




BA Group

7015, 7200, AND 7290 LESLIE STREET PROPOSED BAHÁ'Í NATIONAL CENTRE AND TEMPLE

Urban Transportation Considerations
City of Markham

Prepared For: National Spiritual Assembly of the Bahá'ís of Canada

February 2024



**MOVEMENT
IN URBAN
ENVIRONMENTS**

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1.0 INTRODUCTION

BA Group has been retained by Hariri Pontarini Architects Inc. on behalf of the National Spiritual Assembly of the Bahá'ís of Canada (henceforth referred to as the 'NSA' or the 'NSA Bahá'ís) to provide transportation consulting services in relation to a proposed house of worship (henceforth referred to as the 'Site') on the lands municipally known as 7015, 7200, and 7290 Leslie Street in the City of Markham.

An Official Plan and Zoning By-law Amendment application is being made to permit the redevelopment of the existing National Centre, to be replaced by a new National Centre and consolidated multi-functional space. The expansion also intends to develop a new House of Worship, a new parking lot, and a new woodland trail on the development grounds.

1.1 FOREWORD

BA Group submitted an Urban Transportation Considerations Report, entitled *Bahá'í National Centre – Urban Transportation Considerations*, dated October 2022, in support of an Official Plan Amendment (OPA) and Zoning By-law Amendment (ZBA) applications for the development proposal located at 7200 Leslie Street and 7290 Leslie Street in the City of Markham.

The October 2022 application proposed a National Centre to house meeting rooms and conference halls to facilitate conventions, seminars, and other related activities. Short-term accommodation and lodging rooms are also proposed to accommodate overnight guests. A new Temple adjacent to the Bahá'í National Centre is also proposed, with pedestrian-oriented space to enhance the connection between the developments.

A proposed site-specific parking requirement resulting in the need to provide in the order of 110 to 115 vehicular parking spaces will accommodate the parking needs of the Site. While the exact location and number of parking spaces will be confirmed through the future SPA process, the current architectural plans contemplate parking being provided within three distinct areas: parking spaces provided at-grade adjacent to the east side of National Centre to the east, parking spaces provided adjacent to the west side National Centre (which includes the access to the one-level of underground parking contemplated), and 45-50 parking spaces provided at-grade on the north side of Leslie Street adjacent to the proposed temple. One loading space, which is to be located at-grade and at the rear of the Site, is also proposed to support the loading needs of the proposed development. Ten long-term bicycle parking spaces and 50 short-term bicycle parking spaces are provided within the development proposal.

The Initial OPA and Zoning applications for the project were submitted in late 2022. BA Group prepared a transportation report as part of the initial submission entitled "*Bahá'í National Centre – Urban Transportation Considerations*", dated October 2022 (herein referred to as the "**October 2022 BA Group Study**").

Since that time, comments have been received from the City of Markham. Significant feedback on the application has also been received from the area residents. As a result, several changes to the development concept have been made. The proposed development scope has also been expanded to include proposed improvements to Leslie Street north of Steeles Avenue to improve the safety of pedestrians and cyclists on Leslie Street. This report represents the revised Transportation Study for the project which reflects updates to the concept plan. It also provides a response to comments received on the application.

1.2 SITE CONTEXT

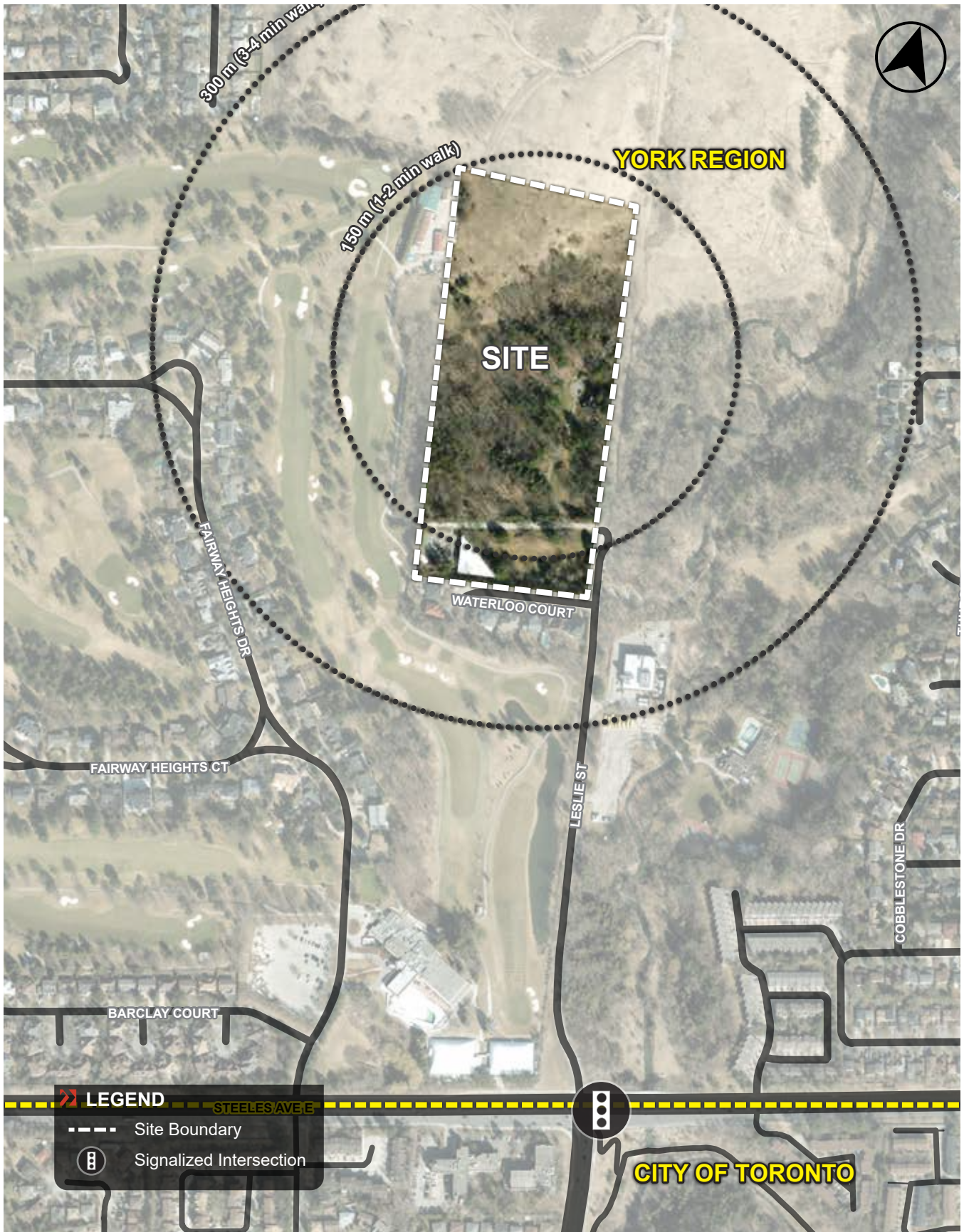
The Site is currently occupied by the existing Bahá'í National Centre with an approximate gross floor area (GFA) of 14,700 square feet, which is bounded by Leslie Street to the north, Waterloo Court to the south, Bercy (Wycliffe) Park and German Mills Settlers Park to the east, and the Bayview Golf and Country Club to the west. The subject properties consist of two separate parcels of land divided by a private driveway which connects to Leslie Street to the east of the Site. The driveway access is owned by the adjacent Bayview Golf and Country Club, with an easement for visitors and staff members of the existing Bahá'í National Centre. Approximately 16 vehicular parking spaces are provided on-Site and are accessible via Leslie Street.

There are several single-detached houses located along Waterloo Court directly south of the Site, which is located in a predominantly residential neighbourhood.

The Site location and context are shown in **Figure 1** and **Figure 2**, respectively.



FIGURE 1 SITE LOCATION



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FIGURE 2 SITE CONTEXT

2.0 RESPONSE TO COMMENTS

2.1 CITY OF MARKHAM TRANSPORTATION PLANNING

The section summarizes responses to transportation-related comments provided by Transportation Planning staff in a letter dated January 26, 2023, and is attached in **Appendix A**.

Comment:

1. *Steeles Avenue is under the jurisdiction of City of Toronto. While not directly abutting Steeles Avenue, all the vehicular traffic will require access off Steeles Avenue. As such, the submission should be circulated to City of Toronto for comments.*

Response:

Noted. The City of Markham to circulate the resubmission to the City of Toronto for comments.

Comment:

2. *The TIS documented a number of different events/programs that could occur throughout the calendar year but the Nineteen Day Feast, which staff understand is also a regular community gathering, is not referenced in the TIS. A detailed description of the Nineteen Day Feast and the frequency and time duration of the regular activities related to the Nineteen Day Feast at the Bahá'í Centre should be included in the study to provide clarity in terms of trip generation and overall parking demand of the site.*

Response:

Based on correspondence with staff at the existing Bahá'í National Centre, while the Nineteen Day Feast is a regular celebration of local communities across Canada, it is not celebrated at the national level and therefore the event will not generate any additional Site traffic. It is also noted that this submission considers a 'first principles' approach based on the direction of the City (see comment #4) which analyzes the anticipated usage related to each individual program scheduled at the Site. The 'first principles' methodology is further explained in **Section 7.2**.

Comment:

3. *Based on the applicant's submission:*

- a total of 307 parking spaces are required as per Markham's parking by-law 28-97; and***
- a total of 111-231 parking spaces are required as per the Draft Comprehensive Zoning By-law (presented to Council but not approved), whereas 202 parking spaces will be provided. The appropriateness of the parking by-law rate to be applied to the proposed development, including the place of worship space and National Centre, and the final parking requirement should be confirmed with the Zoning Examiner.***

Response:

Revised. Zoning By-law requirement calculations are provided as part of the resubmission. The updated requirement as per City of Markham Parking Standards By-law 28-97 is 435 parking spaces. The updated requirement as per the City of Markham's new Comprehensive Zoning By-law 2024-19 (under appeal) is 189 parking spaces. In both cases, the City's By-law requirements overstate the parking requirements for the proposed temple. This is because the proposed temple is not a typical place of worship with regular scheduled

services. Therefore, the By-law requirements specified by the City for a place of worship overstate the actual parking demands of the proposed temple. A parking demand analysis using information associated with other Bahá'í temples was undertaken and included in **Section 7.2.2**. Based on the results of the parking demand analysis, the demand is estimated to be in the order of 100 parking spaces.

Comment:

4. ***Notwithstanding the aforementioned, the following comments are noted:***

- a. ***Based on the City of Markham's Draft Zoning By-law, the parking requirement calculation should be based on the size in GFA of the place of worship and based on the number of occupants, whichever is greater. Please provide revised parking calculations for review.***
- b. ***In support of the proposed parking supply reduction, please include a parking demand assessment using first principles' approach based on the various events and programs as identified in Appendix E of the TIS (similar to the trip generation assessment). This assessment shall be documented and submitted for review.***

Response:

A parking demand analysis using information associated with other Bahá'í temples was undertaken in response to this comment. It will be provided with the updated resubmission. Based on the parking demand analysis provided in **Section 7.2.3**, the demand of the proposed Bahá'í National Centre and the proposed Bahá'í temple is estimated to be in the order of 100 parking spaces.

Comment:

5. ***The TIS states that there are no loading requirements for the site based on City's By-law 28-97. It should be noted that the City's loading requirements are provided under City's By-law 177-96, and accordingly a requirement of 2 loading spaces.***

Response:

The proposed ZBA recommends one loading space for the proposal and the resubmission provides justification accordingly.

The prevailing Zoning By-law 1767 does not contain details regarding loading requirements for the proposed use. The new Comprehensive Zoning By-law would require one loading space for properties with a total gross floor area (GFA) of under 1,860 square metres.

While it is noted that the loading requirements provided under By-law 177-96 require a minimum of two loading spaces for uses with a net floor area greater than 1,860 square metres, the zoning requirement overstates the loading needs of the Project. The applicable zoning requirement applies generally to all non-residential uses and therefore does not consider the unique nature of the proposal. In this regard, the proposal is a house of worship which generates little to no loading activity and therefore loading activities at the proposed Site is expected to be infrequent and concentrated during the various events programs held at the Bahá'í National Centre. The resubmission provides a justification for the proposed loading supply.

Comment:

6. Please provide additional information and details on alternative transportation arrangements or “event-specific plans” for the National Convention. For example, please include any detailed overflow parking plan and/or any off-site parking arrangement. The alternative transportation arrangements or event-specific plans need to ensure there is no over-spill of parking onto adjacent streets during special events and any on-street parking availability and restrictions should be noted in the study as well.

Response:

The property will manage traffic activity through event-specific plans by using a variety of traffic demand management (TDM) methods such as shuttle buses, carpooling, transit information and passes, and enhanced active mode routes. Additionally, there are approximately 100 parking spaces available at the Don Valley Education Centre (7015 Leslie Street) for the few instances when additional parking may be required. The resubmission provides details of the additional parking available for special events held at the Site.

It is noteworthy that improvements to Leslie Street to separate active modes through the construction of a multi-use path (MUP) and the formalization of on-street parking. **Section 8.0** of the resubmission summarizes the improvements that could be implemented in partnership with the City of Markham to address the operational challenges along Leslie Street which will appropriately accommodate Site-generated traffic.

Comment:

7. Pedestrian and cycling connections from the subject site to the existing trail network within the German Mills Settlers Park should be provided to ensure continued public access. Further discussion is needed with Urban Design staff to assess the trail connections at the edge of the property to ensure trails are safe and accessible.

Response:

The construction of a multi-use path (MUP) along Leslie Street to provide safe public access from Steeles Avenue East all the way north to the Lake-to-Lake Route and the proposed temple are proposed as part of the “Leslie Street Safe Access Solution”. The addition of pedestrian and cycling infrastructure, in conjunction with the other roadway improvements outlined in **Section 8.0** of the revised TIS, will improve overall traffic conditions for all road users along Leslie Street.

Comment:

8. It appears that the east-west driveway at the terminus of Leslie Street also provides shared access to the golf club property located on the west side of the subject site and the access is restricted by a controlled gate. Please confirm any cross-access easements that the subject site currently has with the neighbouring golf course property to the west. Confirmation will be required with the property owner to the west regarding the proposed vehicular easement configuration.

Response:

The driveway access dividing the temple site property and the BNC lands is owned by the adjacent Bayview Golf and Country Club and is subject to a “Right-of-Way” easement (Inst. No. MA66705) that grants right-of-way to the NSA over, along, and upon this strip of land. The applicant has been in contact with Bayview Golf and Country Club regarding the proposal and they have not expressed any concerns.

Comment:

9. The secondary emergency road is proposed connecting from the subject site to John Street to the north from the current terminus of Leslie Street through the German Mills Settlers Park via an existing trail that is to be updated. The secondary access route may not be feasible due to environmental constraints. This alignment is along City’s unopened right-of-way and through existing park trail. Further discussion with Urban Design and Fire staff will be required to determine the feasibility of this emergency access alignment and possible alternative options.

Response:

The emergency access route north from the terminus of Leslie Street north to John Street is no longer proposed. Improvements to Leslie Street to raise it out of the floodplain have been identified as the preferred method to provide safe access to the subject lands and existing residential uses along Waterloo Court and the Leslie Pumping Station.

Comment:

10. The TIS notes that the site is well served by transit. However, there is currently no sidewalk connection to the transit stops on Steeles Avenue.

Response:

The revised proposal includes enhancements to Leslie Street which would provide a new and separated multi-use path (MUP) for pedestrians and cyclists and create a direct connection from Steeles Avenue East to the new Lake-to-Lake Route and the proposed temple.

2.2 TEDESCO ENGINEERING

In addition to formal comments provided by the City of Markham, BA Group also received a Peer Review report prepared by Tedesco Engineering (herein referred to as the “Tedesco Report”). The Tedesco Report, which was prepared on behalf of the residents on Waterloo Court, is dated Monday, May 22, 2023.

While the Tedesco Report does not form part of the official application circulation, a response to the issues raised in the Tedesco Report has been provided herein as it is understood that the issues raised in the Tedesco Report generally reflect the transportation concerns of the residents who live on Waterloo Court. In this regard, responses to “Section 2 – Findings of Peer Review” of the Tedesco Report have been provided below. A summary of the key issues raised in the Tedesco Report are set out below.

1. The 85th percentile threshold used to establish trip generation estimates is too low.
2. The vehicular parking provided for the Site is insufficient.
3. Leslie Street north of Steeles Avenue in its current state is insufficient to accommodate the proposed development.
4. The location of the Site on a local road is not appropriate.

1. The Appropriateness of the Forecasted Site Trip Generation

The Tedesco Report highlights that the October 2022 BA Group Study's approach to trip generation does not account for the main worship events that occur. The Tedesco Report identifies the Nineteen Day Feast, which occurs every 19 days. The Tedesco Report also notes that the 85th percentile trip generation would not account for the events that occur on the other 36 days (approximately 15 percent of the year).

With respect to the trip generation associated with Bahá'í holy days such as the Nineteen Day Feast, the NSA have noted that while Nineteen Day Feasts are celebrated in local Bahá'í communities across Canada, they are not celebrated at the national level. By way of example, Nineteen Day Feasts currently happen locally, and the construction of the temple and the Bahá'í National Centre will not change how individuals celebrate. As a result, the proposed national temple will therefore not be a destination for members of the Bahá'í faith and the trip generation impacts associated with these celebrations will be minimal.

With respect to the assertion in the Tedesco Report that the trip generation is not sufficient to account for the other 15% of days in the year, it is noted that the trip generation associated with events that exceed the 85th percentile threshold will be the National Convention and occasional seminars held at the National Centre. Trip generation events associated with the temple will be spread out and will occur outside of the standard peak hours when prevailing traffic in the area is lower. Moreover, even in the instances when the National Centre generates a peak hour volume in excess of the 85th percentile estimate, the analysis of the Steeles Avenue East / Leslie Street intersection indicates there is ample additional capacity for inbound and outbound movements under the future total traffic scenario. This suggests that additional peak hour traffic could readily be accommodated with minimal impact to the delays experienced by the neighbours on Waterloo Court.

As a result, the proposed 85th percentile trip generation estimate utilized in the revised TIS is appropriate and demonstrates that there is sufficient capacity to accommodate the majority of activities that will be held at the proposed Bahá'í National Centre and temple.

2. The Appropriateness of the Parking Supply

The Tedesco Report asserts that the proposed parking supply (the October 2022 BA Group Study indicates a provision of 202 spaces) was insufficient to accommodate the parking needs of the Project. The Tedesco Report bases this on the following:

- a. The local catchment area has no walk-in or cycling potential;
- b. That there is no identified nearby off-Site parking;
- c. That there are no sidewalks in the area;
- d. That there is an inability to accommodate bicycle trips appropriately; and
- e. That the October 2022 BA Group Study did not correctly calculate the by-law requirement for the Site based on the City of Markham's By-laws.

The first submission the project proposal has since undergone several significant revisions. One major addition to the Project is the proposed reconstruction of Leslie Street between the Site and Steeles Avenue East. The proposed reconstruction will add a continuous sidewalk connection and a multi-use path (MUP) to the east side of Leslie Street creating a continuous connection between the Site and Steeles Avenue East for pedestrians

and cyclists. In doing so, this will address the concerns raised in the Tedesco Report relating to there not being facilities to accommodate pedestrians and cyclists.

With respect to the 'walk in' or cycling potential, it is noted that the Site is located along the Lake-to-Lake Route which connects the surrounding communities to the Site. Together with the proposed upgrades to Leslie Street, the project will have significant 'walk in' potential.

With respect to not having any off-Site parking in the area, it is noted that the Bahá'í community also own the property located at 7015 Leslie Street (now known as the Don Valley Education Centre) which currently contains a surface parking lot. As part of the proposed project, the NSA will improve this parking lot and will be made available as overflow parking to accommodate any occasional peak parking days when the parking demand for the Bahá'í National Centre and temple exceeds the on-Site parking supply available. The off-Site parking lot will contain approximately 100 additional parking spaces and this lot will ensure the peak parking demand associated with periodic 'peak' events at the National Centre and temple can be accommodated. This includes the three-day National Convention in April and peak weekends / holiday period when visits to the temple will be higher than typical weekdays and weekends. **Section 7.2** of the revised report includes a 'first principles' parking demand estimate outlining the various parking demand profiles for the Project.

Lastly, with respect to the comment noting that BA Group did not correctly calculate the By-law requirements for the Project, it is noted that **Section 7.1** in the updated TIS has revised the By-law calculations. Based on the revised By-law calculations, and the parking demand estimate undertaken, BA Group concludes that both the in-force By-law 28-97 and the City's Comprehensive Zoning By-law 2024-19 (under appeal) standards both would overstate parking for the Project compared to what the actual estimated parking demand. This is because the temple and the Bahá'í National Centre cannot be considered as a typical 'place of worship' use compared to churches or mosques with regular scheduled services. Visits at the proposed temple will be spread out over the day, thus minimizing parking demand compared to a religious institution that meets the conventional definition of a 'place of worship' as there are no regularly scheduled sermons or services. As a result, it is BA Group's opinion that the City of Markham's By-law requirements are not representative of the parking needs of the Project and a site-specific parking requirement is now proposed based on the parking demand estimate that was developed for the Project. See **Section 1.1** of the revised Transportation Study for the recommended site-specific parking rates.

3. The Appropriateness of the Leslie Street to Accommodate Future Traffic Activity

The Tedesco Report asserts that Leslie Street is "unsafe and inadequate and needs to be upgraded" in order to accommodate the Project.

Further to this point, through discussions with the City of Markham and with the NSA, the project scope has been expanded to include a proposed reconstruction of Leslie Street which will create formal pedestrian and cycling facilities on Leslie Street. The proposed upgrades will also formalize the width of Leslie Street for accommodating two-way traffic (a minimum of 6.0 metres will be provided). In addition, parking regulations are proposed to be implemented in conjunction with the creation of formal on-street parking opportunities. Taken together, the improvements to Leslie Street will significantly improve the safety and traffic operations on the roadway and address the safety and operational concerns raised.

4. Locating the Site on a Local Road is Not Consistent with the Markham Official Plan

Section 2.2.3 of the Tedesco Report asserts that the proposed temple is not appropriate because it is located on a local road. A reference is provided to Policy 8.13.7.1 of the Markham Official Plan which notes that a place of worship within a residential or mixed-use land use designation should be: “*a) at an intersection of an arterial road with another public road; or b) a major collector road with a local road at a location that is in proximity to other institutional, commercial, mixed-use or higher density residential uses*”.

Policy 8.13.7 of the Markham Official Plan requires that when considering applications for amendments to the zoning by-law to permit a new or an addition to a place of worship, Council shall be satisfied that the following requirements are fulfilled:

- (a) The Site meets the size and location criteria for appropriate land use designation:
 - a. maximum of 2.0 hectares or 2.5 hectares if located on an arterial road or a maximum GFA of 500 square metres in a multiple unit building;
 - b. at the intersection of an arterial road with another public road, or a major collector road with a local road at a location that is in proximity to another institutional, commercial, mixed use or higher density residential uses;
- (b) A Transportation Impact Assessment and other requirements shall be submitted to demonstrate the place of worship will not result in significant impacts;
- (c) Provisions for adequate and appropriate access for vehicles, accessibility for pedestrians, and existing or future availability of public transit within a short walking distance; and
- (d) The design and layout will provide for a building form and scale that is compatible with or enhances the character of surroundings uses; provides for appropriate on-site open spaces and landscaping that enhance the place of worship and surrounding uses; provide for appropriate buffering in the form of visual screening planting, and / or fencing from adjacent residential uses, where required; manage and mitigate the potential impacts of noise, light, traffic and parking on the surrounding community; and provides sufficient on-site parking as well as off-site parking for special events.

Regarding the review of this policy, it is important to reiterate that the Place of Worship use is an existing permitted use under Zoning By-law 1767, and although a zoning amendment is being sought, it is notable that the zoning amendment does not seek to add or expand the existing place of worship use. No zoning amendment is necessary to use (or continue to use) 7200 or 7290 Leslie Street for a place of worship (or church or religious institution as permitted in By-law 1767). Furthermore, there are no zoning provisions that would limit the overall size of the place of worship. Accordingly, this policy is not directly applicable to the application under review.

Nonetheless, it provides some guidance regarding the appropriate location of places of worship within the City of Markham. However, this criterion should be reviewed in the context of their intent. The locational criteria to locate at the intersection of an arterial or collector road is intended to limit vehicular conflicts with adjacent residential uses and ensure sufficient road and intersection capacity to support a traditional place of worship use that has peak usage hours once or twice a week during weekly services or sermons. It is noted that the language in the policy is in consideration of a new permission or expanded permission (to which this application does not seek). Although Leslie Street is categorized as a local road, it does not function as or have the typical characteristics of a local road in residential areas. Furthermore, it is directly connected to Steeles Avenue East and there are no existing residential uses along Leslie Street. There are 7 existing residential uses along Waterloo Court which is connected to Leslie Street. However, the proposed development does not take access

from Waterloo Court – only direct access to Leslie Street. In accordance with Policy 8.13.1 b), this report concludes that the development proposal will not result in significant impacts on the adjacent road network. Furthermore, the proposal is in accordance with provisions outlined in c) provides adequate and appropriate access for vehicles, pedestrians, cyclists, and transit uses. Lastly, the proposed design and site layout is compatible with and will enhance the character of the surrounding area. The proposed design will provide appropriate open space and landscaping, appropriate buffers and visual screens to adjacent residential uses, mitigation and management of noise, light, traffic, and parking on the surrounding community; and will provide sufficient parking including a plan for overflow parking during special events taking place at the Site.

Furthermore, in the interest of making Leslie Street safer and more attractive for cyclists and pedestrians, the NSA are proposing significant upgrades to Leslie Street which will provide community benefit to the existing neighbours on Waterloo Court and to any area residents who currently walk and/or cycle through German Mills Settlers Park and the Lake-to-Lake Route.

3.0 SUMMARY & CONCLUSIONS

BA Group is retained by National Spiritual Assembly of the Bahá'ís of Canada (the 'NSA', the 'Canadian Bahá'í NSA', the 'Bahá'í NSA', or the 'NSA Bahá'ís) to provide transportation consulting services for a proposed residential development located on lands municipally known as 7015, 7200, and 7290 Leslie Street (the "Site"), in the northwest corner of the intersection of Steeles Avenue East and Leslie Street in the City of Markham.

The properties are located at the north end of Leslie Street. The two sites are generally bounded by Leslie Street to the north, Bayview Golf and Country Club to the west, German Mills Park to the east, and existing single-family residential units to the south.

The Site located at 7200 Leslie Street is currently occupied by the existing Bahá'í National Centre, which is a spiritual retreat and place of worship for the Bahá'í faith community of Canada. Vehicular access to the Site is provided from Leslie Street to the surface parking lot.

Proposed Development

1. The proposed development seeks to permit the construction of a new and expanded Bahá'í National Centre on the site of the existing Bahá'í National Centre at 7200 Leslie Street. A new National Temple is also proposed adjacent to the Bahá'í National Centre and would be located immediately to the north on the 7290 Leslie Street property. Despite being two distinct addresses, both sites will generally operate together and will be managed collectively by the Bahá'í NSA.
2. The proposed National Centre facility will continue to function as the administrative centre for the Bahá'í community of Canada as the existing facility does with between 15-25 staff members. In addition, the new Bahá'í National Centre will provide expanded meeting space for the events to be held for the Bahá'í community. The estimated GFA of the proposed National Centre building is 5,160 square metres.
3. The proposed National Centre will host various conferences and seminars that are proposed to take place periodically throughout the year. It will also host the annual National Convention which typically draws approximately 200 delegates from across the country (the majority of which are not residing within the GTA). From a day-to-day perspective, the National Centre will serve as the administration centre with a daily staff complement of approximately 25 individuals.
4. The proposed development also includes the construction of a new temple to serve as a National House of Worship with a proposed capacity of 400 people. The approximate GFA of the proposed temple is 1,409 square metres including ancillary buildings. The estimated worship area size (i.e. area of the Temple) is 650 square metres.
5. A total of 110 parking spaces are proposed on-Site. The spaces are to be located within three different areas on the site of the Bahá'í National Centre and the temple. Of the 110 parking spaces, 14 parking spaces are proposed to be provided at-grade adjacent to the Bahá'í National Centre to the east, 49 parking spaces proposed adjacent to the Bahá'í National Centre to the west (13 at-grade spaces and 36 spaces located within a one-level underground parking lot), and 47 parking spaces proposed to be provided at-grade on the north side of Leslie Street adjacent to the proposed temple.

6. One loading space is proposed at-grade and located at the rear of the new Bahá'í National Centre.

Transportation Context

Transit

7. The Site is served by bus transit services operated by the Toronto Transit Commission (TTC) in close proximity to the Site. The Site is located:
 - approximately 750 metres walking distance from the Route 51 bus stop located at the intersection of Steeles Avenue East / Leslie Street; and
 - approximately 800 metres walking distance from the Route 53 and Route 953 bus stop located at the intersection of Steeles Avenue East / Leslie Street
8. The Site is accessible to bus transit services which provide connections to the TTC Line 1 Subway as well as to a number of surface transit routes operated by the TTC.

Cycling

9. The Site is well-located with respect to its location relative to existing cycling infrastructure. The Lake-to-Lake trail, which passes north-south through the city of Markham, has a trailhead immediately next to the Site on Leslie Street which provides a connection through German Mills Settlers Park north to John Street.
10. South of the Site, the Lake-to-Lake trail currently utilizes a segment of Leslie Street to connect between the trailhead and Steeles Avenue East. Cyclists share the use of Leslie Street in this segment.
11. South of Leslie Street (approximately 750 metres to the south), the Lake-to-Lake trail connects to Duncan Creek Trail in the City of Toronto which also provides further linkages to the broader cycling network along the Don River through the City of Toronto.

Transportation Demand Management

12. A variety of mobility plan strategies are proposed as part of the development application to reduce the number of single-occupant vehicle trips to and from the Site. The proposed mobility plan includes both physical measures and programmatic measures. A summary of the TDM strategies contemplated in the mobility plan are as follows:
 - Implementing improvements to Leslie Street to improve pedestrian and cycling connections to the site and to Steeles Avenue East;
 - Providing on-site bicycle parking;
 - Making a staff member at the National Centre responsible for TDM (i.e. a TDM Coordinator) who will help manage travel to /from the site such as a carpool program;
 - Ensuring parking is not over-provided by proposing a site-specific requirement that reflects the actual parking demand.

Vehicular Parking Considerations

13. Application of the in-force City of Markham Parking Standards By-law 28-97 minimum parking requirements to the current proposal would require the provision of a minimum of 435 parking spaces (202 parking spaces for the place of worship and 233 parking spaces for the Bahá'í National Centre).

14. A comprehensive review conducted by the City of Markham which includes updated minimum parking requirements. Per the draft Markham zoning requirements, 189 parking spaces are suggested (100 parking spaces for the place of worship and 89 parking spaces for the Bahá'í National Centre).
15. The parking requirements outlined in By-law 28-97 and the City's new comprehensive By-law 2024-19 (under appeal) are not reflective of the unique nature of the proposed Bahá'í National Centre and temple, and as a result the City's current by-law standards overstate the parking needs of the project. Rather, a site-specific parking requirement is proposed that more accurately reflects the anticipated parking demand of the site.
16. A 'first principles' parking demand analysis was undertaken to estimate the future combined parking demand associated with the proposed Bahá'í National Centre and the proposed Temple. The analysis for the National Centre considered projected occupancies for the various activities that will be held at the National Centre. For the Temple, the parking analysis considered daily visitor information provided for two comparable Temples identified by the Bahá'í NSA. BA Group then estimated mode splits and temporal profiles for each use to derive a projected parking demand for key design periods. These design periods are a typical weekday, a typical weekend, and a peak weekend / holiday period.
17. The Bahá'í National Centre is expected to generate a typical weekday parking demand of approximately 25 vehicles and 0 vehicles during a typical weekend period. Higher utilization will periodically occur during the week associated with occasional seminars and meetings that will be held at the Bahá'í National Centre. These activities are estimated to occur between 6-12 times a year (once every month or two). During these events, the parking demand generated by the Bahá'í National Centre may increase up to approximately 80 parking spaces.
18. The Temple will have a different temporal utilization pattern than the Bahá'í National Centre with its demand expected to be at its peak during weekends. Another important consideration that affects parking demand significantly is that a Bahá'í Temple operates very differently than a typical place of worship, in that a Bahá'í Temple does not have regularly scheduled services. Rather, the Temple is open throughout the day for drop-in worship, and as a result, the parking demand is much more spread out compared to a typical place of worship (i.e., a church or a mosque).
19. Based on the demand analysis, the estimated parking demand for the Temple during a typical weekday is 10 vehicles and 35 vehicles on a typical weekend. The estimated peak parking demand is estimated to be in the order of 100 vehicles. Based on a review and analysis of visits to comparable temples, the estimated peak parking demand is generally expected to occur on public holidays when the broader community (which is not limited to the Bahá'í community) are accessing the adjacent trails and parks, and, to a lesser extent, on Bahá'í holy days.
20. While the parking demand for each individual building could reach up to 100 parking spaces, the observed demand profiles generally will not overlap, and both buildings can utilize the available shared parking supply. Taking into account that the Bahá'í National Centre and temple will generate parking demands at different times, the opportunity for shared parking exists. The resultant combined shared parking demand estimate of both sites combined is therefore approximately 100 to 115 parking spaces for both sites taking into consideration the ability to share spaces between sites.

21. In recognition of the site-specific parking demands estimated for the Bahá'í National Centre and Temple, the following site-specific parking rates are recommended for the Project:
- Bahá'í National Centre: 1 space per 50 square metres of gross floor area (GFA)
 - Place of Worship: 1 space per 6 square metres of worship floor area
22. Recognizing that the Bahá'í National Centre and temple will operate together, it is recommended that the above parking requirements be calculated as a combined requirement of the Bahá'í National Centre and temple. In addition, site-specific shared parking factors for the Bahá'í National Centre and temple are recommended to ensure that the combined parking requirement takes into account the shared parking potential between the Bahá'í National Centre and temple. The recommended shared parking provisions are outlined in Section 7.3.2 of this report.
23. Application of the recommended parking requirements and shared parking provisions would result in a projected combined parking requirement of the Bahá'í National Centre and temple of 114 spaces.
24. A total of 110 to 115 vehicular parking spaces are currently highlighted in the plans. The proposed supply is sufficient to meet the recommended parking requirements which would result in the projected 114 space requirement noted above. The proposed on-site parking will therefore appropriately accommodate the estimated parking demands of the Bahá'í National Centre and the Temple. The precise parking proposed on each site will be confirmed through the future Site Plan Application process.
25. The peak parking demand of the Bahá'í National Centre and Temple will generally not overlap. This is because the Bahá'í National Centre will typically have peak demand on weekdays and the Temple on weekends. However, the occasional parking demand associated with weekend activities at the Bahá'í National Centre and will overlap with the parking associated with the Temple. This would be associated with periodic seminars and the National Convention held in once a year in April.
26. During the worst-case scenario on an overlapping peak demand during the National Convention, the estimated and combined peak parking demand of the Bahá'í National Centre and Temple is estimated to 188 parking spaces.
27. While the once a year (i.e. worst case) parking demand exceeds the estimated 115 spaces that will be provided on-site, it is proposed to use the adjacent parking lot on the east side of Leslie Street owned by the NSA Bahá'ís (7015 Leslie Street) for the purposes of accommodating overflow parking during rare occurrences of overlapping demand such as the National Convention.
28. The off-site parking lot at the Don Valley Education Centre (7015 Leslie Street) is proposed to be improved through this application to include upgraded landscaping and natural areas. Once improved, the parking lot located at 7015 Leslie Street will have approximately 100 additional parking spaces. The supply of an additional 100 parking spaces will be sufficient to accommodate the projected overflow parking need (resulting from a combined peak parking demand of the Bahá'í National Centre and Temple).

29. Therefore, even taking into consideration the projected worst-case scenario of overlapping demand at the Bahá'í National Centre and temple, the recommended minimum parking requirements, which would result in a requirement of approximately 115 parking spaces on-site, combined with the proposed ability to utilize the adjacent parking lot at 7015 Leslie Street, will ensure parking demands associated with the Project are appropriately accommodated.
30. With respect to accessible parking, the current architectural plans illustrate the provision of 8 accessible parking spaces to accommodate the Bahá'í National Centre, and 3 accessible parking spaces to accommodate the place of worship, for a total of 11 accessible parking spaces. This supply exceeds the 5% supply required by the City of Markham's current parking standards which would be approximately 6 spaces. The proposed accessible parking supply illustrated in the concept drawings is therefore appropriate.
31. The final parking supply provision for the Bahá'í National Centre and temple will be confirmed through the future Site Plan Applications for each site.

Proposed Leslie Street Improvements

32. The existing condition of Leslie Street is an uneven pavement width without formal pedestrian and cycling facilities. During the spring and summer seasons, there are large numbers of pedestrians and cyclists who will traverse the segment of Leslie Street between Steeles Avenue East and the Lake-to-Lake Trail. There is also currently no parking restriction signage on the roadway. As a result, Leslie Street in vicinity of the Site often experiences operational and safety challenges.
33. The NSA is proposing to implement a number of improvements to the Leslie Street cross-section as part of the work associated with raising Leslie Street that is proposed as part of the floodplain mitigation strategy. The proposed improvements will improve traffic flow, pedestrian and cyclist safety, and to address concerns raised by the community.
34. Improvements proposed to Leslie Street include:
 - The construction of a new multi-use path (MUP) along the east side of the road which will provide pedestrians and cyclists with a dedicated facility connecting between the intersection of Steeles Avenue East and Leslie Street north to the existing trailhead as part of the Lake-to-Lake Route;
 - The creation of designated areas for on street parking creating 10-20 new formal parking spaces for community members who currently park on Leslie Street informally. This would be complemented by adding no parking signage to better enforce legal parking;
 - Raising the vertical profile of the street in areas that are currently below flooding levels which will provide an overall safety benefit to residents of Waterloo Court and visitors to the Bahá'í National Centre and temple;
 - In concert with the planned changes to the vertical profile of Leslie Street, reconstructing / widening other segments north of Steeles Avenue East to create a more uniform pavement that allows for a minimum of 6 metres of width to appropriately accommodate two-way traffic;
 - Providing improved signage at the intersection of Steeles Avenue East and Leslie Street to discourage and prohibit U-Turn movements from occurring on the north approach of Leslie Street.

Bicycle Parking Considerations

35. The application of the currently in-force City of Markham Parking Standards By-law 28-97 does not contain a requirement for bicycle parking spaces. By-law 177-96 also does not contain minimum requirements for bicycle parking spaces.
36. The application of the City of Markham's Comprehensive Zoning By-law 2024-19 (under appeal) would require bicycle parking spaces for non-residential buildings that have a total GFA of non-residential uses is greater than 2,000 square metres. As the Site consists of two separate parcels, the requirement would only be applicable only to the lot municipally known as 7200 Leslie Street for the proposed Bahá'í National Centre.
37. The bicycle parking rates outlined in the City's new By-law do not directly correspond to the planned uses in the Bahá'í National Centre. The closest comparable requirements would be for 'business office' or 'Place of Worship' uses. Applied to the proposed Bahá'í National Centre, these requirements would range between 6 to 14 short-term spaces and 6 to 8 long-term spaces.
38. The current proposed bicycle supply provided is ten long-term bicycle spaces and 50 short-term bicycle parking spaces. The proposed short-term bicycle parking supply is within the range of requirements outlined in the City's new by-law and the proposed long-term supply exceeds what would be required by the City's new By-law. Therefore, the proposed bicycle parking is acceptable.

Loading Considerations

39. The application of the City of Markham Parking Standards By-law 28-97 would result in a loading space requirement of zero loading spaces.
40. Two loading spaces are required according to the City's By-law 177-96. However, it is recognized that the requirement is a generic requirement for non-residential uses which does not consider the unique use of the development being proposed and the associated events and programs. Delivery activities are expected to be infrequent and are tied to the various events offered and thus would be managed by administrative staff on a case-by-case basis.
41. It can be argued that the Site can be categorized as a place of worship, which is defined within By-law 177-96 as "a building used by a charitable religious group for the practice of religious rites". Under clause d) of Section 6.9.1 in the By-law, no loading spaces are required for a place of worship.
42. One loading space is proposed to support the loading needs of the proposed development. Based on the foregoing, the proposed loading supply is appropriate for the Site's needs.

Travel Demand Forecast

43. The existing building generates in the order of 20 and 15 two-way trips during the weekday morning and afternoon peak hours, respectively. The existing Site traffic volumes are removed from the area road network under the future study horizons included in the analysis.
44. As the Site is expected to accommodate varying numbers of both youth and adult members throughout the year, mode splits were separately defined for each program/event scheduled to occur over the calendar year to accurately represent the number of Site-generated vehicular trips.

45. For the purpose of the analysis, the 85th percentile trip generation was estimated to represent a moderate to high utilization of the Site during one of the recurring events during the year. The 85th percentile activity therefore represents a conservative scenario of activity on the Site that happens relatively infrequently (approximately 10-15 times a year).
46. For the 85th percentile design hour, it is estimated that the proposed development will generate in the order of 130 and 165 net new two-way vehicle trips during the weekday morning and weekday afternoon peak hour, respectively.
47. The vehicle trips generated by the National Convention are not representative of typical operations at the Site and will be managed by Bahá'í staff members. On this basis, the National Convention is not appropriate to be included in assessing the recurring traffic impacts associated with the Project.

Multi-Modal Travel Demand Assessment

48. During the 85th percentile activity event (which includes the day-to-day functions, youth camps, and typical weekday temple visits), the Site is estimated to generate in the order of 50 two-way transit trips during the morning and afternoon peak hours. The level of service for access to transit results in a LOS E, while the level of service for transit headways ranges from LOS B to LOS E.
49. It is noted that access to transit is a function of the Site's distance to Steeles Avenue East given its location within a low-traffic environment. In addition, most travellers to and from the Site are expected to travel along Steeles Avenue where transit headways are more frequent.
50. For the 85th percentile design hour, the Site is forecast to generate negligible primary pedestrian trips and in the order of 50 transit-based pedestrian trips during the morning and afternoon peak hours.
51. Pedestrians are currently experiencing levels of service ranging from LOS B to LOS F in the vicinity of the Site. However, with the proposed improvements to Leslie Street, the condition of Leslie Street is expected to improve to a pedestrian LOS A due to the construction of a 3.0-metre multi-use path (MUP).
52. The Site is forecast to generate negligible primary pedestrian trips during the morning and afternoon peak hours and in the order of 50 transit-based pedestrian trips based on the 85th percentile design hour.
53. The existing walking condition to the Site is via a low-speed shared roadway. However, a multi-use path (MUP) is proposed to be constructed which will enhance the pedestrian and cycling connectivity, thereby accommodating the transit-based pedestrian trips.
54. The proposed redevelopment is forecast to generate negligible cycling trips within the five-year study horizon.

Traffic Operations Analysis

Signalized Intersections

Steeles Avenue East / Leslie Street

55. Under existing conditions, the intersection operates at an overall V/C ratio of 0.88 and 0.85 during the morning peak hour and the afternoon peak hour, respectively.
56. With the addition of traffic generated from background developments, the intersection will continue operating acceptably at an overall V/C of 0.89 during the morning peak hour and 0.86 during the afternoon peak hour.
57. Under future total traffic conditions, with the addition of the projected traffic associated with an 85th percentile event at the Site, the intersection will continue to operate acceptably at an overall V/C of 0.91 during the morning peak hour and 0.92 during the afternoon peak hour. The addition of Site traffic will have a small to modest impact to intersection operations on overall intersection operations. The key movements impacted are the westbound left turn and southbound approach. These movements have sufficient capacity to accommodate the traffic and no modifications to the signal timing plan are required.

Unsignalized Intersections

Leslie Street / Private Parking Lot (Don Valley Education Centre)

58. Under existing conditions, the intersection operates under good conditions (with a LOS A or better).
59. Under future background conditions, with the addition of background traffic, the intersection will continue operating under good conditions (with a LOS A or better).
60. Under future total conditions, with the addition of Site-generated traffic, the intersection will continue operating under good conditions (with a LOS B or better). The addition of Site traffic has negligible impact on the overall intersection operations. All individual movements and the intersection overall are expected to operate at acceptable levels of service and within capacity.

Leslie Street / Site Access

61. Under existing, future background, and future total conditions, the intersection is expected to operate under good conditions (with a LOS A or better).
62. The Site traffic volumes are expected to be appropriately accommodated at the Site access.

4.0 PROPOSED DEVELOPMENT

4.1 OVERVIEW

The Project proposes the construction of a new Bahá'í National Centre (herein referred to as the “National Centre” or the “Bahá'í National Centre”), which will be home to the Bahá'í faith community in the Greater Toronto Area and will also serve as the Bahá'í National Office and the location where national conferences and events will be held. The Bahá'í National Centre will house meeting rooms and conference halls to facilitate conventions, seminars, and other related activities. Dormitories are also proposed on-Site to accommodate overnight guests associated with youth programs and conferences. Guests and staff members will also have access to a supporting kitchen facility and dining hall. The preliminary estimated floor area for the proposed Bahá'í National Centre is 5,150 square metres¹.

The Project also proposes a new Temple (herein referred to as the “Temple” or the “temple”) which will be located immediately north of the National Centre, with an underground connection to the temple from the National Centre to be established via a tunnel. The facility is also open to members of the public to encourage interaction with the gardens and green space that surround the house of worship. The Temple will have a projected floor area of approximately 600 square metres and a projected capacity of 400 persons¹.

The proposed Project comprises the lands abutting German Mills Settlers Park to the north, Waterloo Court to the south, Bayview Golf and Country Club to the west, and Bercy (Wycliffe) Park to the east. The reduced scale architectural plans of the proposed development are attached in **Appendix B**. The Master Plan is also shown in **Figure 3**.

As part of the revised development proposal, the NSA is proposing the implementation of significant improvements to Leslie Street by raising the road segment north of Steeles Avenue East out of the floodplain, thereby improving the overall road condition and safety of existing and future road users. By proposing a multi-use path (MUP) along Leslie Street from the Site to Steeles Avenue East, pedestrians and cyclists will enjoy stronger connectivity between the broader regional pedestrian and cycling network (Lake-to-Lake Route).

4.2 PROJECTED PROGRAMMING

The National Centre will serve as a gathering place for events associated with the Bahá'í faith and will host numerous events throughout the year of various sizes, which are summarized in **Table 1**.

¹ To be confirmed through the future Site Plan application process.

TABLE 1 BAHÁ'Í NATIONAL CENTRE – PROGRAM LIST

Program	Estimated Occupancy (visitor #s)	Age Group	Description	Frequency
Bahá'í National Centre				
Day to Day Administrative Functions (Regional / BNC Offices)	25	21+	Attended by staff, council members, boards, agencies	Weekdays
National Convention	200	21+	Attended by delegates across Canada	3-day event (April)
Institute for Studies in Global Prosperity (ISGP) Seminar	90	18-23	Attended by university students from across Ontario	12-day event (May-June)
ISGP National Unit Coordinator Gathering	30	18+	Attended by program coordinators from across Canada	3 5-day event (January)
Institute and Learning Site Seminars	30-50	18+	Attended by coordinators; working to enhance junior youth programs	1-3 weeks, 4 times a year (June / July / August / December)
Periodic Consultative Gatherings / Seminars	30	18+	The NSA convenes periodically to obtain advice on a particular theme	Held on weekends, 3 times a year
Don Valley Education Centre (7015 Leslie Street)				
Junior Youth Camps	100	11-15	Attended by junior youth from neighbourhoods across Toronto	Periodic 1, 3, or 5-day events held throughout the year (summer/winter breaks)
Youth Camps	50	15-30	Attended by youth from neighbourhoods across Toronto	Periodic 1 to 2-week events held throughout the year

In addition to the above programming, the Bahá'í National Centre will be the administrative home for the Canadian operation. As such, there will be an ongoing presence of several staff members on-Site during Monday to Friday. For each event, an estimated of the projected mode split was developed based on input from the project team, client, and based on a review of prevailing mode split trends according to Transportation Tomorrow Survey (TTS) data, which is discussed in further detail in **Section 11.5**.

It is noted that the table above includes only the programs that are expected to generate travel trips during the weekday morning and afternoon peak hours, as weekday peak hour volumes associated with the on-street peak hours are greater than the peak hour volumes observed on the weekend.

5.0 TRANSPORTATION CONTEXT

5.1 ROAD NETWORK

The Site is located within the boundaries of the City of Markham. **Figure 4** and **Figure 5** illustrate the existing road network and lane configurations, respectively.

Steeles Avenue East is an east-west major arterial road under the jurisdiction of the City of Toronto with a right-of-way (ROW) width of 36 metres (as per the City's Official Plan), providing critical east-west connections across the Greater Toronto Area. Within the study area, it has a posted speed limit of 50 km/h. It has a six- to ten-lane cross section with auxiliary turn lanes, with channelized right turns at the south approach of the intersection of Steeles Avenue East / Leslie Street.

Leslie Street is a north-south local road under the jurisdiction of the City of Markham north of Steeles Avenue East, and under the jurisdiction of the City of Toronto south of Steeles Avenue East, where the road is classified as a major arterial with a ROW width of 36 metres (as per the City's Official Plan). Within the study area, it has a posted speed limit of 50 km/h. Within the City of Markham, it has one lane in each direction, with a four-lane cross section south of Steeles Avenue East.

For the purposes of this study, the intersection of Steeles Avenue East / Leslie Street (signalized) was included in the analysis to assess the impacts of the Project.

5.2 TRANSIT NETWORK

5.2.1 Toronto Transit Commission

While there are no York Region Transit (YRT) bus routes providing service in the immediate vicinity of the subject Site, the following Toronto Transit Commission (TTC) bus routes operate within the study area:

Bus Route 51 (Leslie) generally operates in a north-south direction between the Don Mills Road / Steeles Avenue East intersection to the north and Eglinton Station to the south. In the vicinity of the Site, the bus travels north-south along Leslie Street. The closest stop to the subject Site is located approximately 800 metres to the south at the intersection of Steeles Avenue East / Leslie Street. Buses operate at 25 to 30-minute headways in all peak hours.

Bus Route 53 (Steeles East) generally operates in an east-west direction between Finch Station to the west and to the Finch Avenue / Morningside Avenue intersection to the east. In the vicinity of the Site, the bus travels east-west along Steeles Avenue. The closest stop to the subject Site is located approximately 750 metres to the south at the intersection of Steeles Avenue East / Leslie Street. Buses operate at 5-minute headways in all peak hours.

Bus route 953 (Steeles East Express) generally operates in an east-west direction between Finch Station to the west and to the Finch Avenue / Morningside Avenue to the east. It is the express bus for Route 53 (Steeles East). The closest stop to the subject Site is also located at the intersection of Steeles Avenue East / Leslie Street. Buses operate at 7-minute headways during both weekday morning and afternoon peak periods, and do not provide service on weekends. The area transit services are illustrated on **Figure 6**.

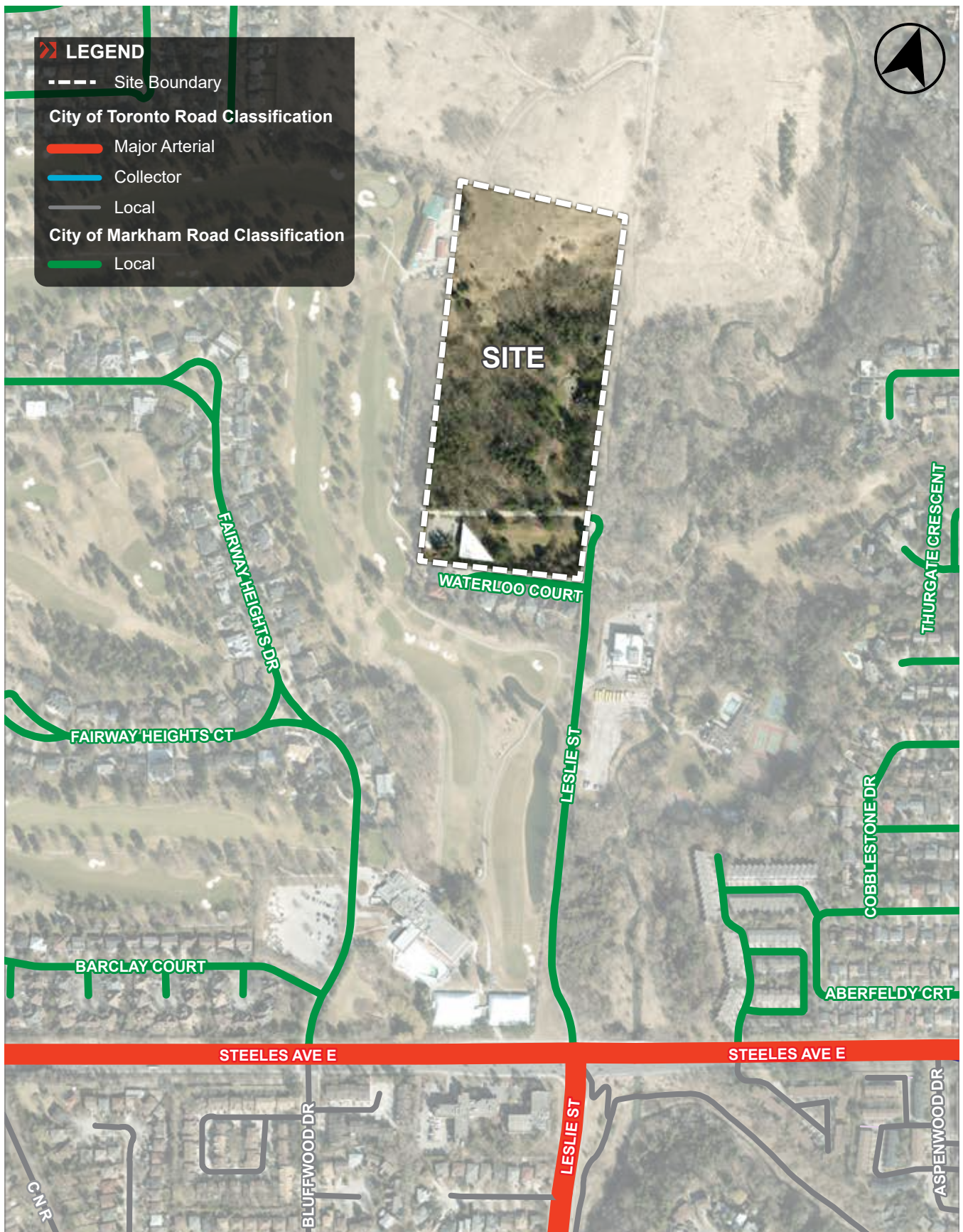
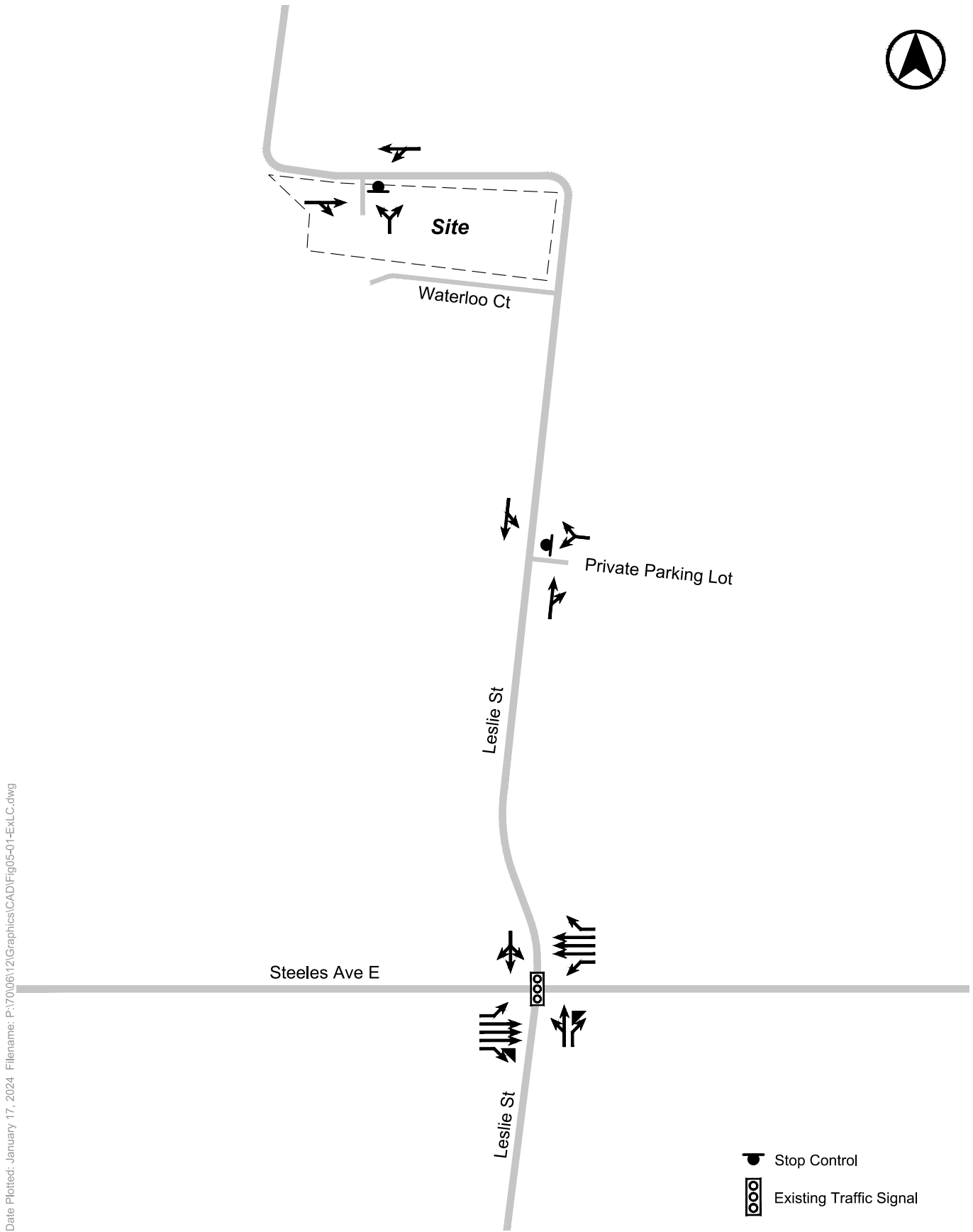
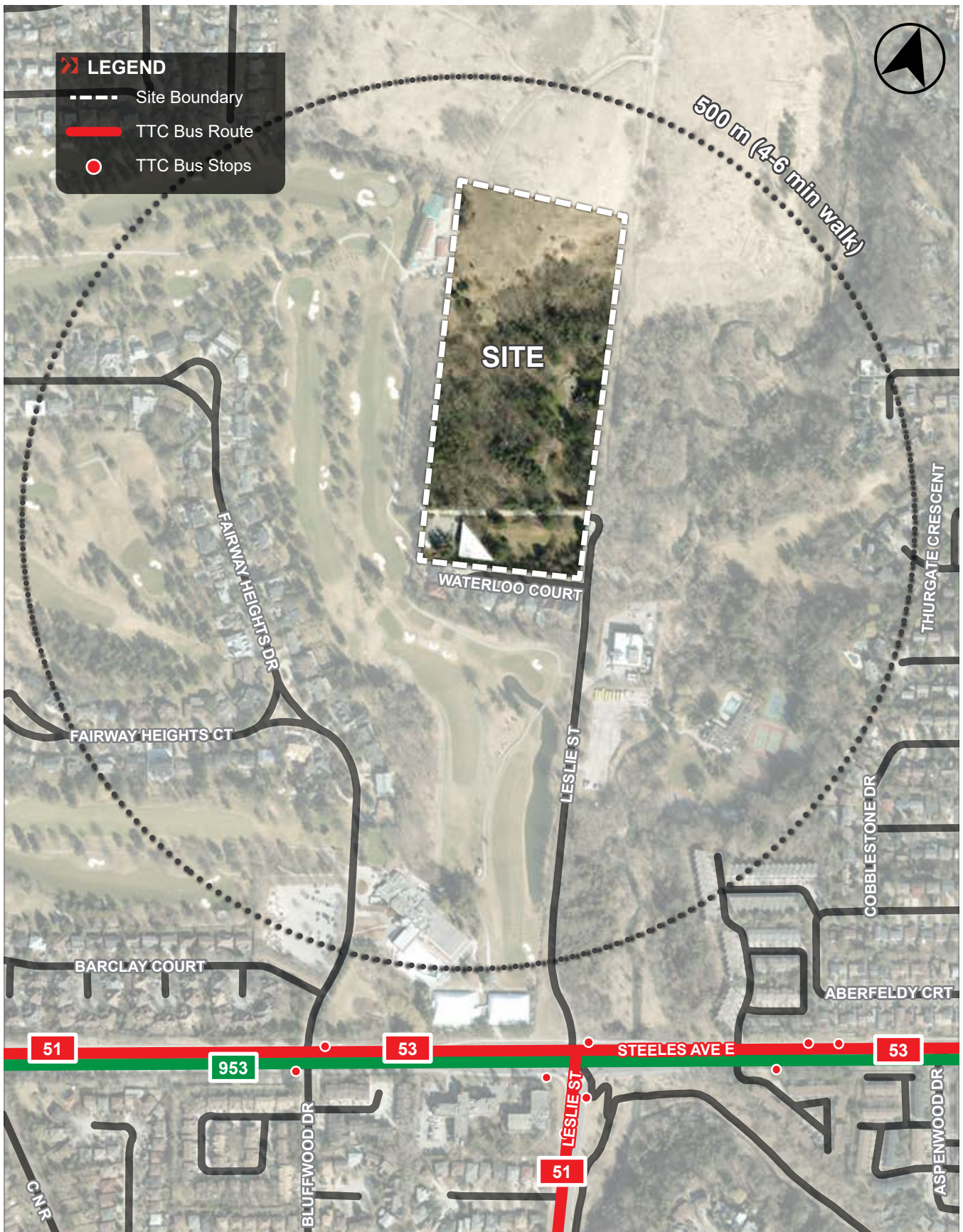


FIGURE 4 AREA ROAD NETWORK



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FIGURE 5 EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL



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FIGURE 6 AREA TRANSIT NETWORK

5.3 AREA CYCLING NETWORK

5.3.1 York Region / City of Markham Cycling Network

There are existing on-street routes on John Street, German Mills Road, and Cottonwood Court located north of the Site that provide connections to trails within German Mills Meadow and Natural Habitat and German Mills Settlers Park. An existing trail also connects through German Mills Settlers Park from John Street to the north to Leslie Street near the Site as part of the Lake-to-Lake Route, a recreational and commuter trail forming a north-south spine from Lake Simcoe to Lake Ontario.

It is also noted that the final 2022 Transportation Master Plan identifies recommendations and action plans for discussion and implementation over the next five years to meet the transportation needs of motorists, pedestrians, cyclists, and transit riders. These recommendations include the following:

- Integration of active transportation network – regional roads to accommodate all modes of travel including walking and cycling;
- Consideration of underused or unused land to expand such a hydro corridors or old rail lines; and
- Outreach to encourage shift to active transportation targeting areas where new cycling features are available or planned.

5.3.2 City of Toronto Cycling Network

There are existing connections to Duncan Creek Trail approximately 750 metres to the south at the intersection of Steeles Avenue East / Leslie Street, which in turn provides linkages to other parts of the broader cycling network along the Don River.

Figure 7 illustrates the existing area cycling context.

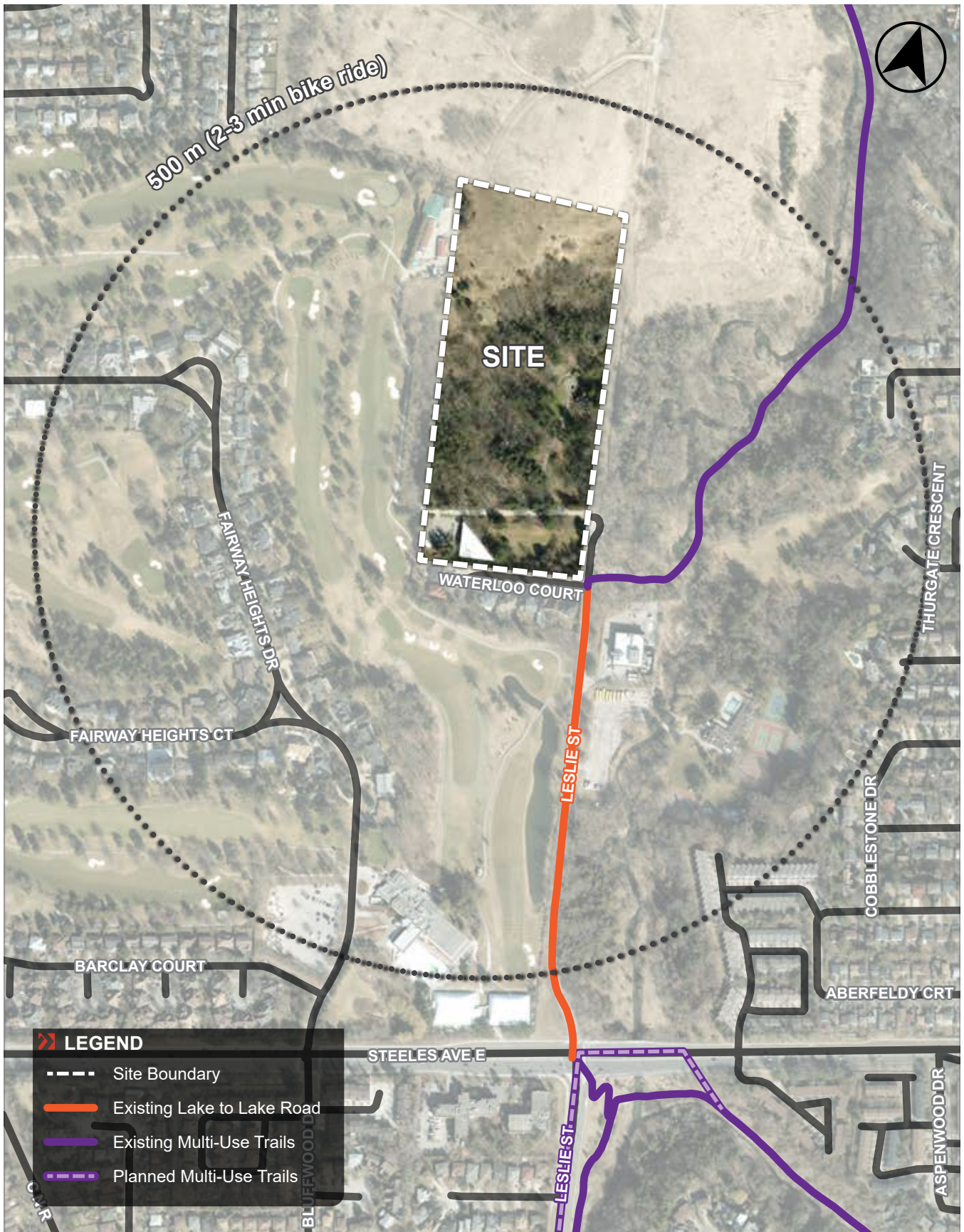


FIGURE 7 AREA CYCLING NETWORK

6.0 TRANSPORTATION DEMAND MANAGEMENT

A Transportation Demand Management (TDM) Plan for the Site is proposed to guide the provision of viable alternative personal transportation options beyond the use of a single-occupant private automobile. This Plan is intended to support the parking supplied and is based on the York Region Transportation Mobility Plan Guidelines for Development Applications, dated November 2016. The suite of TDM strategies under consideration will promote the use of more active and sustainable transportation modes, respond to the mobility needs of residents and visitors to the Site and reduce dependence on the private automobile.

Four specific objectives define the policy framework for the TDM Plan:

- Encourage the use of alternate travel modes (transit, cycling, walking);
- Increase ride sharing and vehicle occupancy;
- Shift travel to off-peak periods; and
- Reduce vehicle kilometres travelled.

A comprehensive framework has been developed that will serve as a guideline for the implementation of effective TDM strategies during the Site design stage as well as in its operations following the full redevelopment of the Site.

6.1 TDM PLAN STRATEGIES

The future site context provides for good public transit service as well as pedestrian connectivity. TDM strategies have been developed to further support the use of non-auto modes of travel. The recommended TDM measures are summarized in **Table 2**.

6.1.1 Pedestrian and Cycling Connections

The City of Markham will work with the National Spiritual Assembly of the Bahá'ís of Canada to construct a new multi-use path (MUP) on the east side of Leslie Street proposes to provide pedestrians and cyclists with a dedicated facility connecting between the intersection of Steeles Avenue East and Leslie Street north to the existing trailhead as part of the Lake-to-Lake Route. The new facility will enhance pedestrian and cycling safety while providing pedestrians and cyclists with connections to the broader trail network to the south of the Site.

The existing pedestrian and cycling connections are proposed to be maintained and enhanced as part of the redevelopment plan. The Site proposes to include internal pedestrian connections to and from the temple and with connections to John Street in the City of Markham to the north via a pedestrian pathway which will reinforce pedestrian connectivity in the area. The cost associated with the provision of the pedestrian and cycling connections will be integrated into the overall cost of redevelopment as part of the landscape improvements throughout the Site.

Additionally, there is a proposed internal underground tunnel connecting the National Centre with the temple, along with an at-grade connection which takes visitors from the National Centre through woodland gardens on the way to the place of worship.

6.1.2 Bicycle Parking Spaces

Providing bicycle parking on-Site intends to encourage cycling as a viable means of transportation. The cost associated with the provision of bicycle parking will be integrated into the overall cost of redevelopment. The Project will provide a total of ten long-term bicycle spaces and 50 short-term bicycle parking spaces within the landscape areas.

6.1.3 Bike-Share Programs

While the provision of bike-sharing programs is not required to accommodate the development, bike-sharing opportunities should be explored to promote active transportation and to encourage more visitors to interact with the green spaces around the vicinity of the Site. As such, the Project will seek to protect space within the Site to accommodate a future bike-share station if a bike-sharing operation were to expand into this area. It should also be noted that any future provision of a bike-share program on-Site is contingent on a service provider agreeing to locate bike-share spaces on the Site.

6.1.4 Electric Vehicle Charging Stations

The Site proposes an allocation of 10% of the vehicle parking spaces to be fitted with electric vehicle (EV) charging stations to accommodate growing visitor demand. The inclusion of EV charging stations within the Site would support the broader environmental goals of the development.

6.1.5 Priority Carpool Spaces

Allocating a proportion of the vehicle parking spaces for visitors who arrive at the Site via carpooling to reduce parking demand. The inclusion of priority carpool spaces within the Site would support the broader environmental goals of the development. The number of spaces will be determined through a review of needs with the Bahá'í community.

6.1.6 Travel Mode Information Packages

Travel information packages should be provided to staff members and visitors to promote available modal choices in the area now and in the future. Information related to non-auto modes of travel can be emailed periodically to staff and council members.

6.1.7 Communication Strategy

A "Meet & Greet" event with the Bahá'í council members and staff will be scheduled prior to the Bahá'í National Convention to provide opportunity for York Region and/or City of Markham staff to attend and promote sustainable transportation options through presentations and question/answer sessions. If necessary, travel mode information packages can be distributed as part of these events. The Owner shall coordinate specific event details with York Region and/or City of Markham staff allowing a minimum of 2 months notice prior to the National Convention.

6.1.8 Assigning a TDM Coordinator

It is recommended that one of the Bahá'í National Centre staff will be made responsible for establishing a carpool program and to manage other TDM-related mobility strategies offered. These responsibilities would be assigned to an employee (i.e., a TDM coordinator) who would coordinate the carpool and TDM programs offered (i.e., a TDM coordinator).

The TDM coordinator would seek to work with the Bahá'í community and staff of the National Spiritual Assembly to improve travel options. The TDM coordinator would also be assigned to liaise and investigate opportunities with Smart Commute Markham-Richmond Hill (SCMRH) for the purposes of implementing TDM strategies such as a carpool program for the Site.

6.1.9 Event-Specific Considerations

In addition to using the NSA Bahá'í-owned lot on the east side of Leslie Street for additional parking, the NSA Bahá'ís will coordinate travel logistics with guests and invitees in order to minimize the amount of vehicular traffic travelling to and from Leslie Street during events scheduled throughout the year that are expected to generate higher volumes of traffic.

Event-specific accommodations that may be considered include: the provision of a shuttle bus to and from an off-site lot, use of the NSA Bahá'í lots for pick-up and drop-off activities, and providing information to attendees ahead of scheduled events regarding the limited on-Site parking capacity and directing attendees to alternative considerations.

TABLE 2 RECOMMENDED TDM STRATEGIES

Measure	Description	Cost Estimate	Implementation Strategy
Infrastructure-Based TDM Strategies			
Pedestrian and Cycling Connections	Provide pedestrian and cycling connections from the Site to the existing trail network within German Mills Settlers Park.	Integrated into overall development cost.	Construct as part of land development.
Bicycle Parking	Provide bicycle parking spaces to encourage active transportation and to capitalize on biking opportunities in the area.	Integrated into overall development cost. Long-term bicycle parking racks within an enclosed room estimated at approx. \$550 per space. Short-term bicycle parking costs are estimated at approx. \$5,000 for groupings of approximately 20 spaces.	Construct as part of land development.
Bike-Share Program	Explore opportunities for bike-share programs to offer bicycles on-Site. Allocate space for Bicycle Share Programs infrastructure and locate them in priority locations (i.e., close to building entrances).	Subject to negotiations with bike-share services.	Construct as part of land development. Accommodate space on-Site for bike-share facility through site plan approvals if required.
Electric Vehicle Charging Stations	Provide electric vehicle charging stations within the parking areas for 10% of the parking spaces.	Integrated into overall development cost.	Construct as part of land development.
Priority Carpool Spaces	Provide designated vehicle spaces for visitors / staff members arriving to the Site by carpool. The number of spaces to be confirmed through discussions with council members and staff.	Integrated into overall development cost.	Construct as part of land development.

Measure	Description	Cost Estimate	Implementation Strategy
Programmatic TDM Strategies			
Travel Mode Information Packages	Provide travel mode information packages for new staff / council members / visitors to promote available modal choices in the area.	To be determined.	Distribution of travel mode information packages will be at the discretion of York Region. Information regarding access to non-auto modes of transportation to be emailed to community members.
Communication Strategy	Provide opportunity for York Region staff to attend and promote sustainable transportation through presentations. Provide opportunity for York Region or City of Markham staff to liaise and make presentations with staff at the National Centre in order to promote a communication strategy prior to the Bahá'í National Convention to promote sustainable transportation.	To be determined.	The developer of the land use shall coordinate specific event details with York Region's Transportation Planning and/or City of Markham staff allowing a minimum of 2 months notice prior to the National Convention.
Partner with SmartCommute to support Ride-Sharing (Carpool) Program	Explore opportunities to offer carpooling options for staff / council members.	To be determined in conjunction with potential Smart Commute Markham-Richmond Hill partnership.	To be implemented as part of the proposed land use. The number of spaces will be confirmed through an internal travel needs survey undertaken prior to the occupancy of the proposed Bahá'í facility.

7.0 VEHICULAR PARKING CONSIDERATIONS

7.1 ZONING BY-LAW REQUIREMENTS

7.1.1 City of Markham Parking Standards By-law 28-97

The prevailing Zoning By-law for the Site is Zoning By-law 1767. As with most Zoning By-laws in Markham, the city-wide parking standards are contained within City of Markham Parking Standards By-law 28-97 and is shown in **Table 3**.

TABLE 3 BY-LAW 28-97 MINIMUM PARKING REQUIREMENTS (BY SUB-USE)

Use	NFA	Minimum Rate	Minimum Requirement ²	Minimum Requirement with Sharing ^{2,3}		
				AM	PM	Evening
Temple						
<i>Place of Worship / Sanctuary</i>	<i>650 sq.m. (worship area capacity: 807)</i>	<i>1 space per 9 m² NFA OR 1 space per 4 persons of the worship area capacity</i>	<i>202 spaces</i>	<i>100%</i>		
Subtotal (Place of Worship)			202 spaces	202 spaces	202 spaces	202 spaces
National Centre						
<i>Meeting / Conference Rooms (Assembly Hall)</i>	<i>1,510 sq.m.</i>	<i>1 space per 9 m² NFA</i>	<i>168 spaces</i>	<i>17 spaces (10%)</i>	<i>42 spaces (25%)</i>	<i>168 spaces (100%)</i>
<i>Office</i>	<i>600 sq.m.</i>	<i>1 space per 30 m² NFA</i>	<i>20 spaces</i>	<i>20 spaces (100%)</i>	<i>19 spaces (95%)</i>	<i>2 spaces (10%)</i>
<i>Dormitories (Hotel)</i>	<i>74 beds (2,252 sq.m.)</i>	<i>0.85 spaces per suite</i>	<i>63 spaces</i>	<i>50 spaces (80%)</i>	<i>47 spaces (75%)</i>	<i>63 spaces (100%)</i>
Subtotal (National Centre)			251 spaces	87 spaces	108 spaces	233 spaces
Total (with sharing)³			453 spaces	289 spaces	310 spaces	435 spaces

Notes:

1. Site statistics are based upon the architectural plans from Hariri Pontarini Architects Inc., dated December 1, 2023.
2. As per Zoning By-law 28-97, if the calculation of the number of required parking spaces results in a number with a fraction of less than 0.5, the number is rounded down to the nearest whole number. Fractions equal to or greater than 0.5 shall be rounded up to the nearest whole number.
3. Shared parking space calculations based on City of Markham Parking Standards By-law 28-97. The largest of the parking sums determined for each of the morning, afternoon, and evening periods based on Section 4.0 of the By-law shall be the minimum parking requirement for the uses on the lot.
4. Worship area capacity is calculated based on the definition in By-law 28-97 which specifies that where there are no fixed seats in the worship area, the worship area capacity equals the worship area divided by 0.75.

The application of City of Markham Parking Standards By-law 28-97 to the proposed development results in a requirement of 435 parking spaces (202 parking spaces for the place of worship and 233 parking spaces for the National Centre).

7.1.2 City of Markham Comprehensive Zoning By-law 2024-19

Comprehensive Zoning By-law 2024-19 (under appeal) was conducted by the City and was approved in January 2024. The standards set out in the new Zoning By-law are reviewed for new developments as a consideration as the parking requirements reflect a more modern approach to parking requirements.

The estimated By-law parking requirement applicable to the Project based on the City of Markham's draft Zoning By-law is shown in **Table 4**.

TABLE 4 COMPREHENSIVE ZONING BY-LAW 2024-19 (UNDER APPEAL) MINIMUM PARKING REQUIREMENTS (BY SUB-USE)

Use	NFA	Minimum Rate	Minimum Requirement ²	Minimum Requirement with Sharing ^{2,3}		
				AM	PM	Evening
Temple						
<i>Place of Worship</i>	<i>650 sq.m. (designed occupant load: 400 persons)</i>	<i>1 space per 30 m² NFA OR 1 space per 4 persons of the designed occupant load</i>	<i>100 spaces ⁴</i>	<i>100%</i>		
Subtotal (Place of Worship)			100 spaces	100 spaces	100 spaces	100 spaces
National Centre						
<i>Meeting / Conference Rooms (Assembly Hall)</i>	<i>1,510 sq.m.</i>	<i>1 space per 30 m² NFA</i>	<i>50 spaces</i>	<i>5 spaces (10%)⁵</i>	<i>13 spaces (25%)</i>	<i>50 spaces (100%)</i>
<i>Office</i>	<i>600 sq.m.</i>	<i>1 space per 35 m² NFA</i>	<i>17 spaces</i>	<i>17 spaces (100%)</i>	<i>16 spaces (95%)</i>	<i>2 spaces (10%)</i>
<i>Lodging Rooms (Dormitories)</i>	<i>74 beds (2,252 sq.m.)</i>	<i>0.5 spaces per suite</i>	<i>37 spaces</i>	<i>30 spaces (80%)⁶</i>	<i>28 spaces (75%)</i>	<i>37 spaces (100%)</i>
Subtotal (National Centre)			104 spaces	52 spaces	57 spaces	89 spaces
Total (with sharing)³			204 spaces	152 spaces	157 spaces	189 spaces

Notes:

1. Site statistics are based upon the architectural plans from Hariri Pontarini Architects Inc., received December 1, 2023.
2. As per the Comprehensive Zoning By-law 2024-19 (under appeal), if the calculation of the number of required parking spaces results in a number with a fraction greater or equal to 0.5, the number is rounded up to the nearest whole number. Fractions equal to or greater than 0.5 shall be rounded up to the nearest whole number.
3. Shared parking space calculations based on City of Markham Comprehensive Zoning By-law 2024-19 (under appeal). The largest of the parking sums determined for each of the morning, afternoon, and evening periods based on Section 5.4.2 of the By-law shall be the minimum parking requirement for the uses on the lot.
4. Updated minimum requirement of 100 spaces based on estimated occupant load of 400 persons at 1 space per 4 persons.
5. As per the shared parking space requirement based on occupancy rate for 'Assembly Hall' use listed within Zoning By-law 28-97.
6. As per the shared parking space requirement based on occupancy rate for 'Hotel' use listed within the Comprehensive Zoning By-law 2024-19 (under appeal).

The application of the City of Markham Comprehensive Zoning By-law 2024-19 (under appeal) parking standards would require the provision of a minimum of 189 parking spaces (100 parking spaces for the place of worship and 89 parking spaces for the National Centre).

7.1.3 Assessment of By-law Standards

Based on the foregoing, the minimum by-law parking requirements shown in **Table 3** and **Table 4** exceed the proposed parking supply of the Site. However, it is of BA Group’s opinion that the requirements specified in the prevailing by-law and the Comprehensive Zoning By-law 2024-19 (under appeal) do not accurately represent the parking demands of the Project. By zoning by-law definition, the Site is most accurately categorized as a place of worship; however, the categorization does not accurately reflect the unique nature of the Site. Unlike other places of worship, the Site does not schedule weekly congregations. This results in the minimum by-law parking requirements overstating the actual parking needs of the Project. Alternative parking considerations are therefore proposed and are shown in **Section 7.2**.

7.1.4 Accessible Space Requirement

Based on **Section 5.1** of City of Markham Parking Standards By-law 28-97, five percent of the parking spaces calculated in **Table 3** are required to be dedicated as accessible parking spaces. The resulting calculation is shown in **Table 5**.

TABLE 5 PARKING STANDARDS BY-LAW 28-97 MINIMUM ACCESSIBLE PARKING REQUIREMENTS

By-law	Minimum Requirement (Total Spaces)	Minimum Requirement	Minimum Requirement (Accessible Spaces) ⁴
Parking By-law 28-97	435 spaces ¹	5% of required spaces	22 spaces
Comprehensive Zoning By-law 2024-19 (under appeal)	189 spaces ²		9 spaces

Notes:

1. Minimum parking requirements calculated in **Table 3**.
2. Minimum parking requirements calculated in **Table 4**.
3. As per Zoning By-law 28-97 and the Comprehensive Zoning By-law 2024-19 (under appeal), if the calculation of the number of required parking spaces results in a number with a fraction greater of equal to 0.5, the number is rounded up to the nearest whole number. A fraction of less than 0.5 results in the number being rounded down to the nearest whole number.

Based on the foregoing, the application of City of Markham Parking Standards By-law 28-97 would require a minimum of 22 accessible parking spaces, whereas the application of the Comprehensive Zoning By-law 2024-19 (under appeal) would require a minimum of 9 accessible parking spaces.

7.2 PARKING DEMAND ASSESSMENT

The City of Markham’s Zoning By-law requirements for Place of Worship and the various requirements are not representative of the parking demands associated with the parking needs of the proposed Bahá’í National Centre and temple. Both the temple and the Bahá’í National Centre will have a unique operation and use that makes them different than the uses considered in the City’s current By-law rates.

In the case of the proposed temple, a key difference is that the proposed Bahá’í temple will not follow a schedule for services like a typical place of worship. Rather, Bahá’í temples are open for drop-in worship throughout the day without recurring organized services. As a result, the utilization pattern for the proposed temple is expected to be much more spread out with a lower overall parking demand.

Similarly, the proposed Bahá’í National Centre cannot be considered a traditional place of worship or a typical office. It is an administrative centre for the Canadian Bahá’í NSA and a focal point for various periodic

activities, seminars, and administrative functions for the Canadian Bahá'í community. It will also provide short-term overnight accommodations exclusively for people attending functions at the Bahá'í National Centre, and as such, it will not be generating additional parking demand.

Given the above, an analysis was undertaken to estimate the parking demand of both the proposed Bahá'í National Centre and temple. The following sections outline the estimated parking demand for each use.

7.2.1 Bahá'í National Centre

Future parking demand associated with the proposed Bahá'í National Centre has been estimated using a 'first principles' approach by making assumptions regarding the travel mode splits and the estimated occupancy associated with the 85th percentile activity levels generated by the various programs scheduled throughout the year at the Bahá'í National Centre. This estimation is summarized in **Table 6**.

Based on the foregoing, the Bahá'í National Centre is expected to generate a peak parking demand ranging from 25 vehicles in the weekday peak period and 0 vehicles in the weekend peak period for the activities that are scheduled to occur regularly at the Site throughout the year. Occasionally, with special events such as the National Convention or seminars will generate a parking demand in the order of up to 70 vehicles on a weekday and up to 45 vehicles on the weekend.

It is noted that the National Convention is a three-day event that occurs once a year and represents the peak parking demand condition at the Bahá'í National Centre. During the National Convention, the peak parking demand is estimated to be up to 105 spaces during the peak weekday (1-2 times a year) and up to 80 vehicles on the weekend when the National Convention is scheduled to occur (2 days per year). These estimates reflect that during the National Convention, the majority of attendees are non-local and therefore do not drive themselves to the National Centre. It is expected that the non-local delegates will arrive to the Site via shuttle bus, taxi, or through ridesharing services.

TABLE 6 PARKING DEMAND – FIRST PRINCIPLES APPROACH (BAHÁ'Í NATIONAL CENTRE)

Program	Description	Mode Split	Projected Occupancy	Parking Demand (Weekday)	Parking Demand (Weekend)
Typical / Recurring Demand					
Day-to-Day Functions	Administrative duties carried out by local staff	Driver – 100% ⁴	25 persons	25 vehicles	0 vehicles ²
SUBTOTAL				25 vehicles	0 vehicles
Occasional / Infrequent Demand					
National Convention	Attended by delegates across Canada	Driver – 15% – 40% ³	200 persons	30-80 vehicles	30-80 vehicles
Institute for Studies in Global Prosperity (ISGP) Seminar	Attended by university students from across Ontario	Driver – 10% – 50% ⁴	90 persons	10-45 vehicles	10-45 vehicles
ISGP National Unit Coordinator Gathering	Attended by program coordinators from across Canada	Driver – 15% – 40% ⁴	30 persons	5-15 vehicles	5-15 vehicles
Institute and Learning Site Seminars	Attended by coordinators (local staff)	Driver – 30% – 50% ⁴	50 persons	15-25 vehicles	15-25 vehicles
Periodic Consultative Gatherings / Seminars	Special NSA assembly	Driver – 100% ⁴	30 persons	0 vehicles	30 vehicles
National Centre Parking Demand – Typical				25 vehicles	0 vehicles
National Centre Parking Demand – Occasional & Recurring				Up to 70 vehicles	Up to 45 vehicles
National Centre Parking Demand – Peak (National Convention)				Up to 105 vehicles	Up to 80 vehicles

Notes:

1. Based upon program and scheduling information provided by the NSA, received December 12, 2023.
2. Administrative staff are not expected to be on-Site during weekends.
3. Based on correspondence with the NSA, about 35% of the National Convention attendees are local attendees (will arrive by car). It is also assumed that some of the non-local attendees will arrive via carpool, ridesharing, etc.
4. Mode split ranges estimated by BA Group.
5. Youth camps and junior youth camps are expected to occur at the Don Valley Education Centre (7015 Leslie Street). Therefore, they are not included in the estimated parking demand at the National Centre.

7.2.2 Bahá'í Temple

Within the Bahá'í community, it is noteworthy that there are different types of temples and places of worship: Local Temples, National Temples, and Continental Temples. The proposed temple in Markham will be a National Temple, which means it will be of a smaller scale and will generally not attract as many people travelling to the temple compared to a Continental Temple. By way of comparison, North America already has a continental temple which is located in Wilmette, Illinois within the Chicago metropolitan area. It is expected that the Continental House of Worship located in Wilmette will continue to serve the broader Bahá'í community in North America even after the construction of the Canadian Temple. Furthermore, the catchment area of the Wilmette temple is reflected in the temple capacity, which is nearly double the capacity of the proposed Markham temple. Based on this distinction, the parking demand associated with the proposed temple is not expected to be comparable to the attendance levels generated by the Bahá'í temple located in the United States.

To develop an estimate of the parking demand that could be expected for the Canadian Temple, other comparably sized Bahá'í temples located around the world were reviewed. Two comparable sites were identified: the Temple in Sydney, Australia, and the Temple in Langenhain, Germany. These were selected as comparable sites for assessment because these sites have a comparable temple capacity or a temple capacity that is slightly greater than what is proposed for the Canadian Temple. In addition, all three sites are located within a suburban context with minimal access to higher-order transit and in a similar cultural environment regarding the use and general visitation frequency.

For both comparable temple sites, visitor attendance information was provided and analyzed. The visitor data is summarized in **Table 7**, with source information is provided in **Appendix C**.

TABLE 7 VISITOR INFORMATION (SELECTED TEMPLES)

Location	Sydney, Australia ¹	Langenhain, Germany ²
Temple Capacity	600	600
Visitors (Yearly)	9,880	24,985
<i>Weekday Visits (per year)</i>	<i>4,940</i>	<i>12,595</i>
<i>Weekday Visits (per week)</i>	<i>105</i>	<i>260</i>
<i>Weekday Visits (per day)</i>	<i>20</i>	<i>50</i>
Peak Hour Weekday Visits (per day)³	5	15
<i>Weekend Visits (per year)</i>	<i>4,940</i>	<i>12,395</i>
<i>Weekend Visits (per week)</i>	<i>105</i>	<i>260</i>
<i>Weekend Visits (per day)</i>	<i>50</i>	<i>130</i>
Peak Hour Weekend Visits (per day)³	15	45

Notes:

1. Based upon visitor information provided by National Spiritual Assembly of the Bahá'ís of Australia, received July 3, 2023.
2. Based upon visitor information provided by National Spiritual Assembly of the Bahá'ís of Canada, received June 29, 2023.
3. Assumed that one-third of daily visits occur during the peak hour periods.
4. Rounded to the nearest five.

Taking the above visitor information into consideration, a future parking demand associated with the proposed temple was estimated using a 'first principles' approach. Specifically, the visitor information provided by the

NSA was used to estimate an average attendance factor three time periods: a typical weekday, a typical weekend, and a peak weekend / holiday period.

In the case of the typical weekday, this represents the average daily attendance for weekdays. In the case of the typical weekend, this represents the average daily attendance on a weekend. Finally, in the case of the peak weekend / holiday period, this is representative of the 95th percentile daily attendance on a weekend, or on a statutory holiday which has a comparable demand profile. The resultant estimated parking demand profile for the Canadian Temple is shown in **Table 8**.

TABLE 8 PARKING DEMAND – FIRST PRINCIPLES APPROACH (TEMPLE)

Location	Markham, Canada		
	Typical Weekday	Typical Weekend	Peak Weekend / Holiday
Visitor Range ¹	Approximately 10,000 to 25,000 annually		
Assumed Attendance (for Parking Estimate)	25,000 ²		
Basis for Establishing Daily Visitor Profile	Average Weekday Attendance: ~35 persons / day	Average Weekend Attendance: ~145 persons / day	95 th Percentile Attendance: ~400 persons / day
Assumed Daily Attendance for Parking Estimate	~35 persons / weekday	~145 persons / weekend day	~400 persons / holiday day
Assumed Percentage of Attendees at Peak Time of Day ²	25%	25%	25%
Estimated Temple Peak Parking Demand (at Peak)	10 vehicles	35 vehicles	100 vehicles

Notes:

1. Based on information provided in **Table 7** – annual attendance at Australian temple (10,000) and German temple (25,000).
2. Given that Bahá'í temples generally do not have recurring services at specified hours and the temple will be open for visits approximately 12 hours a day, activity will be spread out throughout the day. As a result, it is estimated that approximately one-quarter of daily visitors will be present at the peak time of day.

Based on the foregoing, the temple is expected to generate a peak parking demand ranging from 10 vehicles on a weekday, 35 vehicles on a typical weekend, and 100 vehicles during a peak weekend / holiday period.

It is noteworthy that while the projected peak weekend / holiday period attendance is in the order of 400 persons in a single day, the resultant projected parking demand at a single point in time is estimated to be 100 parking spaces, or approximately 25% of the total daily attendance. This is because, and as noted previously, the proposed Canadian Temple is different than other places of worship in that there will be no formal congregations scheduled at the Bahá'í temple on weekends. As such, the parking demands will be spread out over the entire day and only 25% of the daily demand is estimated to be on-site at a given time with the remainder of visits being spread out over the typical daily operating hours.

7.2.3 Total Combined Parking Demand

Table 9 summarizes the combined estimated peak weekday and weekend parking demand for the proposed Bahá'í National Centre and the temple.

TABLE 9 PARKING DEMAND – FIRST PRINCIPLES APPROACH (OVERALL)

	Weekday		Weekend	
	Typical Parking Demand	With Recurring Increased Parking Demand at the National Centre	Typical Parking Demand	With Peak Parking Demand at the Temple
Estimated National Centre Parking Demand	25 vehicles	Up to 70 vehicles ¹	0 vehicles	0 vehicles ²
Estimated Temple Parking Demand	10 vehicles	10 vehicles	35 vehicles	100 vehicles
Projected Estimated Total Site Parking Demand	35 vehicles	Up to 80 vehicles	35 vehicles	100 vehicles

Notes:

1. The recurring occasional increased parking demand at National Centre reflects demand during periodic seminars and events at the National Centre. See **Table 6**.
2. The National Centre will not generate parking demand most weekends aside from periodic seminars and the once-a-year National Convention. See **Section 7.5** for an analysis of the impacts of potential overlapping events.

Based on the foregoing, the Project is expected to generate a recurring typical parking demand in the order of 35 vehicles on a typical weekdays and weekends. This is the level that would be associated with most days during the year.

On peak days at the Temple, which are expected to occur on statutory holidays, the estimated parking demand is projected to be approximately 100 vehicles.

7.3 PROPOSED SITE-SPECIFIC PARKING REQUIREMENTS AND PROVISIONS

7.3.1 Proposed Parking Requirements

Taking into consideration that the typical recurring parking demand for the Project (Bahá'í National Centre and temple) is 100 spaces, the following site-specific parking rates are therefore recommended for the Project as summarized in **Table 10** below.

TABLE 10 PROPOSED PARKING RATE AMENDMENTS

Use	Proposed Site-Specific Minimum Requirement ¹
Administrative Centre <i>(Includes all affiliated internal components within the national Centre such as internal meeting rooms, dormitories, and offices. Etc.)</i>	1 space per 50 square metres of gross floor area (GFA) ³
Place of Worship <i>(Includes Demand Generated by Temple and Ancillary Buildings)</i>	1 space per 6 square metres of worship floor area ²

Notes:

1. Proposed minimum parking requirements to be implemented.
2. Worship area reflects the net floor area of the temple excluding the ancillary buildings such as the "Log Cabin" which will serve as a supporting building to the temple.
3. GFA represents the gross floor area of the National Centre less any typical deductions made when calculating Gross Floor Area.

7.3.2 Proposed Shared Parking Provisions

The Bahá'í National Centre and temple are two distinct uses that have different parking demand profiles. As a result, the application of a shared parking approach for the project is appropriate and recommended. As was demonstrated by the projected demand estimates in **Table 6** and **Table 8**, individually the peak demand forecast for the Temple and National Centre is each approximately 100 spaces. The recommended parking requirements set out in **Table 10** therefore reflect this. However, because the demands will occur at different times, the requirements are not additive. Rather, because the parking demand generally will not overlap, and both facilities can share in the utilization of the same shared parking supply. To this end shared parking factors are recommended to be applied to the proposed requirements for the purposes of calculating the required parking for the site. The proposed shared parking factors are based on the estimated parking demands outlined in **Table 11**.

TABLE 11 PROPOSED SHARED PARKING FACTORS

Use	Weekday	Typical Weekend	Peak Weekend
Administrative Centre <i>(Includes all affiliated internal components within the national Centre such as internal meeting rooms, dormitories, and offices, etc.)</i>	100%	0%	0%
Place of Worship <i>(Includes Demand Generated by Temple and Ancillary Buildings)</i>	10%	35%	100%

The recommended shared parking factors include the three representative time periods that will generally occur at the site. A weekday condition, which is generally associated with demand generated by the National Centre, and two weekend conditions: a typical weekend and a peak weekend. The typical weekend condition is representative of the demand generated by the Temple on a typical weekend, and the peak weekend is representative of the peak parking demand estimated to be generated by the Temple on busy weekends and on potential statutory holidays in the spring/summer/fall, which will have a comparable demand to a peak weekend.

The calculation of the required parking using the above noted shared parking factors would be to multiply the requirement for each use by the shared parking factor and take the highest parking requirement for any period as the cumulative parking requirement for the Temple and National Centre. Application of this approach is summarized in Section 7.4 below.

It is noteworthy that with the application of the above noted shared parking factors, each use should it be developed independent of one another, would still generate a requirement of approximately 100 to 110 parking spaces, thus ensuring that sufficient parking would be required for each use independent of one another if the site was phased. Then, when the two uses are both present (i.e. the National Centre and the Temple) the benefits of the shared parking factors would apply ensuring that the parking requirement for the project overall takes into consideration so that parking spaces provided to accommodate demand in the area can be shared and used efficiently.

Lastly it is further noted that the recommended shared parking factors do not take into consideration the impacts of a rare instance when there is an overlapping peak event between the National Centre and the Temple. This occurrence is expected only expected to occur during the National Convention which happens annually for 3 days in April. Because this would be a unique special event, it is not appropriate to set the recommended parking requirement for the site based on that most conservative scenario. Notwithstanding that its not necessary to reflect the conservative worst case in the recommended by-law requirement, an assessment of the potential parking impacts associated with an overlapping peak event was undertaken and found that parking impacts could still be accommodated. See **Section 7.6** below.

7.3.3 Application of a Combined Parking Requirement

Because the Bahá'í National Centre and temple are located on two different property parcels (7015, 7200, and 7290 Leslie Street) (though each building will each use and rely upon the parking supplied on both sites), a site-specific provision to make the parking requirement for the Bahá'í National Centre and temple a combined parking requirement is recommended. This will facilitate the ability to calculate the parking requirement for the project on a combined basis, and to count parking provided on the Temple site towards meeting the parking demand generated by the Bahá'í National Centre, and vice versa.

7.3.4 Use of 7015 Leslie Street For Off-Site Overflow Parking

In addition to the recommended provisions to allow for the calculation of a combined parking requirement between the Bahá'í National Centre and temple, the project will also include the ability to utilize the additional property owned by the Bahá'í National Spiritual Assembly for the purposes of accommodating any overflow parking demand generated by the Bahá'í National Centre and temple which may happen infrequently from time to time. It is therefore recommended to include provisions in the site-specific Zoning By-law to accommodate a portion of the combined parking requirement generated by the Bahá'í National Centre and temple off-site at the 7015 Leslie Street parking lot.

7.4 APPLICATION OF RECOMMENDED PARKING STANDARDS

Application of the above noted proposed parking approach, inclusive of the proposed site-specific parking requirements and shared parking factors, would result in a parking requirement for the Bahá'í National Centre and temple as outlined below.

TABLE 12 APPLICATION OF PROPOSED PARKING STANDARDS

Use	Proposed Requirement	Parking Required	Weekday	Typical Weekend	Peak Weekend
Administrative Centre <i>Estimated GFA – 5,150m²</i>	1 space per 50 square metres of gross floor area	103 spaces	103 spaces (100%)	0 spaces (0%)	0 spaces (0%)
Place of Worship <i>Estimated Worship Area – 650m²* See Note 2</i>	1 space per 6 square metres of worship floor area	108 spaces	11 spaces (10%)	38 spaces (35%)	108 spaces (100%)
Sub-Total			114 spaces	38 spaces	108 spaces
Parking Requirement, With Sharing			114 spaces	-	-

Notes:

1. Parking requirements rounded to the nearest whole number.
2. The estimated worship area of the Temple permitted within the proposed Zoning would be 650 square metres. The actual worship area may be less and will be confirmed through the future Site Plan Application process.
3. The estimated GFA of the National Centre as contemplated in the Zoning is approximately 5,150 square metres. The final GFA will be confirmed through the future Site Plan Application process.

The corresponding estimated parking requirement for the Bahá'í National Centre and temple based on the recommended parking standards noted above is 114 spaces.

7.5 PROPOSED VEHICULAR PARKING SUPPLY

The Project concept currently contemplates a parking supply in the order of 115 parking spaces. Of this approximately 65-70 vehicular parking spaces are envisioned to be provided within the Bahá'í National Centre site, and 45-50 vehicular parking spaces to be provided on the lands associated with the new place of worship.

The parking supply within the concept plan plans will be confirmed through the site plan application process for each site. However, the current architectural plans provided for the purposes of the Zoning and OPA applications envision parking to be provided in three different locations:

- parking located adjacent to the east side Bahá'í National Centre (approximately 14 spaces)
- parking located at the west side of the Bahá'í National Centre (which includes both a small surface parking area of 13 spaces and access to one level of underground parking which will have approximately 35-40 spaces); and
- parking located on the temple property along a driveway that extends north from Leslie Street up to the "log cabin" ancillary building that serves the Temple (a further 45-50 spaces proposed).

7.5.1 Proposed Accessible Parking Supply

The current architectural concept plans illustrate the provision of 8 accessible parking spaces to accommodate the Bahá'í National Centre and the accessory uses (Lot 1), and 3 accessible parking spaces to accommodate the new place of worship (Lot 2). The proposed supply exceeds the 5% requirement contained in the City's current By-law and Comprehensive Zoning By-law 2024-19 (under appeal) which is proposed to be applied to the site-specific requirements. The proposed accessible parking supply as illustrated in the concept plans is appropriate. The accessible parking requirement will be confirmed through the future Site Plan application process.

7.6 OVERLAPPING PEAK DEMAND ASSESSMENT

The peak demand of the Temple is estimated occur on statutory holidays and weekends in the spring and summer seasons that are in proximity to holy days in the Bahá'í calendar. This is estimated to be 10-15 days during the year. On these days, the parking demand is expected to be in the order of 100 spaces, or 108 spaces based on the recommended By-law requirement of 1 space per 6 square metres.

Conversely, the Bahá'í National Centre parking demand will typically be 25 spaces on weekdays and zero spaces on weekends. This is notable because most of the time when the Temple generates a peak demand on a weekend, there will be very little parking demand generated by the Bahá'í National Centre. Occasionally, the Bahá'í National Centre will have in increased parking demand associated with recurring seminars and scheduled events.

In addition, once a year the Bahá'í National Centre will generate a peak demand on a weekend that could potentially overlap with a peak demand at the Temple. The potential for overlapping peak demands would be associated with the National Convention event which may be held at the new Bahá'í National Centre once complete. The National Convention is a 3-day event held Friday through Sunday in April. As outlined in **Table 6** above, the estimated worst-case parking demand at the Bahá'í National Centre is expected to be up to 105 spaces on a weekday, and up to 80 spaces on the weekend.

Taking this into consideration, a supplementary parking demand calculation was undertaken to assess the parking demand under the rare condition when a peak weekend day at the Temple overlaps with the National Convention. The corresponding analysis of the overlapping demands is outlined below in **Table 13**.

TABLE 13 ESTIMATE OF OVERLAPPING PEAK EVENTS

Use	Typical Weekday at Temple with National Convention at the National Centre	Typical Weekend at Temple + National Convention at the National Centre	Peak Weekend / Holiday at Temple + Occasional Weekend Demand at the National Centre	Peak Weekend / Holiday at Temple + National Convention at the National Centre
National Centre	Up to 105 spaces	Up to 80 spaces	Up to 45 spaces	Up to 80 spaces
Temple	11 spaces	38 spaces	38 spaces	108 spaces
Subtotal, Parking Need	116 spaces	118 spaces	83 spaces	188 spaces
Preliminary On-Site Parking Proposed for Temple & National Centre Site	115 spaces²			
Potential Shortfall Compared to Demand	6 spaces	8 spaces	0 spaces	78 spaces
Additional Off-Site Parking Available at 7015 Leslie Street (Don Valley Education Centre) Lot	100 spaces³			

Notes:

1. Parking requirements rounded to the nearest whole number.
2. Estimated on-site parking supply. Parking supply to be confirmed through SPA process to meet proposed by-law requirements.
3. Includes parking typically used by the uses on 7015 Leslie Street which would be made available by the NSA during peak events such as the National Convention.

As can be seen above, during the most conservative once-a-year scenario associated with the National Convention happening at the same time as a peak weekend / holiday period at the Temple, the estimated total parking demand will be 188 spaces. This demand will exceed the 115 spaces provided on the Bahá'í National Centre and temple site; however, the recommended site-specific parking requirements outlined above will continue to be appropriate because it is proposed to utilize an adjacent overflow parking lot located at 7015 Leslie Street (known as the Don Valley Education Centre parking lot which is also owned by the Canadian Bahá'í NSA). The parking lot at 7015 Leslie Street will accommodate approximately 100 additional parking spaces.

With the planned improvements, the parking lot at 7015 Leslie Street will feature approximately 100 spaces. The 100 spaces located at 7015 Leslie Street will therefore be sufficient to accommodate the projected overflow parking demand during the rare occasion when the peak parking demand of the Temple and the National Convention overlap.

7.7 APPROPRIATENESS OF PROPOSED VEHICULAR PARKING SUPPLY

While the proposed 110 spaces reflected on the concept plans is less than the minimum parking requirements outlined in the City of Markham's By-law 28-97, the proposed parking supply is acceptable because the City's by-law requirements overstate the needs of the Project.

Based on the parking demand analysis undertaken by BA Group, the estimated combined parking requirement of the Bahá'í National Centre and temple will be in the order of 108 to 115 parking spaces during the recurring peak times. The proposed on-site parking supply (as defined by the recommended parking standards above) of approximately 115 spaces is therefore sufficient to accommodate the typical and recurring peak demands of the Bahá'í National Centre and temple.

Infrequently there may be an increased demand because of an overlapping demand between the Bahá'í National Centre and temple. This occurrence is associated with the National Convention held annually in April. The demand generated by the National Convention would therefore represent a theoretical worst-case overlapping parking demand of 188 parking spaces. TDM strategies will also be adopted by the NSA as needed to reduce the parking demand.

On this basis, even in the estimated worse-case scenario when the combined parking demand is 188 parking spaces, sufficient parking will be made available through use of the proposed on-site supply available on the Bahá'í National Centre and temple site (totalling 115 spaces) plus the additional parking made available on the adjacent Don Valley Education Centre parking lot at 7015 Leslie Street (which provides a further 100 spaces and is also owned by the Canadian Bahá'í NSA). Therefore, the proposed parking supply is considered appropriate.

8.0 LESLIE STREET IMPROVEMENTS

8.1 EXISTING OPERATIONAL ISSUES

Leslie Street today accommodates minimal vehicular traffic, and the existing condition has an uneven pavement that is narrow. This can occasionally lead to conflicts between the vehicles, pedestrians, and cyclists that traverse it. In addition, there are also currently no parking restrictions along the roadway, leading to uncontrolled on-street parking which can affect the ability to accommodate two-way traffic. This is further complicated by the lack of formal pedestrian or cyclist facilities along Leslie Street, resulting in pedestrians and cyclists sharing a constricted road space with parked vehicles and making it difficult for all users to share the space.

At the intersection of Leslie Street and Steeles Avenue, concerns have also been raised by area residents with respect to U-turning traffic on the north approach of the intersection. This activity is associated with westbound vehicles on Steeles Avenue attempting to avoid a long westbound to southbound queue on Steeles Avenue by first turning north onto Leslie Street, performing a U-Turn manoeuvre, and then proceeding south on Leslie Street.

8.2 PROPOSED IMPROVEMENTS

The need to raise Leslie Street to address flooding concerns has created the opportunity to implement other transportation improvements that will create benefits for pedestrians, cyclists, and vehicles using Leslie Street. The NSA is proposing to leverage this opportunity by implementing a number of improvements to the Leslie Street cross-section as part of the floodplain mitigation strategy that are aimed to improving the traffic operation concerns and to better accommodate pedestrians and cyclists. The following transportation-related improvements to Leslie Street are proposed:

- Construct a new 3.0-metre multi-use path (MUP) on the east side of Leslie Street to provide pedestrians and cyclists with a dedicated facility connecting between the intersection of Steeles Avenue East and Leslie Street north to the existing trailhead as part of the Lake-to-Lake Route.
- Reconstruct of the Leslie Street cross-section to include a minimum 6-metre pavement width.
- Implement formal parking zones in select areas of Leslie Street where additional road width is provided to create an estimated 10-20 new on-street parking spaces that can be used by members of the public who will use the Lake-to-Lake Trail.
- Implement additional 'no parking' and sign the remaining areas of Leslie Street north of Steeles Avenue East to control where parking should not happen thereby ensuring appropriate traffic flow is maintained.

8.3 LESLIE STREET FUNCTIONAL DESIGN

Leslie Street is currently located within an existing floodplain and within the regulated area of the Toronto and Region Conservation Authority (TRCA). As such, the proposed raising of Leslie Street, and the transportation components of the raised Leslie Street design, have been designed in consideration of the various constraints created by the floodplain, grading, and adjacent impacts to mature vegetation areas to limit impacts to the adjacent valley lands.

A preliminary concept plan of the proposed Leslie Street improvements has been prepared that takes into consideration the various constraints above. In the conceptual design, the pavement width has been minimized where possible to 6.0 metres where no on-street parking is permitted, and 8.0 metres in width in select areas where on-street parking is proposed. Throughout the proposed upgraded section, the new 3.0-metre multi-use trail is located along the east side of the road. The above noted improvements are conceptual in nature and will be confirmed through feedback received by the City of Markham and the TRCA during the detailed design process.

The unique constrained nature of Leslie Street north of Steeles Avenue East has resulted in four basic cross sections for the upgraded Leslie Street. The basic details of each Section are summarized below.

Section 1-1

- A 6.0-metre-wide bi-directional roadway will be provided for vehicular traffic.
- A 3.0-metre-wide multi-use path (MUP) will be provided for pedestrians and cyclists.
- A 0.5-metre-wide buffer zone with a pre-cast concrete curb and reflective bollard will separate vehicular traffic from MUP users.

Section 2-2

- An 8.0-metre-wide roadway will be provided for vehicular traffic, of which 6.0 metres of width will be allocated for bi-directional vehicular traffic and 2.0 metres of width will be allocated for on-street parking.
- A 3.0-metre-wide multi-use path (MUP) will be provided for pedestrians and cyclists.
- A 0.5-metre-wide buffer zone with a pre-cast concrete curb and reflective bollard will separate vehicular traffic from MUP users.
- A guard rail will be provided along the western edge of the roadway as this section of road will be elevated due to the pre-existing floodplain condition.

Section 3-3

- A 6.0-metre-wide bi-directional roadway will be provided for vehicular traffic.
- A 3.0-metre-wide multi-use path (MUP) will be provided for pedestrians and cyclists.
- A 0.5-metre-wide buffer zone with a pre-cast concrete curb and reflective bollard will separate vehicular traffic from MUP users.

Section 4-4

- A 7.0-metre-wide bi-directional roadway will be provided for vehicular traffic. The wider road width will help accommodate the turning movements of larger vehicles.
- A 3.0-metre-wide multi-use path (MUP) will be provided for pedestrians and cyclists.
- A 2.0-metre-wide planted median as will separate vehicular traffic from MUP users.

The proposed concept plan illustrating the aforementioned improvements is shown in **Appendix D**.

9.0 BICYCLE PARKING CONSIDERATIONS

9.1 BY-LAW 28-97 REQUIREMENTS

There are no bicycle parking space requirements stated within the existing City of Markham Parking Standards By-law 28-97. The resultant applicable bicycle parking space requirement is zero bicycle parking spaces.

9.2 OTHER APPLICABLE REQUIREMENTS

9.2.1 By-law 177-96 Requirements

There are no bicycle parking space requirements within the City of Markham's By-law 177-96. The resultant applicable bicycle parking space requirement is zero bicycle parking spaces.

9.2.2 City of Markham New By-law Requirements

As per Section 5.9 of the City's Comprehensive Zoning By-law 2024-19 (under appeal), bicycle parking spaces are required where the total GFA of non-residential uses on a single lot is greater than 2,000 square metres. Given that the gross floor area of the Temple is less than 2,000 square metres, the requirement would be applicable only to the Bahá'í National Centre.

The bicycle parking rates outlined in Table 5.9.2 in the City's new By-law are do not outline a requirement rate for an administrative centre. The closest applicable requirement would be associated with 'business office', which is 1 short-term space per 1000 square metres of GFA and 1 long-term space per 1000 square metres of GFA. If this rate were applied, the Bahá'í National Centre would require 6 spaces. Alternatively, while the National Centre is not a place of worship, the requirement is 1 short term space per 400 square metres and 1 long term space per 650 square metres. If the bicycle parking rate for the 'Place of Worship' use were to be applied, 14 short-term and 8 long-term bicycle parking spaces would be required.

9.3 PROPOSED BICYCLE PARKING SUPPLY

Ten long-term bicycle parking spaces and 50 short-term bicycle parking spaces are illustrated on the concept plans within the development proposal at the National Centre. The proposed bicycle parking supply is generally consistent with the range of the applicable bicycle parking requirements contained in the City's new By-law. The proposed supply is therefore considered appropriate.

10.0 LOADING CONSIDERATIONS

10.1 BY-LAW 177-96 REQUIREMENTS

As per Section 6.9.1 of the City’s By-law 177-96, two loading spaces are suggested for non-residential uses where the total net floor area (NFA) exceeds 1,860 square metres. **Table 14** summarizes the minimum loading requirements.

TABLE 14 CITY OF MARKHAM BY-LAW 177-96 NON-RESIDENTIAL LOADING SPACE REQUIREMENTS

Net Floor Area (NFA)	Minimum Requirement	Minimum Size of Loading Spaces
>1,860 square metres	2 loading spaces	3.5 metres wide 10 metres in length 4.5 metre vertical clearance

Clause d) of Section 6.9.1 of By-law 177-96 notes, however, that there is no loading requirement for places of worship or private schools. As such, the requirement of the Bahá’í National Centre would be 2 loading spaces, whereas the requirement of the Temple is zero loading spaces.

10.2 OTHER APPLICABLE REQUIREMENTS

10.2.1 City of Markham Comprehensive Zoning By-Law 2024-19 Requirements

As per Section 5.8 of the City’s Comprehensive Zoning By-law 2024-19 (under appeal), two loading spaces are suggested for non-residential uses where the total GFA is greater than 1,860 square metres. **Table 15** summarizes the minimum loading requirements.

TABLE 15 COMPREHENSIVE ZONING BY-LAW 2024-19 NON-RESIDENTIAL LOADING SPACE REQUIREMENTS

Gross Floor Area (GFA)	Minimum Requirement	Minimum Size of Loading Spaces
6,938 square metres	2 loading spaces	3.5 metres wide 10 metres in length 4.5 metre vertical clearance

Based on the above calculation, two loading spaces are required according to the City’s By-law 177-96 and suggested according to the City’s Comprehensive Zoning By-law 2024-19 (under appeal). However, the requirements are intended for generic non-residential uses and are not reflective or specific to a place of worship.

10.3 PROPOSED LOADING REQUIREMENT

Notwithstanding that the City of Markham's By-law 177-96 suggests that the Bahá'í National Centre would require two loading spaces, this requirement is an overstatement of the actual demand. This is because the City's loading requirements are based on a generic non-residential use which does not reflect the unique nature of the Bahá'í National Centre and its relationship to a Place of Worship. To this end, no significant shipping or loading operations are expected to occur at the Bahá'í National Centre. Loading activity will be limited to sporadic deliveries throughout the day serving the administrative function, which will be infrequent.

A single loading space is proposed as a site-specific requirement for the National Centre which will better reflect the actual loading needs of the Site. Moreover, the proposed requirement is consistent with the intent of the exception set out in By-law 177-96 for Places of Worship, which is defined within By-law 177-96 as "a building used by a charitable religious group for the practice of religious rites".

10.4 PROPOSED LOADING SUPPLY

One loading space is proposed to support the loading needs of the proposed development and is located on the ground floor level at the rear of the Site. Vehicular access to the loading space is provided off Leslie Street.

Based on the foregoing, the proposed loading supply of one space is appropriate for the Site's needs.

11.0 TRAFFIC VOLUME FORECASTS

11.1 ANALYSIS HORIZONS

As the Site is anticipated to be constructed within a five-year timeframe, a five-year study horizon has therefore been considered for the purpose of this analysis. Traffic analyses have thus been completed for the following weekday morning and afternoon peak hour scenarios:

- **Existing Traffic** – volumes on the road network under existing conditions.
- **5-year Future Background Traffic** – volumes in the future prior to build-out of the Site which include traffic generated from background developments.
- **5-year Future Total Traffic** – volumes in the future after build-out of the Site, inclusive of area background growth.

11.2 STUDY AREA INTERSECTIONS ASSESSED

The analysis includes an assessment of the intersection of Leslie Street / Steeles Avenue East and along Leslie Street north of Steeles Avenue East. The intersections included in the analysis are as follows:

- Leslie Street / Steeles Avenue East (signalized)
- Leslie Street / Parking Lot Access (Don Valley Education Centre)
- Leslie Street / Private Property Access

11.3 EXISTING TRAFFIC VOLUMES

Base existing turning movement volumes were established for the weekday morning and afternoon peak hours (the busiest hour of traffic between 7:30 to 9:30 am and 4:00 to 6:00 pm respectively) for intersections within the study area, based on recent traffic count information collected by Spectrum Traffic Inc. on behalf of BA Group.

The traffic count information adopted as the basis for the traffic operations analysis undertaken to assess the operational impacts of the proposed development is summarized in **Table 16**. Turning movement counts are attached in **Appendix E**.

TABLE 16 TRAFFIC DATA INFORMATION

Intersection	Date	Conducted By
Leslie Street / Private Property Access	Thursday, May 19, 2022	Spectrum Traffic Data Inc.
Leslie Street / Parking Lot Access (Don Valley Education Centre)		
Leslie Street / Steeles Avenue East		

The existing turning movement volumes were rounded to the nearest five vehicles and reviewed in detail to ensure a general consistency in the traffic volumes on links between intersections. Where necessary, minor volume adjustments were conservatively made to balance traffic volumes between intersections to provide a balanced and representative traffic volume base for the purposes of the traffic operations analyses undertaken as part of this assessment.

The existing, rounded, and balanced baseline area traffic volumes for the weekday morning and afternoon peak hours are illustrated in **Figure 8**.



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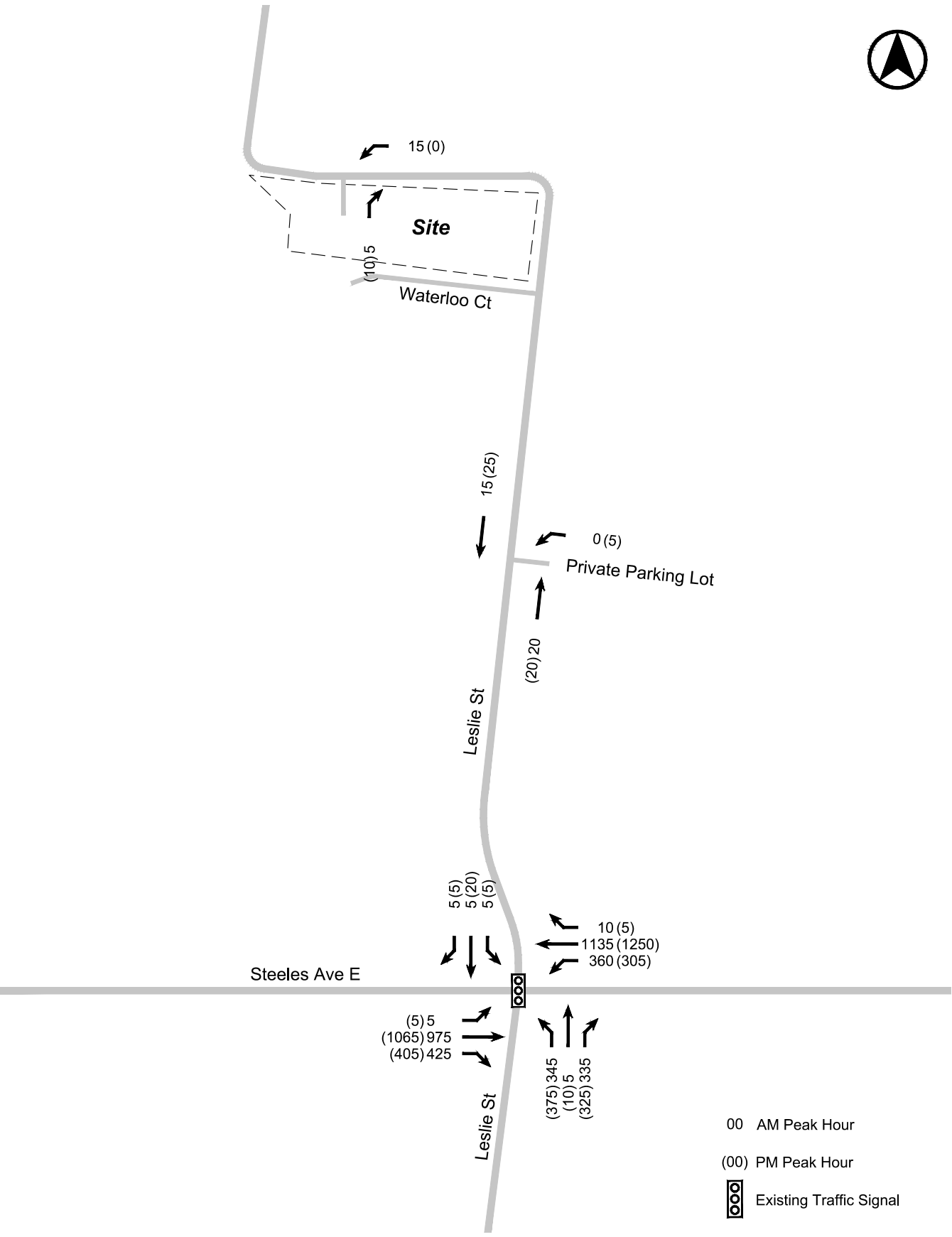


FIGURE 8 EXISTING TRAFFIC VOLUMES

11.4 BACKGROUND TRAFFIC VOLUMES

11.4.1 Background Development Traffic Allowances

While there are no background development applications located within a 1-kilometre radius of the Site based on the City of Toronto’s Application Information Centre, conservative allowances beyond the 1-kilometre radius were made to account for new traffic generated by other development proposals located near the proposed Site that are either under construction, approved, being reviewed or for which an application is expected to be submitted to the City in the near future. A summary of the considered background developments is provided in **Table 17**.

Trip generation and traffic assignments adopted for each background development are based on the information contained in the traffic impact studies (TIS) prepared for each proposed development.

TABLE 17 BACKGROUND DEVELOPMENTS

Development Address	Development Statistics	Source Date	Trip Generation Source	Status
3125 Steeles Avenue City of Toronto	13,973 m ² office GFA 573 m ² bank GFA 2,886 m ² restaurant GFA 196 hotel rooms (9,803 m ² hotel) 21,516 m ² data centre GFA	January 2018	BA Group TIS	Under Review
Shops on Steeles City of Markham	1,235 residential units 27,485 m ² non-residential GFA (13,755 m ² to be retained and 13,730 m ² to be constructed)	August 2019	BA Group TIS	Under Review

Background development traffic volumes are illustrated in **Figure 9**.

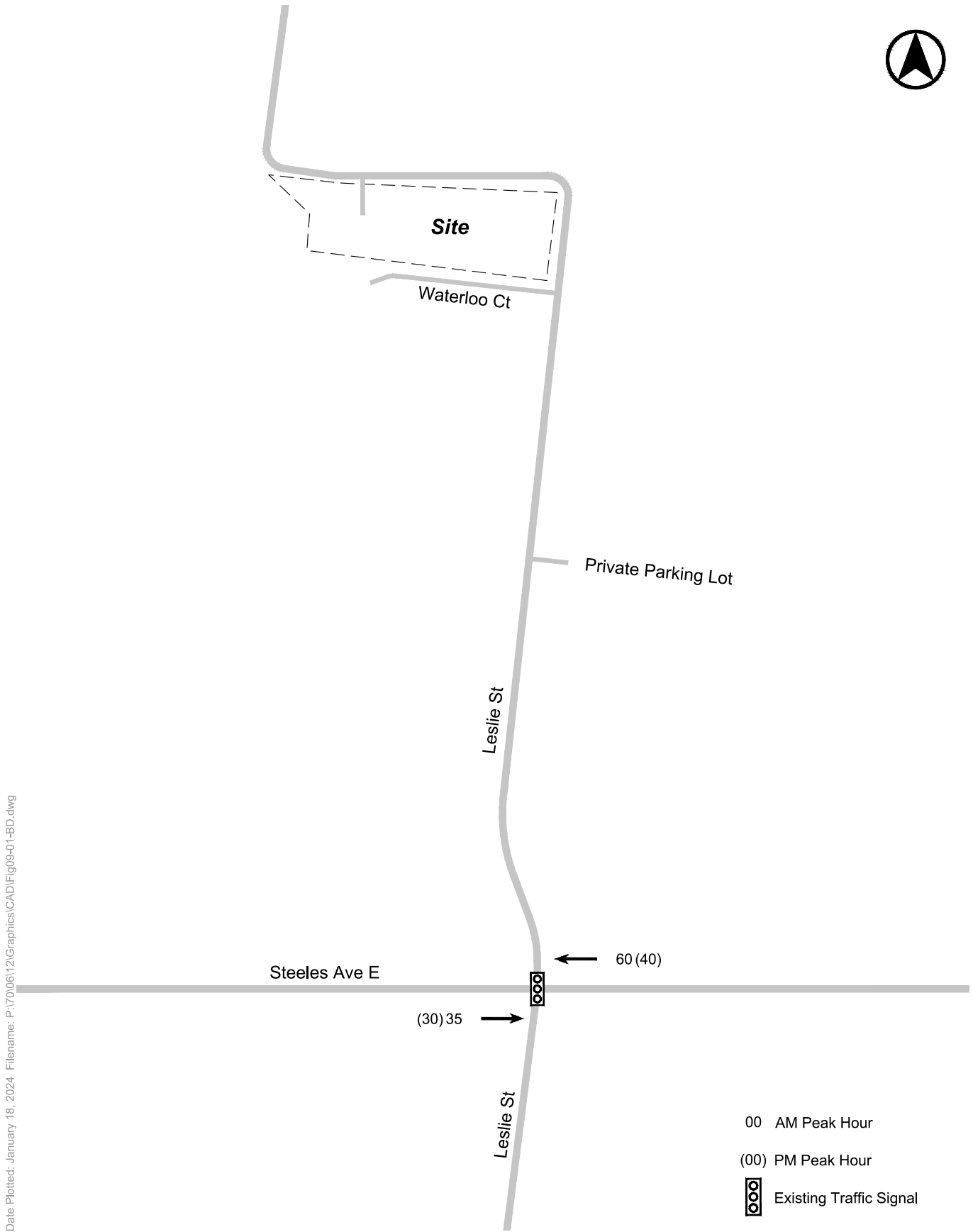
11.4.2 Corridor Growth Traffic Allowances

Historical traffic data was reviewed for the Steeles Avenue East corridor at the intersection of Steeles Avenue East and Don Mills Road (located to the east of the Site) to determine potential changes in traffic activity levels due to general traffic growth over the past ten years. The observed trends based on the historical traffic data indicate that there is negligible traffic growth in the weekday morning and afternoon peak hours. As a result, no additional corridor growth allowances were made on Steeles Avenue.

The corridor growth calculations are provided in **Appendix F**.

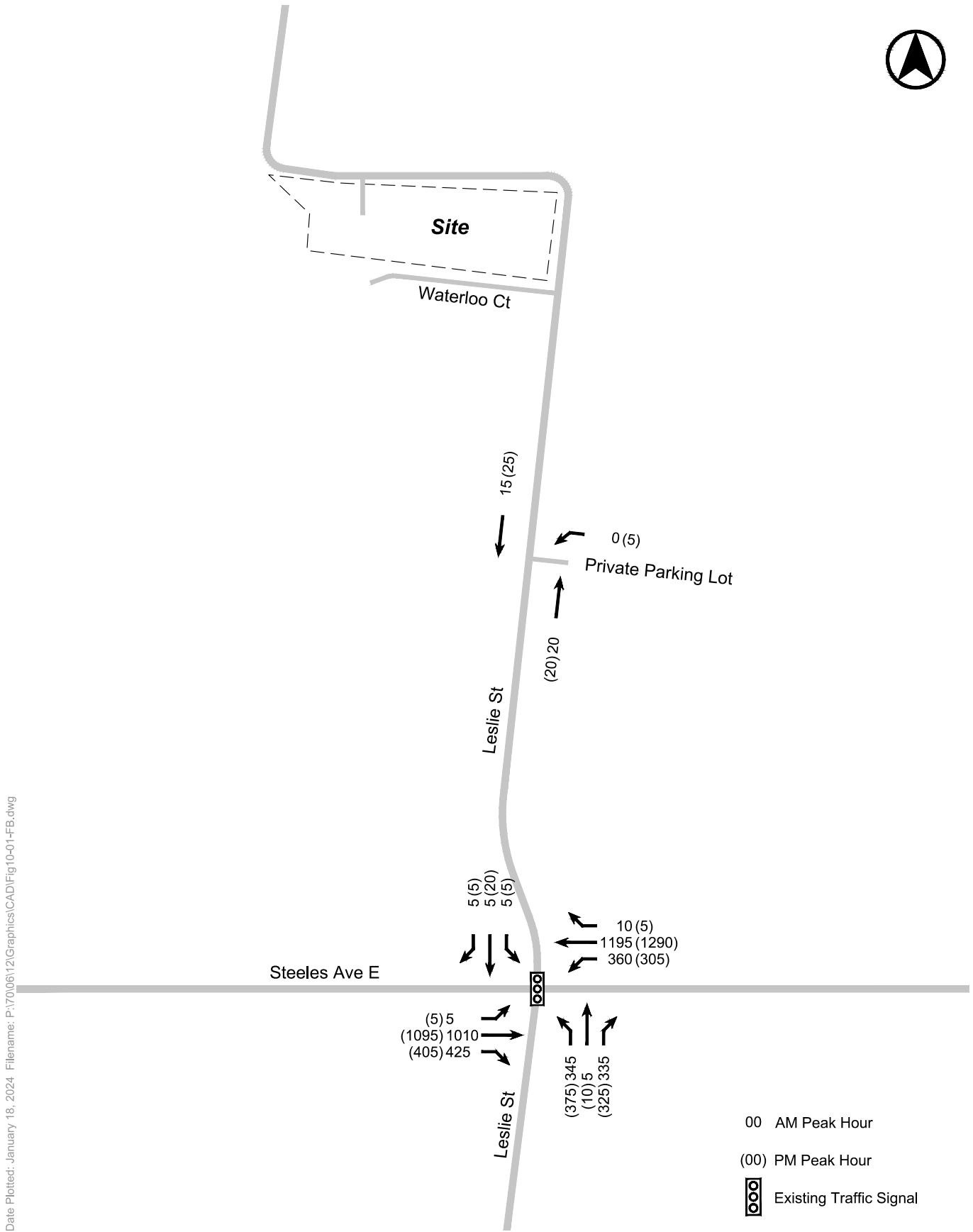
11.4.3 Future Background Total Traffic Volumes

Future background traffic volumes are illustrated in **Figure 10** and represent the summation of existing traffic volumes and background development traffic volumes within the study area.



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FIGURE 9 BACKGROUND DEVELOPMENT TRAFFIC VOLUMES



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FIGURE 10 FUTURE BACKGROUND TRAFFIC VOLUMES

11.5 SITE TRAFFIC VOLUMES

11.5.1 Existing Site Traffic Volumes

Counts were undertaken by BA Group on Tuesday May 10, 2022, to determine the number of trips made to and from the existing Site. The details pertaining to the counts are shown in **Table 18**.

TABLE 18 EXISTING SITE TRAFFIC

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Existing Site Trips (National Centre)	15	5	20	0	10	10
Existing Site Trips (Don Valley Education Centre)	0	0	0	0	5	5
Total Trips to be Removed (Rounded)	15	5	20	0	15	15

Notes:

1. Trips based upon existing driveway count on Thursday, May 19, 2022.
2. AM peak hour was established at 8:30 a.m. – 9:30 a.m.
3. PM peak hour was established at 4:30 p.m. – 5:30 p.m.
4. Trips rounded to the nearest five.

The existing building generates in the order of 20 and 15 two-way trips during the morning and afternoon peak hour, respectively. It is noted that these trips are associated with the existing Site and do not include trips turning into Waterloo Court. The existing Site traffic volumes are to be removed from the area road network and are illustrated in **Figure 11**.



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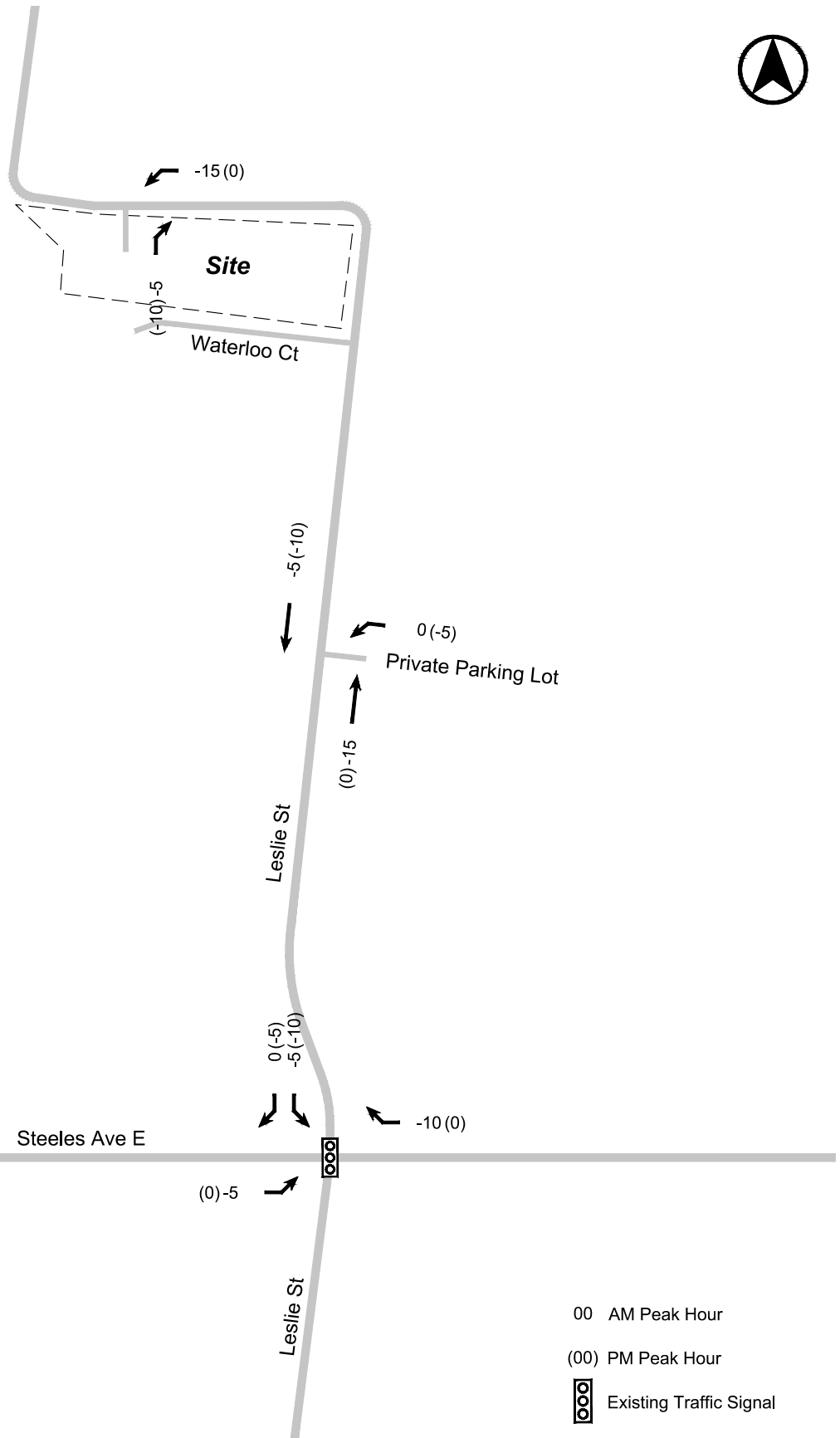


FIGURE 11 EXISTING SITE TRAFFIC REMOVAL

11.5.2 Site Trip Generation

11.5.2.1 Trip Generation Scenarios

The day-to-day activity at the proposed Site will consist primarily of administrative office functions. The estimated daily occupancy for this function is anticipated to be in the order of 25 persons. In addition to the normal daily occupancy, the Bahá'í National Centre will host a number of events and activities during the year which will have variable occupancies.

Given the unique use of the Project and the variable activities throughout the year, BA Group undertook an analysis to derive a representative 85th percentile weekday peak hour trip generation. This was done by undertaking a review of the levels of activity anticipated at the Site throughout the year. As the Site is expected to accommodate both youth and adult members throughout the year, it was determined that mode splits needed to be separately defined for each event to accurately represent the number of Site-generated vehicular trips. Furthermore, given the uniqueness of the Project, a review of the 2016 Transportation Tomorrow Survey (TTS) data was not considered appropriate for the purpose of the study. As a result, the mode split data was developed for each individual program based on assumptions given the land use context and the program information provided. **Table 19** summarizes the trip generation associated with each program offered by the Site, with the detailed summary provided in **Appendix G**.

TABLE 19 TRIP GENERATION SUMMARY TABLE

Program	Estimated Occupancy (# of visitors)	Mode Split ²	AM Peak Trips ³ (In/Out)	PM Peak Trips ³ (In/Out)
Bahá'í National Centre				
Day to Day Administrative Functions (Regional / BNC Offices)	25	Driver – 100%	Driver ⁴ – 25/0 Passenger ⁴ – 0/0 Total: 25/0	Driver – 0/25 Passenger – 0/0 Total: 0/25
National Convention	200	Driver – 40% Passenger – 60%	Driver – 80/0 Passenger – 80/80 Total: 160/80	Driver – 0/80 Passenger – 80/80 Total: 80/160
Institute for Studies in Global Prosperity (ISGP) Seminar	90	Driver – 50% Passenger – 25% Transit – 25%	Driver – 45/0 Passenger – 15/15 Total: 60/15	Driver – 0/45 Passenger – 15/15 Total: 15/60
Institute and Learning Site Seminars	50	Driver – 50% Passenger – 20% Transit – 30%	Driver – 25/0 Passenger – 5/5 Total: 30/5	Driver – 0/25 Passenger – 5/5 Total: 5/30
ISP National Unit Coordinator Gathering	30	Driver – 35% Passenger – 65%	Driver – 10/0 Passenger – 15/15 Total: 25/15	Driver – 0/10 Passenger – 15/15 Total: 15/25
Periodic Consultative Gatherings/ Seminars	30	Driver – 100%	Driver – 30/0 Passenger – 0/0 Total: 30/0	Driver – 0/30 Passenger – 0/0 Total: 0/30
Don Valley Education Centre (7015 Leslie Street)				
Junior Youth Camps	110 ⁵	Driver – 20% Passenger – 40% Transit / Bus – 40%	Driver – 20/0 Passenger – 25/25 Total: 45/25	Driver – 0/20 Passenger – 25/25 Total: 25/45
Youth Camps	50	Driver – 30% Passenger – 50% Transit – 20%	Driver – 15/0 Passenger – 20/20 Total: 35/20	Driver – 0/15 Passenger – 20/20 Total: 20/35
Temple				
Temple Visits (Typical Weekday)	35 ⁶	Driver – 100%	Driver – 0/0 Passenger – 0/0 Total: 0/0	Driver – 15/15 ⁷ Passenger – 0/0 Total: 15/15

Notes:

1. Based upon program and scheduling information provided by the NSA, received December 12, 2023.
2. Mode splits for both AM and PM peak hours.
3. Trips rounded to the nearest five.
4. Peak trips represent the sum of auto driver and auto passenger trips. A vehicle occupancy of 1 person / vehicle is assumed for auto driver trips based on the auto driver mode split and a vehicle occupancy of 1.5 persons / vehicle is assumed for auto passenger trips based on the auto passenger mode split.
5. Ten staff members are assumed to be participate in the junior youth camps.
6. Based on findings for proposed weekday temple visits shown in **Table 8**.
7. Assumed that one-half the daily visits will generate trips during the weekday afternoon peak hour. No trips are assumed for the weekday morning peak hour because the temple is expected to open after 9 a.m.

11.5.2.2 Key Assumptions

The following section summarizes the assumptions made regarding the projected trip generation of each program based on the information provided by the Client.

- Staff members performing daily responsibilities at the proposed Bahá'í National Centre arrive and leave the Site individually by vehicle.
- Based on correspondence with the NSA, 70 of the 200 National Convention delegates reside locally (in the Greater Toronto Area (GTA)). As a result, the study anticipates all local delegates will drive to the Site, with the remaining delegates arriving to the Site as auto passengers. This assumption also conservatively assumes that each of the 200 delegates will arrive to the Site separately. As mentioned in **Section 6.1.9**, Bahá'í staff members are recommended to arrange for the transportation of delegates to and from the Site during the days of the National Convention.
- The information received from the Client indicates that the Institute for Studies in Global Prosperity (ISGP) Seminar will occur annually during a twelve-day period between the months of May and June, to be attended by university students from across Canada. This study anticipates that many of the students do not reside in the GTA. As a result, the study anticipates that the majority of the students will arrive at the Site via taxi or other ridesharing services.
- The information received from the Client indicates that the junior youth camps are scheduled periodically throughout the year in the form of one-, three-, and five-day events during the summer and winter breaks. The camps are also to take place at the Don Valley Education Centre (7015 Leslie Street). From a traffic perspective, it is conservatively assumed that the duration of each camp is one day, which suggests that Site traffic associated with the event is observed daily during the summer and winter breaks. In reality, this assumption likely overstates the actual traffic generated by the event, as the camps are expected to be overnight camps, with Site traffic associated with the junior youth camps expected to occur only at the beginning and end of the event. It is also assumed that the majority of the attendees of the junior youth camps are children residing in the GTA.
- The information received from the Client indicates that the youth camps are scheduled periodically throughout the year in the form of one- to two-week events which are attended by youth members from across Toronto. The camps are to take place at the Don Valley Education Centre (7015 Leslie Street). It is assumed that the majority of the youth camps will occur during the summer break. As the attendees reside in Toronto and are of an older age cohort (15 years – 30 years) compared to the junior youth campers, the study assumes that a greater percentage of campers have access to a vehicle as a driver or passenger.
- The information received from the Client indicates that learning site seminars will vary in duration between a weekend and one week, occurring four times throughout the year in the months of June, July, August, and December. It is assumed that this event is targeted towards teenagers and young adults which is reflected in the assumed mode split of attendees travelling to and from the Site. From a traffic perspective, it is conservatively assumed that the seminars will run throughout the aforementioned months, with the majority of the attendees residing within the GTA.

- The information received from the Client indicates that the ISGP National Unit Coordinator Gathering event takes place annually as a three- to five-day event, with attendees arriving from across Canada. Similarly to the mode splits assumed for the National Convention, the client has advised that approximately 35% of the attendees are local and would likely drive to the Site. The remaining attendees are assumed to be non-local attendees and will arrive to the Site as an auto passenger.
- The information received from the Client indicates that there are periodic gatherings to be attended by the NSA throughout the year. It is assumed that all members of the NSA reside locally and will drive to and from the Site.
- Temple visits were derived based on visitor information provided for similar temple sites located in Australia and Germany as discussed in **Section 7.2**. For the purpose of the analysis, only projected weekday temple visits were considered. It is assumed that all trips associated with peak hour temple visits will be made by vehicle with an assumed vehicle occupancy of 1 person / vehicle.

11.5.2.3 Projected Peak Hour Vehicular Traffic

The calculations shown in **Table 19**, along with information provided by the Client related to the expected year-long building usage, were used to forecast a projection of the weekday peak hour trip generation for the entire year at the facility that takes into account the day-to-day operations as well as the various conferences and events that are expected to occur at the proposed facility. The resultant breakdown of the expected year-long building usage of the Site is shown in **Appendix G**.

Using the estimated year-long trip generation profile developed in **Appendix G**, this analysis derived an 85th percentile trip generation estimated to represent a moderately conservative scenario with the National Centre operating under busy conditions associated with the various recurring events during the year. As a result, the 85th percentile trip generation is calculated to be 195 total two-way trips in the weekday morning peak hour, and 225 total two-way trips in the afternoon peak hour, of which **150 two-way trips and 180 two-way trips** are classified as vehicular trips during the respective peak hours. A summary of the travel demand forecasts for the 85th percentile trip generation is provided in **Table 20**.

TABLE 20 SITE TOTAL TRIPS (85TH PERCENTILE TRIP GENERATION)

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
National Centre						
Driver	25	0	25	0	25	25
Passenger	0	0	0	0	0	0
Transit / School Bus	0	0	0	0	0	0
Active Transportation (Walk + Cycle)	0	0	0	0	0	0
Subtotal	25	0	25	0	25	25
Vehicular Trips (Driver + Passenger) – National Centre	25	0	25	0	25	25
Don Valley Education Centre (7015 Leslie Street)						
Driver	35	0	35	0	35	35
Passenger	45	45	90	45	45	90
Transit / School Bus	50	0	50	0	50	50
Active Transportation (Walk + Cycle)	0	0	0	0	0	0
Subtotal	130	45	175	45	130	175
Vehicular Trips (Driver + Passenger) – DVEC	80	45	125	45	80	125
Temple						
Driver	0	0	0	15	15	30
Passenger	0	0	0	0	0	0
Transit / School Bus	0	0	0	0	0	0
Active Transportation (Walk + Cycle)	0	0	0	0	0	0
Subtotal	0	0	0	15	15	30
Vehicular Trips (Driver + Passenger) – Temple	0	0	0	15	15	30
Total Trips	155	45	200	60	170	230
Total Vehicular Trips (Driver + Passenger)	105	45	150	60	120	180

Notes:

1. Site trips are rounded to the nearest five.

Based on the foregoing, the Site is expected to generate **in the order of 200 two-way trips in the weekday morning peak hour and 230 two-way trips in the weekday afternoon peak hour** based on the 85th percentile trip generation.

It is noted that the trip generation scenario does not reflect vehicular trips generated by the National Convention, which is a special event that occurs once per year that will have special traffic management provisions.

11.5.2.4 Projected Vehicular Trip Generation (Bahá'í National Convention)

In addition to the above scenario, it is noted that once a year, the National Convention will be held on-Site. This is when the Bahá'í community welcomes delegates from across Canada to the facility. The three-day event is held once a year over a weekend and during the event, the estimated peak hour vehicular trip generation of the National Convention itself is estimated to reach in the order of 230 two-way trips during the weekday morning and afternoon peak hours. The trip generation calculations are shown in **Appendix H**.

The trips generated by the proposed National Convention are not representative of typical operations and will be managed by staff at the Bahá'í National Centre. During the weekend when the National Convention is scheduled to occur, alternative travel arrangements will be made to accommodate participants arriving from other parts of the country and to discourage single-occupancy vehicular trips (i.e., shuttle bus or carpool arrangements). Alternatively, an event-specific plan can be devised to direct Site-associated traffic on these dates.

It is also noted that during the National Convention, a significant number of attendees will stay on-site within the on-site lodging rooms. As a result, the traffic impact associated with the holding of the National Convention will be further limited to the arrival and departure times of the event. The proposed trip generation estimate associated with the 85th percentile activity is therefore an appropriate methodology for assessing the recurring occasional traffic impacts of the Project.

11.5.3 Net New Site Traffic Volumes

Net new Site trips were calculated by removing the existing Site traffic, as summarized in **Table 21**.

TABLE 21 NET NEW SITE TRIP GENERATION

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
New Site Trips (Driver + Passenger) ²	105	45	150	60	120	180
Existing Site Trips (To Be Removed) ³	-15	-5	-20	0	-15	-15
Net New Site Trips	90	40	130	60	105	165

Notes:

1. Trips are rounded to the nearest five.
2. New Site trips as shown in **Table 20**.
3. Existing Site trips as shown in **Table 18**.

The proposed development is anticipated to generate in the order of **130 and 165 new two-way vehicular trips** during the weekday morning and afternoon peak hours, respectively.

11.5.4 Vehicular Traffic Distribution and Assignment

Site traffic has been assigned onto the area road network based on a review of travel information provided by the 2016 Transportation Tomorrow Survey (TTS) and existing road network traffic patterns and connectivity. The Site traffic distribution is summarized in **Table 22**. Detailed output TTS data and distribution assumptions are attached in **Appendix I**.

TABLE 22 SITE TRAFFIC DISTRIBUTION

Directions	Outbound	Inbound
To / From the South on Leslie Street	10%	10%
To / From the East on Steeles Avenue	60%	55%
To / From the West on Steeles Avenue	30%	35%
Total	100%	100%

Notes:

1. Based on morning peak period residential outbound trips.
2. Based on afternoon peak period residential inbound trips.
3. Based on trips to/from households in TTS zones 2365, 2366, and 460.

The projected 85th percentile net new Site trips were assigned onto the area road network based on the directional distribution summarized in **Table 22**.

The distribution of new Site traffic volumes onto the area road network is illustrated in **Figure 12**, while the net new Site traffic volumes are shown in **Figure 13**.

11.6 FUTURE TOTAL TRAFFIC VOLUMES

Future total traffic volumes which reflect the addition of existing area traffic volumes, background traffic volumes, and net new Site traffic volumes are illustrated in **Figure 14**.



Date Plotted: January 18, 2024 File name: P:\7006\12\Graphics\CAD\Fig12-01-NST.dwg

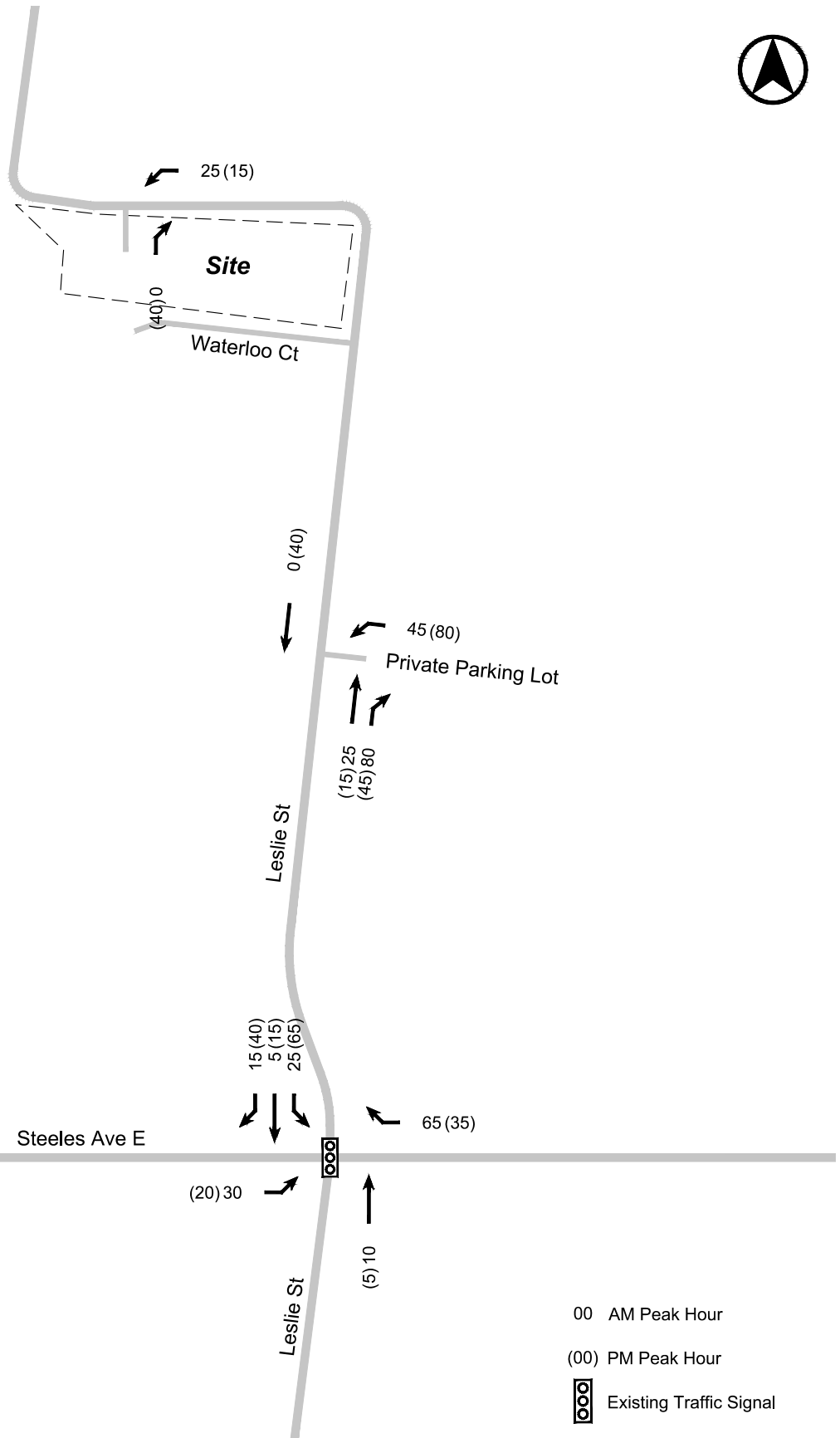


FIGURE 12 NEW SITE TRAFFIC VOLUMES



Date Plotted: January 18, 2024 File name: P:\7006\12\Graphics\CAD\Fig13-01-11-NNST.dwg

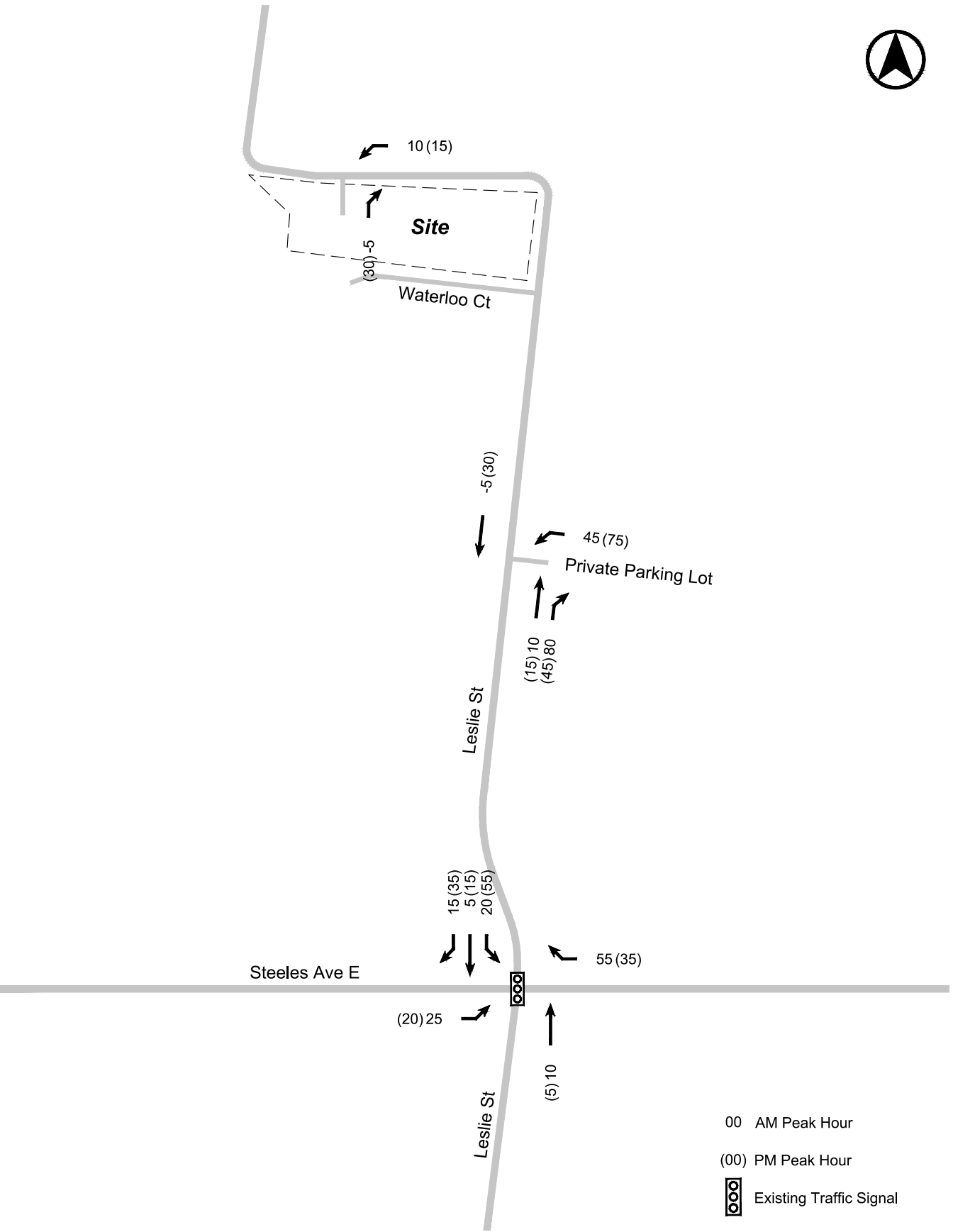
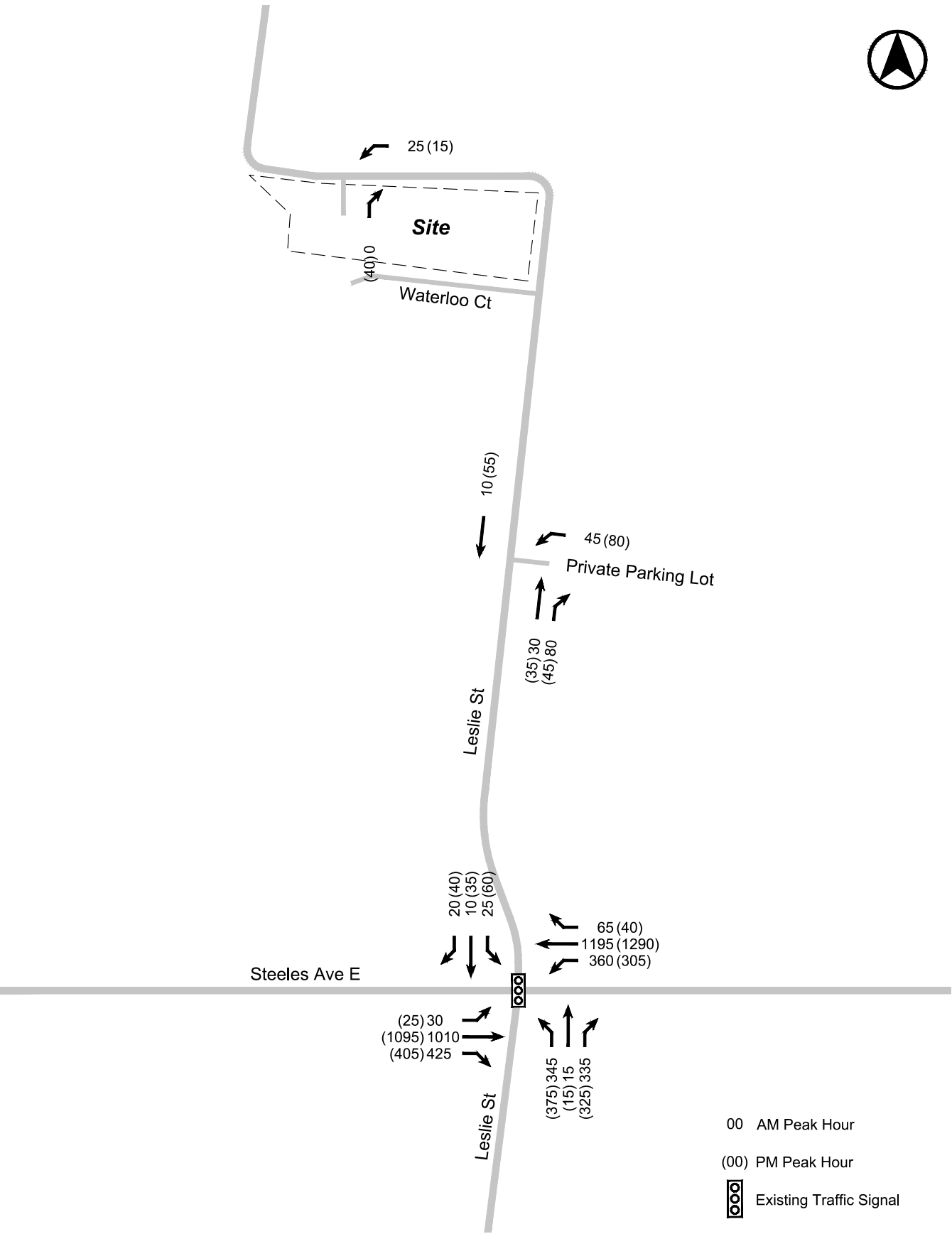


FIGURE 13 NET NEW SITE TRAFFIC VOLUMES



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00 AM Peak Hour
 (00) PM Peak Hour
 Existing Traffic Signal

FIGURE 14 FUTURE TOTAL TRAFFIC VOLUMES

12.0 MULTI-MODAL TRAVEL DEMAND ASSESSMENT

This section summarizes the assessment of multi-modal transportation characteristics of the project in accordance with the York Region Transportation Mobility Plan Guidelines, dated November 2016.

For the purpose of the multi-modal travel demand assessment, the 85th percentile design hour is reviewed as a representative condition. Based on the forecast, the Site is forecast to generate in the order of 50 two-way transit trips (50 transit-based trips and 0 primary pedestrian trips) during the morning and afternoon peak hours. It is noted that adopting the 85th percentile method is conservative, with this particular level of activity occurring only during the summer and winter seasons.

12.1 TRANSIT ASSESSMENT

The subject Site is located in relatively close proximity to public transit stops which provide connections to existing bus routes operated by the Toronto Transit Commission (TTC). While there are no bus routes operated by York Region Transit (YRT) in the immediate vicinity of the Site, the transit level of service (LOS) criteria is defined in the Region’s Transportation Mobility Plan Guidelines. **Table 23** provides the LOS characteristics for the Site:

TABLE 23 TRANSIT LEVEL OF SERVICE SUMMARY

Transit Stop Location	Direction	Access to Transit Stops	Transit Headways	Intersection Approach (transit or curb lanes)
		LOS	LOS	LOS
Steeles Avenue East / Leslie Street	Eastbound	E	B	A
	Westbound	E	B	A
	Northbound	E	E	A

- **Access to Transit: LOS E** = bus stops will be within 800 metres of the Site
- **Transit Headways: LOS B to E** = likely headways will be approximately 5 minutes given the volume of surface transit activity (frequency of Route 53 bus)
- **Intersection Approach Delay (surface transit): LOS A** = V/C ratios for general purpose lanes where buses will operate are anticipated to be under the 0.60 threshold associated with LOS A

Based on the foregoing, the level of service for access to transit results in a LOS E, while the level of service for transit headways ranges from LOS B to LOS E, exceeding the transit LOS target of C outlined in the Region’s Transportation Mobility Plan Guidelines. However, we note that the access to transit is a function of the Site’s distance to Steeles Avenue East due to its location in a low-traffic environment. Moreover, we anticipate that the majority of travellers of the Site will travel east-west along Steeles Avenue East where transit headways are more frequent.

With respect to the transit user experience walking up to the Site, the existing walking condition to the Site is via a low-speed shared roadway which will appropriately accommodate the transit-based trips. However, as discussed in **Section 8.0**, a multi-use path (MUP) is proposed to be constructed along the east side of Leslie

Street which will connect the existing pedestrian facilities at the intersection of Steeles Avenue East and Leslie Street to the existing trailhead as part of the Lake-to-Lake Route at the north end of Leslie Street. This improvement will enhance the experience of transit users walking to the Don Valley Education Centre (7015 Leslie Street), the proposed Bahá'í National Centre, and the proposed Bahá'í temple. These new transit trips will be accommodated by the existing transit services in the area.

12.2 PEDESTRIAN ASSESSMENT

12.2.1 Existing Conditions

Pedestrian connections are proposed to be maintained by the redevelopment plan. An assessment of the pedestrian level of service is provided in **Table 24**.

TABLE 24 PEDESTRIAN LEVEL OF SERVICE SUMMARY

Segment	Sidewalk Width	Buffer	LOS
Steeles Avenue East	1.5 to 1.9	>1.0 m	B
Leslie Street	0 m	0 m	F

Notes:

- Level of service criteria:
LOS A: $\geq 2.0\text{m}$ sidewalk with minimum 3.5m buffer including planting and edge zone; or $\geq 3.0\text{m}$ multi-use path.
LOS B: $\geq 1.5\text{m}$ sidewalk with minimum 1.0m buffer including edge zone; or $< 3.0\text{m}$ multi-use path.
LOS C: $\geq 1.5\text{m}$ curb-faced sidewalk (no buffer).
LOS D: $< 1.5\text{m}$ sidewalk.
LOS E: Paved shoulder or no sidewalk provision.
LOS F: No sidewalk provision.

Based on the foregoing, pedestrians will experience levels of service ranging from LOS B to LOS F in the vicinity of the Site. Notably the segment of Leslie Street north of Steeles Avenue would be classified as a LOS F as it currently does not have formal pedestrian or cycling facilities.

12.2.2 Proposed Improvements to Leslie Street

Significant improvements are proposed to Leslie Street to improve pedestrian & cyclist safety and to address flooding risks in the area. As discussed in **Section 8.0**, a 3.0-metre-wide multi-use path (MUP) is proposed along the east side of Leslie Street which will connect the existing pedestrian facilities at the intersection of Steeles Avenue East and Leslie Street to the existing trailhead as part of the Lake-to-Lake Route at the north end of Leslie Street. As part of this work, Leslie Street will be reconstructed and raised to remove the road from the floodplain and make its width more consistent to better accommodate two-way traffic. The improvements are proposed to address existing operational and safety concerns associated with Leslie Street which currently operates as a busy pedestrian & cycling route and part of the Lake-to-Lake Route. The improvements will therefore ensure that both existing pedestrian and cyclists, along with any future pedestrian and cyclists visiting the Bahá'í National Centre and temple, will be accommodated appropriately.

The future assessment of the pedestrian level of service with the implementation of the proposed improvements to Leslie Street is provided in **Table 25**.

TABLE 25 PEDESTRIAN LEVEL OF SERVICE SUMMARY (FUTURE CONDITIONS)

Segment	Sidewalk Width	Buffer	LOS
Steeles Avenue East	1.5 to 1.9	>1.0 m	B
Leslie Street	3.0 m	2.5 m	A

Notes:

- Level of service criteria:
LOS A: $\geq 2.0\text{m}$ sidewalk with minimum 3.5m buffer including planting and edge zone; or $\geq 3.0\text{m}$ multi-use path.
LOS B: $\geq 1.5\text{m}$ sidewalk with minimum 1.0m buffer including edge zone; or $< 3.0\text{m}$ multi-use path.
LOS C: $\geq 1.5\text{m}$ curb-faced sidewalk (no buffer).
LOS D: $< 1.5\text{m}$ sidewalk.
LOS E: Paved shoulder or no sidewalk provision.
LOS F: No sidewalk provision.

Under future conditions, the condition of Leslie Street is expected to improve to a pedestrian LOS A.

With respect to forecasted pedestrian trips generated by the project, this can be described in two categories – as primary pedestrian trips and/or transit-based pedestrian trips. Primary pedestrian trips are trips where the primary mode of travel to the destination is by walking, whereas transit based pedestrian trips are trips where pedestrians walk to and from transit stops.

The Site is forecast to generate negligible primary pedestrian trips during the morning and afternoon peak hours and in the order of 50 transit-based pedestrian trips based on the 85th percentile design hour. The proposed new multi-use path on the east side of Leslie Street will accommodate new pedestrian trips generated by the proposed redevelopment of the Site.

12.3 CYCLING ASSESSMENT

While there are existing on-street routes on John Street, German Mills Road, and Cottonwood Court located north of the Site that provide connections to trails within German Mills Settlers Park, the cycling network in the immediate vicinity of the Site is limited under existing conditions. It is also noted that the final approval for the 2022 Transportation Master Plan is expected to be considered at the York Regional Council meeting to be held in September 2022, which will develop recommendations and action plans for discussion and implementation over the next five years to meet the transportation needs of motorists, pedestrians, cyclists, and transit riders.

The cycling network is more developed south of the Site, as there are existing connections to Duncan Creek Trail at the intersection of Steeles Avenue East and Leslie Street, which provides linkages to other sections of the broader cycling network along the Don River.

A number of improvements to Leslie Street are recommended to encourage cycling trips along Leslie Street and to improve cycling safety. As discussed in **Section 8.0**, a 3.0-metre-wide multi-use path (MUP) is recommended to be constructed along the east side of Leslie Street which will connect the existing cycling facilities at Duncan Creek Trail near the intersection of Steeles Avenue East and Leslie Street to the existing trailhead as part of the Lake-to-Lake Route at the north end of Leslie Street.

The proposed redevelopment is forecast to generate negligible cycling trips within the study horizon.

13.0 VEHICLE TRAFFIC OPERATIONS ANALYSIS

13.1 ANALYSIS STUDY AREA

The following existing and future intersections were included in this analysis:

Signalized Intersections:

- Steeles Avenue East / Leslie Street

Unsignalized Intersections:

- Leslie Street / Parking Lot Access (Don Valley Education Centre)
- Leslie Street / Site Access

13.2 ANALYSIS METHODOLOGY

Traffic operations analyses have been undertaken at the area intersections using standard capacity analysis procedures as follows.

Signalized Intersections:

Analyses for intersections operating under traffic signal control have been undertaken using the methodologies and procedures outlined in the Highway Capacity Manual (HCM) 2000, and in accordance with the City of Toronto's guidelines for analyses undertaken using Synchro 11.0 software. The product of the signalized intersection evaluation is an intersection performance index (volume to capacity ratio or V/C), where a V/C index of 1.00 indicates 'at or near capacity' conditions.

Unsignalized Intersections:

Unsignalized intersection analyses have been undertaken using standard capacity procedures for intersections operating under "Two-Way" and "All-Way" STOP control and in accordance with the methodologies outlined in the Highway Capacity Manual 2000 (HCM2000).

The product of these analyses is a level of service (LOS) designation, ranging from LOS of A to F, which provides a relative indication of the level of delay experienced by motorists completing a turning manoeuvre at an intersection. LOS A represents conditions under which motorists would experience little delay, while LOS F reflects conditions where more extended delays can be expected.

HCM level of service (LOS) criteria for unsignalized intersections is as follows:

- LOS A: Control Delay \leq 10s
- LOS B: 10s < Control Delay \leq 15s
- LOS C: 15s < Control Delay \leq 25s
- LOS D: 25s < Control Delay \leq 35s
- LOS E: 35s < Control Delay \leq 50s
- LOS F: Control Delay > 50s

13.3 NETWORK-WIDE PARAMETERS

Key analysis parameters were assumed based on requirements contained in the City of Toronto's *Guidelines for Using Synchro 11 (Including SimTraffic 11)* (January 2021), summarized as follows:

Network Assumptions

The existing area road network lane configuration and traffic control are illustrated on **Figure 4**.

Existing Signal Timing

The existing signal timing, phasing plan, and cycle lengths for the intersection of Steeles Avenue East and Leslie Street were obtained from the City of Toronto. Existing signal timings adopted as the basis for the traffic operations analyses are provided in **Appendix J**.

Future Signal Timing

Existing signal timings were maintained during the analysis of future conditions whenever possible. When necessary, signal timings were optimized under future background and future total conditions.

Base Saturation Flow Rates

The City of Toronto *Guidelines for Using Synchro 11 (Including SimTraffic 11)* (January 2021), specifies a base saturation flow rate of 1,900 passenger cars per hour of green time per lane (pcphgpl) for signalized and unsignalized intersections. These default rates were adopted in the analysis for the proposed development.

Heavy Vehicle Assumptions

Heavy and medium truck percentages incorporated into the analysis were based upon information provided as part of intersection turning movement counts.

Lost Time Adjustments

The City of Toronto *Guidelines for Using Synchro 11 (Including SimTraffic 11)* (January 2021), specify a base lost time adjustment factor of -1.0 seconds (i.e., a total loss time per phase equal to the amber plus all-red time minus 1 second). This default value was adopted in the analysis.

Peak Hour Factors

As the proposed development is located within the City of Markham, the Region of York's *Transportation Mobility Plan Guidelines* states that future proposed peak hour factors should be based on adjacent intersections. As a result, the values observed at the intersection of Steeles Avenue East and Leslie Street were used in the analysis of the Site driveways. At other area intersections, peak hour factors were calculated based on the existing traffic volume data extracted from the traffic counts utilized in this study for the operations analysis.

Lane Utilization Factors

Under existing conditions, default Synchro lane utilization factors (LUF) were adopted, which take into consideration the distribution of individual lane usage within each movement group.

13.4 SIGNALIZED INTERSECTIONS ANALYSIS RESULTS

Traffic operations analysis results and discussion for the area signalized intersections for the existing, future background and future total conditions are summarized in **Table 26**. Detailed Synchro analysis worksheets are attached in **Appendix G**.

TABLE 26 SIGNALIZED INTERSECTION CAPACITY ANALYSIS RESULTS

Lane Group	Existing		Future Background		Future Total	
	Delay	LOS	V/C	LOS	V/C	LOS
EBL	0.05 (0.04)	C (C)	0.05 (0.04)	C (C)	0.29 (0.25)	C (D)
EBT	0.71 (0.68)	C (D)	0.73 (0.69)	D (D)	0.73 (0.73)	D (D)
EBR	0.33 (0.31)	C (C)	0.33 (0.31)	C (C)	0.33 (0.31)	C (D)
WBL	0.85 (0.81)	D (D)	0.86 (0.82)	D (D)	0.88 (0.89)	D (E)
WBT	0.45 (0.49)	B (B)	0.47 (0.50)	B (B)	0.47 (0.53)	B (C)
WBR	0.01 (0.00)	B (B)	0.01 (0.00)	B (B)	0.06 (0.03)	B (B)
NBLT	0.87 (0.88)	D (D)	0.87 (0.88)	D (D)	0.91 (0.91)	E (E)
NBR	0.24 (0.24)	C (C)	0.24 (0.24)	C (C)	0.24 (0.24)	C (C)
SBLTR	0.03 (0.05)	C (C)	0.03 (0.06)	C (C)	0.13 (0.38)	C (C)
Overall	0.88 (0.85)	C (C)	0.89 (0.86)	C (C)	0.91 (0.92)	C (D)

Notes:

1. 00 (00): Weekday morning peak hour (Weekday afternoon peak hour).

Steeles Avenue East / Leslie Street

The intersection of Steeles Avenue East / Leslie Street contains a five-lane approach (left, 3 through, and right-turn lanes for both eastbound and westbound movements), a two-lane approach at the north leg of Leslie Street, and a four-lane approach at the south leg of Leslie Street. This intersection operates under traffic signal control with a cycle length of 120 seconds in the morning peak hour and 149 seconds in the afternoon peak hour.

Under existing conditions, the intersection operates at an overall V/C of 0.88 during the morning peak hour and 0.85 during the afternoon peak hour.

The addition of background traffic allowances will have an insignificant impact on the analysis. With the addition of traffic generated from background developments, the intersection will continue operating acceptably at an overall V/C of 0.89 during the morning peak hour and 0.86 during the afternoon peak hour.

Under future total traffic conditions, with the addition of Site-generated traffic associated with the estimated 85th percentile activity at the facility, the intersection will continue to operate acceptably at an overall V/C of 0.91 during the morning peak hour and 0.92 during the afternoon peak hour. The addition of Site traffic will have a modest impact on overall intersection operations. The impact is estimated to occur during the weekday afternoon peak period and is primarily associated with the impacts to the westbound left and southbound movements. The westbound left V/C increases from 0.82 to 0.89 and the southbound approach increases from 0.06 to 0.38 during the weekday afternoon peak period. The remaining movements at the intersection are less impacted by Site traffic.

In the case of both movements, the estimated Site traffic during an 85th percentile event can be appropriately accommodated without adjustments to the existing signal timing plan.

Based on the foregoing, new Site traffic volumes can be appropriately accommodated at the signalized intersection of Steeles Avenue East / Leslie Street.

13.5 UNSIGNALIZED INTERSECTIONS ANALYSIS RESULTS

Traffic operations analysis results and discussion for the area unsignalized intersections for the existing, future background and future total conditions are summarized in the following sections. Detailed capacity analysis reports are attached in **Appendix K**.

13.5.1 Leslie Street / Private Parking Lot (Don Valley Education Centre)

The results of the unsignalized intersection traffic operations analyses undertaken for the Leslie Street / Private Parking Lot (Don Valley Education Centre) are summarized in **Table 27**.

TABLE 27 LESLIE STREET / PRIVATE PARKING LOT (DON VALLEY EDUCATION CENTRE) ANALYSIS RESULTS

Lane Group	Existing		Future Background		Future Total	
	Delay	LOS	V/C	LOS	V/C	LOS
WBLR	0.0 (9.5)	A (A)	0.0 (9.5)	A (A)	10.9 (10.9)	B (B)
NBTR	0.0 (0.0)	A (A)	0.0 (0.0)	A (A)	0.0 (0.0)	A (A)
SBLT	0.0 (0.0)	A (A)	0.0 (0.0)	A (A)	0.0 (0.0)	A (A)

Notes:

- 00 (00): Weekday morning peak hour (Weekday afternoon peak hour).
- Control delay calculated in seconds.

Under existing conditions, the intersection operates under good conditions (with a LOS A or better).

Under future background conditions, with the addition of background traffic, the intersection will continue operating under good conditions (with a LOS A or better).

Under future total conditions, with the addition of Site-generated traffic, the intersection will continue operating under good conditions (with a LOS B or better).

The addition of Site traffic has negligible impact on the overall intersection operations. All individual movements and the intersection overall are expected to operate at acceptable levels of service and within capacity.

13.5.2 Leslie Street / Site Access

The results of the unsignalized intersection traffic operations analyses undertaken for the Leslie Street / Site Access intersection are summarized in **Table 28**. The Site driveway will operate acceptably (at a LOS A).

TABLE 28 LESLIE STREET / SITE ACCESS ANALYSIS RESULTS

Lane Group	Existing		Future Background		Future Total	
	Delay	LOS	Delay	LOS	Delay	LOS
EBTR	0.0 (0.0)	A (A)	0.0 (0.0)	A (A)	0.0 (0.0)	A (A)
WBLT	7.2 (0.0)	A (A)	7.2 (0.0)	A (A)	7.2 (7.2)	A (A)
NBLR	8.3 (8.3)	A (A)	8.3 (8.3)	A (A)	0.0 (8.4)	A (A)

Notes:

1. 00 (00): Weekday morning peak hour (Weekday afternoon peak hour).
2. Control delay calculated in seconds.

Based on the foregoing, Site traffic volumes can be appropriately accommodated at the Site access.

APPENDIX A:
Correspondence from the City of Markham





INTEROFFICE MEMORANDUM

File Number: **PLAN 22 262723**

To: Ziad Yassi, Senior Development Engineer
From: Andrea Liu, Senior Transportation Engineer
CC: Henry Lo, Manager, Transportation Planning
Date: January 26, 2023
Subject: 7200 Leslie Street, Bahai National Centre and Temple, Proposed Place of Worship

Transportation comments are based on a review of the following:

- Urban Transportation Considerations, prepared by BA Group, dated October 2022
- Site Plan, prepared by Hariri Pontarini Architects, dated September 2022

The subject site is currently occupied by the existing Bahai National Centre, which is bounded by Leslie Street to the north, German Mills Settlers Park to the east, the Bayview Golf and Country Club to the west, Waterloo Court and existing single-family residential units to the south.

The proposed development consists three buildings, including:

- a proposed building of 5,160m² GFA (new and expanded Bahai National Centre) to serve as the central gathering for the Bahai spiritual community and to host Bahai events.
- a proposed temple of 1,775m² GFA.

Transportation staff have reviewed the submission and the comments are as follows:

1. Steeles Avenue is under the jurisdiction of City of Toronto. While not directly abutting Steeles Avenue, all the vehicular traffic will require access off Steeles Avenue. As such, the submission should be circulated to City of Toronto for comments.
2. The TIS documented a number of different events/programs that could occur throughout the calendar year but the Nineteen Day Feast, which staff understand is also a regular community gathering, is not referenced in the TIS. A detailed description of the Nineteen Day Feast and the frequency and time duration of the regular activities related to the Nineteen Day Feast at the Bahai Centre should be included in the study to provide clarity in terms of trip generation and overall parking demand of the site.
3. Based on the applicant's submission:
 - a total of 307 parking spaces are required as per Markham's parking by-law 28-97; and
 - a total of 111-231 parking spaces are required as per the Draft Comprehensive Zoning By-law (presented to Council but not approved),



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whereas 202 parking spaces will be provided. The appropriateness of the parking by-law rate to be applied to the proposed development, including the place of worship space and National Centre, and the final parking requirement should be confirmed with the Zoning Examiner.

Notwithstanding the aforementioned, the following comments are noted:

- a. Based on the City of Markham's Draft Zoning By-law, the parking requirement calculation should be based on the size in GFA of the place of worship and based on the number of occupants, whichever is greater. Please provide revised parking calculations for review.
 - b. In support of the proposed parking supply reduction, please include a parking demand assessment using first principles' approach based on the various events and programs as identified in Appendix E of the TIS (similar to the trip generation assessment). This assessment shall be documented and submitted for review.
4. The TIS states that there are no loading requirements for the site based on City's By-law 28-97. It should be noted that the City' loading requirements are provided under City's By-law 177-96, and accordingly a requirement of 2 loading spaces.
 5. Please provide additional information and details on alternative transportation arrangements or "event-specific plans" for the National Convention. For example, please include any detailed overflow parking plan and/or any off-site parking arrangement. The alternative transportation arrangements or event-specific plans need to ensure there is no over-spill of parking onto adjacent streets during special events and any on-street parking availability and restrictions should be noted in the study as well.
 6. Pedestrian and cycling connections from the subject site to the existing trail network within the German Mills Settlers Park should be provided to ensure continued public access. Further discussion is needed with Urban Design staff to assess the trail connections at the edge of the property to ensure trails are safe and accessible.
 7. It appears that the east-west driveway at the terminus of Leslie Street also provides shared access to the golf club property located on the west side of the subject site and the access is restricted by a controlled gate. Please confirm any cross access easements that the subject site currently has with the neighbouring golf course property to the west. Confirmation will be required with the property owner to the west regarding the proposed vehicular easement configuration.
 8. The secondary emergency road is proposed connecting from the subject site to John Street to the north from the current terminus of Leslie Street through the German Mills Settlers Park via an existing trail that is to be updated. The secondary access route may not be feasible due to environmental constraints. This alignment is along City's unopened right-of-way and through existing park trail. Further discussion with Urban Design and Fire staff will be required to determine the feasibility of this emergency access alignment and possible alternative options.



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9. The TIS notes that the site is well served by transit. However, there is currently no sidewalk connection to the transit stops on Steeles Avenue.

Preliminary Site Plan Comments

10. A site circulation plan for the site is required for further review to ensure efficient and safe pedestrian and vehicular movements for the entire site. It should include pedestrian crossings on Leslie Street and appropriate signage to provide guidance for on-site traffic circulation and management, and area for pick-up/drop-off activities. Please provide pavement markings and signs on the site plan to facilitate safe traffic operations.
11. The site accesses should be designed to the City's Engineering Standards.
12. Truck turning templates must be provided to demonstrate how large vehicles will manoeuvre through the site and at site accesses. Vehicle turning templates are also required to show ingress/egress of passenger vehicles at the parking lot aisles.
13. Internal site plan must be reviewed for AODA compliance (e.g. tactile plates).

Transportation Demand Management (TDM) Comments:

The City provides the following comments in regards to TDM:

Active Transportation Network

The applicant shall provide and demonstrate a safe pedestrian and sidewalk network within the proposed site. Specifically, pedestrian connection on Leslie Street to enable safe crossing between the proposed buildings shall be included. The crossings would allow north-south crossing between the areas south and north of Leslie Street. The locations should be clearly shown on drawings for City's review.

Long-Term & Short-Term Bicycle Parking

The proposed bike parking (10 long-term and 50 short-term) shall be shown on drawing for City's review. The bike parking spaces should be distributed at each building and located as per description below:

- Long-term bicycle parking is intended to be used for long duration and regularly. The area shall be designated to protect bicycles parked for longer periods of time in an enclosed and secured area. Individual storage locker units are not considered as long-term bike parking.
- Short-term or "visitor" bicycle parking is designed to be used for a few minutes up to a few hours. They should be visible, and easily accessible, and placed by the entrance(s) of the building.



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TDM Plan

The Applicant shall provide a completed TDM Plan that includes detailed information of all TDM measures and the associated implementation costs at site-plan stage for City's review.

TDM Cost Summary

The Applicant shall provide the City with a complete list of all TDM measures to be implemented for the proposed development. The list will become conditions in the site plan agreement, along with a TDM-Letter of Credit (LC) contribution, no included as part of the construction costs. The cost summary will identify an appropriate Letter of Credit (LC) amount for the proposed development.

Should you have any questions or require further information, please contact me at extension 3740.

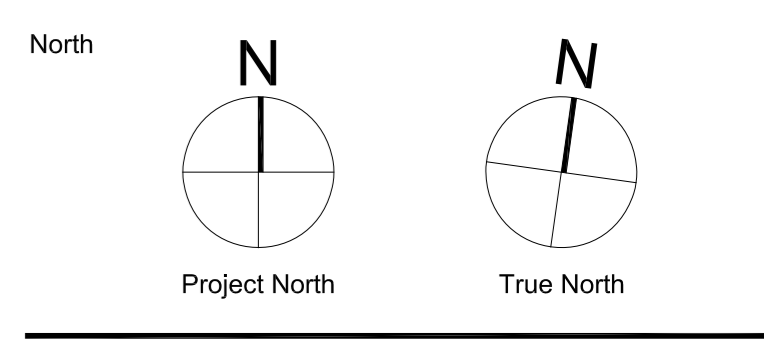
APPENDIX B:
Reduced Architectural Plans (Not to Scale)





General Notes:

- These Contract Documents are the property of the Architect. The Architect bears no responsibility for the interpretations of these documents by the contractor. Upon written application the Architect will provide written clarification or supplementary information regarding the intent of the Contract Documents. The Architect will review Shop Drawings submitted by the Contractor for design conformance only.
- Drawings are not to be scaled for construction. Contractor to verify all existing conditions and dimensions required to perform the Work and report any discrepancies with the Contract Documents to the Architect before commencing work.
- Positions of exposed or finished mechanical or electrical devices, fittings, and fixtures are indicated on the Architectural drawings. The locations shown on the Architectural drawings govern over the Mechanical and Electrical drawings. Those items not clearly located will be located as directed by the Architect.



LEGEND:

- Existing Trees to Remain
- Proposed Trees
- Top of Slope
- - - Limit of Cultural Woodland
- Proposed Building

Rev.	Issue / Description	Date
2	RE-ISSUED FOR OPA & ZBA	February 10, 2024
1	ISSUED FOR OPA & ZBA	September 15, 2023

Architect of Record:
HARIRI PONTARINI ARCHITECTS
 235 Carlaw Avenue
 Suite 301
 Toronto, Canada M4M 2S1
 TEL 416 929 4901
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Project Title:
Bahá'í National Centre and Temple
 7200 Leslie St., Thornhill, ON L3T 0L6

New Bahá'í National Centre Site Plan

Project number: 1709
 Scale: 1:500 @ A0
 Date: January 15, 2024
 Drawn by: HPA

Drawing No.: Revision:

A1.01

APPENDIX C: Data for Comparable Temple Sites



Visitor Statistics - House of Worship 2022 (Langenhain)

Weekday	Date	Visitors	Notes
	Januar		
Saturday	2022-01-01	130	
Sunday	2022-01-02	68	
Monday	2022-01-03	22	
Tuesday	2022-01-04	10	
Wednesday	2022-01-05	33	
Thursday	2022-01-06	38	
Friday	2022-01-07	51	
Saturday	2022-01-08	90	
Sunday	2022-01-09	170	
Monday	2022-01-10	55	
Tuesday	2022-01-11	30	
Wednesday	2022-01-12	10	
Thursday	2022-01-13	8	
Friday	2022-01-14	19	
Saturday	2022-01-15	95	
Sunday	2022-01-16	90	
Monday	2022-01-17	17	
Tuesday	2022-01-18	10	
Wednesday	2022-01-19	9	
Thursday	2022-01-20	12	
Friday	2022-01-21	19	
Saturday	2022-01-22	60	
Sunday	2022-01-23	60	
Monday	2022-01-24	15	
Tuesday	2022-01-25	12	
Wednesday	2022-01-26	28	
Thursday	2022-01-27	10	
Friday	2022-01-28	15	
Saturday	2022-01-29	23	
Sunday	2022-01-30	105	
Monday	2022-01-31		House of Worship closed
	SUMME	1314	
	Februar		
Tuesday	2022-02-01		House of Worship closed
Wednesday	2022-02-02		House of Worship closed
Thursday	2022-02-03		House of Worship closed
Friday	2022-02-04		House of Worship closed
Saturday	2022-02-05		House of Worship closed
Sunday	2022-02-06		House of Worship closed
Monday	2022-02-07		House of Worship closed
Tuesday	2022-02-08		House of Worship closed
Wednesday	2022-02-09		House of Worship closed
Thursday	2022-02-10		House of Worship closed
Friday	2022-02-11		House of Worship closed
Saturday	2022-02-12	89	
Sunday	2022-02-13	164	
Monday	2022-02-14	22	
Tuesday	2022-02-15	10	
Wednesday	2022-02-16	33	
Thursday	2022-02-17	38	
Friday	2022-02-18	51	
Saturday	2022-02-19	128	
Sunday	2022-02-20	153	
Monday	2022-02-21	53	
Tuesday	2022-02-22	39	
Wednesday	2022-02-23	54	
Thursday	2022-02-24	91	
Friday	2022-02-25	64	
Saturday	2022-02-26	328	Evening devotional for an institutional meeting
Sunday	2022-02-27	173	3pm Devotional service for peace
Monday	2022-02-28	21	
	SUMME	1511	
	März		
Tuesday	2022-03-01	27	
Wednesday	2022-03-02	9	
Thursday	2022-03-03	20	
Friday	2022-03-04	20	
Saturday	2022-03-05	30	
Sunday	2022-03-06	50	
Monday	2022-03-07	10	
Tuesday	2022-03-08	15	
Wednesday	2022-03-09	15	
Thursday	2022-03-10	20	
Friday	2022-03-11	30	
Saturday	2022-03-12	80	
Sunday	2022-03-13	100	
Monday	2022-03-14	30	
Tuesday	2022-03-15	15	
Wednesday	2022-03-16	50	
Thursday	2022-03-17	30	
Friday	2022-03-18	20	
Saturday	2022-03-19	50	
Sunday	2022-03-20	100	
Monday	2022-03-21	50	Naw-Rúz devotional service at 3pm
Tuesday	2022-03-22	20	
Wednesday	2022-03-23	20	
Thursday	2022-03-24	10	
Friday	2022-03-25	30	
Saturday	2022-03-26	100	Memorial devotional service for Mr. Rassekh at 4pm
Sunday	2022-03-27	100	Begin of summertime (longer opening hours)

Monday	2022-03-28	10	
Tuesday	2022-03-29	25	
Wednesday	2022-03-30	10	
Thursday	2022-03-31	10	
	SUMME	1106	
	April		
Friday	2022-04-01	10	
Saturday	2022-04-02	100	
Sunday	2022-04-03	100	
Monday	2022-04-04	5	
Tuesday	2022-04-05	20	
Wednesday	2022-04-06	30	
Thursday	2022-04-07	885	Many hiking groups?
Friday	2022-04-08	5	
Saturday	2022-04-09	580	
Sunday	2022-04-10	220	
Monday	2022-04-11	840	Easter holidays in the state of Hessen
Tuesday	2022-04-12	45	
Wednesday	2022-04-13	80	
Thursday	2022-04-14	355	
Friday	2022-04-15	825	Good Friday
Saturday	2022-04-16	120	Easter
Sunday	2022-04-17	180	Easter
Monday	2022-04-18	640	Easter
Tuesday	2022-04-19	500	
Wednesday	2022-04-20	315	
Thursday	2022-04-21	130	1st Ridván - Service at 7pm
Friday	2022-04-22	200	End of Easter
Saturday	2022-04-23	65	
Sunday	2022-04-24	105	
Monday	2022-04-25	15	
Tuesday	2022-04-26	15	
Wednesday	2022-04-27	40	
Thursday	2022-04-28	30	
Friday	2022-04-29	120	9th Ridván - 4pm devotional service / Begin
Saturday	2022-04-30	60	
	SUMME	6635	

	Mai		
Sunday	2022-05-01	190	
Monday	2022-05-02	55	12th Ridván - 6pm devotional service
Tuesday	2022-05-03	15	
Wednesday	2022-05-04	10	
Thursday	2022-05-05	40	
Friday	2022-05-06	20	
Saturday	2022-05-07	15	
Sunday	2022-05-08	85	
Monday	2022-05-09	35	
Tuesday	2022-05-10	20	
Wednesday	2022-05-11	65	
Thursday	2022-05-12	30	
Friday	2022-05-13	55	
Saturday	2022-05-14	11	
Sunday	2022-05-15	260	
Monday	2022-05-16	20	
Tuesday	2022-05-17	50	
Wednesday	2022-05-18	60	
Thursday	2022-05-19	10	
Friday	2022-05-20	30	
Saturday	2022-05-21	180	
Sunday	2022-05-22	200	
Monday	2022-05-23	235	
Tuesday	2022-05-24	100	6pm Declaration of the Báb
Wednesday	2022-05-25	30	
Thursday	2022-05-26	180	Ascension Day (Christian public holiday)
Friday	2022-05-27	60	
Saturday	2022-05-28	80	Ascension of Bahá'u'lláh 4:00 am
Sunday	2022-05-29	300	
Monday	2022-05-30	10	
Tuesday	2022-05-31	50	
	SUMME	2501	
	Juni		
Wednesday	2022-06-01	30	
Thursday	2022-06-02	35	
Friday	2022-06-03	30	
Saturday	2022-06-04	46	
Sunday	2022-06-05	142	Pentecost (Christian public holiday)
Monday	2022-06-06	173	Pentecost (Christian public holiday) / 4pm devotional service for pe
Tuesday	2022-06-07	21	
Wednesday	2022-06-08	31	
Thursday	2022-06-09	29	
Friday	2022-06-10	15	
Saturday	2022-06-11	170	6pm youth devotional
Sunday	2022-06-12	173	
Monday	2022-06-13	8	
Tuesday	2022-06-14	20	
Wednesday	2022-06-15	48	
Thursday	2022-06-16	143	Corpus Christi / 4pm devotional service for peace
Friday	2022-06-17	26	
Saturday	2022-06-18	37	
Sunday	2022-06-19	102	
Monday	2022-06-20	21	
Tuesday	2022-06-21	24	
Wednesday	2022-06-22	29	
Thursday	2022-06-23	28	
Friday	2022-06-24	39	
Saturday	2022-06-25	98	
Sunday	2022-06-26	184	
Monday	2022-06-27	18	
Tuesday	2022-06-28	38	
Wednesday	2022-06-29	21	
Thursday	2022-06-30	55	
	SUMME	1834	
	Juli		
Friday	2022-07-01	33	
Saturday	2022-07-02	51	
Sunday	2022-07-03	79	
Monday	2022-07-04	21	
Tuesday	2022-07-05	29	
Wednesday	2022-07-06	18	
Thursday	2022-07-07	19	
Friday	2022-07-08	46	
Saturday	2022-07-09	56	
Sunday	2022-07-10	460	Martyrdom of the Báb 12:30pm
Monday	2022-07-11	11	
Tuesday	2022-07-12	31	
Wednesday	2022-07-13	52	
Thursday	2022-07-14	16	
Friday	2022-07-15	28	
Saturday	2022-07-16	107	Interactive Theatre on Temple grounds
Sunday	2022-07-17	104	
Monday	2022-07-18	27	
Tuesday	2022-07-19	30	
Wednesday	2022-07-20	19	
Thursday	2022-07-21	48	
Friday	2022-07-22	39	
Saturday	2022-07-23	100	
Sunday	2022-07-24	98	
Monday	2022-07-25	33	School holidays start in Hessen
Tuesday	2022-07-26	52	
Wednesday	2022-07-27	26	
Thursday	2022-07-28	48	
Friday	2022-07-29	27	
Saturday	2022-07-30	59	
Sunday	2022-07-31	110	

	SUMME	1877	
	August		
Monday	2022-08-01	52	
Tuesday	2022-08-02	15	
Wednesday	2022-08-03	20	
Thursday	2022-08-04	12	
Friday	2022-08-05	25	
Saturday	2022-08-06	100	
Sunday	2022-08-07	127	
Monday	2022-08-08	38	
Tuesday	2022-08-09	35	
Wednesday	2022-08-10	51	
Thursday	2022-08-11	32	
Friday	2022-08-12	54	
Saturday	2022-08-13	76	
Sunday	2022-08-14	242	
Monday	2022-08-15	51	
Tuesday	2022-08-16	33	
Wednesday	2022-08-17	31	
Thursday	2022-08-18	28	
Friday	2022-08-19	53	
Saturday	2022-08-20	69	
Sunday	2022-08-21	60	
Monday	2022-08-22	24	
Tuesday	2022-08-23	37	
Wednesday	2022-08-24	12	
Thursday	2022-08-25	26	
Friday	2022-08-26	83	
Saturday	2022-08-27	125	
Sunday	2022-08-28	127	
Monday	2022-08-29	13	
Tuesday	2022-08-30	18	
Wednesday	2022-08-31	31	
	SUMME	1700	

	September		
Thursday	2022-09-01	37	
Friday	2022-09-02	54	School holidays end in Hessen
Saturday	2022-09-03	200	
Sunday	2022-09-04	215	
Monday	2022-09-05	23	
Tuesday	2022-09-06	21	
Wednesday	2022-09-07	38	
Thursday	2022-09-08	26	
Friday	2022-09-09	19	
Saturday	2022-09-10	53	
Sunday	2022-09-11	91	
Monday	2022-09-12	28	
Tuesday	2022-09-13	16	
Wednesday	2022-09-14	47	
Thursday	2022-09-15	16	
Friday	2022-09-16	24	
Saturday	2022-09-17	83	
Sunday	2022-09-18	102	
Monday	2022-09-19	14	
Tuesday	2022-09-20	17	
Wednesday	2022-09-21	44	
Thursday	2022-09-22	56	
Friday	2022-09-23	23	
Saturday	2022-09-24	150	
Sunday	2022-09-25	93	
Monday	2022-09-26	12	
Tuesday	2022-09-27	18	
Wednesday	2022-09-28	36	
Thursday	2022-09-29	55	
Friday	2022-09-30	48	
	SUMME	1659	
	Oktober		
Saturday	2022-10-01	95	
Sunday	2022-10-02	57	
Monday	2022-10-03	143	
Tuesday	2022-10-04	15	
Wednesday	2022-10-05	27	
Thursday	2022-10-06	39	
Friday	2022-10-07	54	
Saturday	2022-10-08	77	
Sunday	2022-10-09	159	
Monday	2022-10-10	62	
Tuesday	2022-10-11	13	
Wednesday	2022-10-12	54	
Thursday	2022-10-13	22	
Friday	2022-10-14	58	
Saturday	2022-10-15	42	
Sunday	2022-10-16	87	
Monday	2022-10-17	44	
Tuesday	2022-10-18	8	
Wednesday	2022-10-19	23	
Thursday	2022-10-20	54	
Friday	2022-10-21	21	
Saturday	2022-10-22	113	
Sunday	2022-10-23	177	
Monday	2022-10-24	18	Autumn holidays Hessen
Tuesday	2022-10-25	53	
Wednesday	2022-10-26	12	Birth of Báb
Thursday	2022-10-27	115	Birth of Bahá'u'lláh
Friday	2022-10-28	136	End Autumn holidays Hessen
Saturday	2022-10-29	154	
Sunday	2022-10-30	263	
Monday	2022-10-31	0	
	SUMME	2195	End of summer time
	November		
Tuesday	2022-11-01	20	
Wednesday	2022-11-02	10	
Thursday	2022-11-03	10	
Friday	2022-11-04	15	
Saturday	2022-11-05	12	
Sunday	2022-11-06	154	
Monday	2022-11-07	9	
Tuesday	2022-11-08	28	
Wednesday	2022-11-09	5	
Thursday	2022-11-10	21	
Friday	2022-11-11	24	
Saturday	2022-11-12	66	
Sunday	2022-11-13	217	
Monday	2022-11-14	16	
Tuesday	2022-11-15	21	
Wednesday	2022-11-16	23	
Thursday	2022-11-17	11	
Friday	2022-11-18	12	
Saturday	2022-11-19	21	
Sunday	2022-11-20	15	
Monday	2022-11-21	10	
Tuesday	2022-11-22	10	
Wednesday	2022-11-23	5	
Thursday	2022-11-24	16	
Friday	2022-11-25	8	
Saturday	2022-11-26	34	Day of the Covenant
Sunday	2022-11-27	92	
Monday	2022-11-28	53	Ascension of Abdu'l-Bahá
Tuesday	2022-11-29	17	
Wednesday	2022-11-30	4	
	SUMME	959	
	Dezember		
Thursday	2022-12-01	7	
Friday	2022-12-02	18	

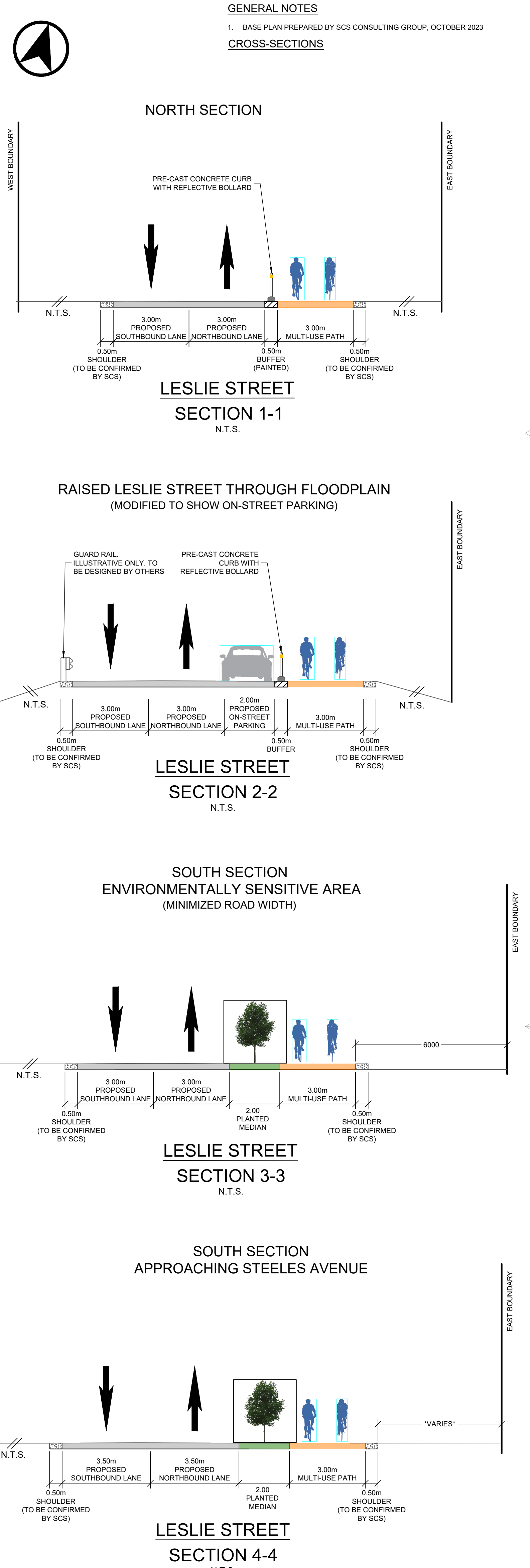
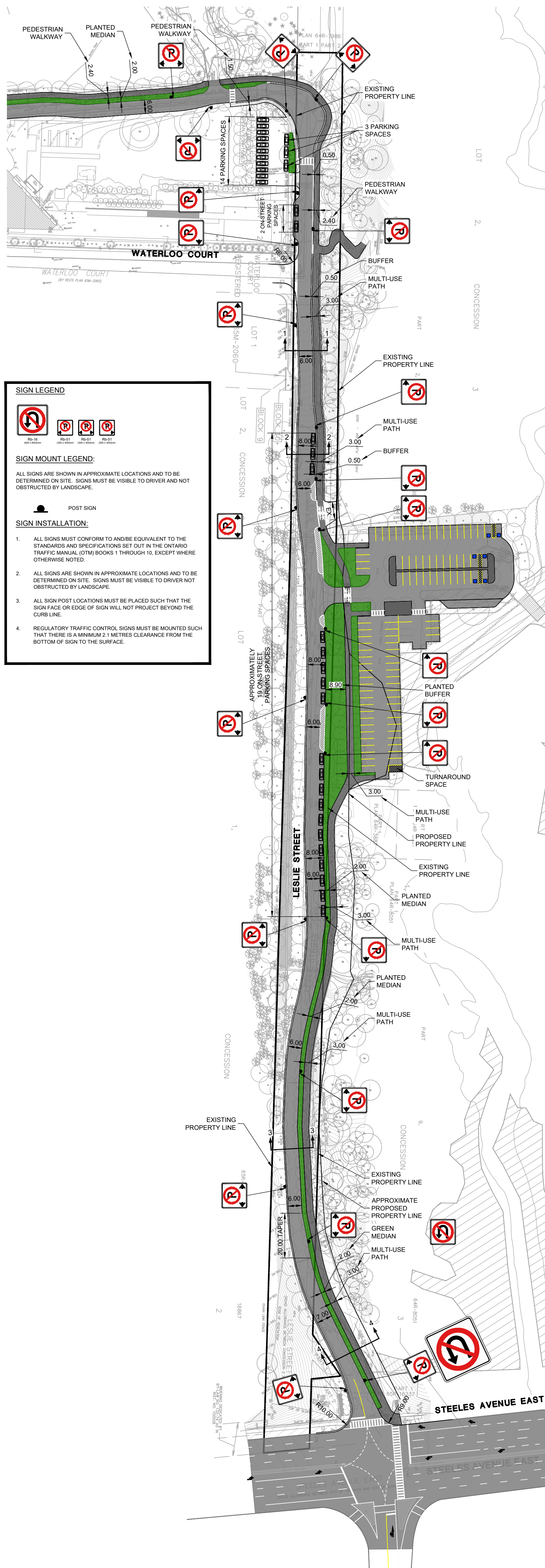
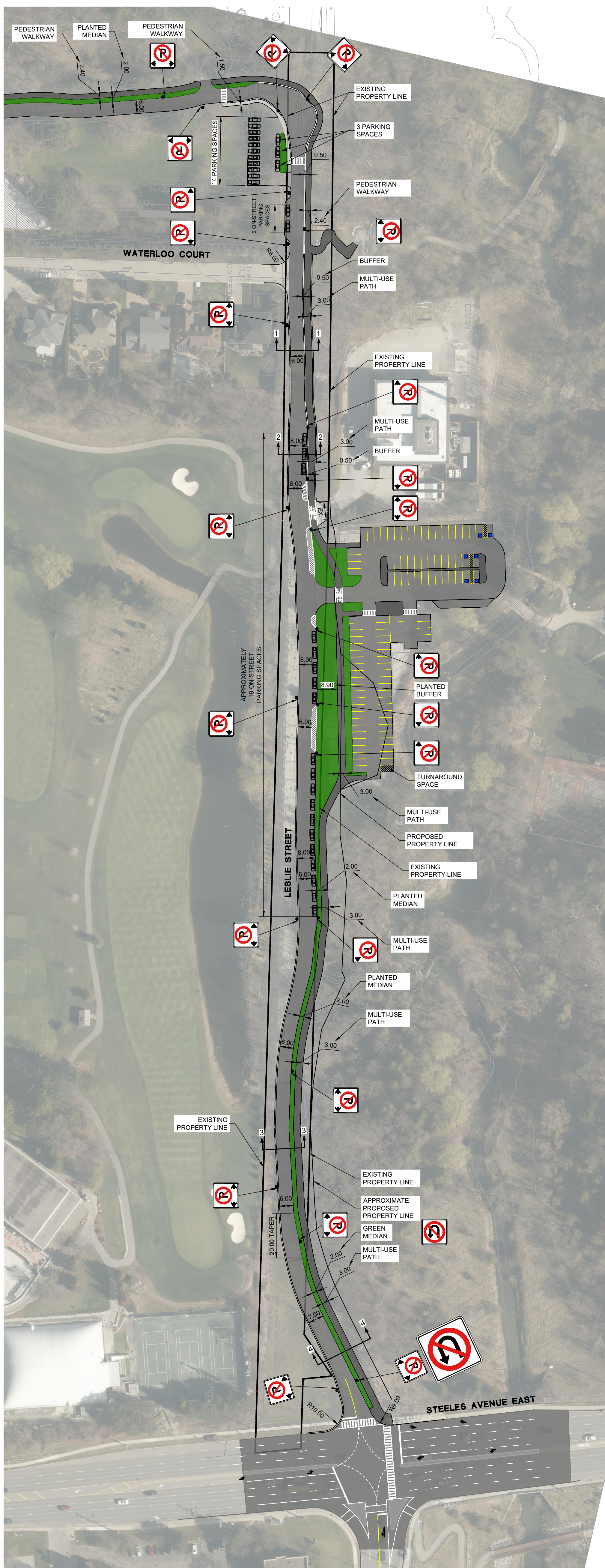
Saturday	2022-12-03	44	
Sunday	2022-12-04	169	
Monday	2022-12-05	13	
Tuesday	2022-12-06	6	
Wednesday	2022-12-07	14	
Thursday	2022-12-08	16	
Friday	2022-12-09	9	
Saturday	2022-12-10	226	
Sunday	2022-12-11	304	
Monday	2022-12-12	5	
Tuesday	2022-12-13	5	
Wednesday	2022-12-14	10	
Thursday	2022-12-15	20	
Friday	2022-12-16	20	
Saturday	2022-12-17	40	
Sunday	2022-12-18	90	
Monday	2022-12-19	30	
Tuesday	2022-12-20	15	
Wednesday	2022-12-21	20	
Thursday	2022-12-22	25	Winter school holidays Hessen
Friday	2022-12-23	30	
Saturday	2022-12-24	50	Christmas Eve
Sunday	2022-12-25	100	Christmas Day
Monday	2022-12-26	150	Boxing Day
Tuesday	2022-12-27	50	
Wednesday	2022-12-28	50	
Thursday	2022-12-29	50	
Friday	2022-12-30	50	
Saturday	2022-12-31	60	New Year's Eve
	SUMME	1696	
	GESAMTSUMME	27202	

AUS temple stats:

Daily Average	25	Weekday Visits (per year)	4940	Weekend (Year)	4940
Weekly Average	190	Weekday Visits (per month)	412	Weekend Visits (per month)	412
Holy Day Average	37	Weekday Visits (per week)	103	Weekend Visits (per week)	103
Public Holiday Average	77	Weekday Visits (per day)	21	Weekend Visits (per day)	52
		Peak Hour Weekday Visits (per da	7	Peak Hour Weekend Visits (per day)	17
Monthly Average	760				
Yearly Average	9880				

APPENDIX D: Leslie Street Functional Design





GENERAL NOTES
 1. BASE PLAN PREPARED BY SCS CONSULTING GROUP, OCTOBER 2023
CROSS-SECTIONS

05	02-02-24	RPM	ISSUED TO CLIENT FOR SUBMISSION
04	01-09-24	RPM	ISSUED TO CLIENT FOR REVIEW
03	11-23-23	RPM	ISSUED TO CLIENT FOR REVIEW
02	11-20-23	RPM	ISSUED TO CLIENT FOR REVIEW
01	11-13-23	RPM	ISSUED TO CLIENT FOR REVIEW
00	11-07-23	RPM	PRELIMINARY DRAFT FOR DISCUSSION

BA Group
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 Toronto ON, M4V 1K9
 Tel: 416 961 7110
 www.bagroup.com

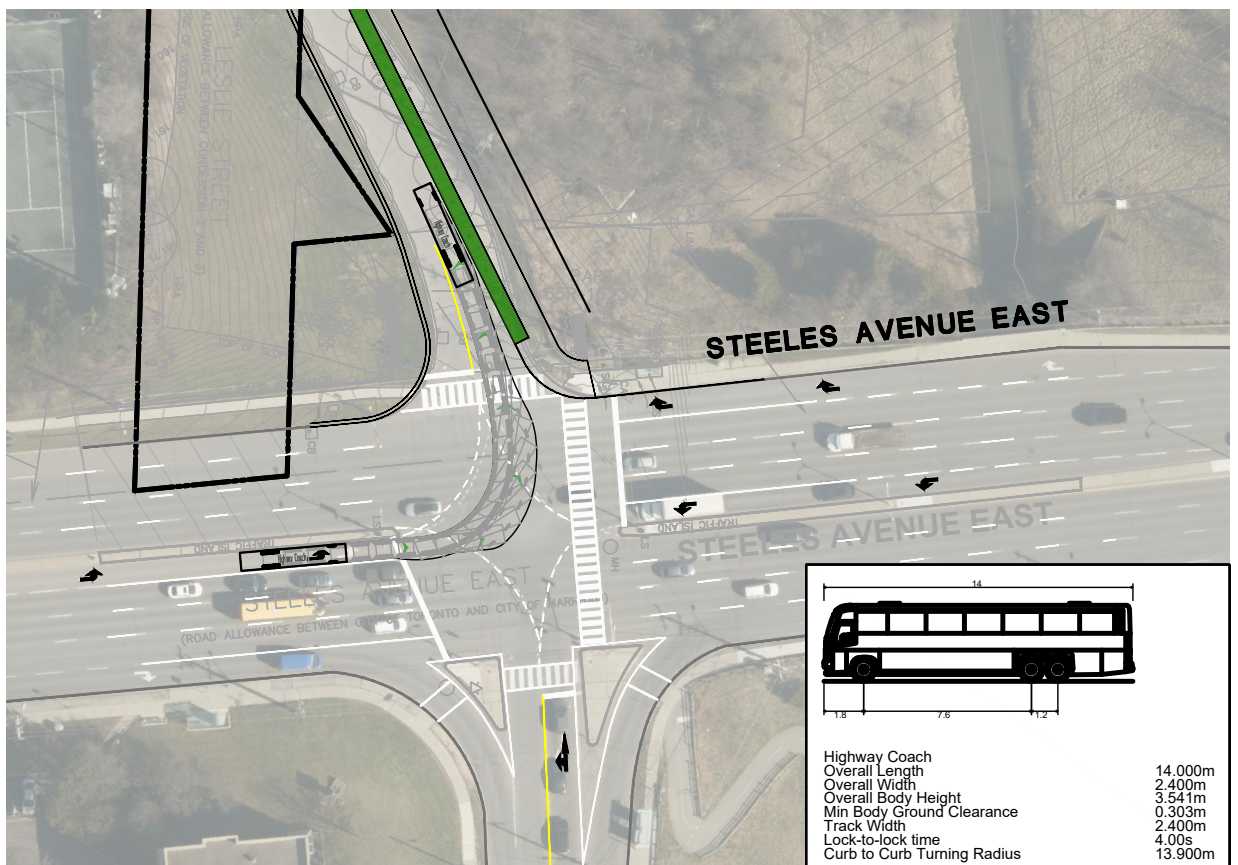
BAHAI NATIONAL CENTRE

FUNCTIONAL ROAD DESIGN
LESLIE STREET

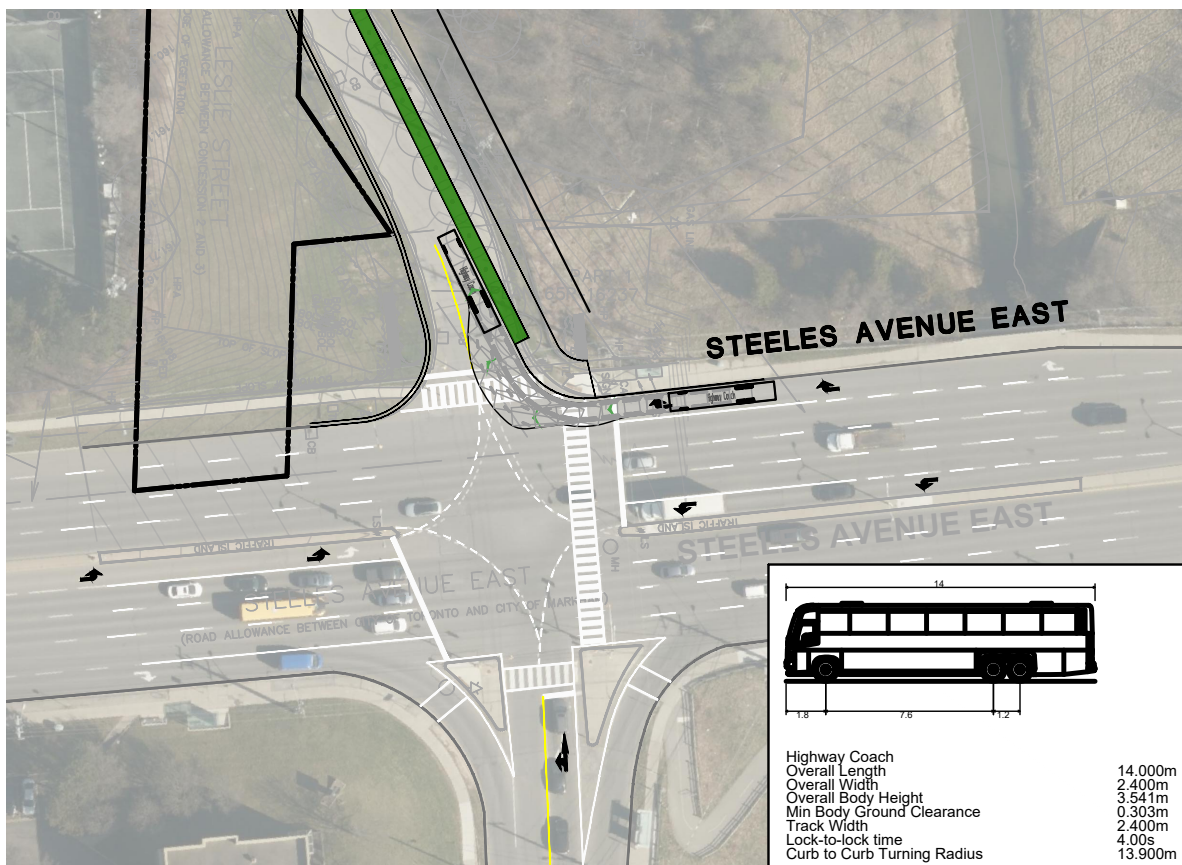
Date: NOVEMBER 7, 2023
 Project No.: 7006-12
 Scale: 1:1,000

FD-01

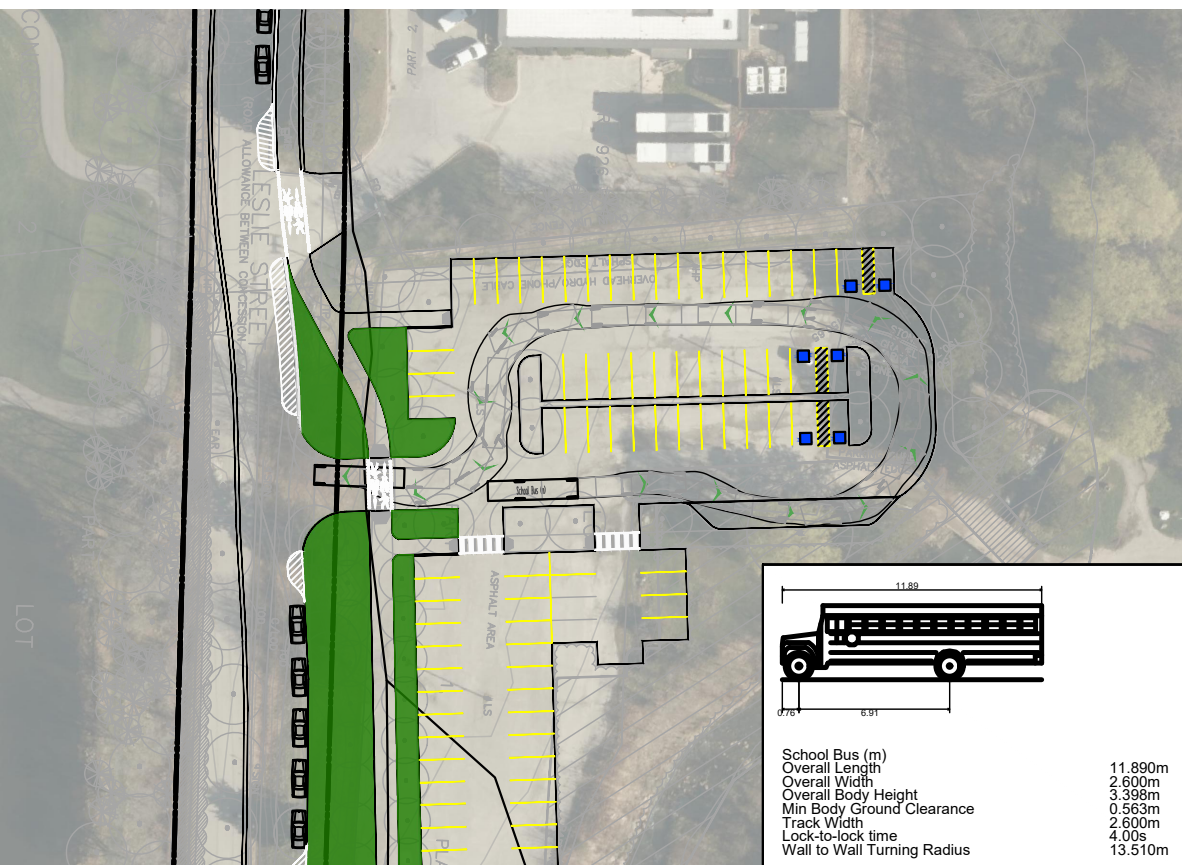
COACH BUS MOVEMENT LEFT TURN



COACH BUS MOVEMENT RIGHT TURN



SCHOOL BUS MOVEMENT



APPENDIX E: Turning Movement Counts





Turning Movement Count (1 . LESLIE ST & STEELES AVE E)

Start Time	N Approach LESLIE ST						E Approach STEELES AVE E						S Approach LESLIE ST						W Approach STEELES AVE E						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:30:00	0	0	0	0	2	0	0	217	59	0	4	276	37	0	57	0	6	94	78	138	0	0	0	216	586	
07:45:00	0	1	1	0	1	2	1	222	76	0	1	299	30	1	57	0	2	88	103	178	0	0	0	281	670	
08:00:00	2	1	5	0	1	8	4	255	74	0	2	333	46	3	73	0	3	122	80	161	0	0	0	241	704	
08:15:00	1	0	1	0	2	2	3	295	84	0	3	382	78	2	73	0	3	153	99	250	0	0	0	349	886	2846
08:30:00	3	1	2	0	0	6	0	272	101	0	3	373	81	3	85	0	5	169	102	221	2	0	0	325	873	3133
08:45:00	2	2	0	0	0	4	4	311	99	0	1	414	94	0	103	0	6	197	133	258	1	0	0	392	1007	3470
09:00:00	1	0	0	0	3	1	4	255	78	0	3	337	82	1	85	0	1	168	92	245	3	0	0	340	846	3612
09:15:00	2	1	2	0	0	5	6	269	94	0	3	369	49	5	57	0	1	111	78	201	0	0	0	279	764	3490
BREAK																										
16:00:00	3	3	4	0	2	10	1	304	59	0	3	364	84	0	90	0	2	174	66	277	1	0	0	344	892	
16:15:00	0	0	2	0	0	2	2	272	64	0	7	338	70	1	103	0	0	174	82	224	2	0	0	308	822	
16:30:00	2	4	0	0	1	6	3	288	75	0	3	366	78	2	88	0	5	168	73	277	1	1	0	352	892	
16:45:00	2	5	2	0	3	9	0	321	69	1	7	391	74	0	93	0	6	167	80	264	3	0	0	347	914	3520
17:00:00	1	1	2	0	0	4	3	284	74	0	10	361	92	2	97	0	6	191	75	263	1	0	0	339	895	3523
17:15:00	4	4	2	0	0	10	2	272	77	0	5	351	97	3	93	0	2	193	98	269	0	0	0	367	921	3622
17:30:00	0	5	1	0	2	6	0	327	76	0	5	403	65	2	92	0	3	159	108	244	2	0	0	354	922	3652
17:45:00	1	2	1	0	2	4	2	368	77	0	9	447	69	3	92	0	6	164	123	290	4	0	0	417	1032	3770
Grand Total	24	30	25	0	19	79	35	4532	1236	1	69	5804	1126	28	1338	0	57	2492	1470	3760	20	1	0	5251	13626	-
Approach%	30.4%	38%	31.6%	0%	-	-	0.6%	78.1%	21.3%	0%	-	-	45.2%	1.1%	53.7%	0%	-	-	28%	71.6%	0.4%	0%	-	-	-	-
Totals %	0.2%	0.2%	0.2%	0%	0.6%	0.3%	33.3%	9.1%	0%	42.6%	8.3%	0.2%	9.8%	0%	18.3%	10.8%	27.6%	0.1%	0%	38.5%	-	-	-	-	-	
Heavy	5	2	0	0	-	5	165	29	0	-	28	1	21	0	-	25	151	1	0	-	-	-	-	-	-	
Heavy %	20.8%	6.7%	0%	0%	-	14.3%	3.6%	2.3%	0%	-	2.5%	3.6%	1.6%	0%	-	1.7%	4%	5%	0%	-	-	-	-	-	-	
Bicycles	0	4	0	0	-	0	1	0	0	-	0	1	0	0	-	0	1	0	0	-	-	-	-	-	-	
Bicycle %	0%	13.3%	0%	0%	-	0%	0%	0%	0%	-	0%	3.6%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	-	-	-	



Peak Hour: 08:15 AM - 09:15 AM Weather: Overcast Clouds (8.83 °C)

Start Time	N Approach LESLIE ST						E Approach STEELES AVE E						S Approach LESLIE ST						W Approach STEELES AVE E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:15:00	1	0	1	0	2	2	3	295	84	0	3	382	78	2	73	0	3	153	99	250	0	0	0	349	886
08:30:00	3	1	2	0	0	6	0	272	101	0	3	373	81	3	85	0	5	169	102	221	2	0	0	325	873
08:45:00	2	2	0	0	0	4	4	311	99	0	1	414	94	0	103	0	6	197	133	258	1	0	0	392	1007
09:00:00	1	0	0	0	3	1	4	255	78	0	3	337	82	1	85	0	1	168	92	245	3	0	0	340	846
Grand Total	7	3	3	0	5	13	11	1133	362	0	10	1506	335	6	346	0	15	687	426	974	6	0	0	1406	3612
Approach%	53.8%	23.1%	23.1%	0%	-	-	0.7%	75.2%	24%	0%	-	-	48.8%	0.9%	50.4%	0%	-	-	30.3%	69.3%	0.4%	0%	-	-	-
Totals %	0.2%	0.1%	0.1%	0%	0.4%	0.4%	0.3%	31.4%	10%	0%	41.7%	41.7%	9.3%	0.2%	9.6%	0%	19%	19%	11.8%	27%	0.2%	0%	38.9%	38.9%	-
PHF	0.58	0.38	0.38	0	0.54	0.54	0.69	0.91	0.9	0	0.91	0.91	0.89	0.5	0.84	0	0.87	0.87	0.8	0.94	0.5	0	0.9	0.9	-
Heavy	2	1	0	0	3	3	3	43	10	0	56	56	16	1	8	0	25	25	11	50	0	0	61	61	-
Heavy %	28.6%	33.3%	0%	0%	23.1%	23.1%	27.3%	3.8%	2.8%	0%	3.7%	3.7%	4.8%	16.7%	2.3%	0%	3.6%	3.6%	2.6%	5.1%	0%	0%	4.3%	4.3%	-
Lights	5	2	3	0	10	10	8	1090	352	0	1450	1450	319	5	338	0	662	662	415	924	6	0	1345	1345	-
Lights %	71.4%	66.7%	100%	0%	76.9%	76.9%	72.7%	96.2%	97.2%	0%	96.3%	96.3%	95.2%	83.3%	97.7%	0%	96.4%	96.4%	97.4%	94.9%	100%	0%	95.7%	95.7%	-
Single-Unit Trucks	2	1	0	0	3	3	3	13	7	0	23	23	6	1	4	0	11	11	8	18	0	0	26	26	-
Single-Unit Trucks %	28.6%	33.3%	0%	0%	23.1%	23.1%	27.3%	1.1%	1.9%	0%	1.5%	1.5%	1.8%	16.7%	1.2%	0%	1.6%	1.6%	1.9%	1.8%	0%	0%	1.8%	1.8%	-
Buses	0	0	0	0	0	0	0	27	3	0	30	30	9	0	4	0	13	13	3	31	0	0	34	34	-
Buses %	0%	0%	0%	0%	0%	0%	0%	2.4%	0.8%	0%	2%	2%	2.7%	0%	1.2%	0%	1.9%	1.9%	0.7%	3.2%	0%	0%	2.4%	2.4%	-
Articulated Trucks	0	0	0	0	0	0	0	3	0	0	3	3	1	0	0	0	1	1	0	1	0	0	1	1	-
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0.3%	0%	0%	0.2%	0.2%	0.3%	0%	0%	0%	0.1%	0.1%	0%	0.1%	0%	0%	0.1%	0.1%	-
Pedestrians	-	-	-	-	3	3	-	-	-	9	9	9	-	-	-	14	14	14	-	-	-	-	0	0	-
Pedestrians%	-	-	-	-	10%	10%	-	-	-	30%	30%	30%	-	-	-	46.7%	46.7%	46.7%	-	-	-	-	0%	0%	-
Bicycles on Crosswalk	-	-	-	-	2	2	-	-	-	1	1	1	-	-	-	1	1	1	-	-	-	-	0	0	-
Bicycles on Crosswalk%	-	-	-	-	6.7%	6.7%	-	-	-	3.3%	3.3%	3.3%	-	-	-	3.3%	3.3%	3.3%	-	-	-	-	0%	0%	-
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	-
Bicycles on Road%	-	-	-	-	0%	0%	-	-	-	0%	0%	0%	-	-	-	0%	0%	0%	-	-	-	-	0%	0%	-



Peak Hour: 05:00 PM - 06:00 PM Weather: Scattered Clouds (20.15 °C)

Start Time	N Approach LESLIE ST						E Approach STEELES AVE E						S Approach LESLIE ST						W Approach STEELES AVE E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
17:00:00	1	1	2	0	0	4	3	284	74	0	10	361	92	2	97	0	6	191	75	263	1	0	0	339	895
17:15:00	4	4	2	0	0	10	2	272	77	0	5	351	97	3	93	0	2	193	98	269	0	0	0	367	921
17:30:00	0	5	1	0	2	6	0	327	76	0	5	403	65	2	92	0	3	159	108	244	2	0	0	354	922
17:45:00	1	2	1	0	2	4	2	368	77	0	9	447	69	3	92	0	6	164	123	290	4	0	0	417	1032
Grand Total	6	12	6	0	4	24	7	1251	304	0	29	1562	323	10	374	0	17	707	404	1066	7	0	0	1477	3770
Approach%	25%	50%	25%	0%	-	-	0.4%	80.1%	19.5%	0%	-	-	45.7%	1.4%	52.9%	0%	-	-	27.4%	72.2%	0.5%	0%	-	-	-
Totals %	0.2%	0.3%	0.2%	0%	0.6%	0.6%	0.2%	33.2%	8.1%	0%	41.4%	41.4%	8.6%	0.3%	9.9%	0%	18.8%	18.8%	10.7%	28.3%	0.2%	0%	39.2%	39.2%	-
PHF	0.38	0.6	0.75	0	0.6	0.6	0.58	0.85	0.99	0	0.87	0.87	0.83	0.83	0.96	0	0.92	0.92	0.82	0.92	0.44	0	0.89	0.89	-
Heavy	1	0	0	0	1	1	0	32	6	0	38	38	3	0	3	0	6	6	2	26	0	0	28	28	-
Heavy %	16.7%	0%	0%	0%	4.2%	4.2%	0%	2.6%	2%	0%	2.4%	2.4%	0.9%	0%	0.8%	0%	0.8%	0.8%	0.5%	2.4%	0%	0%	1.9%	1.9%	-
Lights	5	12	6	0	23	23	7	1219	298	0	1524	1524	320	10	371	0	701	701	402	1040	7	0	1449	1449	-
Lights %	83.3%	100%	100%	0%	95.8%	95.8%	100%	97.4%	98%	0%	97.6%	97.6%	99.1%	100%	99.2%	0%	99.2%	99.2%	99.5%	97.6%	100%	0%	98.1%	98.1%	-
Single-Unit Trucks	0	0	0	0	0	0	0	12	4	0	16	16	1	0	3	0	4	4	2	9	0	0	11	11	-
Single-Unit Trucks %	0%	0%	0%	0%	0%	0%	0%	1%	1.3%	0%	1%	1%	0.3%	0%	0.8%	0%	0.6%	0.6%	0.5%	0.8%	0%	0%	0.7%	0.7%	-
Buses	0	0	0	0	0	0	0	20	2	0	22	22	2	0	0	0	2	2	0	17	0	0	17	17	-
Buses %	0%	0%	0%	0%	0%	0%	0%	1.6%	0.7%	0%	1.4%	1.4%	0.6%	0%	0%	0%	0.3%	0.3%	0%	1.6%	0%	0%	1.2%	1.2%	-
Articulated Trucks	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Articulated Trucks %	16.7%	0%	0%	0%	4.2%	4.2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	-	4	4	-	-	-	-	19	19	-	-	-	-	15	15	-	-	-	-	0	0	-
Pedestrians%	-	-	-	-	8%	8%	-	-	-	-	38%	38%	-	-	-	-	30%	30%	-	-	-	-	0%	0%	-
Bicycles on Crosswalk	-	-	-	-	0	0	-	-	-	-	10	10	-	-	-	-	2	2	-	-	-	-	0	0	-
Bicycles on Crosswalk%	-	-	-	-	0%	0%	-	-	-	-	20%	20%	-	-	-	-	4%	4%	-	-	-	-	0%	0%	-
Bicycles on Road	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Bicycles on Road%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-

Peak Hour: 08:15 AM - 09:15 AM Weather: Overcast Clouds (8.83 °C)



Peak Hour: 05:00 PM - 06:00 PM Weather: Scattered Clouds (20.15 °C)





Turning Movement Count (2 . LESLIE ST & PARKING LOT ACCESS)

Start Time	N Approach LESLIE ST					E Approach PARKING LOT ACCESS					S Approach LESLIE ST					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	UTurn S:S	Peds S:	Approach Total		
07:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:45:00	3	0	0	0	3	0	0	0	0	0	0	1	0	0	1	4	
08:00:00	6	1	0	0	7	0	2	0	0	2	2	6	0	0	8	17	
08:15:00	1	0	0	0	1	0	0	0	0	0	2	3	0	0	5	6	27
08:30:00	6	0	0	0	6	0	0	0	2	0	1	4	0	0	5	11	38
08:45:00	1	0	0	1	1	0	1	0	3	1	0	3	1	0	4	6	40
09:00:00	2	0	0	0	2	0	0	0	1	0	1	7	0	0	8	10	33
09:15:00	5	0	0	0	5	0	0	0	0	0	0	11	0	0	11	16	43
BREAK																	
16:00:00	7	0	0	0	7	0	0	0	1	0	0	1	0	0	1	8	
16:15:00	0	0	0	0	0	0	0	0	1	0	0	3	0	0	3	3	
16:30:00	6	0	0	0	6	0	1	0	0	1	1	5	0	0	6	13	
16:45:00	6	0	0	0	6	0	1	0	6	1	0	1	0	0	1	8	32
17:00:00	2	0	0	0	2	0	1	0	4	1	0	6	0	0	6	9	33
17:15:00	9	1	0	0	10	0	1	0	3	1	0	4	0	0	4	15	45
17:30:00	3	0	0	0	3	0	1	0	1	1	0	4	0	1	4	8	40
17:45:00	3	0	0	0	3	0	0	0	7	0	0	8	0	0	8	11	43
Grand Total	60	2	0	1	62	0	8	0	29	8	7	67	1	1	75	145	-
Approach%	96.8%	3.2%	0%	-	-	0%	100%	0%	-	-	9.3%	89.3%	1.3%	-	-	-	-
Totals %	41.4%	1.4%	0%	42.8%	42.8%	0%	5.5%	0%	5.5%	5.5%	4.8%	46.2%	0.7%	51.7%	-	-	-
Heavy	3	0	0	-	-	0	3	0	-	-	3	3	1	-	-	-	-
Heavy %	5%	0%	0%	-	-	0%	37.5%	0%	-	-	42.9%	4.5%	100%	-	-	-	-
Bicycles	13	0	0	-	-	0	0	0	-	-	0	14	0	-	-	-	-
Bicycle %	21.7%	0%	0%	-	-	0%	0%	0%	-	-	0%	20.9%	0%	-	-	-	-



Peak Hour: 08:30 AM - 09:30 AM Weather: Overcast Clouds (8.83 °C)

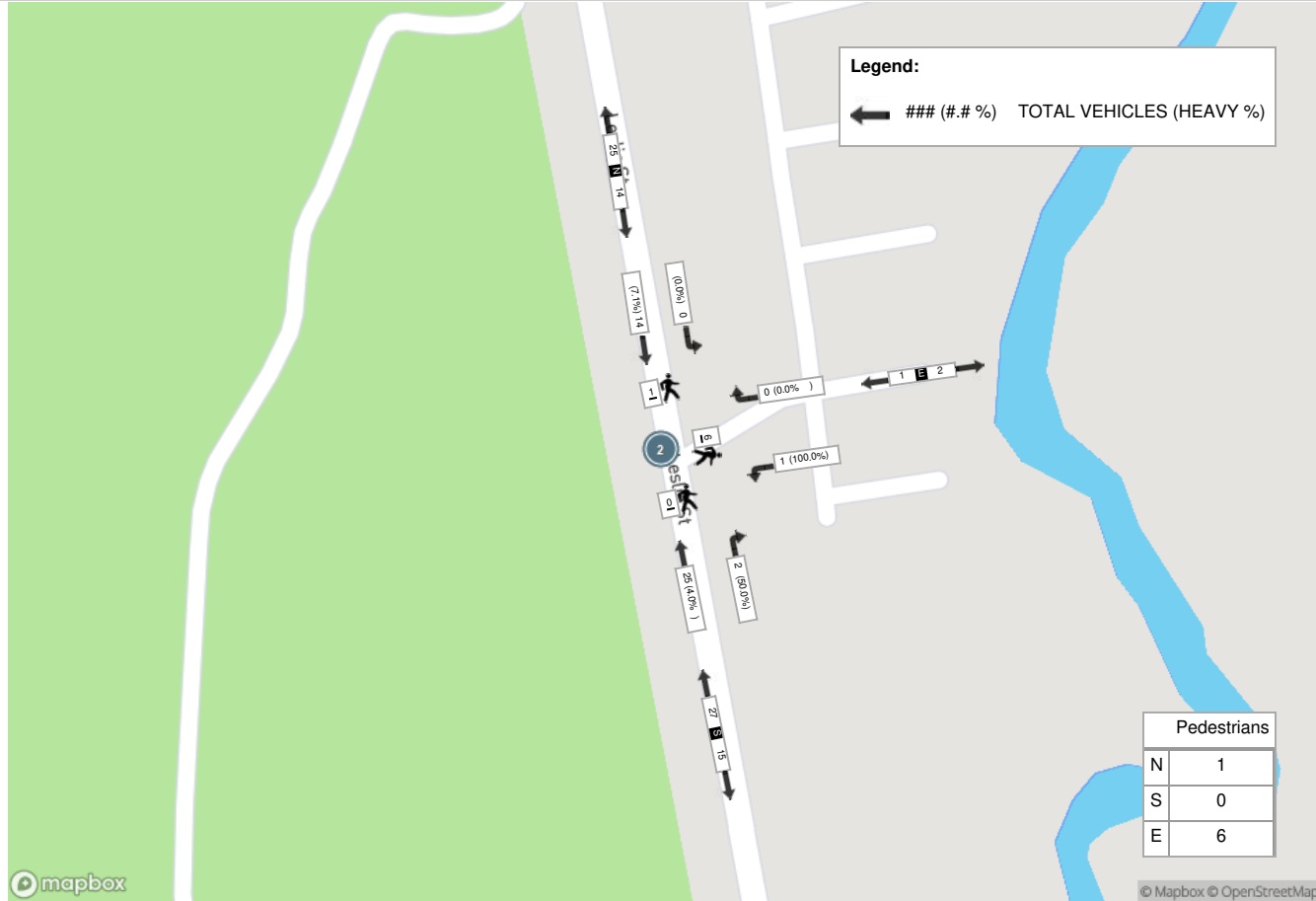
Start Time	N Approach LESLIE ST					E Approach PARKING LOT ACCESS					S Approach LESLIE ST				Int. Total (15 min)	
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds		Approach Total
08:30:00	6	0	0	0	6	0	0	0	2	0	1	4	0	0	5	11
08:45:00	1	0	0	1	1	0	1	0	3	1	0	3	1	0	4	6
09:00:00	2	0	0	0	2	0	0	0	1	0	1	7	0	0	8	10
09:15:00	5	0	0	0	5	0	0	0	0	0	0	11	0	0	11	16
Grand Total	14	0	0	1	14	0	1	0	6	1	2	25	1	0	28	43
Approach%	100%	0%	0%	-	-	0%	100%	0%	-	-	7.1%	89.3%	3.6%	-	-	-
Totals %	32.6%	0%	0%	-	32.6%	0%	2.3%	0%	2.3%	4.7%	58.1%	2.3%	-	65.1%	-	-
PHF	0.58	0	0	-	0.58	0	0.25	0	0.25	0.5	0.57	0.25	-	0.64	-	-
Heavy	1	0	0	-	1	0	1	0	1	1	1	1	-	3	-	-
Heavy %	7.1%	0%	0%	-	7.1%	0%	100%	0%	100%	50%	4%	100%	-	10.7%	-	-
Lights	13	0	0	-	13	0	0	0	0	1	24	0	-	25	-	-
Lights %	92.9%	0%	0%	-	92.9%	0%	0%	0%	0%	50%	96%	0%	-	89.3%	-	-
Single-Unit Trucks	1	0	0	-	1	0	1	0	1	1	1	1	-	3	-	-
Single-Unit Trucks %	7.1%	0%	0%	-	7.1%	0%	100%	0%	100%	50%	4%	100%	-	10.7%	-	-
Buses	0	0	0	-	0	0	0	0	0	0	0	0	-	0	-	-
Buses %	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	-	-
Articulated Trucks	0	0	0	-	0	0	0	0	0	0	0	0	-	0	-	-
Articulated Trucks %	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	-	-
Pedestrians	-	-	-	1	-	-	-	-	6	-	-	-	-	0	-	-
Pedestrians%	-	-	-	14.3%	-	-	-	-	85.7%	-	-	-	-	0%	-	-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-



Peak Hour: 04:30 PM - 05:30 PM Weather: Scattered Clouds (20.15 °C)

Start Time	N Approach LESLIE ST					E Approach PARKING LOT ACCESS					S Approach LESLIE ST				Int. Total (15 min)	
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds		Approach Total
16:30:00	6	0	0	0	6	0	1	0	0	1	1	5	0	0	6	13
16:45:00	6	0	0	0	6	0	1	0	6	1	0	1	0	0	1	8
17:00:00	2	0	0	0	2	0	1	0	4	1	0	6	0	0	6	9
17:15:00	9	1	0	0	10	0	1	0	3	1	0	4	0	0	4	15
Grand Total	23	1	0	0	24	0	4	0	13	4	1	16	0	0	17	45
Approach%	95.8%	4.2%	0%		-	0%	100%	0%		-	5.9%	94.1%	0%		-	-
Totals %	51.1%	2.2%	0%		53.3%	0%	8.9%	0%		8.9%	2.2%	35.6%	0%		37.8%	-
PHF	0.64	0.25	0		0.6	0	1	0		1	0.25	0.67	0		0.71	-
Heavy	0	0	0		0	0	2	0		2	1	0	0		1	-
Heavy %	0%	0%	0%		0%	0%	50%	0%		50%	100%	0%	0%		5.9%	-
Lights	23	1	0		24	0	2	0		2	0	16	0		16	-
Lights %	100%	100%	0%		100%	0%	50%	0%		50%	0%	100%	0%		94.1%	-
Single-Unit Trucks	0	0	0		0	0	1	0		1	1	0	0		1	-
Single-Unit Trucks %	0%	0%	0%		0%	0%	25%	0%		25%	100%	0%	0%		5.9%	-
Buses	0	0	0		0	0	0	0		0	0	0	0		0	-
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
Articulated Trucks	0	0	0		0	0	1	0		1	0	0	0		0	-
Articulated Trucks %	0%	0%	0%		0%	0%	25%	0%		25%	0%	0%	0%		0%	-
Pedestrians	-	-	-	0	-	-	-	-	13	-	-	-	-	0	-	-
Pedestrians%	-	-	-	0%	-	-	-	-	100%	-	-	-	-	0%	-	-
Bicycles on Road	7	0	0	0	-	0	0	0	0	-	0	5	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-

Peak Hour: 08:30 AM - 09:30 AM Weather: Overcast Clouds (8.83 °C)



Peak Hour: 04:30 PM - 05:30 PM Weather: Scattered Clouds (20.15 °C)





Turning Movement Count (3 . LESLIE ST & PRIVATE PROPERTY ACCESS)

Start Time	W Approach PRIVATE PROPERTY ACCESS				E Approach LESLIE ST				Int. Total (15 min)	Int. Total (1 hr)
	Thru W:E	UTurn W:W	Peds W:	Approach Total	Thru E:W	UTurn E:E	Peds E:	Approach Total		
07:30:00	0	0	0	0	0	0	1	0	0	
07:45:00	1	0	0	1	0	0	0	0	1	
08:00:00	1	0	0	1	2	1	0	3	4	
08:15:00	0	0	0	0	3	0	0	3	3	8
08:30:00	2	0	0	2	0	0	2	0	2	10
08:45:00	1	0	0	1	2	0	3	2	3	12
09:00:00	0	0	0	0	5	1	0	6	6	14
09:15:00	1	0	0	1	6	1	4	7	8	19
BREAK										
16:00:00	4	0	0	4	0	0	6	0	4	
16:15:00	1	0	0	1	2	0	6	2	3	
16:30:00	2	0	0	2	0	2	7	2	4	
16:45:00	2	0	0	2	0	4	6	4	6	17
17:00:00	1	0	1	1	0	2	5	2	3	16
17:15:00	4	0	0	4	0	2	5	2	6	19
17:30:00	0	0	0	0	0	2	4	2	2	17
17:45:00	0	0	1	0	0	5	7	5	5	16
Grand Total	20	0	2	20	20	20	56	40	60	-
Approach%	100%	0%	-	-	50%	50%	-	-	-	-
Totals %	33.3%	0%	-	33.3%	33.3%	33.3%	-	66.7%	-	-
Heavy	-	-	-	-	-	-	-	-	-	-
Heavy %	-	-	-	-	-	-	-	-	-	-
Bicycles	0	0	-	-	0	1	-	-	-	-
Bicycle %	0%	0%	-	-	0%	5%	-	-	-	-



Peak Hour: 08:30 AM - 09:30 AM Weather: Overcast Clouds (8.83 °C)

Start Time	W Approach PRIVATE PROPERTY ACCESS				E Approach LESLIE ST				Int. Total (15 min)
	Thru	UTurn	Peds	Approach Total	Thru	UTurn	Peds	Approach Total	
08:30:00	2	0	0	2	0	0	2	0	2
08:45:00	1	0	0	1	2	0	3	2	3
09:00:00	0	0	0	0	5	1	0	6	6
09:15:00	1	0	0	1	6	1	4	7	8
Grand Total	4	0	0	4	13	2	9	15	19
Approach%	100%	0%	-	-	86.7%	13.3%	-	-	-
Totals %	21.1%	0%	-	21.1%	68.4%	10.5%	-	78.9%	-
PHF	0.5	0	-	0.5	0.54	0.5	-	0.54	-
Heavy	-	-	-	-	-	-	-	-	-
Heavy %	-	-	-	%	-	-	-	%	-
Lights	4	0	-	4	13	2	-	15	-
Lights %	100%	0%	-	100%	100%	100%	-	100%	-
Pedestrians	-	-	0	-	-	-	9	-	-
Pedestrians%	-	-	0%	-	-	-	100%	-	-
Bicycles on Crosswalk	-	-	0	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	0%	-	-	-	0%	-	-
Bicycles on Road	0	0	0	-	0	0	0	-	-
Bicycles on Road%	-	-	0%	-	-	-	0%	-	-



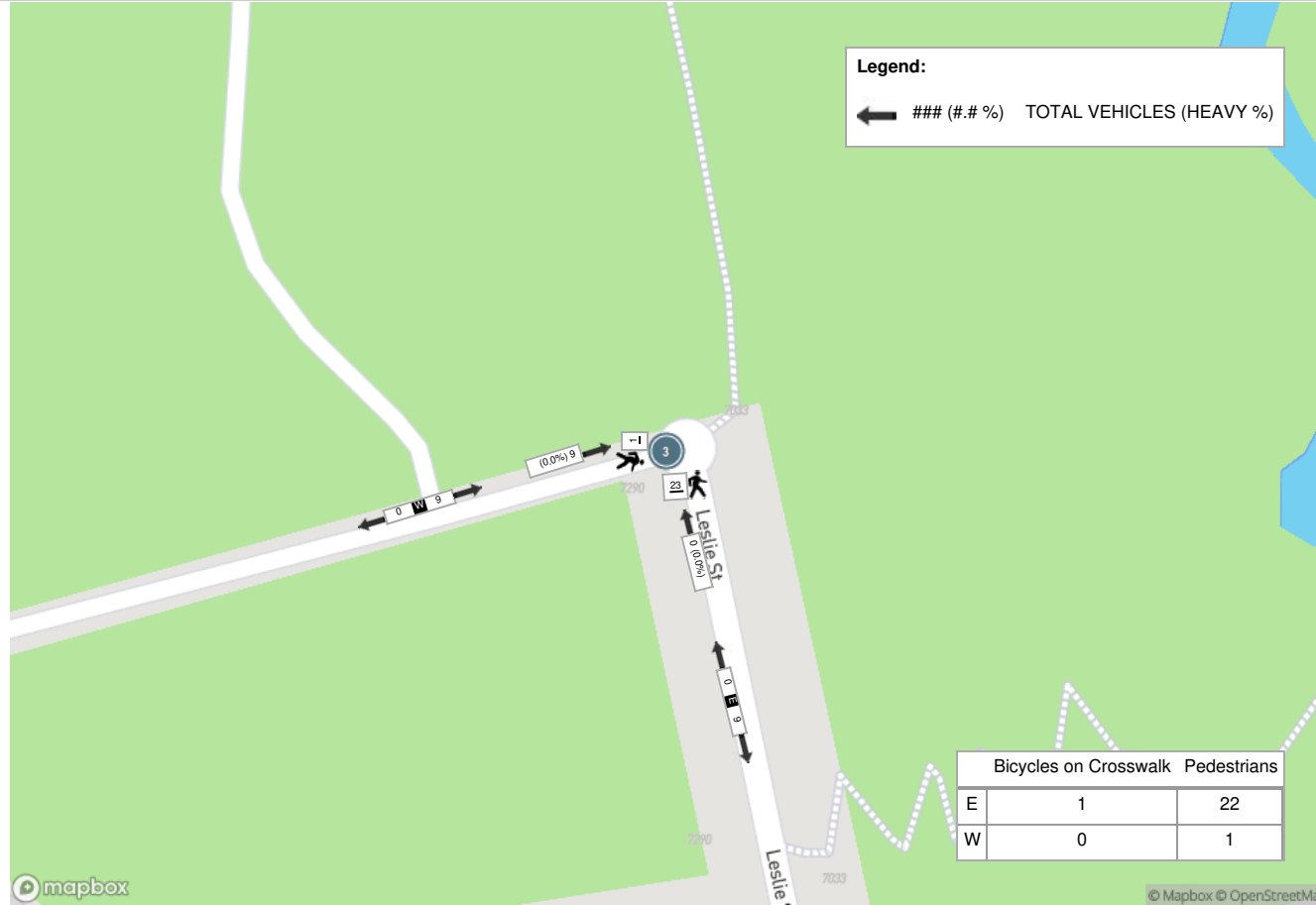
Peak Hour: 04:30 PM - 05:30 PM Weather: Scattered Clouds (20.15 °C)

Start Time	W Approach PRIVATE PROPERTY ACCESS				E Approach LESLIE ST				Int. Total (15 min)
	Thru	UTurn	Peds	Approach Total	Thru	UTurn	Peds	Approach Total	
16:30:00	2	0	0	2	0	2	7	2	4
16:45:00	2	0	0	2	0	4	6	4	6
17:00:00	1	0	1	1	0	2	5	2	3
17:15:00	4	0	0	4	0	2	5	2	6
Grand Total	9	0	1	9	0	10	23	10	19
Approach%	100%	0%	-	-	0%	100%	-	-	-
Totals %	47.4%	0%	-	47.4%	0%	52.6%	-	52.6%	-
PHF	0.56	0	-	0.56	0	0.63	-	0.63	-
Heavy	-	-	-	-	-	-	-	-	-
Heavy %	-	-	-	%	-	-	-	%	-
Lights	9	0	-	9	0	10	-	10	-
Lights %	100%	0%	-	100%	0%	100%	-	100%	-
Pedestrians	-	-	1	-	-	-	22	-	-
Pedestrians%	-	-	4.2%	-	-	-	91.7%	-	-
Bicycles on Crosswalk	-	-	0	-	-	-	1	-	-
Bicycles on Crosswalk%	-	-	0%	-	-	-	4.2%	-	-
Bicycles on Road	0	0	0	-	0	1	0	-	-
Bicycles on Road%	-	-	0%	-	-	-	0%	-	-

Peak Hour: 08:30 AM - 09:30 AM Weather: Overcast Clouds (8.83 °C)



Peak Hour: 04:30 PM - 05:30 PM Weather: Scattered Clouds (20.15 °C)

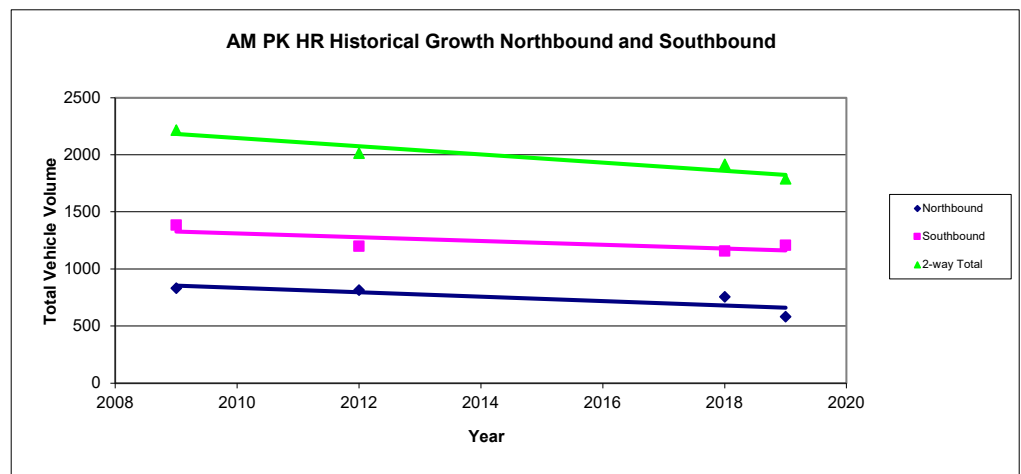


APPENDIX F: Corridor Growth Calculations

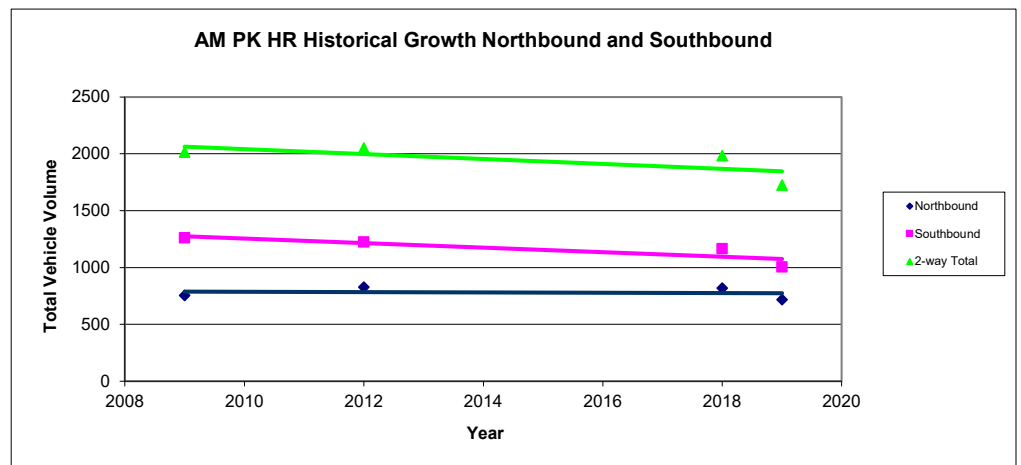


Project: Shops on Steeles and 404
Project ID: 7081-03
Intersection: Don Mills Road / Steeles Avenue East
Peak Hour: AM

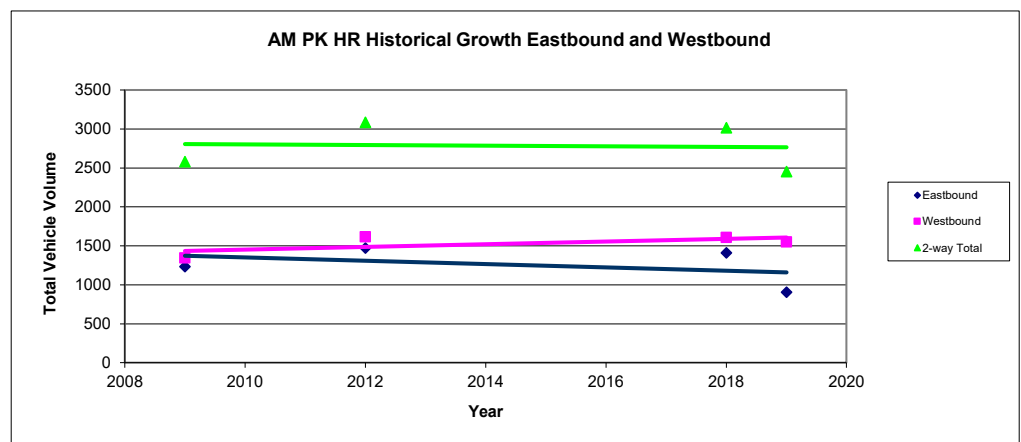
Count Information		th of Don Mills Road / Steeles Avenue E		
Date	Year	Northbound	Southbound	2-way
05-Nov	2009	832	1385	2217
18-Oct	2012	814	1200	2014
16-Oct	2018	757	1158	1915
06-Jun	2019	583	1206	1789
Trend Point		853.15	1327.92	2181.07
Slope		-19.39	-16.49	-35.88
Growth		-2.27%	-1.24%	-1.64%



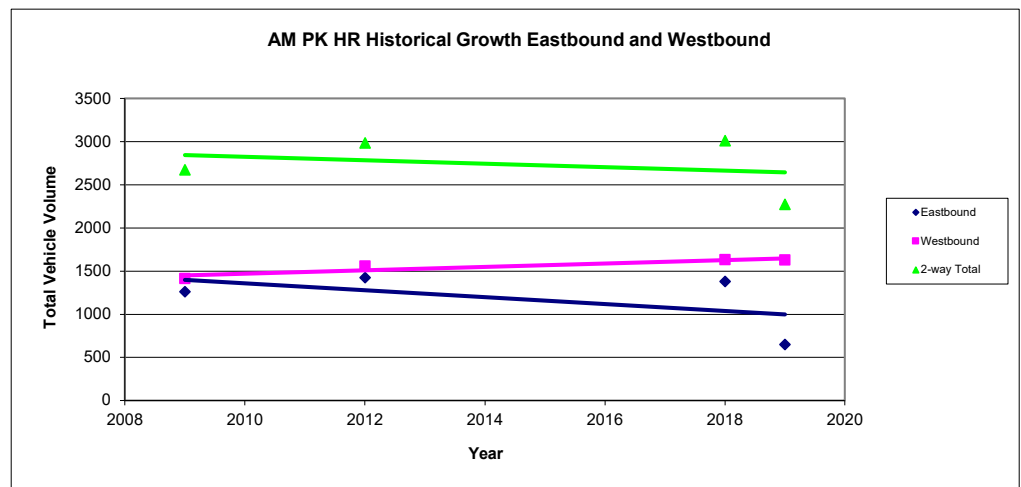
Count Information		th of Don Mills Road / Steeles Avenue E		
Date	Year	Northbound	Southbound	2-way
05-Nov	2009	753	1262	2015
18-Oct	2012	827	1223	2050
16-Oct	2018	819	1166	1985
06-Jun	2019	719	1006	1725
Trend Point		788.03	1275.09	2063.12
Slope		-1.55	-20.15	-21.70
Growth		-0.20%	-1.58%	-1.05%



Count Information		st of Don Mills Road / Steeles Avenue E		
Date	Year	Eastbound	Westbound	2-way
05-Nov	2009	1235	1344	2579
18-Oct	2012	1471	1615	3086
16-Oct	2018	1409	1607	3016
06-Jun	2019	905	1549	2454
Trend Point		1371.86	1435.85	2807.70
Slope		-21.25	16.89	-4.36
Growth		-1.55%	1.18%	-0.16%

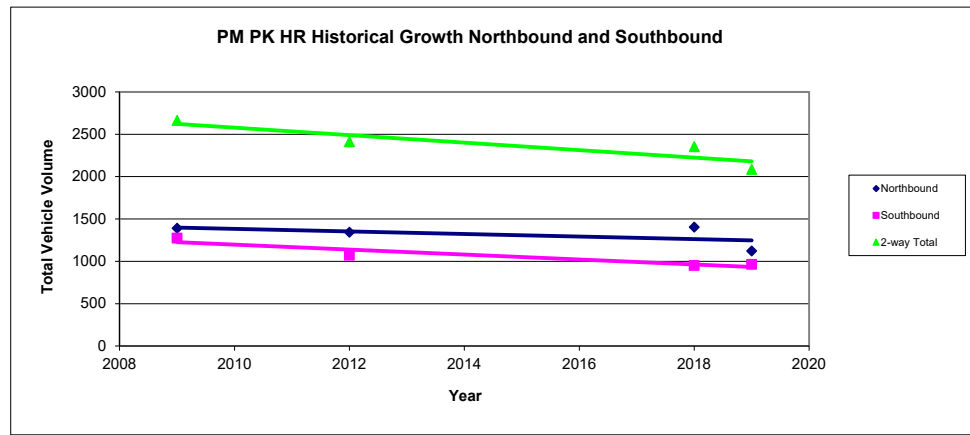


Count Information		st of Don Mills Road / Steeles Avenue E		
Date	Year	Eastbound	Westbound	2-way
05-Nov	2009	1260	1413	2673
18-Oct	2012	1425	1559	2984
16-Oct	2018	1380	1632	3012
06-Jun	2019	647	1627	2274
Trend Point		1397.28261	1448.985507	2846.27
Slope		-39.8695652	19.77536232	-20.09
Growth		-2.85%	1.36%	-0.71%

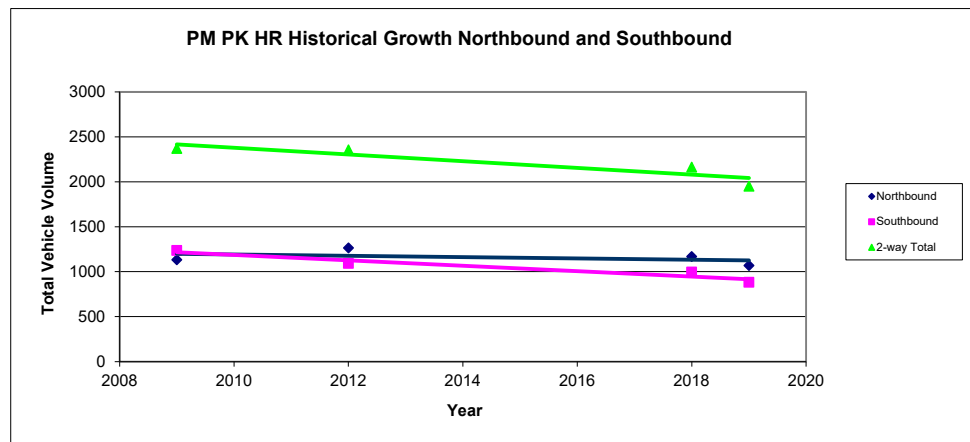


Project: Shops on Steeles and 404
Project ID: 7081-03
Intersection: Don Mills Road / Steeles Avenue East
Peak Hour: PM

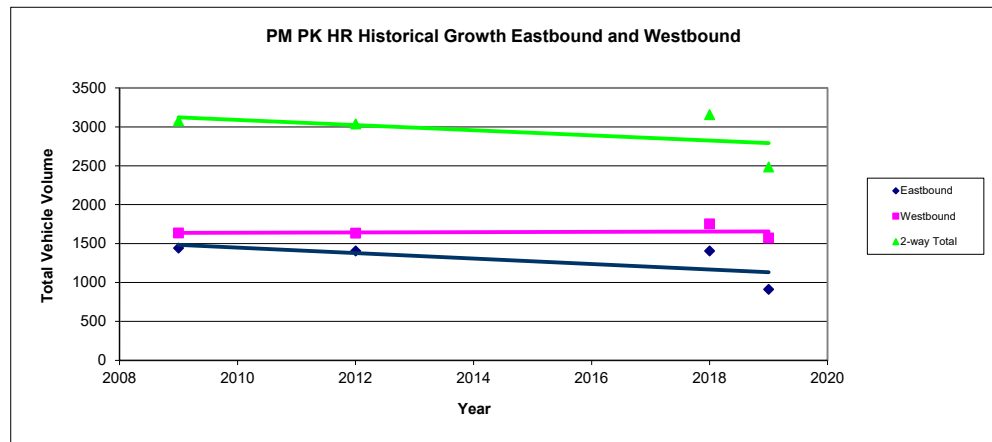
Count Information		North of Don Mills Road / Steeles Avenue East		
Date	Year	Northbound	Southbound	2-way
05-Nov	2009	1390	1273	2663
18-Oct	2012	1343	1070	2413
16-Oct	2018	1404	949	2353
06-Jun	2019	1122	963	2085
Trend Point				
		1397.61	1224.88	2622.49
		-15.07	-29.30	-44.36
Growth		-1.08%	-2.39%	-1.69%



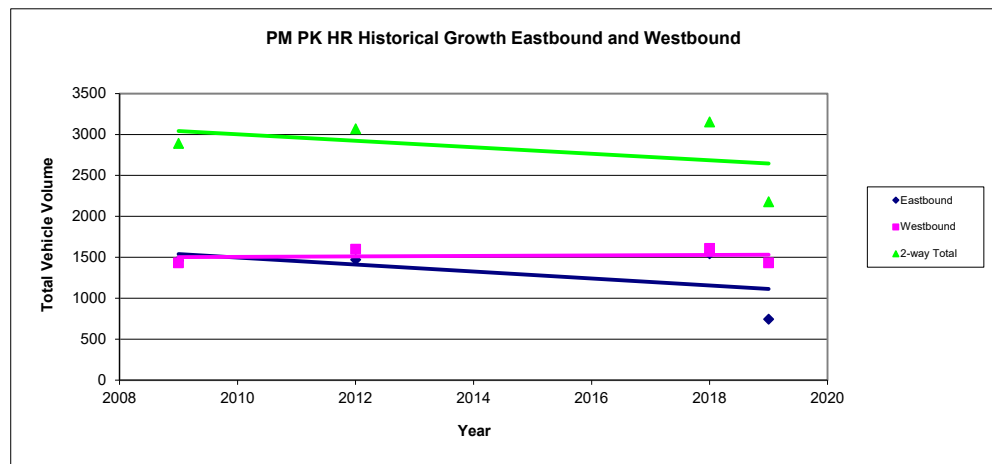
Count Information		North of Don Mills Road / Steeles Avenue East		
Date	Year	Northbound	Southbound	2-way
05-Nov	2009	1134	1237	2371
18-Oct	2012	1264	1092	2356
16-Oct	2018	1168	996	2164
06-Jun	2019	1069	883	1952
Trend Point				
		1198.49	1217.32	2415.80
		-7.22	-30.06	-37.28
Growth		-0.60%	-2.47%	-1.54%



Count Information		East of Don Mills Road / Steeles Avenue East		
Date	Year	Eastbound	Westbound	2-way
05-Nov	2009	1442	1635	3077
18-Oct	2012	1405	1633	3038
16-Oct	2018	1405	1752	3157
06-Jun	2019	912	1573	2485
Trend Point				
		1484.06	1637.45	3121.51
		-35.10	1.96	-33.14
Growth		-2.37%	0.12%	-1.06%



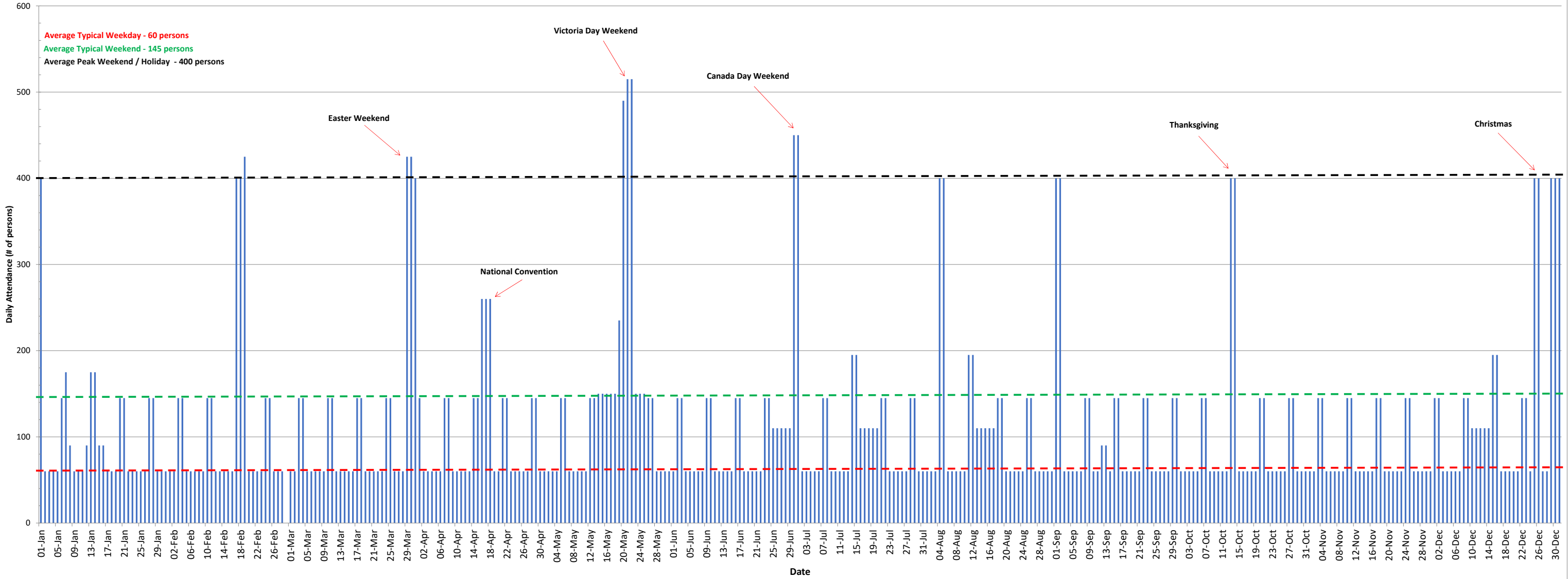
Count Information		East of Don Mills Road / Steeles Avenue East		
Date	Year	Eastbound	Westbound	2-way
05-Nov	2009	1460	1433	2893
18-Oct	2012	1472	1599	3071
16-Oct	2018	1545	1609	3154
06-Jun	2019	746	1434	2180
Trend Point				
		1540.54	1502.37	3042.91
		-42.69	2.98	-39.71
Growth		-2.77%	0.20%	-1.31%



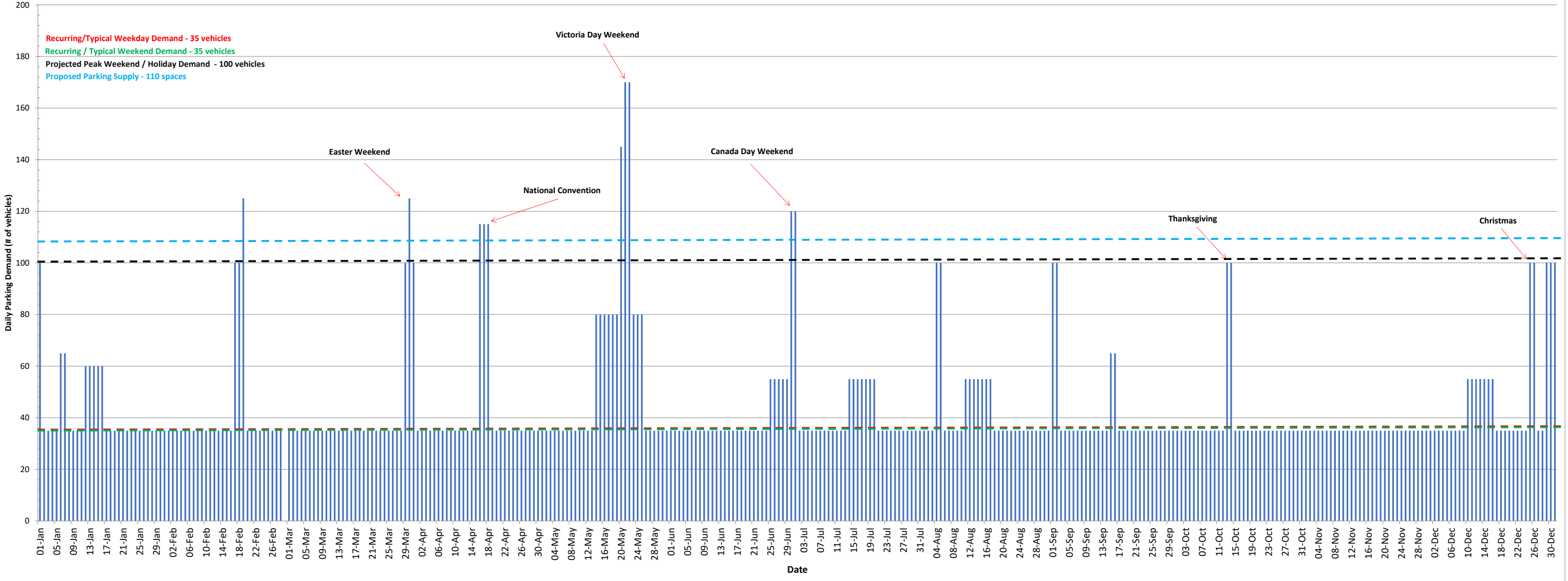
APPENDIX G: Year-Long Building Usage and Trip Generation



Daily Attendance Summary - National Centre and Temple



Daily Parking Summary - National Centre and Temple



APPENDIX H: Trip Generation Calculations



Mode	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Bahá'í National Centre						
Day to Day Administration: Regional / BNC Offices – Estimated Occupancy: 25 staff, Daily (Mon-Fri)						
Mode Split						
Driver	100%			100%		
Passenger	0%			0%		
Transit / School Bus	0%			0%		
Walk	0%			0%		
Cycle	0%			0%		
Total	100%			100%		
Multi-Modal Trip Generation						
Driver	25	0	25	0	25	25
Passenger	0	0	0	0	0	0
Transit / School Bus	0	0	0	0	0	0
Walk	0	0	0	0	0	0
Cycle	0	0	0	0	0	0
Total	25	0	25	0	25	25
Vehicular Trips (Driver + Passenger) – Bahá'í National Centre	25	0	25	0	25	25

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Don Valley Education Centre (7015 Leslie Street)						
Youth Camps – Estimated Occupancy: 50 campers, Periodically Throughout Year						
Mode Split						
Driver	30%			30%		
Passenger	50%	50%		50%	50%	
Transit / School Bus	20%			20%		
Walk	0%			0%		
Cycle	0%			0%		
Total	100%			100%		
Multi-Modal Trip Generation						
Driver	15	0	15	0	15	15
Passenger	20	20	40	20	20	40
Transit / School Bus	10	0	10	0	10	10
Walk	0	0	0	0	0	0
Cycle	0	0	0	0	0	0
Total	45	20	65	20	45	65
Junior Youth Camps – Estimated Occupancy: 110 campers + staff, Periodically Throughout Year						
Mode Split						
Driver	20%			20%		
Passenger	40%	40%		40%	40%	
Transit / School Bus	40%			40%		
Walk	0%			0%		
Cycle	0%			0%		
Total	100%			100%		
Multi-Modal Trip Generation						
Driver	20	0	20	0	20	20
Passenger	25	25	50	25	25	50
Transit / School Bus	40	0	40	0	40	40
Walk	0	0	0	0	0	0
Cycle	0	0	0	0	0	0
Total	85	25	110	25	85	110
Vehicular Trips (Driver + Passenger) – DVEC	80	45	125	45	80	125

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Bahá'í Temple						
Temple Visits (Typical Weekday): 15 visitors						
Mode Split						
Driver	0%			100%	100%	
Passenger	0%				0%	
Transit / School Bus	0%				0%	
Walk	0%				0%	
Cycle	0%				0%	
Total					100%	
Multi-Modal Trip Generation						
Driver	0	0	0	15	15	30
Passenger	0	0	0	0	0	0
Transit / School Bus	0	0	0	0	0	0
Walk	0	0	0	0	0	0
Cycle	0	0	0	0	0	0
Total	0	0	0	15	15	30
Vehicular Trips (Driver + Passenger) – Bahá'í Temple	0	0	0	15	15	30
Vehicular Trips (Driver + Passenger) – Total Site	105	45	150	60	120	180

Notes:

1. Based on morning peak period inbound trips.
2. Based on afternoon peak period outbound trips.
3. Based on the 85th percentile trip generation (includes daily administrative activities carried out by the Bahá'í staff on weekdays, typical weekday temple visits, and camps organized at Don Valley Education Centre (7015 Leslie Street).
4. Assumed vehicle occupancy of 1.5 persons per vehicle.

APPENDIX I: Transportation Tomorrow Survey (TTS) Data



Bahai National Centre

7006-12
 Residential Vehicular Site Traffic Distribution (AM Peak Hour)
 Outbound
 BA Group - ALHL
 2022-08-15
 Wed Jul 20 2022 11:38:26 GMT-0400 (Eastern Daylight Time) - Run Time: 2609ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest
 Column: 2006 GTA zone of origin - gta06_orig

Filters:

Start time of trip - start_time In 600-859
 and
 Trip purpose of origin - purp_orig In H
 and
 Primary travel mode of trip - mode_prime In D,M,P,T,U
 and
 2006 GTA zone of origin - gta06_orig In 2365, 2366, 460

Trip 2016
 Table:

	460	2365	2366	Total
PD 1 of Toronto	8	19	110	137
PD 2 of Toronto	0	59	7	66
PD 3 of Toronto	14	65	0	79
PD 4 of Toronto	75	19	28	122
PD 5 of Toronto	63	156	86	305
PD 6 of Toronto	17	0	0	17
PD 8 of Toronto	11	0	0	11
PD 9 of Toronto	18	0	0	18
PD 10 of Toronto	84	50	3	137
PD 11 of Toronto				
	429	120	0	120
	431	10	0	10
	436	0	0	12
	439	0	0	65
	446	14	0	14
	448	25	0	80
	454	12	0	12
	456	21	0	21
	458	61	0	61
	459	19	0	11
	460	22	0	22
	461	16	0	16
	463	0	15	7
	464	0	0	7
	465	8	0	8
PD 12 of Toronto	472	0	332	804
PD 13 of Toronto	13	22	3	38
PD 16 of Toronto	43	0	77	120
Whitby	0	0	14	14
Oshawa	27	0	0	27
Newmarket	0	0	23	23
Aurora	0	16	0	16
Richmond Hill	21	34	211	266
Markham				
	2351	7	0	7
	2353	8	0	8
	2362	0	0	87
	2366	13	15	194
	2367	9	101	135
	2369	13	0	31
	2371	25	0	25
	2374	3	0	3
	2375	0	33	0
	2385	0	0	24
	2388	0	7	0
	2390	0	23	35
	2394	20	0	20
	2395	0	19	0
	2400	12	16	0
	2401	0	0	11
	2402	0	0	17
	2403	0	32	0
	2440	0	0	6
King	0	0	18	18
Vaughan	66	5	89	160
Mississauga	49	30	35	114
				3888

Markham

Wed Jul 20 2022 11:39:17 GMT-0400 (Eastern Daylight Time) - Run Time: 2934ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06_dest
 Column: 2006 GTA zone of origin - gta06_orig

Filters:

Start time of trip - start_time In 600-859
 and
 Trip purpose of origin - purp_orig In H
 and
 Primary travel mode of trip - mode_prime In D,M,P,T,U
 and
 2006 GTA zone of origin - gta06_orig In 2365, 2366, 460

Planning district of destination - pd_dest In 31

Trip 2016
 Table:

	460	2365	2366	
	2351	7	0	0
	2353	8	0	0
	2362	0	0	87
	2366	13	15	194
	2367	9	101	135
	2369	13	0	31
	2371	25	0	25
	2374	3	0	3
	2375	0	33	0
	2385	0	0	24
	2388	0	7	0
	2390	0	23	35
	2394	20	0	20
	2395	0	19	0
	2400	12	16	0
	2401	0	0	11
	2402	0	0	17
	2403	0	32	0
	2440	0	0	6
Markham	110	246	540	896

PD 11

Wed Jul 20 2022 11:44:18 GMT-0400 (Eastern Daylight Time) - Run Time: 2682ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06_dest
 Column: 2006 GTA zone of origin - gta06_orig

Filters:

Start time of trip - start_time In 600-859
 and
 Trip purpose of origin - purp_orig In H
 and
 Primary travel mode of trip - mode_prime In D,M,P,T,U
 and
 2006 GTA zone of origin - gta06_orig In 2365, 2366, 460

Planning district of destination - pd_dest In 11

Trip 2016
 Table:

	460	2365	2366	
	429	120	0	0
	431	10	0	0
	436	0	0	12
	439	0	0	65
	446	14	0	0
	448	25	0	55
	454	12	0	0
	456	21	0	0
	458	61	0	0
	459	19	0	11
	460	22	0	0
	461	16	0	0
	463	0	15	7
	464	0	0	7
	465	8	0	0
PD11	328	15	157	500

Bahai National Centre

7006-12

Residential Vehicular Site Traffic Distribution (PM Peak Hour)

Inbound

BA Group - ALHL

2022-08-15

Wed Jul 20 2022 12:45:01 GMT-0400 (Eastern Daylight Time) - Run Time: 2616ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig

Column: 2006 GTA zone of destination - gta06_dest

Filters:

Start time of trip - start_time In 1500-1759

and

Trip purpose of destination - purp_dest In H

and

Primary travel mode of trip - mode_prime In d,m,p,Lu

and

2006 GTA zone of destination - gta06_dest In 2365,2366,460

Trip 2016

Table:

	460	2365	2366	Total
PD 1 of Toronto	20	13	65	98
PD 2 of Toronto	0	0	7	7
PD 3 of Toronto	16	0	0	16
PD 4 of Toronto	139	19	28	186
PD 5 of Toronto	96	156	26	278
PD 6 of Toronto	17	0	0	17
PD 8 of Toronto	11	0	0	11
PD 9 of Toronto	22	0	0	22
PD 10 of Toronto	27	50	3	80
PD 11 of Toronto				
436	0	0	12	12
439	13	0	65	78
440	14	0	0	14
446	27	24	0	51
448	0	0	6	6
452	20	0	0	20
456	21	0	0	21
459	19	0	0	19
460	217	0	0	217
461	39	0	0	39
463	5	0	0	5
465	8	0	5	13
PD 12 of Toronto	143	12	312	467
PD 13 of Toronto	0	0	28	28
PD 16 of Toronto	116	3	80	199
Brock	0	0	52	52
Oshawa	5	0	0	5
Newmarket	0	0	23	23
Aurora	0	16	0	16
Richmond Hill	60	46	214	320
Markham				
2351	26	0	0	26
2353	8	0	0	8
2360	6	0	0	6
2363	53	0	14	67
2364	13	29	63	105
2365	0	7	0	7
2366	0	15	142	157
2367	0	32	11	43
2369	13	0	0	13
2371	25	146	0	171
2374	3	0	0	3
2375	0	33	0	33
2385	0	0	7	7
2389	0	7	7	14
2390	0	23	35	58
2392	0	0	3	3
2394	20	7	0	27
2395	7	19	0	26
2401	0	0	11	11
2402	0	0	17	17
2407	0	0	52	52
2440	0	0	6	6
2454	0	0	16	16
King	0	0	18	18
Vaughan	60	32	113	205
Mississauga	35	30	58	123
Milton	0	0	25	25
External	0	0	12	12

Markham

Wed Jul 20 2022 12:48:03 GMT-0400 (Eastern Daylight Time) - Run Time: 2502ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06_orig

Column: 2006 GTA zone of destination - gta06_dest

Filters:

Start time of trip - start_time In 1500-1759

and

Trip purpose of destination - purp_dest In H

and

Primary travel mode of trip - mode_prime In d,m,p,Lu

and

2006 GTA zone of destination - gta06_dest In 2365,2366,460

and

Planning district of origin - pd_orig In 31,

Trip 2016

Table:

	460	2365	2366	
2351	26	0	0	
2353	8	0	0	
2360	6	0	0	
2363	53	0	14	
2364	13	29	63	
2365	0	7	0	
2366	0	15	142	
2367	0	32	11	
2369	13	0	0	
2371	25	146	0	
2374	3	0	0	
2375	0	33	0	
2385	0	0	7	
2389	0	7	7	
2390	0	23	35	
2392	0	0	3	
2394	20	7	0	
2395	7	19	0	
2401	0	0	11	
2402	0	0	17	
2407	0	0	52	
2440	0	0	6	
2454	0	0	16	
Markham	174	318	384	876

PD 11

Wed Jul 20 2022 12:49:37 GMT-0400 (Eastern Daylight Time) - Run Time: 2751ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06_orig

Column: 2006 GTA zone of destination - gta06_dest

Filters:

Start time of trip - start_time In 1500-1759

and

Trip purpose of destination - purp_dest In H

and

Primary travel mode of trip - mode_prime In d,m,p,Lu

and

2006 GTA zone of destination - gta06_dest In 2365,2366,460

and

Planning district of origin - pd_orig In 11,

Trip 2016

Table:

	460	2365	2366	
436	0	0	12	
439	13	0	65	
440	14	0	0	
446	27	24	0	
448	0	0	6	
452	20	0	0	
456	21	0	0	
459	19	0	0	
460	217	0	0	
461	39	0	0	
463	5	0	0	
465	8	0	5	
PD11	383	24	88	495

Bahai National Centre

7006-12

Residential Vehicular Site Traffic Distribution (AM Peak Hour)

Outbound

BA Group - ALHL

2022-08-15

Zone	Trips	%	North Leslie	South Leslie	East Steeles	West Steeles	TOTAL
PD 1 of Toronto	137	4%			80%	20%	100%
PD 2 of Toronto	66	2%			80%	20%	100%
PD 3 of Toronto	79	2%			80%	20%	100%
PD 4 of Toronto	122	3%			50%	50%	100%
PD 5 of Toronto	305	8%		20%	80%		100%
PD 6 of Toronto	17	0%			100%		100%
PD 8 of Toronto	11	0%			100%		100%
PD 9 of Toronto	18	0%			80%	20%	100%
PD 10 of Toronto	137	4%			50%	50%	100%
PD 11 of Toronto		0%					0%
429	120	3%				100%	100%
431	10	0%				100%	100%
436	12	0%				100%	100%
439	65	2%			30%	70%	100%
446	14	0%				100%	100%
448	80	2%				100%	100%
454	12	0%			20%	80%	100%
456	21	1%			20%	80%	100%
458	61	2%				100%	100%
459	30	1%				100%	100%
460	22	1%		50%		50%	100%
461	16	0%				100%	100%
463	22	1%			20%	80%	100%
464	7	0%			20%	80%	100%
465	8	0%			20%	80%	100%
PD 12 of Toronto	804	21%		30%	50%	20%	70%
PD 13 of Toronto	38	1%			100%		100%
PD 16 of Toronto	120	3%			40%	60%	100%
Whitby	14	0%			100%		100%
Oshawa	27	1%			100%		100%
Newmarket	23	1%			100%		100%
Aurora	16	0%			100%		100%
Richmond Hill	266	7%			50%	50%	100%
Markham							0%
2351	7	0%				100%	100%
2353	8	0%				100%	100%
2362	87	2%				100%	100%
2366	222	6%			100%		100%
2367	245	6%			100%		100%
2369	44	1%			100%		100%
2371	25	1%			100%		100%
2374	3	0%			100%		100%
2375	33	1%			100%		100%
2385	24	1%			100%		100%
2388	7	0%			100%		100%
2390	58	1%			100%		100%
2394	20	1%			100%		100%
2395	19	0%			100%		100%
2400	28	1%			100%		100%
2401	11	0%			100%		100%
2402	17	0%			100%		100%
2403	32	1%			100%		100%
2440	6	0%			100%		100%
King	18	0%			100%		100%
Vaughan	160	4%			40%	60%	100%
Mississauga	114	3%			100%		100%
3888		100%					

Assumed Split

North Leslie	South Leslie	East Steeles	West Steeles	TOTAL
0.00%	0.00%	2.82%	0.70%	3.5%
0.00%	0.00%	1.36%	0.34%	1.7%
0.00%	0.00%	1.63%	0.41%	2.0%
0.00%	0.00%	1.57%	1.57%	3.1%
0.00%	1.57%	6.28%	0.00%	7.8%
0.00%	0.00%	0.44%	0.00%	0.4%
0.00%	0.00%	0.28%	0.00%	0.3%
0.00%	0.00%	0.37%	0.09%	0.5%
0.00%	0.00%	1.76%	1.76%	3.5%
0.00%	0.00%	0.00%	0.00%	0.0%
0.00%	0.00%	0.00%	3.09%	3.1%
0.00%	0.00%	0.00%	0.26%	0.3%
0.00%	0.00%	0.00%	0.31%	0.3%
0.00%	0.00%	0.50%	1.17%	1.7%
0.00%	0.00%	0.00%	0.36%	0.4%
0.00%	0.00%	0.00%	2.06%	2.1%
0.00%	0.00%	0.06%	0.25%	0.3%
0.00%	0.00%	0.11%	0.43%	0.5%
0.00%	0.00%	0.00%	1.57%	1.6%
0.00%	0.00%	0.00%	0.77%	0.8%
0.00%	0.28%	0.00%	0.28%	0.6%
0.00%	0.00%	0.00%	0.41%	0.4%
0.00%	0.00%	0.11%	0.45%	0.6%
0.00%	0.00%	0.04%	0.14%	0.2%
0.00%	0.00%	0.04%	0.16%	0.2%
0.00%	6.20%	10.34%	4.14%	20.7%
0.00%	0.00%	0.98%	0.00%	1.0%
0.00%	0.00%	1.23%	1.85%	3.1%
0.00%	0.00%	0.36%	0.00%	0.4%
0.00%	0.00%	0.69%	0.00%	0.7%
0.00%	0.00%	0.59%	0.00%	0.6%
0.00%	0.00%	0.41%	0.00%	0.4%
0.00%	0.00%	3.42%	3.42%	6.8%
0.00%	0.00%	0.00%	0.00%	0.0%
0.00%	0.00%	0.00%	0.18%	0.2%
0.00%	0.00%	0.00%	0.21%	0.2%
0.00%	0.00%	0.00%	2.24%	2.2%
0.00%	0.00%	5.71%	0.00%	5.7%
0.00%	0.00%	6.30%	0.00%	6.3%
0.00%	0.00%	1.13%	0.00%	1.1%
0.00%	0.00%	0.64%	0.00%	0.6%
0.00%	0.00%	0.08%	0.00%	0.1%
0.00%	0.00%	0.85%	0.00%	0.8%
0.00%	0.00%	0.62%	0.00%	0.6%
0.00%	0.00%	0.18%	0.00%	0.2%
0.00%	0.00%	1.49%	0.00%	1.5%
0.00%	0.00%	0.51%	0.00%	0.5%
0.00%	0.00%	0.49%	0.00%	0.5%
0.00%	0.00%	0.72%	0.00%	0.7%
0.00%	0.00%	0.28%	0.00%	0.3%
0.00%	0.00%	0.44%	0.00%	0.4%
0.00%	0.00%	0.82%	0.00%	0.8%
0.00%	0.00%	0.15%	0.00%	0.2%
0.00%	0.00%	0.46%	0.00%	0.5%
0.00%	0.00%	1.65%	2.47%	4.1%
0.00%	0.00%	2.93%	0.00%	2.9%
0.0%	8.1%	60.9%	31.1%	100.0%
0%	10%	60%	30%	100%

Bahai National Centre

7006-12

Residential Vehicular Site Traffic Distribution (PM Peak Hour)

Inbound

BA Group - ALHL

2022-08-15

Zone	Trips	%	North Leslie	South Leslie	East Steeles	West Steeles	TOTAL
PD 1 of Toronto	98	3%			80%	20%	100%
PD 2 of Toronto	7	0%			80%	20%	100%
PD 3 of Toronto	16	0%			80%	20%	100%
PD 4 of Toronto	186	5%			50%	50%	100%
PD 5 of Toronto	278	8%		20%	80%		80%
PD 6 of Toronto	17	0%			100%		100%
PD 8 of Toronto	11	0%			100%		100%
PD 9 of Toronto	22	1%			80%	20%	100%
PD 10 of Toronto	80	2%			50%	50%	100%
PD 11 of Toronto		0%					0%
	436	12				100%	100%
	439	78				100%	100%
	440	14			30%	70%	100%
	446	51				100%	100%
	448	6				100%	100%
	452	20				100%	100%
	456	21				100%	100%
	459	19			20%	80%	100%
	460	217		50%		50%	50%
	461	39				100%	100%
	463	5				100%	100%
	465	13				100%	100%
PD 12 of Toronto	467	13%		30%	50%	20%	70%
PD 13 of Toronto	28	1%			100%		100%
PD 16 of Toronto	199	6%			40%	60%	100%
Brock	52	1%			100%		100%
Oshawa	5	0%			100%		100%
Newmarket	23	1%			100%		100%
Aurora	16	0%			100%		100%
Richmond Hill	320	9%			50%	50%	100%
Markham		0%					0%
	2351	26				100%	100%
	2353	8				100%	100%
	2360	6				100%	100%
	2363	67				100%	100%
	2364	105				100%	100%
	2365	7				100%	100%
	2366	157			100%		100%
	2367	43			100%		100%
	2369	13			100%		100%
	2371	171			100%		100%
	2374	3			100%		100%
	2375	33			100%		100%
	2385	7			100%		100%
	2389	14			100%		100%
	2390	58			100%		100%
	2392	3			100%		100%
	2394	27			100%		100%
	2395	26			100%		100%
	2401	11			100%		100%
	2402	17			100%		100%
	2407	52			100%		100%
	2440	6			100%		100%
	2454	16			100%		100%
King	18	1%			100%		100%
Vaughan	205	6%			40%	60%	100%
Mississauga	123	3%			100%		100%
Milton	25	1%			100%		100%
External	12	0%			50%	50%	100%
	3579	100%					

North Leslie	South Leslie	East Steeles	West Steeles	TOTAL
0.00%	0.00%	2.19%	0.55%	2.7%
0.00%	0.00%	0.16%	0.04%	0.2%
0.00%	0.00%	0.36%	0.09%	0.4%
0.00%	0.00%	2.60%	2.60%	5.2%
0.00%	1.55%	6.21%	0.00%	7.8%
0.00%	0.00%	0.47%	0.00%	0.5%
0.00%	0.00%	0.31%	0.00%	0.3%
0.00%	0.00%	0.49%	0.12%	0.6%
0.00%	0.00%	1.12%	1.12%	2.2%
0.00%	0.00%	0.00%	0.00%	0.0%
0.00%	0.00%	0.00%	0.34%	0.3%
0.00%	0.00%	0.00%	2.18%	2.2%
0.00%	0.00%	0.12%	0.27%	0.4%
0.00%	0.00%	0.00%	1.42%	1.4%
0.00%	0.00%	0.00%	0.17%	0.2%
0.00%	0.00%	0.00%	0.56%	0.6%
0.00%	0.00%	0.00%	0.59%	0.6%
0.00%	0.00%	0.11%	0.42%	0.5%
0.00%	3.03%	0.00%	3.03%	6.1%
0.00%	0.00%	0.00%	1.09%	1.1%
0.00%	0.00%	0.00%	0.14%	0.1%
0.00%	0.00%	0.00%	0.36%	0.4%
0.00%	3.91%	6.52%	2.61%	13.0%
0.00%	0.00%	0.78%	0.00%	0.8%
0.00%	0.00%	2.22%	3.34%	5.6%
0.00%	0.00%	1.45%	0.00%	1.5%
0.00%	0.00%	0.14%	0.00%	0.1%
0.00%	0.00%	0.64%	0.00%	0.6%
0.00%	0.00%	0.45%	0.00%	0.4%
0.00%	0.00%	4.47%	4.47%	8.9%
0.00%	0.00%	0.00%	0.00%	0.0%
0.00%	0.00%	0.00%	0.73%	0.7%
0.00%	0.00%	0.00%	0.22%	0.2%
0.00%	0.00%	0.00%	0.17%	0.2%
0.00%	0.00%	0.00%	1.87%	1.9%
0.00%	0.00%	0.00%	2.93%	2.9%
0.00%	0.00%	0.00%	0.20%	0.2%
0.00%	0.00%	4.39%	0.00%	4.4%
0.00%	0.00%	1.20%	0.00%	1.2%
0.00%	0.00%	0.36%	0.00%	0.4%
0.00%	0.00%	4.78%	0.00%	4.8%
0.00%	0.00%	0.08%	0.00%	0.1%
0.00%	0.00%	0.92%	0.00%	0.9%
0.00%	0.00%	0.20%	0.00%	0.2%
0.00%	0.00%	0.39%	0.00%	0.4%
0.00%	0.00%	1.62%	0.00%	1.6%
0.00%	0.00%	0.08%	0.00%	0.1%
0.00%	0.00%	0.75%	0.00%	0.8%
0.00%	0.00%	0.73%	0.00%	0.7%
0.00%	0.00%	0.31%	0.00%	0.3%
0.00%	0.00%	0.47%	0.00%	0.5%
0.00%	0.00%	1.45%	0.00%	1.5%
0.00%	0.00%	0.17%	0.00%	0.2%
0.00%	0.00%	0.45%	0.00%	0.4%
0.00%	0.00%	0.50%	0.00%	0.5%
0.00%	0.00%	2.29%	3.44%	5.7%
0.00%	0.00%	3.44%	0.00%	3.4%
0.00%	0.00%	0.70%	0.00%	0.7%
0.00%	0.00%	0.17%	0.00%	0.3%
0.0%	8.5%	56.3%	35.2%	100.0%

Assumed Split

0%	10%	55%	35%	100%
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APPENDIX J: Existing Signal Timing Plans



CITY OF TORONTO – TRANSPORTATION SERVICES
TSO – TRAFFIC SIGNALS
 703 Don Mills Rd, Fifth Floor, Toronto ON M3C 3N3
 Phone: 416-397-5770 Fax: 416-397-5777

CURRENT SIGNAL TIMING INFORMATION

Location: Steeles Av. & Leslie St.
TCS/SCN: 934/60341
Our Ref: 2022_018
Staff: RanaJamil Iftikhar
Preparation Date : July 25, 2017
Controller Type: Peek ATC-1000 / TS2T1
Mode of Control: SA2 with PR & LPI
Design Walk Speed: 1.0 m/s (FDW based on full crossing @ 1.2 m/s)
N/S FDW Duration: 29 sec
E/W FDW Duration: 16 sec
Issued to BA Consulting Group Ltd.(Andrew T Pasco)

Control Level Plan Time of Operation	TYPICAL				SCOOT			
	NIGHT 22:00-06:30	AM 6:30-9:30	OFF All Other Times	PM 15:00-19:00	NIGHT 22:00-06:30	AM 6:30-9:30	OFF All Other Times	PM 15:00-19:00
Signal Aspect								
<i>East-West Phase</i>								
*WBLA/WBG/EWWK (North Side Only)	-	21	20	21	-	6 - 36	6 - 36	6 - 60
*WBYA/WBG/EWWK (North Side Only)	-	3.2	3.2	3.2	-	3.2	3.2	3.2
WBG/EWWK (North Side Only)	-	4.4	4.4	4.4	-	4.4	4.4	4.4
EWG/EWWK	26	22	7	36	7 - 50	7 - 37	7 - 37	7 - 61
EWG/EWFD	16	16	16	16	16	16	16	16
EWY/EWDW	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
ALLR	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
<i>North-South Phase</i>								
NSWK	5	5	5	5	5	5	5	5
NSG/NSWK	7	7	7	22	2 - 50	2- 37	2 - 37	2 - 61
NSG/NSFD	29	29	29	29	29	29	29	29
NSY/NSDW	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
ALLR	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Cycle Length/Range	96	120	104	144	96-120	96 - 120	80 - 120	88 - 144

NOTE

*WBLA callable all times except 01:30 - 06:30 daily.

NS phase is callable by vehicle and/or pedestrian actuation. If a vehicle call received, the minimum NSG is 7 seconds during AM/OFF/PM/NIGHT peak. If a vehicle call is received, the minimum NSG is 7 seconds. If ongoing vehicle demand exists on the stopbar loop, the NSG is capable of providing vehicle extensions up to the maximum green

The NSWK & NSFD are only displayed on the pedestrian signal heads if a pedestrian call is received.

NSWK - NS Leading Pedestrian Interval - NSWK comes up 5 seconds before NS vehicle green. If no pedestrian call received NSWK will served in Vehicle phase

SCOOT cycle lengths between 32-64 may change by 4 second increments, between 64-128 by 8 second increments and above 128 by 16 second increments.

SCOOT may change the cycle length by one increment at a time every 150 seconds.



























APPENDIX K: Synchro Worksheets



HCM Signalized Intersection Capacity Analysis

1: Steeles Avenue East & Leslie Street

<Existing> Weekday AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	5	975	425	360	1135	10	345	5	335	5	5	5
Future Volume (vph)	5	975	425	360	1135	10	345	5	335	5	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	3.2	5.0	5.0		5.9	5.9		5.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97		1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00		0.98	
Satd. Flow (prot)	1803	4940	1427	1769	5036	1138		1772	1522		1481	
Flt Permitted	0.21	1.00	1.00	0.12	1.00	1.00		0.72	1.00		0.89	
Satd. Flow (perm)	396	4940	1427	221	5036	1138		1332	1522		1334	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	1083	472	400	1261	11	383	6	372	6	6	6
RTOR Reduction (vph)	0	0	326	0	0	5	0	0	247	0	4	0
Lane Group Flow (vph)	6	1083	146	400	1261	6	0	389	125	0	14	0
Confl. Peds. (#/hr)	5		15	15		5			10	10		
Heavy Vehicles (%)	0%	5%	2%	2%	3%	27%	2%	16%	4%	0%	33%	28%
Bus Blockages (#/hr)	0	0	19	0	0	20	0	0	0	0	0	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	32.1	32.1	32.1	59.3	59.3	59.3		35.0	35.0		35.0	
Effective Green, g (s)	33.1	33.1	33.1	60.3	60.3	60.3		36.0	36.0		36.0	
Actuated g/C Ratio	0.31	0.31	0.31	0.56	0.56	0.56		0.34	0.34		0.34	
Clearance Time (s)	6.0	6.0	6.0	4.2	6.0	6.0		6.9	6.9		6.9	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	122	1525	440	470	2832	640		447	511		447	
v/s Ratio Prot		0.22		c0.19	0.25							
v/s Ratio Perm	0.02		0.10	c0.29		0.01		c0.29	0.08		0.01	
v/c Ratio	0.05	0.71	0.33	0.85	0.45	0.01		0.87	0.24		0.03	
Uniform Delay, d1	26.0	32.8	28.5	27.3	13.7	10.3		33.4	25.8		23.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.2	1.6	0.4	13.8	0.1	0.0		16.6	0.3		0.0	
Delay (s)	26.2	34.4	29.0	41.1	13.8	10.3		50.1	26.0		23.9	
Level of Service	C	C	C	D	B	B		D	C		C	
Approach Delay (s)		32.7			20.3			38.3			23.9	
Approach LOS		C			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			28.6				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			107.2				Sum of lost time (s)		14.1			
Intersection Capacity Utilization			84.6%				ICU Level of Service		E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

2: Leslie Street & Private Parking Lot

<Existing> Weekday AM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	20	0	0	15
Future Volume (Veh/h)	0	0	20	0	0	15
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	0	0	30	0	0	22
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	312					
pX, platoon unblocked						
vC, conflicting volume	57	35			35	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	57	35			35	
tC, single (s)	7.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	4.4	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	750	1039			1583	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	30	22			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1583			
Volume to Capacity	0.00	0.02	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	8.2%		ICU Level of Service		A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

3: Site Access & Leslie Street

<Existing> Weekday AM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	0	0	15	0	0	5
Future Volume (Veh/h)	0	0	15	0	0	5
Sign Control	Free		Free		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	17	0	0	6
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		34	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		34	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			1636		974	1091
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	0	17	6			
Volume Left	0	17	0			
Volume Right	0	0	6			
cSH	1700	1636	1091			
Volume to Capacity	0.00	0.01	0.01			
Queue Length 95th (m)	0.0	0.3	0.1			
Control Delay (s)	0.0	7.2	8.3			
Lane LOS		A	A			
Approach Delay (s)	0.0	7.2	8.3			
Approach LOS			A			
Intersection Summary						
Average Delay			7.5			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

1: Steeles Avenue East & Leslie Street










<Existing> Weekday PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1065	405	305	1250	5	375	10	325	5	20	5
Future Volume (vph)	5	1065	405	305	1250	5	375	10	325	5	20	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	3.2	5.0	5.0		5.9	5.9		5.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97		1.00	0.96		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00		0.99	
Satd. Flow (prot)	1803	5085	1452	1787	5085	1450		1812	1552		1797	
Flt Permitted	0.19	1.00	1.00	0.11	1.00	1.00		0.71	1.00		0.94	
Satd. Flow (perm)	352	5085	1452	205	5085	1450		1345	1552		1703	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	5	1170	445	335	1374	5	412	11	357	5	22	5
RTOR Reduction (vph)	0	0	294	0	0	2	0	0	225	0	3	0
Lane Group Flow (vph)	5	1170	151	335	1374	3	0	423	132	0	29	0
Confl. Peds. (#/hr)	5		15	15		5			30	30		
Heavy Vehicles (%)	0%	2%	0%	1%	2%	0%	0%	0%	0%	0%	0%	16%
Bus Blockages (#/hr)	0	0	19	0	0	19	0	0	0	0	0	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	41.9	41.9	41.9	69.1	69.1	69.1		44.2	44.2		44.2	
Effective Green, g (s)	42.9	42.9	42.9	70.1	70.1	70.1		45.2	45.2		45.2	
Actuated g/C Ratio	0.34	0.34	0.34	0.56	0.56	0.56		0.36	0.36		0.36	
Clearance Time (s)	6.0	6.0	6.0	4.2	6.0	6.0		6.9	6.9		6.9	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	119	1728	493	414	2824	805		481	555		609	
v/s Ratio Prot		0.23		c0.15	0.27							
v/s Ratio Perm	0.01		0.10	c0.30		0.00		c0.31	0.09		0.02	
v/c Ratio	0.04	0.68	0.31	0.81	0.49	0.00		0.88	0.24		0.05	
Uniform Delay, d1	27.9	35.7	30.7	31.4	17.1	12.5		37.9	28.4		26.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.1	1.1	0.4	11.1	0.1	0.0		16.6	0.2		0.0	
Delay (s)	28.0	36.8	31.0	42.5	17.2	12.5		54.5	28.6		26.5	
Level of Service	C	D	C	D	B	B		D	C		C	
Approach Delay (s)		35.2			22.1			42.7			26.5	
Approach LOS		D			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			31.1				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			126.2				Sum of lost time (s)			14.1		
Intersection Capacity Utilization			105.4%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

2: Leslie Street & Private Parking Lot

<Existing> Weekday PM

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	0	20	0	0	25
Future Volume (Veh/h)	5	0	20	0	0	25
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	7	0	27	0	0	33
Pedestrians	15					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			312			
pX, platoon unblocked						
vC, conflicting volume	75	42			42	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	75	42			42	
tC, single (s)	6.9	6.2			4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	812	1022			1560	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	7	27	33			
Volume Left	7	0	0			
Volume Right	0	0	0			
cSH	812	1700	1560			
Volume to Capacity	0.01	0.02	0.00			
Queue Length 95th (m)	0.2	0.0	0.0			
Control Delay (s)	9.5	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.5	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			17.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 3: Site Access & Leslie Street

<Existing> Weekday PM





























Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	0	0	0	0	0	10
Future Volume (Veh/h)	0	0	0	0	0	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	0	0	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1636		1029	1091
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	0	0	11			
Volume Left	0	0	0			
Volume Right	0	0	11			
cSH	1700	1700	1091			
Volume to Capacity	0.00	0.00	0.01			
Queue Length 95th (m)	0.0	0.0	0.2			
Control Delay (s)	0.0	0.0	8.3			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.3			
Approach LOS			A			
Intersection Summary						
Average Delay			8.3			
Intersection Capacity Utilization			6.7%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

1: Steeles Avenue East & Leslie Street

<Future Background> Weekday AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	5	1010	425	360	1195	10	345	5	335	5	5	5
Future Volume (vph)	5	1010	425	360	1195	10	345	5	335	5	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	3.2	5.0	5.0		5.9	5.9		5.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97		1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00		0.98	
Satd. Flow (prot)	1803	4940	1427	1769	5036	1138		1772	1522		1481	
Flt Permitted	0.19	1.00	1.00	0.11	1.00	1.00		0.72	1.00		0.89	
Satd. Flow (perm)	369	4940	1427	202	5036	1138		1332	1522		1334	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	1122	472	400	1328	11	383	6	372	6	6	6
RTOR Reduction (vph)	0	0	325	0	0	5	0	0	248	0	4	0
Lane Group Flow (vph)	6	1122	147	400	1328	6	0	389	124	0	14	0
Confl. Peds. (#/hr)	5		15	15		5			10	10		
Heavy Vehicles (%)	0%	5%	2%	2%	3%	27%	2%	16%	4%	0%	33%	28%
Bus Blockages (#/hr)	0	0	19	0	0	20	0	0	0	0	0	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	32.6	32.6	32.6	60.1	60.1	60.1		35.2	35.2		35.2	
Effective Green, g (s)	33.6	33.6	33.6	61.1	61.1	61.1		36.2	36.2		36.2	
Actuated g/C Ratio	0.31	0.31	0.31	0.56	0.56	0.56		0.33	0.33		0.33	
Clearance Time (s)	6.0	6.0	6.0	4.2	6.0	6.0		6.9	6.9		6.9	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	114	1534	443	465	2843	642		445	509		446	
v/s Ratio Prot		0.23		c0.19	0.26							
v/s Ratio Perm	0.02		0.10	c0.29		0.01		c0.29	0.08		0.01	
v/c Ratio	0.05	0.73	0.33	0.86	0.47	0.01		0.87	0.24		0.03	
Uniform Delay, d1	26.1	33.3	28.7	28.7	13.9	10.3		33.9	26.1		24.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.2	1.8	0.4	14.9	0.1	0.0		17.1	0.3		0.0	
Delay (s)	26.3	35.1	29.1	43.7	14.0	10.3		51.0	26.3		24.2	
Level of Service	C	D	C	D	B	B		D	C		C	
Approach Delay (s)		33.3			20.8			38.9			24.2	
Approach LOS		C			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			29.0				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			108.2				Sum of lost time (s)		14.1			
Intersection Capacity Utilization			85.0%				ICU Level of Service		E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

2: Leslie Street & Private Parking Lot










<Future Background> Weekday AM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	20	0	0	15
Future Volume (Veh/h)	0	0	20	0	0	15
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	0	0	30	0	0	22
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	312					
pX, platoon unblocked						
vC, conflicting volume	57	35			35	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	57	35			35	
tC, single (s)	7.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	4.4	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	750	1039			1583	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	30	22			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1583			
Volume to Capacity	0.09	0.02	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	8.2%		ICU Level of Service		A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
 3: Site Access & Leslie Street



























<Future Background> Weekday AM

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	15	0	0	5
Future Volume (Veh/h)	0	0	15	0	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	17	0	0	6
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		34	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		34	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			1636		974	1091
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	0	17	6			
Volume Left	0	17	0			
Volume Right	0	0	6			
cSH	1700	1636	1091			
Volume to Capacity	0.00	0.01	0.01			
Queue Length 95th (m)	0.0	0.3	0.1			
Control Delay (s)	0.0	7.2	8.3			
Lane LOS		A	A			
Approach Delay (s)	0.0	7.2	8.3			
Approach LOS			A			
Intersection Summary						
Average Delay			7.5			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

1: Steeles Avenue East & Leslie Street










<Future Background> Weekday PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							 
Traffic Volume (vph)	5	1095	405	305	1290	5	375	10	325	5	20	5
Future Volume (vph)	5	1095	405	305	1290	5	375	10	325	5	20	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	3.2	5.0	5.0		5.9	5.9		5.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97		1.00	0.96		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00		0.99	
Satd. Flow (prot)	1803	5085	1452	1787	5085	1450		1812	1551		1797	
Flt Permitted	0.18	1.00	1.00	0.10	1.00	1.00		0.71	1.00		0.94	
Satd. Flow (perm)	336	5085	1452	190	5085	1450		1345	1551		1703	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	5	1203	445	335	1418	5	412	11	357	5	22	5
RTOR Reduction (vph)	0	0	293	0	0	2	0	0	224	0	3	0
Lane Group Flow (vph)	5	1203	152	335	1418	3	0	423	133	0	29	0
Confl. Peds. (#/hr)	5		15	15		5			30	30		
Heavy Vehicles (%)	0%	2%	0%	1%	2%	0%	0%	0%	0%	0%	0%	16%
Bus Blockages (#/hr)	0	0	19	0	0	19	0	0	0	0	0	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	42.3	42.3	42.3	69.5	69.5	69.5		44.6	44.6		44.6	
Effective Green, g (s)	43.3	43.3	43.3	70.5	70.5	70.5		45.6	45.6		45.6	
Actuated g/C Ratio	0.34	0.34	0.34	0.56	0.56	0.56		0.36	0.36		0.36	
Clearance Time (s)	6.0	6.0	6.0	4.2	6.0	6.0		6.9	6.9		6.9	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	114	1733	495	407	2822	804		482	556		611	
v/s Ratio Prot		0.24		c0.16	0.28							
v/s Ratio Perm	0.01		0.10	c0.30		0.00		c0.31	0.09		0.02	
v/c Ratio	0.04	0.69	0.31	0.82	0.50	0.00		0.88	0.24		0.05	
Uniform Delay, d1	28.0	36.1	30.8	33.2	17.4	12.6		38.1	28.5		26.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.2	1.2	0.4	12.6	0.1	0.0		16.4	0.2		0.0	
Delay (s)	28.2	37.4	31.2	45.8	17.6	12.6		54.4	28.8		26.6	
Level of Service	C	D	C	D	B	B		D	C		C	
Approach Delay (s)		35.7			22.9			42.7			26.6	
Approach LOS		D			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			31.6				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			127.0				Sum of lost time (s)		14.1			
Intersection Capacity Utilization			105.4%				ICU Level of Service		G			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

2: Leslie Street & Private Parking Lot











<Future Background> Weekday PM

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	0	20	0	0	25
Future Volume (Veh/h)	5	0	20	0	0	25
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	7	0	27	0	0	33
Pedestrians	15					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			312			
pX, platoon unblocked						
vC, conflicting volume	75	42			42	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	75	42			42	
tC, single (s)	6.9	6.2			4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	812	1022			1560	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	7	27	33			
Volume Left	7	0	0			
Volume Right	0	0	0			
cSH	812	1700	1560			
Volume to Capacity	0.01	0.02	0.00			
Queue Length 95th (m)	0.2	0.0	0.0			
Control Delay (s)	9.5	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.5	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			17.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

3: Site Access & Leslie Street



























<Future Background> Weekday PM

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	10
Future Volume (Veh/h)	0	0	0	0	0	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	0	0	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1636		1029	1091
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	0	0	11			
Volume Left	0	0	0			
Volume Right	0	0	11			
cSH	1700	1700	1091			
Volume to Capacity	0.00	0.00	0.01			
Queue Length 95th (m)	0.0	0.0	0.2			
Control Delay (s)	0.0	0.0	8.3			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.3			
Approach LOS			A			
Intersection Summary						
Average Delay			8.3			
Intersection Capacity Utilization			6.7%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

1: Steeles Avenue East & Leslie Street

<Future Total> Weekday AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	30	1010	425	360	1195	65	345	15	335	25	10	20
Future Volume (vph)	30	1010	425	360	1195	65	345	15	335	25	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	3.2	5.0	5.0		5.9	5.9		5.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97		1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00		0.98	
Satd. Flow (prot)	1803	4940	1427	1769	5036	1138		1767	1522		1520	
Flt Permitted	0.19	1.00	1.00	0.11	1.00	1.00		0.69	1.00		0.70	
Satd. Flow (perm)	369	4940	1427	200	5036	1138		1279	1522		1082	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	33	1122	472	400	1328	72	383	17	372	28	11	22
RTOR Reduction (vph)	0	0	326	0	0	32	0	0	244	0	14	0
Lane Group Flow (vph)	33	1122	146	400	1328	40	0	400	128	0	47	0
Confl. Peds. (#/hr)	5		15	15		5			10	10		
Heavy Vehicles (%)	0%	5%	2%	2%	3%	27%	2%	16%	4%	0%	33%	28%
Bus Blockages (#/hr)	0	0	19	0	0	20	0	0	0	0	0	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	33.3	33.3	33.3	60.9	60.9	60.9		37.0	37.0		37.0	
Effective Green, g (s)	34.3	34.3	34.3	61.9	61.9	61.9		38.0	38.0		38.0	
Actuated g/C Ratio	0.31	0.31	0.31	0.56	0.56	0.56		0.34	0.34		0.34	
Clearance Time (s)	6.0	6.0	6.0	4.2	6.0	6.0		6.9	6.9		6.9	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	114	1529	441	457	2813	635		438	521		371	
v/s Ratio Prot		0.23		c0.19	0.26							
v/s Ratio Perm	0.09		0.10	c0.30		0.04		c0.31	0.08		0.04	
v/c Ratio	0.29	0.73	0.33	0.88	0.47	0.06		0.91	0.24		0.13	
Uniform Delay, d1	29.0	34.2	29.4	30.0	14.7	11.2		34.8	26.1		25.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	1.4	1.9	0.4	16.8	0.1	0.0		23.2	0.2		0.2	
Delay (s)	30.4	36.0	29.9	46.9	14.8	11.2		58.0	26.4		25.1	
Level of Service	C	D	C	D	B	B		E	C		C	
Approach Delay (s)		34.1			21.8			42.8			25.1	
Approach LOS		C			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			30.3				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			110.8				Sum of lost time (s)		14.1			
Intersection Capacity Utilization			85.4%				ICU Level of Service		E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

2: Leslie Street & Private Parking Lot

<Future Total> Weekday AM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	45	0	30	80	0	10
Future Volume (Veh/h)	45	0	30	80	0	10
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	67	0	45	119	0	15
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			312			
pX, platoon unblocked						
vC, conflicting volume	124	110			169	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	124	110			169	
tC, single (s)	7.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	4.4	3.3			2.2	
p0 queue free %	90	100			100	
cM capacity (veh/h)	680	946			1415	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	67	164	15			
Volume Left	67	0	0			
Volume Right	0	119	0			
cSH	680	1700	1415			
Volume to Capacity	0.10	0.10	0.00			
Queue Length 95th (m)	2.6	0.0	0.0			
Control Delay (s)	10.9	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.9	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			3.0			
Intersection Capacity Utilization			17.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 3: Site Access & Leslie Street



























<Future Total> Weekday AM

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Traffic Volume (veh/h)	0	0	25	0	0	0
Future Volume (Veh/h)	0	0	25	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	28	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		56	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		56	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	100
cM capacity (veh/h)			1636		940	1091
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	0	28	0			
Volume Left	0	28	0			
Volume Right	0	0	0			
cSH	1700	1636	1700			
Volume to Capacity	0.00	0.02	0.00			
Queue Length 95th (m)	0.0	0.4	0.0			
Control Delay (s)	0.0	7.2	0.0			
Lane LOS		A	A			
Approach Delay (s)	0.0	7.2	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			7.2			
Intersection Capacity Utilization			6.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

1: Steeles Avenue East & Leslie Street

<Future Total> Weekday PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	25	1095	405	305	1290	40	375	15	325	60	35	40
Future Volume (vph)	25	1095	405	305	1290	40	375	15	325	60	35	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	3.2	5.0	5.0		5.9	5.9		5.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97		1.00	0.96		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		0.99	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00		0.98	
Satd. Flow (prot)	1803	5085	1451	1787	5085	1449		1813	1548		1693	
Flt Permitted	0.18	1.00	1.00	0.09	1.00	1.00		0.63	1.00		0.52	
Satd. Flow (perm)	336	5085	1451	168	5085	1449		1192	1548		906	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	1203	445	335	1418	44	412	16	357	66	38	44
RTOR Reduction (vph)	0	0	302	0	0	21	0	0	211	0	10	0
Lane Group Flow (vph)	27	1203	143	335	1418	23	0	428	146	0	138	0
Confl. Peds. (#/hr)	5		15	15		5			30	30		
Heavy Vehicles (%)	0%	2%	0%	1%	2%	0%	0%	0%	0%	0%	0%	16%
Bus Blockages (#/hr)	0	0	19	0	0	19	0	0	0	0	0	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	42.9	42.9	42.9	70.4	70.4	70.4		53.0	53.0		53.0	
Effective Green, g (s)	43.9	43.9	43.9	71.4	71.4	71.4		54.0	54.0		54.0	
Actuated g/C Ratio	0.32	0.32	0.32	0.52	0.52	0.52		0.40	0.40		0.40	
Clearance Time (s)	6.0	6.0	6.0	4.2	6.0	6.0		6.9	6.9		6.9	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	108	1637	467	376	2663	759		472	613		358	
v/s Ratio Prot		0.24		c0.16	0.28							
v/s Ratio Perm	0.08		0.10	c0.31		0.02		c0.36	0.09		0.15	
v/c Ratio	0.25	0.73	0.31	0.89	0.53	0.03		0.91	0.24		0.38	
Uniform Delay, d1	34.1	41.0	34.8	39.7	21.4	15.7		38.8	27.4		29.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	1.2	1.7	0.4	22.2	0.2	0.0		20.8	0.2		0.7	
Delay (s)	35.3	42.8	35.1	61.9	21.6	15.7		59.6	27.6		30.0	
Level of Service	D	D	D	E	C	B		E	C		C	
Approach Delay (s)		40.6			29.0			45.1			30.0	
Approach LOS		D			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			36.3				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			136.3				Sum of lost time (s)			14.1		
Intersection Capacity Utilization			105.5%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

2: Leslie Street & Private Parking Lot










<Future Total> Weekday PM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	80	0	35	45	0	55
Future Volume (Veh/h)	80	0	35	45	0	55
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	107	0	47	60	0	73
Pedestrians	15					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			312			
pX, platoon unblocked						
vC, conflicting volume	165	92			122	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	165	92			122	
tC, single (s)	6.9	6.2			4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3			2.2	
p0 queue free %	85	100			100	
cM capacity (veh/h)	717	959			1459	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	107	107	73			
Volume Left	107	0	0			
Volume Right	0	60	0			
cSH	717	1700	1459			
Volume to Capacity	0.15	0.06	0.00			
Queue Length 95th (m)	4.2	0.0	0.0			
Control Delay (s)	10.9	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.9	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			4.1			
Intersection Capacity Utilization			19.6%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 3: Site Access & Leslie Street

<Future Total> Weekday PM

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	15	0	0	40
Future Volume (Veh/h)	0	0	15	0	0	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	16	0	0	44
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		32	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		32	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	96
cM capacity (veh/h)			1636		977	1091
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	0	16	44			
Volume Left	0	16	0			
Volume Right	0	0	44			
cSH	1700	1636	1091			
Volume to Capacity	0.00	0.01	0.04			
Queue Length 95th (m)	0.0	0.2	1.0			
Control Delay (s)	0.0	7.2	8.4			
Lane LOS		A	A			
Approach Delay (s)	0.0	7.2	8.4			
Approach LOS			A			
Intersection Summary						
Average Delay			8.1			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			