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NextEng Consulting Group Inc.

July 10, 2019

Urban Solutions
105 Main Street East, Suite 501
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Attention: Amber Lindsay

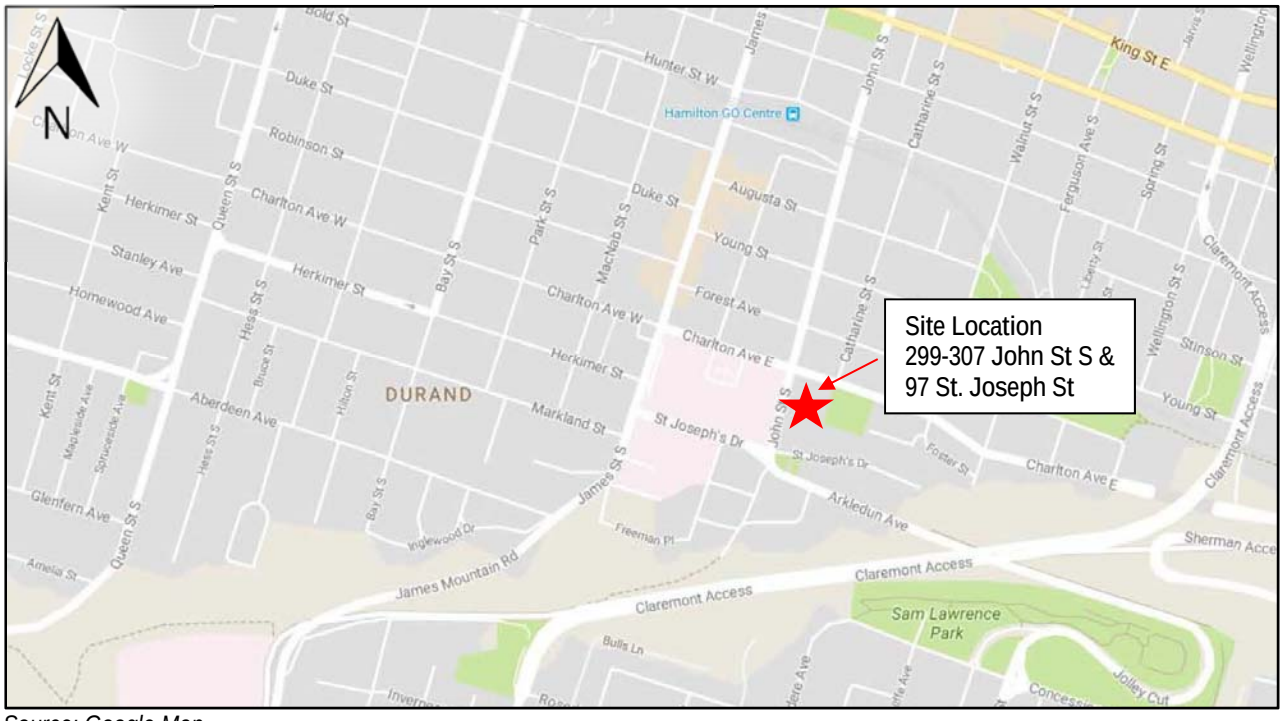
Re: Transportation Impact and TDM Study Addendum
Proposed Mixed-Use Development
Official Plan and Zoning By-law Amendment Applications
299-307 John Street South and 97 St. Joseph's Drive
Our Project No. NT-17-119

Nextrans Consulting Engineers (A Division of NextEng Consulting Group Inc.) is pleased to present the enclosed Transportation Impact & TDM Study Addendum in support of the above referenced Official Plan Amendment and Zoning By-law Amendment applications. It should be noted that Nextrans has prepared the original Transportation Impact & TDM Study dated December, 2017 in support of the previous development proposal.

The purpose of this Transportation Impact & TDM Study Addendum is to provide a comparison of the potential impact between the current and previous development proposal, as well as a detailed TDM plan to support the current development proposal, as per the City of Hamilton's request.

Figure 1 illustrates the proposed site location.

Figure 1 – Proposed Development Location



Source: Google Map

1.0 DEVELOPMENT PROPOSAL

The subject lands are located at the municipal addresses 299-307 John Street South and 97 St. Joseph's Drive, in the City of Hamilton. The proposed development in bounded by Charlton Ave E to the north, St. Joseph's Drive to the south and John Street S to the west. The subject land is currently occupied an apartment building and located adjacent to an existing parking lot.

The current development proposal consists of three high-rise buildings (22, 22 and 23 storey) and a podium with total of 723 residential dwelling units and 1,587 m^2 of ground related retail/commercial gross floor area. The proposed development is anticipated to be completed in multiple phases

The previous development proposal consists of approximately 923 residential dwelling units and 1,476 m^2 of ground related retail/commercial gross floor area. Table 1 summarizes the comparison between the current and previous development proposals.

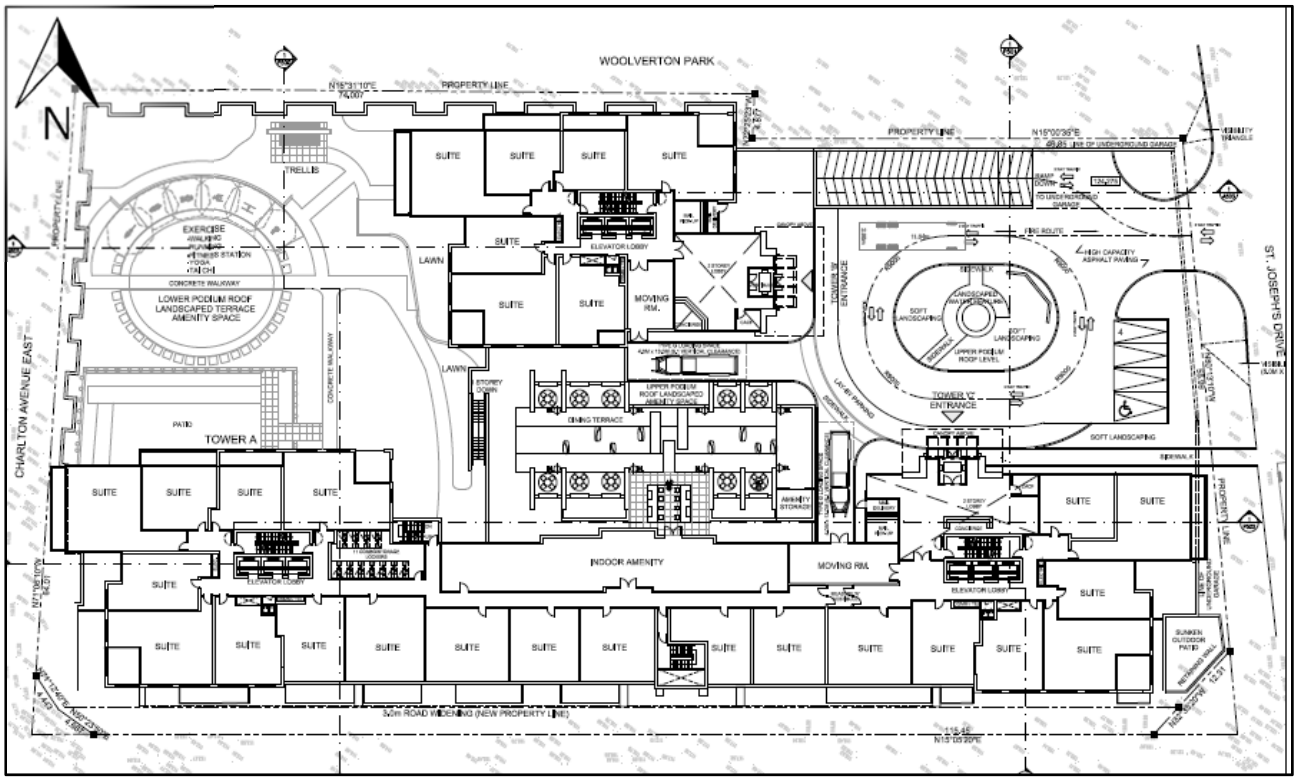
Table 1 – Summary of the Current and Previous Development Proposals

Land Use	Current	Previous	Difference
Residential	723 units	923 units	- 200 units
Retail	1,587 m^2	1,476 m^2	+ 111 m^2

As indicated in Table 1 above, there is a significant decrease in the numbers of proposed dwelling units and a slight increase in the proposed retail space.

Figure 2 illustrates the current development proposal site plan.

Figure 2 – Current Development Proposal Site Plan



2.0 TRIP GENERATION COMPARISON

To be consistent with the previous assessment, the trip generation forecasts were also undertaken using the information contained in the *Trip Generation Manual, 9th Edition* published by the Institute of Transportation Engineers (ITE). For the purposes of this assessment, the ITE Land Use Codes (LUC) 230 "Residential Condominium/Townhouse" and 820 "Shopping Centre" fitted curve equations have been utilized for the residential component and average rate for the retail/commercial component due to small size and ancillary use. Table 2 summarizes the vehicular trip generation for the current development proposal, with Table 3 summarizing the trip generation for the previous development proposal.

Table 2 – Site Traffic Trip Generation for Current Development Proposal

ITE Land Use	Magnitude (units or ft²)	Parameter	Mode Split	Morning Peak			Afternoon Peak		
				In	Out	Total	In	Out	Total
Residential Condominium/ Townhouse (LUC 230)	723	*Total Trips*	*100%*	*43*	*208*	*251*	*204*	*100*	*304*
		Transit Trips	11%	*5*	*23*	*28*	*22*	*11*	*33*
		Walking Trips	17%	*7*	*36*	*43*	*35*	*17*	*52*
		Cycling Trips	0%	*0*	*0*	*0*	*0*	*0*	*0*
		Auto Passenger	10%	*4*	*21*	*25*	*20*	*10*	*30*
		Auto Trips	*62%*	*27*	*128*	*155*	*127*	*62*	*189*
Retail/ Commercial (LUC 820)	17,082	*Total Trips*	*100%*	*10*	*6*	*16*	*30*	*33*	*63*
		Transit Trips	11%	*1*	*1*	*2*	*3*	*4*	*7*
		Walking Trips	17%	*2*	*1*	*3*	*5*	*6*	*11*
		Auto Trips	*72%*	*7*	*4*	*11*	*22*	*23*	*45*
Total Auto Trips				*34*	*132*	*166*	*149*	*85*	*234*
Total Transit Trips				*6*	*24*	*30*	*25*	*15*	*40*
Total Active Transportation Trips				*9*	*37*	*46*	*40*	*23*	*63*
Total Carpool Trips				*4*	*21*	*25*	*20*	*10*	*30*

Table 3 – Site Traffic Trip Generation for Previous Development Proposal

ITE Land Use	Magnitude (units or ft²)	Parameter	Mode Split	Morning Peak			Afternoon Peak		
				In	Out	Total	In	Out	Total
Residential Condominium/ Townhouse (LUC 230)	923	*Total Trips*	*100%*	*52*	*254*	*306*	*249*	*123*	*372*
		Transit Trips	11%	*6*	*28*	*34*	*27*	*14*	*41*
		Walking Trips	17%	*9*	*43*	*52*	*42*	*21*	*63*
		Cycling Trips	0%	*0*	*0*	*0*	*0*	*0*	*0*
		Auto Passenger	10%	*5*	*26*	*31*	*25*	*12*	*37*
		Auto Trips	*62%*	*32*	*157*	*189*	*155*	*76*	*231*
Retail/ Commercial (LUC 820)	15,888	*Total Trips*	*100%*	*9*	*6*	*15*	*28*	*31*	*59*
		Transit Trips	11%	*1*	*1*	*2*	*3*	*3*	*6*
		Walking Trips	17%	*2*	*1*	*3*	*5*	*5*	*10*
		Auto Trips	*72%*	*6*	*4*	*10*	*20*	*23*	*43*
Total Auto Trips				*38*	*161*	*199*	*175*	*99*	*274*
Total Transit Trips				*7*	*29*	*36*	*30*	*17*	*47*
Total Active Transportation Trips				*11*	*44*	*55*	*47*	*26*	*73*
Total Carpool Trips				*5*	*26*	*31*	*25*	*12*	*37*

Table 4 – Site Trip Generation Comparison

ITE Land Use	Magnitude (units or ft²)	Parameter	Mode Split	Morning Peak			Afternoon Peak		
				In	Out	Total	In	Out	Total
Current Development Trip Generation									
Total Auto Trips				*34*	*132*	*166*	*149*	*85*	*234*
Total Transit Trips				*6*	*24*	*30*	*25*	*15*	*40*
Total Active Transportation Trips				*9*	*37*	*46*	*40*	*23*	*63*
Total Carpool Trips				*4*	*21*	*25*	*20*	*10*	*30*
Previous Development Trip Generation									
Total Auto Trips				*38*	*161*	*199*	*175*	*99*	*274*
Total Transit Trips				*7*	*29*	*36*	*30*	*17*	*47*
Total Active Transportation Trips				*11*	*44*	*55*	*47*	*26*	*73*
Total Carpool Trips				*5*	*26*	*31*	*25*	*12*	*37*
Difference (Current minus previous)									
Total Auto Trips				*-4*	*-29*	*-33*	*-26*	*-14*	*-40*
Total Transit Trips				*-1*	*-5*	*-6*	*-5*	*-2*	*-7*
Total Active Transportation Trips				*-2*	*-7*	*-9*	*-7*	*-3*	*-10*
Total Carpool Trips				*-1*	*-5*	*-6*	*-5*	*-2*	*-7*

The current development proposal is expected to generate 166 two-way auto trips (34 inbound and 132 outbound) during the weekday morning peak hour and 234 two-way trips (149 inbound and 85 outbound) during the afternoon peak hour.

The proposed development is also expected to generate 101 two-way none single-occupant-vehicle trips (19 inbound and 82 outbound) and 133 two-way non-auto trips (85 inbound and 48 outbound) during the morning and afternoon peak hours, respectively.

As outlined in Table 3, the current development proposal is expected to generate much less trips (for all modes of transportation) than the previous development proposal given that the current development proposal has about 200 units less.

3.0 TRANSPORTATION IMPACT ASSESSMENT

3.1. AUTO MODE ASSESSMENT

As indicated in Section 2 and Table 3, the current development proposal is expected to generate much less trips (for all modes of transportation) than the previous development proposal given that the current development proposal has about 200 units less.

As such, it is concluded that the current development proposal will have less impact on the existing transportation network than the previous development proposal. Therefore, the findings and recommendations outlined in the Transportation Impact & TDM Study dated December, 2017 are still applicable and no revisions are required at this time.

3.2. ACTIVE TRANSPORTATION MODE ASSESSMENT

As indicated in Section 5.3 of this Study, the proposed development is expected to generate 101 two-way none single-occupant-vehicle trips (19 inbound and 82 outbound) and 133 two-way non-auto trips (85 inbound and 48 outbound) during the morning and afternoon peak hours, respectively.

This is expected given that the proposed development is located very close to the Downtown Hamilton and within short walking distance to the transit terminal and stops. It is also located adjacent to several existing employment and business

destinations (St. Joseph's Health Care Centre and other medical services). There are also many amenities available in the area such as businesses, banks and government offices, within a reasonable walking distance.

To accommodate the walking and cycling trips from the proposed development, Nextrans recommends that the proposed development provide convenient internal circulation with direct access onto John Street S, Charlton Avenue E and St. Joseph's Drive to minimize walking distance for residents.

3.3. TRANSIT MODE ASSESSMENT

The area is currently well serviced by the existing transit network. The proposed development has excellent access to the public transit because the proposed development is located besides the northbound stops and about 150 m (2-3 minute-walk) to the southbound stops for HSR Bus Routes 22, 23, 24, 25, 26, 27.

The proposed development is also located approximately 500 m (7 minute-walk) to the Hamilton GO Centre and HSR Bus Terminal that residents can take any HSR Bus Routes and GO Train/Bus to access the City of Hamilton and the surrounding area. The existing public transit system in the Downtown area is currently offer a general service frequency between 10 to 30 minutes, depending on the route.

It is our understanding that the City of Hamilton and Metrolinx are building Light Rail Transit (LRT), a new 14-kilometre LRT line that will run through downtown Hamilton along Main and King Streets, which scheduled for completion in 2024, with major construction starting in 2019. The Hamilton LRT will connect McMaster University in the west to Eastgate Square in the east, and protect for future growth through segregated LRT lines. The LRT will also connect to the existing Hamilton Centre GO Station through a high-order pedestrian connection.

In addition, the proposed development is also located adjacent to the future "A-Line" of the Hamilton BLAST frequent rapid transit system.

It is our opinion that the proposed development is located in the heart and best location of public transit in the City of Hamilton. The proposed land uses also support future transit ridership and help reduce the numbers of single-occupant-vehicles to and from the proposed development.

4.0 PROPOSED DEVELOPMENT ACCESS

Currently, the existing apartment building located at 307 John Street has a full moves access onto John Street. The existing Impark Parking lot has a full moves access onto Charlton Avenue E. Under the current development proposal, which is similar to the previous development proposal, two full moves accesses are proposed onto Charlton Street E, and one full moves access is proposed onto St. Joseph's Drive to service the development. As indicated in the December, 2017 Transportation Impact & TDM Study, the analysis indicates that the proposed access locations are expected to operate at acceptable levels of service with minimal queues and delays to and from the proposed development. The following are recommendations for the proposed development accesses:

- One outbound shared left/right lane and one inbound lane for the west access onto Charlton Avenue E;
- One outbound shared left/right lane and one inbound lane for the east access onto Charlton Avenue E;
- One outbound shared left/right lane and one inbound lane for the south access onto St. Joseph's Drive; and
- No exclusive turning lanes are required on Charlton Avenue E and St. Joseph's Drive at the vicinity of the proposed accesses.

5.0 LOADING AND AUTOTURN ANALYSIS

It is our understanding that the proposed development proposes two loading spaces with the following dimensions: 4.0 m Width x 13.0 m Length x 6.1 m Vertical Clearance. Both of these spaces can be utilized for garbage loading, delivery vehicles and moving vehicles. Vehicle turning movement templates can be provided at site plan application stage.

6.0 PARKING ASSESSMENT

6.1. Vehicle Parking

As indicated, the current development proposal consists of 723 residential dwelling units and 1,587 m^2 of ground related retail/commercial gross floor area. It is our understanding that the City of Hamilton's Zoning By-law No. 05-200 (Section 5.6.a) is applicable for the proposed development. Table 5 summarizes the vehicle parking required based on Zoning By-law No. 05-200 (Section 5.6.a).

Table 5 – Vehicle Parking Requirement Based on Zoning By-law No. 05-200 (Section 5.6.a)

Land Use	Magnitude	Required Rates	Total Requirement
Residential	116 units $\leq$ 50 m^2	0.3 space/unit	35 spaces
	607 units > 50 m^2	1.0 space/unit	607 spaces
Retail	(1,587 m^2 – 450 m^2)	1.0 space/50 m^2	22 spaces
Total			*664 spaces*

Based on the applicable Zoning By-law requirement, the proposed development requires 644 vehicle parking spaces. It is our understanding that the proposed development will provide 705 vehicular parking spaces (699 regular spaces, 5 small car parking spaces and 1 tandem parking space), which slightly exceeds this requirement.

However, it is our understanding that the surplus parking will be used for public parking, which provides an important service to the surrounding neighbourhood and existing hospital.

6.2. Bicycle Parking

It is our understanding that there is no bicycle parking requirement for this area (not within M7, M8, M9, M10 and M11 zones), based on the City of Hamilton's Zoning By-law No. 05-200, Section 5.7. However, in order to meet the City's Transportation Demand Management requirement, it is suggested that the proposed development provides sufficient bicycle parking spaces for the residents. This provision is required to promote and encourage residents to take up cycling and reduce the numbers of single-occupant-vehicle trips to and from the proposed development. On this basis, it is our understanding that the proposed development will provide a total of 168 bicycle parking spaces for all buildings to support active transportation and reduce the number of single-occupant-vehicle trips to/from the proposed development.

7.0 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) options were provided in Section 9 of the December, 2017 Transportation Impact & TDM Study.

The project team also received comments from the City of Hamilton to prepare a more detailed TDM Plan for the current development proposal. The sections below outline the detailed TDM assessment for the proposed development.

7.1. Proximity to Transit or Active Transportation Networks

a. Existing Road and Sidewalk Network

The area is currently well served by a complete network of sidewalks. The sidewalks are generally available on both sides of the streets and reasonably maintained on the public streets. At this time, no improvements to the existing sidewalk network on the public streets are required. The general description of the existing road and sidewalk network in the study area is summarizes in Table 6 below.

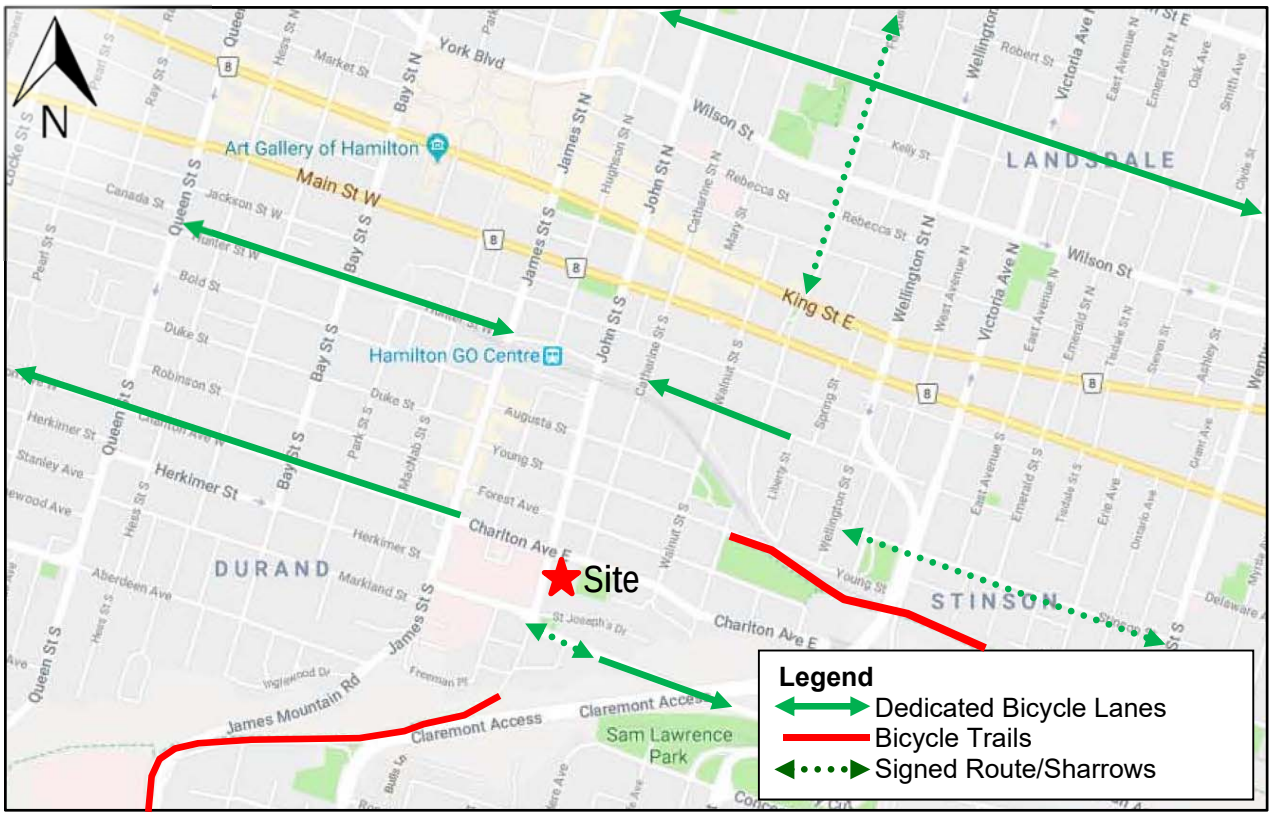
Table 6 – Summary of the Existing Road Network in the Area

Road Name	Jurisdiction	Number of Lanes	Sidewalk/Bike Lane	Speed
John Street S	City of Hamilton	3	Sidewalk on both sides of the street, No bike facilities	50 km/h
Charlton Street E	City of Hamilton	2	Sidewalk on both sides of the street, No bike facilities	40 km/h
St. Joseph's Drive	City of Hamilton	2	Sidewalk on both sides of the street, No bike facilities	40 km/h
Arkledun Avenue	City of Hamilton	2	Sidewalk on both sides of the street, Signed route/sharrows on the south side, Dedicated bike lanes further to the east	50 km/h

b. Existing Cycling Network

The existing cycling network in the area is illustrated in Figure 3 below.

Figure 3 – Existing Bicycle Network in the Study Area



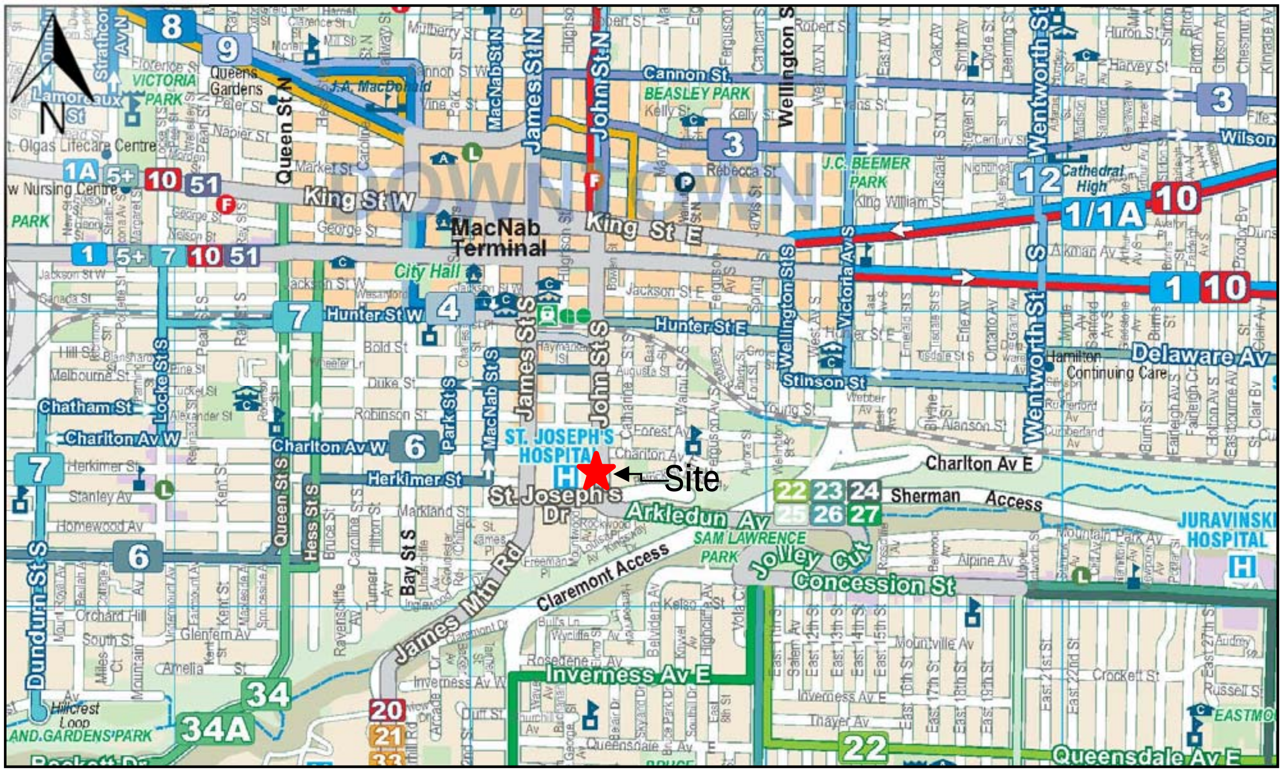
Under the existing conditions, there are some bicycle facilities available in the area such as the dedicated bicycle lanes on Cannon Street, Hunter Street, Markland Street and Arkledun Avenue. There are also signed routes/sharrows on part of Arkledun Avenue, Stinson Street and Ferguson Avenue. Bicycle trails are also available in the east-west direction south of Charlton Street E and south of James Mountain Road.

However, there are still gaps in the cycling network. It is our opinion that a better and more connected bicycle network should be implemented as part of future City's capital projects in order to increase cycling trips and reduce the number of single-occupant-vehicle trips to and from the area.

c. Existing Transit Network

The existing Hamilton Transit service for the area is illustrated in Figure 4 below.

Figure 4 – Existing Hamilton Transit Service in the Area



Source: HSR Transit System Map

As indicated in Figure 4, the area is currently well serviced by the existing transit network. The proposed development has excellent access to the public transit because the proposed development is located beside the northbound stops and about 150 m (2-3 minute-walk) to the southbound stops for HSR Bus Routes 22, 23, 24, 25, 26, 27. The proposed development is also located approximately 500 m (about 7 minute-walk) to the Hamilton GO Centre and HSR Bus Terminal that residents can take any HSR Bus Routes and GO Train/Bus to access the City of Hamilton and the surrounding area. The existing public transit system in the Downtown area currently offers a general service frequency between 10 to 30 minutes, depending on the route. It is our understanding that the City of Hamilton and Metrolinx are building Light Rail Transit (LRT), a new 14-kilometre LRT line that will run through downtown Hamilton along Main and King Streets, which scheduled for completion in 2024, with major construction starting in 2019. The Hamilton LRT will connect McMaster University in the west to Eastgate Square in the east, and protect for future growth through segregated LRT lines. The LRT will also connect to the existing Hamilton Centre GO Station through a high-order pedestrian connection.

It is our opinion that the proposed development is located in the heart and best location of public transit in the City of Hamilton. The proposed land uses also support future transit ridership and help reduce the numbers of single-occupant-vehicles to and from the proposed development.

7.3. Surrounding Density and Built Form

Based on Nextrans comprehensive review of the study area, it is evident that there is a wide range of different types of land uses and housing types currently exist in the area such as residential (including rental), retail/commercial, St. Joseph's Health Care Hamilton and medical offices on John Street S, James Street S and Charlton Avenue E.

As indicated, with the excellent existing transit service along with the future LRT in the Downtown Core, the proposed development represents good transportation planning since it utilizes the existing transportation network, existing and future transit network, as well as the existing active transportation network in the area. The traffic pattern and generation are also consistent with the existing neighbourhood.

8.0 PROPOSED TDM MEASURES FOR THE SITE

8.1. Planning and Design

a. Increase Density and Compact Site Design

As indicated, the current development proposal consists of 723 residential dwelling units and 1,587 m^2 of ground related retail/commercial gross floor area.

This is a very compact mixed-use development that utilized the existing lands that are currently accommodating a parking lot and mid-rise rental apartment building. It is our opinion that the current development proposal provides a better and suitable land use mix for these lands and maximize the transportation planning potential for walking, cycling and existing and future public transit initiatives.

b. Site Design Elements

It is our understanding that the proposed development concept is designed to maximize the available developable space that includes the following design elements:

- Well designed pedestrian and cycling connections within the site, as illustrated in Figure 5;
- Direct main entrances are provided onto John Street S and St. Joseph's Drive to facilitate pedestrians;
- Minimizes surface parking spaces (only four spaces are provided) and interference with pedestrians and cyclists;
- Provides a total of 168 secured bicycle racks on site with additional 10 short-term surface bicycle parking spaces for visitors;
- Provides only a total of 705 vehicle parking spaces (about 616 vehicle parking spaces are required based on the applicable Zoning By-law No. 6593, assuming the commercial area is retail or a similar use).

It is our opinion that the proposed design elements are sufficient to accommodate the active modes of transportation for the proposed development.

8.2. Walking and Cycling

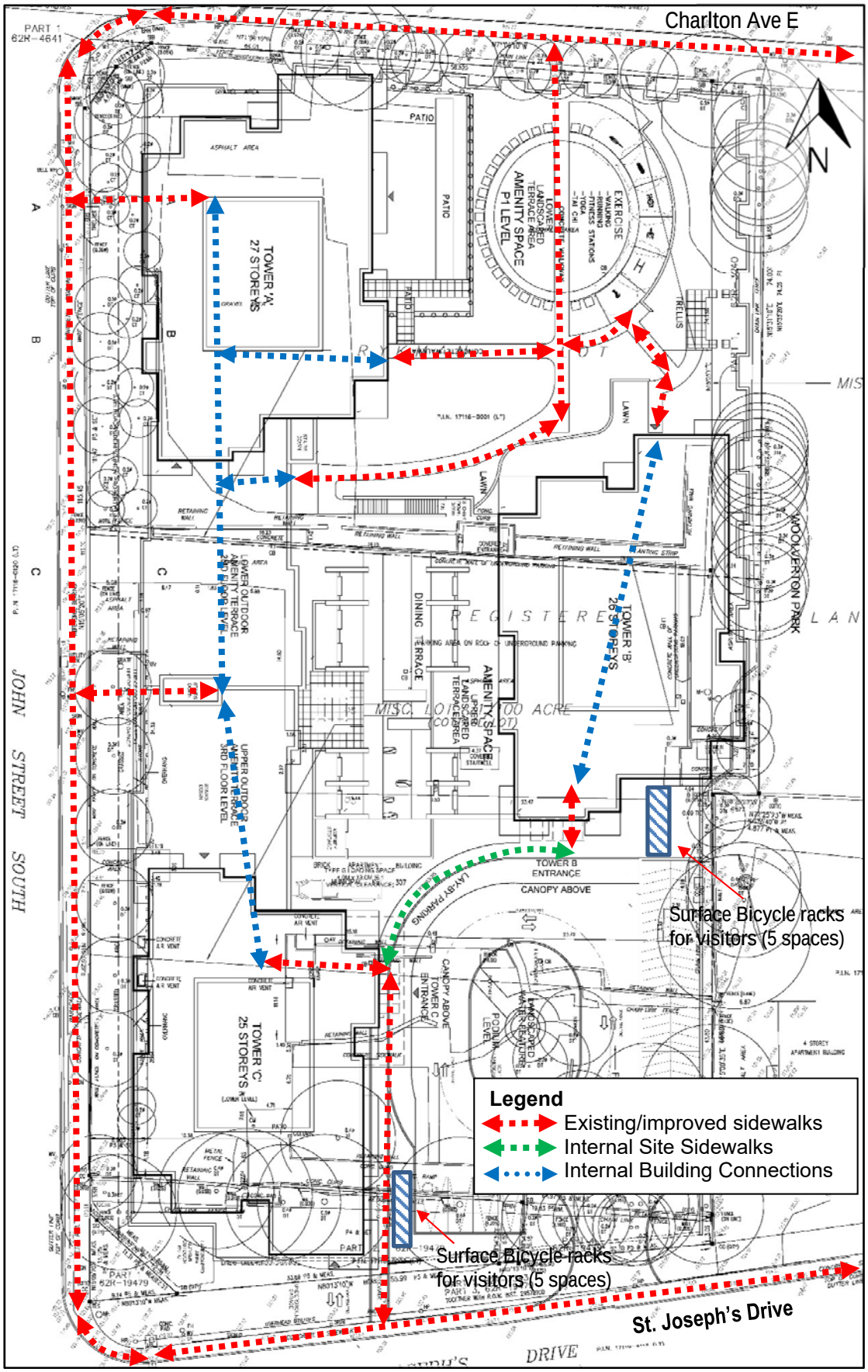
a. Sidewalks and pathways

It is our understanding that pedestrian walkways are provided along the side of the building, internal to the site and inside the buildings, to facilitate pedestrian circulation. The proposed internal pedestrian/cyclist connections are illustrated in Figure 5.

b. Bicycle Parking (Long and Short-Term)

It is our understanding that the proposed development will include 168 secured, long-term bike storage within the site for the residents. However, in order to accommodate visitors to the retail/commercial components, a minimum of 10 additional short-term bicycle parking spaces are recommended on site. The potential locations of the short-term bicycle parking are illustrated in Figure 5.

Figure 5 – Proposed Sidewalks and Short-term Bicycle Parking



c. End of Trip Facilities (Lockers, Showers)

It is our opinion that this requirement is more appropriate for large employment buildings. As the proposed development only include small ground-related retail and commercial spaces, as such, this requirement is not applicable for the proposed development.

8.3. Transit

a. Direct Connections to Transit

As indicated in Figure 5, the proposed development is committed to provide direct pedestrian connections and place the main entrance to the adjacent public roads (John Street S, Charlton Avenue E and St. Joseph's Drive). These connections provide direct access to existing transit stop at the John Street S/Charlton Avenue E intersection.

b. Weather Protected Waiting Areas

Based on our review, there is an existing bus shelter in the northbound direction on John Street S, just south of Charlton Avenue E. It is our understanding that the proposed development will provide direct pedestrian access onto John Street S. This will give the pedestrians an opportunity to use the existing bus shelter on John Street S.

8.4. Parking

As indicated, the current development proposal consists of 723 residential dwelling units and 1,587 m^2 of ground related retail/commercial gross floor area. It is our understanding that the City of Hamilton's Zoning By-law No. 05-200 (Section 5.6.a) is applicable for the proposed development. As indicated in Section 6 and Table 5, based on the applicable Zoning By-law requirement, the proposed development requires 644 vehicle parking spaces. It is our understanding that the proposed development will provide 705 vehicular parking spaces, which slightly exceeds this requirement.

However, it is our understanding that the surplus parking will be used for public parking, which provides an important service to the surrounding neighbourhood and existing hospital.

a. Opportunities for Reduced Parking Requirements

Given that the proposed development parking supply potentially exceeds the minimum Zoning By-law No. 05-200 requirement, it is suggested that the proposed development considers reducing the number of parking spaces, if appropriate. Some of these surplus parking spaces can be used for bicycle parking or future carshare parking spaces.

b. Unbundle Parking

It is our understanding that a portion of the parking provided will be available on demand basis. As such, it is our opinion that this requirement is met.

c. Paid Parking

Given the small scale of the retail/commercial space, it is intended to mainly serving the residents in the buildings and residents or employees near by within walking distance. It is our opinion that it is not necessary to provide paid parking on-site for these ancillary uses.

d. Carpool Parking

It is our opinion that this requirement is only applicable to non-residential development such as large employment buildings. As such, it is not applicable for the proposed development with residential dwelling units.

e. Shared Parking

It is our understanding that parking can be shared between the retail/commercial component and visitor parking for the residential component. It is recommended that the proposed development designs and provides the provision for share parking between the retail vehicle parking and residential visitor parking.

8.5. Carshare/Bikeshare

Carshare Potential

It is suggested that the proposed development designates at least two parking spaces for carshare. It is also recommended that the proposed development contact carshare company in the future to provide carshare service for the residents living in the buildings.

Bikeshare Potential

Since the proposed development will provide 168 secured bicycle parking spaces, it is our opinion that bikeshare provision is not required for the proposed development.

a. On-Site Carshare Vehicle(s) and Parking Spot(s)

It is suggested that the proposed development designates at least two parking spaces for future carshare service for the residents living in the buildings.

b. On-Site Bikeshare

It is our opinion that this requirement is not required for the proposed development as per the reasons noted above.

8.6. Wayfinding and Travel Planning

a. Wayfinding Signage

The proposed development is a very compact development which consists of only three towers. Given the scale and location of the proposed development (located at the south-east quadrant of John Street S and Charlton Street E), it is our opinion that wayfinding signage are not required to be provided within the proposed development. The proposed development is visible from all public streets such as John Street S, Charlton Street E and St. Joseph's Drive.

It is suggested that the proposed development provide signage that clearly show the building name and number at the main site entrances, where applicable.

In addition, it is recommended that the proposed development provide residents and businesses with cycling maps, HSR System maps, community maps and GO Train schedules.

b. Travel Planning Tools and Support for Development of a School Travel Plan

Based on our review of the area, the proposed development is located approximately:

- 200 m to Queen Victoria Elementary School;
- 2.6 km to Cathedral High School;
- 1.9 km to Sir John A Macdonald Secondary School; and
- 1.3 km to Ryerson Middle School

This information indicates that elementary school students can easily walk to Queen Victoria Elementary School located at 166 Forest Avenue. High School students can either walk, bicycle or take public transit to Cathedral High School or Sir John A Macdonald Secondary School.

It is our opinion that it maybe beneficial to have travel planning tools to support development school travel plan, however, given the location the proposed development relative to the surrounding schools, a school travel plan is not necessary. As such, we do not recommend a school travel plan for the proposed development.

8.7. Education/Promotion and Incentives

a. TDM Branding

It is our opinion that a TDM branding is not required for the proposed development given the nature of the proposed land uses, which are mostly residential dwelling units and small ground related retail. It is our opinion that TDM branding would not be effective for this type of land use.

b. Membership in TMAs/Smart Commute

It is our understanding that TMAs and Smart Commute are currently concentrate their efforts in helping employment base programs and incentives. These programs and incentives are not currently expanded to include residential developments. As such, it is our opinion that this requirement is only applicable to non-residential development. As such, it is not applicable for this proposed mixed-use (residential and small retail) development.

c. Opportunities for Transit Passes, Carshare Memberships, or Bikeshare Memberships

Bikeshare Membership

As indicated, the proposed development provides a total of 416 bicycle parking spaces and additional 10 short-term visitor bicycle parking spaces at convenient locations. As such, it is our opinion that bikeshare membership is not required for the proposed development.

Carshare Membership

The Study suggests that the proposed development designates at least two parking spaces for carshare. It is also recommended that the proposed development contact carshare company in the future to provide carshare service for the residents living in the buildings. Once carshare is established in the buildings, carshare membership information can be made available at the building management office in the future, if appropriate.

Transit Passes

If the residential dwelling units are designated for rental in the future, it is our opinion that transit pass incentives are not required given the potential higher turn over rate and abuse of the incentive. However, if some of the proposed development residential dwelling units are designated for condominium, it is suggested that the proposed development provides one time $100 pre-loaded PRESTO Card for each condominium unit on demand basis. This is to encourage the residents to take transit to work, schools, shopping or other discretionary trips.

8.8. PROJECT TRIP REDUCTIONS FOR TDM MEASURES

Table 7 summarizes the travel mode split information based on the review of the 2011 Transportation Tomorrow Survey data for Traffic Zones 5159 and 5168.

Table 7 – Modes of Travel based on 2011 TTS for Traffic Zones 5159 and 5168

Land use	Auto Driver	Auto Passenger	Local Transit	GO Transit	Cycle	Walk
Residential	62%	10%	10%	1%	0%	17%

Based on the information outlined in the table above, the predominant modes of travel for the residents in the area under the existing conditions are private automobile and walking. The high walking percentage is expected given the close proximity of the area to the Hamilton GO Centre/HSR Terminal and Downtown area. Transit mode and carpooling are

about 10%, as such, it is not necessary to convert the other modes of transportation to person trips using the typical vehicle occupancy rate.

As indicated in Section 2 and Table 4, the current development proposal is expected to generate 166 two-way auto trips (34 inbound and 132 outbound) during the weekday morning peak hour and 234 two-way trips (149 inbound and 85 outbound) during the afternoon peak hour. The proposed development is also expected to generate 101 two-way none single-occupant-vehicle trips (19 inbound and 82 outbound) and 133 two-way non-auto trips (85 inbound and 48 outbound) during the morning and afternoon peak hours, respectively.

It is anticipated that there will be significant numbers of future residents will take alternative modes of transportation to and from the propose development. As such, the proposed TDM measures outlined in this report will help support and further increase alternative modes of transportation.

8.9. SITE PLAN THAT INCORPORATES TDM MEASURES/STRATEGIES

It is our understanding that the proposed development concept is designed to maximize the available developable space that includes the following design elements:

- Well designed pedestrian and cycling connections within the site, as illustrated in Figure 5;
- Direct main entrances are provided onto John Street S and St. Joseph's Drive to facilitate pedestrians;
- Minimizes surface parking spaces (only four spaces are provided) and interference with pedestrians and cyclists;
- Provides a total of 168 secured bicycle racks on site with additional 10 short-term surface bicycle parking spaces for visitors;
- Provides only a total of 705 vehicle parking spaces (about 616 vehicle parking spaces are required based on the applicable Zoning By-law No. 6593, assuming the commercial area is retail or a similar use).

It is our opinion that the proposed design elements are sufficient to accommodate the active modes of transportation for the proposed development.

8.10. PROPOSED MONITORING AND EVALUATION OF TDM MEASURES

It is suggested that the Owner or building management, where appropriate, should monitor the following:

- The short-term and longer-term bike parking usage in order to make provision for future expansion if necessary; and
- The share parking requirement between the retail and residential visitor parking. If demand for retail parking is low, surplus parking spaces can be allocated for future bicycle parking expansion, if appropriate.

8.11. CONCLUSIONS / RECOMMENDATIONS FOR TDM MEASURES

Based on the review of the context of the proposed development in relation to the TDM requirements by the City of Hamilton findings of this report, a number of TDM measures and incentives are recommended for the proposed development. Table 8 summarizes the recommended TDM measures and incentives.

Table 8 – Recommended TDM Measures for the Proposed Development

Category	TDM Initiative Suggested by Nextrans	Recommended Actions	Responsibility
Cycling	• Visible, well-lit, short-term bicycle parking for visitors (above minimum provisions or recommendations) • Secure, indoor bicycle parking storage spaces for tenants/residents • Ensure development connects to bicycle network	• The proposed development to provide a total of 168 bicycle parking spaces for all buildings • Provide secured long-term parking spaces underground; • Provide at least 10 short-term bicycle parking spaces for visitors and retail customers at the potential locations illustrated in Figure 5 • Provide a bicycle repair station at a convenient and secure location within the site	Applicant
Walking	• Safe, attractive and direct walkways for pedestrians linking building entrances with public sidewalks and with key destinations such as schools • Enhanced pedestrian amenities on-site (benches, landscaping, lighting)	• Provide direct shared pedestrian and cycling connections onto John St S, Charlton Ave E and St. Joseph's Dr as illustrated in Figure 5 • Improve the existing sidewalk on John St S (i.e. provide wider sidewalk), where appropriate	Applicant
Transit	• Enhance walking routes between main building entrance(s) and transit stops/stations • Bicycle parking located at or near transit stops • Implement transit priority measures (queue jump lanes, traffic signal priority, bus only lanes)	• Work with the City of Hamilton to improve the existing bus stop shelter on John's Street S, south of Charlton Ave E. The potential improvement includes bigger shelter and more waiting space • Provide building entrance and direct sidewalk to the bus stop on John Street S	Applicant/ City of Hamilton
Parking	• Reduced minimum parking requirements based on proximity to transit • Shared parking with nearby developments or on-street spaces • Unbundle parking costs from unit costs	• Use surplus parking for public parking, which provides an important service to the surrounding neighbourhood and existing hospital; • Provide a shared parking provision between retail and visitor parking spaces, where appropriate	Applicant
Information Brochure/ Letter	• Provide an information brochure/letter for each residential unit that include HSR Transit System schedules, GO Transit schedules, cycling maps and community maps.	• Provide a brochure (or a letter) to new residents that include all website links to HSR Transit System schedules, GO Transit schedules, community maps and cycling maps. • Provide hard copies of the HSR system map and schedule for Bus Routes 22, 23, 24, 25, 26 and 27, GO Transit schedule, cycling maps and community maps at the sale office and building management office, or close to the building entrances	Applicant
Pre-loaded PRESTO Card	• Provide transit incentives such as transit passes	• Provides one time $100 pre-loaded PRESTO Card for each condominium unit on demand basis. This is to encourage the residents to take transit to work, schools, shopping or other discretionary trips. • This incentive is not applicable or recommended for rental apartments	Applicant
Monitoring	• Monitoring and evaluation of TDM measures	• Monitor the short-term and longer-term bike parking usage in order to make provision for future expansion if necessary • Monitor the shared parking provision between retail and visitor. If spaces are not utilized, it can be designated for future bicycle parking expansion.	Applicant

9.0 CONCLUSION

Nextrans has conducted the analysis for the current development proposal and provide a site trip generation comparison between the current and previous development proposals. The analysis indicates that the current development proposal is expected to generate much less trips (for all modes of transportation) than the previous development proposal given that the current development proposal has about 200 units less. As such, it is concluded that the current development proposal will have less impact on the existing transportation network than the previous development proposal. Therefore, the findings and recommendations outlined in the Transportation Impact & TDM Study dated December, 2017 are still applicable and no revisions are required at this time.

Transportation Demand Management (TDM) options were provided in Section 9 of the December, 2017 Transportation Impact & TDM Study. However, the project team also received comments from the City of Hamilton to prepare a more detailed TDM Plan for the current development proposal. To address this comment, a comprehensive transportation demand management plan has been prepared and included in this Addendum Study. The recommended TDM measures to support the proposed development are summarized in Table 8, Section 8.11 of this Addendum Study. As such, the City's comment has been fully addressed.

We trust the enclosed sufficiently addresses your needs. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

Nextrans Consulting Engineers
A Division of NextEng Consulting Group Inc.

Richard Pernicky, CET, MITE
Principal

Appendix A
City of Hamilton Comments

Transportation Planning
Transportation Planning & Parking Division, Planning & Economic Development
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Phone: 905.546.2424 ext. 5129 Fax: 905.546.2039

March 5, 2018

Kimberley Harrison-McMillan, Senior Project Manager
Development Planning - Urban Team
City Hall – 71 Main Street West – 5th Floor

SUBJECT: 299 – 307 John Street South and 97 St. Joseph's Drive; UHOPA-18-04; ZAC-18-009, Transportation Demand Management Report- **Revisions Required**

Overall, the TDM initiatives included in this application do not meet the objectives of the City, as outlined in the 'TDM for Development' document.

The provided report is specified for the developer; while a number of TDM supportive initiatives are outlined there is little indication as to what initiatives the developer will undertake. We recommend that the developer review the provided initiatives and re-submit a report based on initiatives and opportunities which will be undertaken.

Cycling

- 304 bicycle parking spaces will be provided

Recommendations:

- These bicycle parking spaces must be shown on the site plan and indicate whether they're long-term or short-term bicycle parking spaces
- Long-term interior bicycle parking spaces should be provided for residents at the recommended rate of 0.5-1.25 spaces/unit = 462-1154 spaces for this development
- Short-term exterior bike parking must also be provided and indicated on the site plan at a rate of 0.05-0.2 spaces/unit = 46-185 spaces for this development

Walking

Recommendations:

- The report does not indicate how walking will be incorporated into the site plan. Please provide more information and how the site will provide safe, attractive and direct walkways for pedestrians

Parking

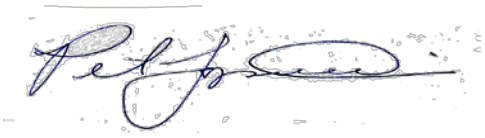
Recommendations:

- Vehicle parking is slightly oversupplied, it is recommended that only the minimum vehicle parking spaces be provided

Wayfinding and Travel Planning

Recommendations:
It is recommended that travel planning resources (bike maps, bus schedules, bike parking availability) be made available in a central location, and that these same resources also be provided as part of the welcome package for new residents, employees and visitors to the location.

Best Regards,



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City of Hamilton, Planning & Economic Development