignment for Auto Mode

The auto mode trips generated by the proposed development were distributed to and from the boundary road network based on the 2016 Transportation Tomorrow Survey (TTS) data. Trip distribution was conducted for traffic zones 4053 and 4052 located in the City of Burlington provided in **Appendix H**. The site generated trips were distributed to the study intersections based on the TTS data and engineering judgement. The distribution of site traffic trips to the study area intersections are summarized in **Table 7** and illustrated in **Figure 7.**

Table 7: Trip Distribution (Auto Mode)

Direction	via	AM & PM Peak Hour
East	Plains Road East	60%
West	Plains Road East	40%
Total		**100%**

The traffic volumes for the proposed development site were allocated in accordance with the current travel patterns.

4.2 Future (2031) Total Traffic Operations

The future (2031) total volumes are the sum of the future background traffic volumes and site generated traffic volumes.

To assess the future (2031) traffic conditions, UrbanTrans utilized window-based computer software Synchro Version 11 which incorporates the Highway Capacity Manual 2000 methodology (HCM 2000), to undertake capacity analysis (i.e., level of services, volume to capacity ratios, delays, queues, etc.) at the study area intersections during weekday AM and PM peak hour periods for the signalized and unsignalized intersections.

Future (2031) total traffic are shown in **Figure 8.** The detailed results of the analysis for future (2031) total traffic conditions are provided in **Appendix I** and summarized in **Table 8**.

Table 8: Future (2031) Total Traffic Peak Hour Level of Service Analysis

Intersection	Weekday AM Peak Hour					Weekday PM Peak Hour			
	Movement	Control Delay (s)	95th Queue (m)	V/C	LOS	Control Delay (s)	95th Queue (m)	V/C	LOS
Plains Road East Gallagher Road/Shadeland Avenue (Signalized)	OVERALL	9.2	-	0.50	A	6.1	-	0.56	A
	EBL	6.1	3.6	0.05	A	4.0	1.5	0.04	A
	EBTR	7.8	61.2	0.48	A	4.1	37.8	0.34	A
	WBL	6.9	4.8	0.10	A	4.5	6.0	0.13	A
	WBTR	6.6	38.7	0.34	A	5.7	77.3	0.56	A
	NBL	26.8	7.5	0.08	C	37.9	9.0	0.12	D
	NBTR	13.4	9.8	0.16	B	0.7	0.0	0.11	A
	SBL	36.6	30.5	0.50	D	42.5	19.1	0.32	D
	SBTR	11.2	12.2	0.26	B	16.3	9.4	0.18	B
Gallagher Road & Proposed Site Access (Unsignalized)	EBLR	8.7	0.4	0.02	A	8.6	0.4	0.02	A
	NBTL	1.1	0.2	0.01	A	2.8	0.3	0.01	A
	SBTR	0.0	0.0	0.04	A	0.0	0.0	0.03	A
Holy Rosary School – Plains Road E Access (Unsignalized)	EBL	10.2	2.1	0.09	B	13.1	0.3	0.01	B
	EBT	0.0	0.0	0.34	A	0.0	0.0	0.28	A
	WBT	0.0	0.0	0.31	A	0.0	0.0	0.58	A
	WBTR	0.0	0.0	0.21	A	0.0	0.0	0.30	A
Holy Rosary School – Gallagher Road Access (Unsignalized)	WBLR	13.7	14.2	0.39	B	9.3	0.6	0.03	A

The following observations are identified for the signalized and unsignalized intersections based on the intersection capacity operational analysis:

Plains Road East Gallagher Road/Shadeland Avenue (Signalized)

The intersection capacity analysis indicates that under future (2031) total conditions, the signalized intersection is expected to operate at acceptable levels of service based on overall intersection levels of service, v/c ratios and delay with no critical movements identified.

Gallagher Road & Proposed Site Access (Unsignalized)

The intersection capacity analysis indicates that under future (2031) total conditions, the unsignalized intersection is expected to operate at acceptable levels of service based on overall intersection levels of service, v/c ratios and delay with no critical movements identified.

Holy Rosary School – Plains Road E Access (Unsignalized)

The intersection capacity analysis indicates that under future (2031) total conditions, the unsignalized intersection is expected to operate at acceptable levels of service based on overall intersection levels of service, v/c ratios and delay with no critical movements identified. Please note the east drive is active with no modifications proposed.

Holy Rosary School – Gallagher Road Access (Unsignalized)

The intersection capacity analysis indicates that under future (2031) total conditions, the unsignalized intersection is expected to operate at acceptable levels of service based on overall intersection levels of service, v/c ratios and delay with no critical movements identified. Please note the east drive is active with no modifications proposed.

5.0 MULTIMODAL TRANSPORTATION ACCESSMENT

In accordance with current Transportation Mobility Plan guidelines, the level of service for transit, pedestrian and bicycle modes in the study area has been reviewed using the future total (background plus site) traffic conditions at study intersections.

5.1 Transit Mode Assessment

The subject site is located within a transit-supportive corridor with multiple Burlington Transit and GO Transit bus stops within comfortable walking distance of 100m to 340m (as discussed in section 2.2). Intersection approach LOS was taken from the critical peak periods from the 2031 future total analysis. Transit LOS is summarized in **Table 9.**

Table 9: Transit Level of Service

Transit Stop Location	Direction	Access to Transit Stops	Transit Headways	Intersection Approach
		LOS		
Plains Road East and Gallagher Road	EB	A	D	A
	WB	A	D	A
	SB	B	D	A

The transit stops in the study area provide acceptable levels of service.

5.2 Pedestrian Mode Assessment

Concrete sidewalks approximately 1.5 m in width are provided along both sides of Plains Road East within the study area, offering continuous east–west pedestrian connectivity to adjacent land uses and transit stops. Sidewalks are also provided on the east side of Gallagher Road and Shadeland Avenue, enabling direct north–south connections between the subject site, nearby residential areas and the Plains Road East corridor.

The signalized intersection of Plains Road East and Gallagher Road–Shadeland Avenue is equipped with marked crosswalks and pedestrian signal heads with sufficient clearance time on all legs. Pedestrian level of service is summarized in **Table 10.**

Table 10: Pedestrian Level of Service

Intersection	Direction	Segment	Intersection
		LOS	
Plains Rd E & Gallagher Rd/Shadeland Ave	EB	B	B
	WB	B	B
	NB	B	B
	SB	B	B

The pedestrian facilities in the study area provide acceptable levels of service.

5.3 Bicycle Mode Assessment

Dedicated on-street painted bicycle lanes are provided in both directions along Plains Road East, east of the Shadeland Avenue/Gallagher Road intersection within the study area, forming a part of the City of Burlington cycling network and supporting east–west cycling movements past the subject site. Local streets such as Gallagher Road and Shadeland Avenue do not have any existing bicycle facilities. However, as shown in **Figure 9**, as per the City's Cycling Plan, Map 7 – "Proposed Project Priority", bicycle infrastructure is proposed for short-term (2020-2025) and medium-term (2026-2031) on Gallagher Road and on the other sections of Plains Road East in vicinity of the subject site. Bicycle level of service is summarized in **Table 11.**

Figure 9: City of Burlington Bike Infrastructure Proposed Project Priority

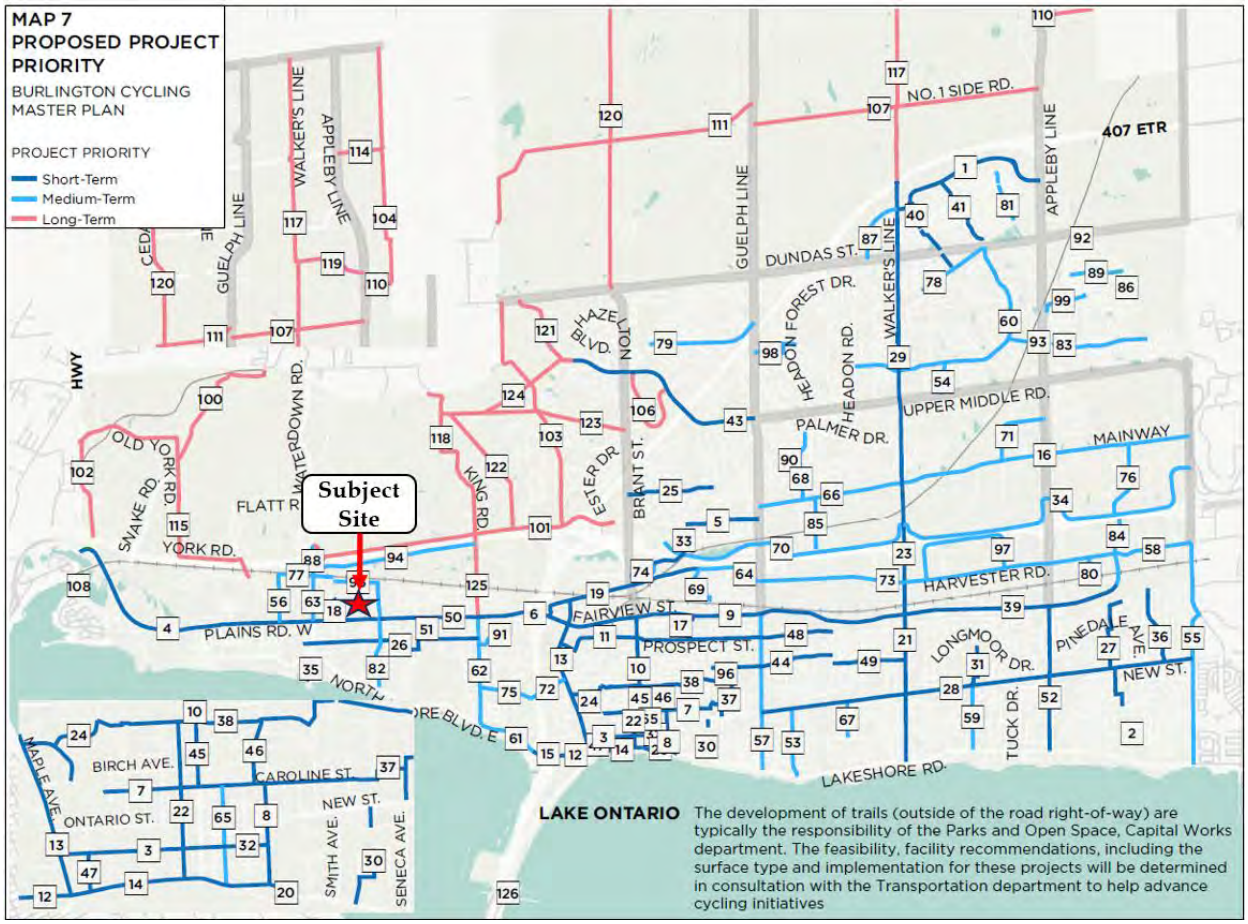


Table 11: Bicycle Level of Service

Intersection	Direction	Segment	Intersection
		LOS	
Plains Rd E & Gallagher Rd/Shadeland Ave	EB	D	D
	WB	D	D
	NB	F	F
	SB	F	F

Under existing conditions, Plains Road East in the vicinity of the subject site provides an acceptable Bicycle Level of Service (BLOS), whereas Gallagher Road and Shadeland Avenue exhibit a failing BLOS (F) due to the absence of dedicated bicycle lanes.

6.0 TRANSPORTATION IMPACT ASSESSMENT

6.1 Site Access

Full movement access is proposed to the subject site through a two-way driveway connecting Gallagher Road.

6.2 On-site Circulation

AutoTURN software was used to generate vehicular turning templates to confirm and demonstrate the accessibility for typical 5.6m long passenger vehicle (P TAC-2017) and PCU vehicles.

Figure 10 and **Figure 11** illustrate the turning movement templates for passenger vehicles and Waste Collection vehicles, respectively. The analysis demonstrates that a passenger vehicle and loading trucks can maneuver within the designated route with no conflicts.

6.3 Signage and Pavement Marking Plan

In accordance with the Ontario Traffic Manual (OTM) Book 5, UrbanTrans recommends appropriate internal signage and pavement markings illustrated in **Figure 12** and **Figure 13**. A truck warning system will be provided when there is a truck that is reversing at the loading docks, the warning system will flash to notify motorists that garbage/loading trucks are in operation.

Based on the recommended signages and pedestrian sidewalk within the subject site, it is our opinion the site will operate safely and efficiently for both motorists and pedestrian connectivity.

7.0 PARKING REQUIREMENT

7.1 City of Burlington Zoning By-Law 2020

The development proposal includes one level of underground car park with 48 vehicular spaces, complemented by 64 bicycle parking spaces on the main level. The proposed development at 1022 Gallagher in the City of Burlington is situated within the "Plains Road Corridor Residential Parking Exemption Area," as designated on Diagram 1-B of Zoning By-law 2020 (Part 1, pg. 46), a policy provision established to promote transit-oriented development and housing intensification along high-frequency transit corridors such as Plains Road between key GO Major Transit Station Areas. This designation has been confirmed through discussions with City staff (see Appendix A), exempting the residential component from minimum parking requirements to provide flexibility based on market demand and reduce development costs in these priority growth areas.

The parking provisions for the proposed development are outlined in **Table 12**.

Table 12: City of Burlington Zoning By-Law 2020 Vehicle Parking Requirement

Land Use	Dwelling Units	Required Parking Rates	Parking Requirement
Residential	140	N/A	N/A
Total Required			**N/A**
Total Provided			**48**
Difference			**+48**

According to the City of Burlington Zoning By-Law 2020 *Section 2.25*, as outlined in **Table 12**, the proposed development is exempted from the minimum parking requirements. The current site plan provides 48 parking spaces.

7.2 Accessible Parking Requirement

The City of Burlington Zoning By-Law 2020 *Table 1.2.7* outlines the requirement for accessible parking for the proposed development. The accessible parking requirements and provisions for the proposed development are outlined in **Table 13.**

Table 13: City of Burlington Zoning By-Law 2020 Accessible Parking Requirement

Total Parking spaces	Required Accessible Parking Spaces	Proposed Accessible Parking
5-50	1	3
Total Required		**1**
Total Provided		**3**
Difference		**+2**

In accordance with Table 1.2.7 of the City of Burlington Zoning By-law 2020, as summarized in **Table 13**, the proposed development is required to provide 1 accessible parking spaces. The site layout provides 3 accessible parking spaces, resulting in a surplus of 2 accessible spaces.

7.3 Bicycle Parking Requirement

The City of Burlington Zoning By-law 2020, *Table 1.2.8,* outlines the requirements for bicycle parking for commercial, institutional, and industrial developments only. Bicycle parking requirements for residential developments are not provided in the by-law. However, the proposed development provides a room for 64 bicycle parking spaces on the ground floor of the building.

8.0 TRANSPORTATION DEMAND MANGEMENT (TDM)

Transportation Demand Management (TDM) Plan discusses measures to reduce congestion, minimize the number of single-occupant vehicle and encourage non-auto modes of travel such as walking, cycling and transit as well as ridesharing. TDM plans consist of specialized policies, targeted plans, innovative mobility services and products that encourage people to use sustainable modes of transportation, rather than driving alone, or make fewer trips by car.

TDM strategies have multiple benefits including reduce auto-related emissions to improve air quality, decreased traffic congestion to reduce travel time, increased travel options, reduce personal transportation costs and energy consumption and support Provincial smart growth objectives.

The primary objective of this TDM plan are as follows:

- Provision of facilities/operations to promote behavioural change for reduced automobile uses and encourage the use of alternative sustainable transportation modes aside from single-occupancy vehicle (SOV).
- Maximize average auto occupancies, with the intent of a net minimization of site-related auto trips.
- Create and support opportunities for an inclusive transportation system to accommodate and facilitate all potential road uses in a safe and efficient manner.

8.1 TDM Incentives and Recommendations

The following TDM measures and incentives are recommended for the proposed development:

- **Provision of a Traveling Information Brochure:** The owner shall coordinate with City of Burlington to deliver and promote the Transit Incentive information packages and programs. The information packages include Burlington Transit schedules, community and cycling maps, where appropriate. The Information Package can be distributed at the sale office.
- **Provision of Transit Incentives:** The Owner shall provide one-time pre-loaded PRESTO Cards with the starting value of $50 (inclusive of the registration fee) for each residential unit on demand basis. This will help the future residents to consider taking Burlington Transit service as an alternative mode of transportation. The pre-loaded PRESTO Cards can be distributed in conjunction with the Information Package at the time of occupancy.
- **Registration to Smart Commute:** UrbanTrans recommends that the proponent register with Smart Commute to support and encourage sustainable travel options, including cycling, walking, transit use, and carpooling. Smart Commute offers a variety of programs and services, such as:
    - The Emergency Ride Home program (reimbursing employees up to $75 for an emergency trip home after commuting sustainably).
    - A ride-matching tool to help employees find carpool partners.
    - Discounted transit pass programs.

- Free bicycle maintenance clinics, winter cycling workshops, and other commuting-related events.
- Year-round campaigns and contests promoting sustainable commuting.
- On-site expos offering tailored commute support, resources, and giveaways.
- Opportunities for recognition through initiatives such as the annual Smart Commute Awards.

- **Walking and Cycling Infrastructure:** Existing concrete sidewalk on north side of Plains Road East provides direct pedestrian access to the main entrance of the proposed building. Currently, dedicated on-street bicycle lanes are provided in both directions along Plains Road East, east of the Shadeland Avenue/Gallagher Road intersection. However, as per the City's Cycling Plan, Map 7 – "Proposed Project Priority", bicycle infrastructure is proposed for short-term (2020-2025) and medium-term (2026-2031) on Gallagher Road and on the other sections of Plains Road East in vicinity of the subject site, as discussed in section 5.3**.**
- **Provision of Bike Repair Stations:** The proposed development has a weather protected parking area for 64 bicycle parking spaces.

9.0 CONCLUSIONS

The following section provides brief overview of the study findings and our assessment of the transportation related aspects of the proposed development.

DEVELOPMENT PROPOSAL

- The development comprises an 8-storey senior apartment building featuring 140 units and 6,701.89 m² of gross floor area (GFA). It includes one level of underground parking with 48 vehicular spaces, complemented by 64 bicycle parking spaces on the main level.

Base Year (2026) Traffic Operations

- The intersection capacity analysis for the 2026 base year conditions indicates that all study area intersections are expected to operate at generally acceptable levels of service during the weekday AM and PM peak hours. The signalized intersection at Plains Road East & Gallagher Road/Shadeland Avenue operates at an overall Level of Service (LOS) A in both peak periods, with volume-to-capacity (v/c) ratios below 0.50 and low average delays, confirming sufficient intersection capacity.
- The unsignalized intersections at Gallagher Road & Proposed Site Access, Holy Rosary School – Plains Road East Access, and Holy Rosary School – Gallagher Road Access also operate efficiently under existing traffic volumes, with movements generally at LOS A–B and negligible queues. Although certain individual movements at the Plains Road East & Gallagher Road/Shadeland Avenue intersection experience moderately higher delays (e.g., northbound and southbound left-turn movements operating at LOS C–D), overall intersection performance remains acceptable and consistent with typical municipal operational standards for an urban arterial corridor.

- Accordingly, no critical capacity or operational deficiencies were identified within the study area under existing (2026) traffic conditions.

Future Background Horizon Year, Growth Rate & Developments

- In accordance with discussions held with City staff and the submitted Terms of Reference, a five-year (2031) planning horizon for the proposed development was adopted for assessment purposes.
- Based on the discussion with City staff, annual growth rate of 1.0% was applied along Plains Road E and Gallagher Road to estimate the future background traffic volume.
- For the 2031 horizon year, background traffic conditions account for both general corridor growth and cumulative traffic from multiple approved or proposed developments along Plains Road East, as summarized in Table 4. These background developments include a range of mid- and high-rise apartment and mixed-use buildings, together with townhouse and condominium developments, adding substantial residential density within the study area.
- The incorporated background sites are located primarily along Plains Road East between Downsview Drive and 490 Plains Road East, ensuring that additional traffic associated with intensification along this corridor is reflected in the future background traffic volumes and subsequent intersection capacity analysis. The scale and proximity of these developments mean that their trips are expected to distribute across the same arterial and local road network serving the subject site, particularly Plains Road East and key access streets.
- Accordingly, the 2031 background traffic forecasts used in this study represent a conservative assessment of future operating conditions, capturing both planned area growth and site-specific intensification within the Plains Road East corridor.

Future (2031) Background Traffic Conditions

- Under 2031 background conditions, which combine general growth and traffic from approved background developments, all study intersections are anticipated to operate at acceptable levels of service during the weekday AM and PM peak hours. The signalized intersection of Plains Road East & Gallagher Road/Shadeland Avenue is projected to operate at overall LOS A in both peak periods, with v/c ratios of approximately 0.50 and no critical capacity deficiencies identified, despite northbound and southbound left-turn movements operating at LOS C–D.
- The unsignalized intersections at Gallagher Road & Proposed Site Access, Holy Rosary School – Plains Road East Access, and Holy Rosary School – Gallagher Road Access are all expected to function at LOS A–B for minor movements with negligible queues and low delays, indicating adequate reserve capacity under future background traffic volumes. Overall, the future (2031) background traffic operations analysis confirms that the study area network can accommodate forecast background traffic demands without requiring geometric or control modifications at the study intersections.

Trip Generation

- Based on the trip generation calculations, the proposed development is estimated to generate a total of 26 two-way trips (9 inbound and 17 outbound) during the weekday morning peak hour and 34 two-way trips (19 inbound and 15 outbound) during the afternoon peak hour.

Future (2031) Total Traffic Conditions

- Under 2031 total traffic conditions, combining future background and site-generated traffic, all study intersections are projected to operate at generally acceptable levels of service during the weekday AM and PM peak hours. The signalized intersection at Plains Road East & Gallagher Road/Shadeland Avenue is expected to operate at overall LOS A in both peak periods, with volume-to-capacity (v/c) ratios of approximately 0.56 or lower and no critical capacity deficiencies identified, although the northbound and southbound left-turn movements continue to operate at LOS C–D.
- The unsignalized intersections at Gallagher Road & Proposed Site Access, Holy Rosary School – Plains Road East Access, and Holy Rosary School – Gallagher Road Access are forecast to operate at LOS A–B for all movements with short queues and low delays, indicating adequate reserve capacity under future total traffic volumes. Overall, the 2031 total traffic operations analysis confirms that the study area road network can accommodate the combined effects of background growth and site traffic without requiring geometric or control modifications at the study intersections.

Parking Requirement

- According to the City of Burlington Zoning By-Law 2020 *Section 2.25*, as outlined in **Table 12**, the proposed development is exempted from the minimum parking requirements. The current site plan provides 47 parking spaces.
- In accordance with Table 1.2.7 of the City of Burlington Zoning By-law 2020, as summarized in **Table 13**, the proposed development is required to provide 1 accessible parking spaces. The site layout provides 3 accessible parking spaces, resulting in a surplus of 2 accessible spaces.
- The City of Burlington Zoning By-law 2020, *Table 1.2.8,* outlines the requirements for bicycle parking for commercial, institutional, and industrial developments only. Bicycle parking requirements for residential developments are not provided in the by-law. However, the proposed development provides a room for 64 bicycle parking spaces on the ground floor of the building.

Site Access

- Vehicular access to the proposed development will be provided via a single full-movement two-way driveway on Gallagher Road, integrating the site with the local road network while maintaining appropriate separation from the Plains Road East corridor. AutoTURN analysis confirms that a typical 5.6 m passenger vehicle and design waste collection vehicles

can maneuver to and from the site, as well as within the internal circulation routes, without conflicts or encroachment.

10.0 RECOMMENDATIONS

The following section provides our recommendations for the proposed development.

- In accordance with the Ontario Traffic Manual (OTM) Book 5, UrbanTrans recommend appropriate internal signage and convex mirrors. A truck warning system will be provided when there is a truck reversing at the loading docks, the warning system will flash to notify motorists that garbage/loading trucks are in operation.
- The proposed development implements TDM measures and incentives identified in this report to support active transportation and transit in order to reduce congestion, minimize the number of single-occupant vehicles and encourage non-auto modes of travel such as walking, cycling and transit as well as ridesharing.