

May 1, 2020
File: 160500024

Attention: George Youssef
2188 Robinwood Court,
Mississauga, ON M5M 5B9

Dear Mr. Youssef,

Reference: St. Mark and St. Demiana Church Parking Utilization Study

1 INTRODUCTION

Stantec has been retained to conduct a parking utilization study for the St. Mark and St. Demiana Church development rezoning application. The proposed Church will be located on Ninth Line, south of the intersection of Ninth Line and Burnhamthorpe Road in the City of Mississauga. The development will comprise of a 11,592 m² church and a 10,830 m² Community Services building and proposes the inclusion of 96 dedicated parking spaces for the community services building, and 427 parking spaces for the church, of which 109 are subject to a shared parking agreement with the MTO as they fall within the MTO's Highway 403 14-metre setback. There are also plans to provide an additional 65 parking spaces in the future to bring the combined total parking supply to 588 parking spaces. The proposed site plan and the approximate location of the site is illustrated in **Figure 1** and **Figure 2**, respectively.

This study assesses the expected parking demand based on proxy surveys collected at similar land uses in accordance with the City of Mississauga *Terms of Reference Parking Utilization Studies for Site Specific Applications* (Terms of Reference) to identify whether the proposed parking will satisfy the expected parking demand.



Figure 1 - Proposed Site Plan

Reference: St. Mark and St. Demiana Church Parking Utilization Study



Figure 2 – Site Location

2 SITE CHARACTERISTICS

The proposed development is located on Ninth Line, south of the intersection of Ninth Line and Burnhamthorpe Road in the City of Mississauga. The site is bounded by Highway 403 to the east, a self-storage facility to the north, greenfield to the south, and Ninth Line to the west. The existing site is largely a greenfield and stores some heavy vehicles and equipment on the north-eastern edge of the site. Transit service is currently not available near the subject development.

One full movement access is proposed onto Ninth Line at the south end of the property, in addition to the existing joint access with the self-storage facility at the north end.

The site is currently zoned as E2-93 as illustrated in the City of Mississauga Zoning Map 59. As per Part 8 – Employment Zones of the City of Mississauga Zoning By-law, the E2-93 zone shall only be used for active recreation use and cemetery use. A rezoning application is being submitted to the City to allow the Church and Community Services uses on-site.

The following **Table 1** summarizes the proposed on-site uses and the corresponding required number of parking spaces per use, based on the City of Mississauga's *Zoning By-law Part 3: Parking, Loading and Stacking Lane Regulations*.

Reference: St. Mark and St. Demiana Church Parking Utilization Study

Table 1 – Mississauga Zoning Bylaw Parking Requirement Calculation

Land Use	Size (m ²)	By-Law Rate	Required
Church Building			
Corridors, Lobbies	1,586	10/100	159
Worship Area	1,746	10/100	175
Sunday Classes Area	1,260	4.5/100	57
Cafeteria	432	10/100	43
Conference Hall	1,049	-	-
Storage Area	217	10/100	22
Church Services Area (Bookstore & Library)	155	10/100	16
Management Office Area	633	3.2/100	20
Gym	959	4.5/100	43
Fitness Area	754	-	-
Storage Below Grade	429	-	-
Other Areas (Storage, Stairs, Elevators, etc.)	2,372	-	-
Sub-Total	11,592	-	535
Community Services Center Building			
Corridors, Lobbies	1,108	3.2 / 100	36
Office Area	4,797	3.2 / 100	154
Storage Below Grade	2,279	-	-
Other Areas (Stairs, Elevators, etc.)	2,646	-	-
Sub-Total	10,830	-	190
Total	22,422		725

As per the City of Mississauga parking by-laws, the site will require 535 parking spaces for the church and 190 parking spaces for the Community Services uses, resulting in a total of 725 required spaces. The development proposes to provide a total of 523 parking spaces on opening day for the site, which consists of 414 dedicated parking spaces and an additional 109 parking spaces that are subject to a shared parking agreement with the MTO as they fall within the MTO's Highway 403 14-metre setback. An additional 65 parking spaces are planned for the future which would bring the total on-site parking supply to 588 parking spaces. A deficiency of 202 parking spaces results from proposed parking supply on opening day (i.e. proposed supply of 414 spaces plus 109 spaces within MTO setback, but excluding the additional 65 future spaces) of the development relative to the City's by-law requirements.

3 SURVEY METHODOLOGY

Two proxy parking demand survey locations were identified in consultation with the City of Mississauga:

- Church of Archangel Michael & St. Tekla (12091 Hurontario Street, Brampton); and
- St. Peter & St. Paul (1177 Invicta Drive, Oakville).

The parking demand surveys were conducted in 30-minute increments at both locations on Sunday, November 3rd, 2019 and Sunday, November 10th, 2019 from 7:30 a.m. to 1:00 p.m. The weather during the

Reference: **St. Mark and St. Demiana Church Parking Utilization Study**

surveyed periods on both days was observed to be cloudy. Both proxy sites hold liturgies from 8:00 a.m. to 11:00 a.m. on Sundays and typically experience peak parking demand between 9:30 a.m. and 11:00 a.m. The data collection period was extended to 1:00 p.m. to ensure that the peak parking demand was captured. Vehicles parked illegally on-site (outside of delineated parking spaces) were recorded along with overflow parking extending onto the side streets.

The on-site uses, GFA, maximum church capacity, and parking supply for the subject site and the proxy sites is summarized in **Table 2**. The parking survey results are attached for reference.

Table 2 - Subject & Proxy Site Statistics

Site	Land Use	GFA (m ²)	Church Capacity	Parking
St. Mark & St. Demiana	Church	11,592	800 people	523 spaces (plus additional 65 in future)
	Community Services	10,830		
	Total	22,422		
Church of Archangel Michael & St. Tekla	Church Area	3,308	612 people	252 spaces
	Activity Area	2,965		
	Total	6,273		
St. Peter & St. Paul	Church & Accessories	2,312	860 people	188 spaces

4 PARKING SURVEY RESULTS

In accordance with the City of Mississauga Terms of Reference, a detailed summary of the parking survey results is attached which includes the following data by time interval:

- Days of the surveys;
- Total on-site parking spaces (parking supply);
- Total GFA;
- Observed parking;
- Percentage of total parking capacity; and
- Observed parking demand ratio per 100 m² of occupied GFA.

Both proxy locations exhibited peak parking demand during the period of 10:30 a.m. to 11:00 a.m.; the results for both locations and days collected are summarized in **Figure 3**, **Figure 4**, and **Table 3**. A utilization above 100% was observed at the church of St. Peter and St. Paul due to vehicles parking along the adjacent street (Invicta Drive) however, it is noted that the church is located at the end of Invicta Drive in a built-out commercial area which does not experience through traffic and may not have significant business activity during the peak church activity. In contrast, vehicles would be deterred from parking along Ninth Line adjacent to the proposed development due to the significant through traffic along the roadway and high vehicular speeds.

Reference: St. Mark and St. Demiana Church Parking Utilization Study

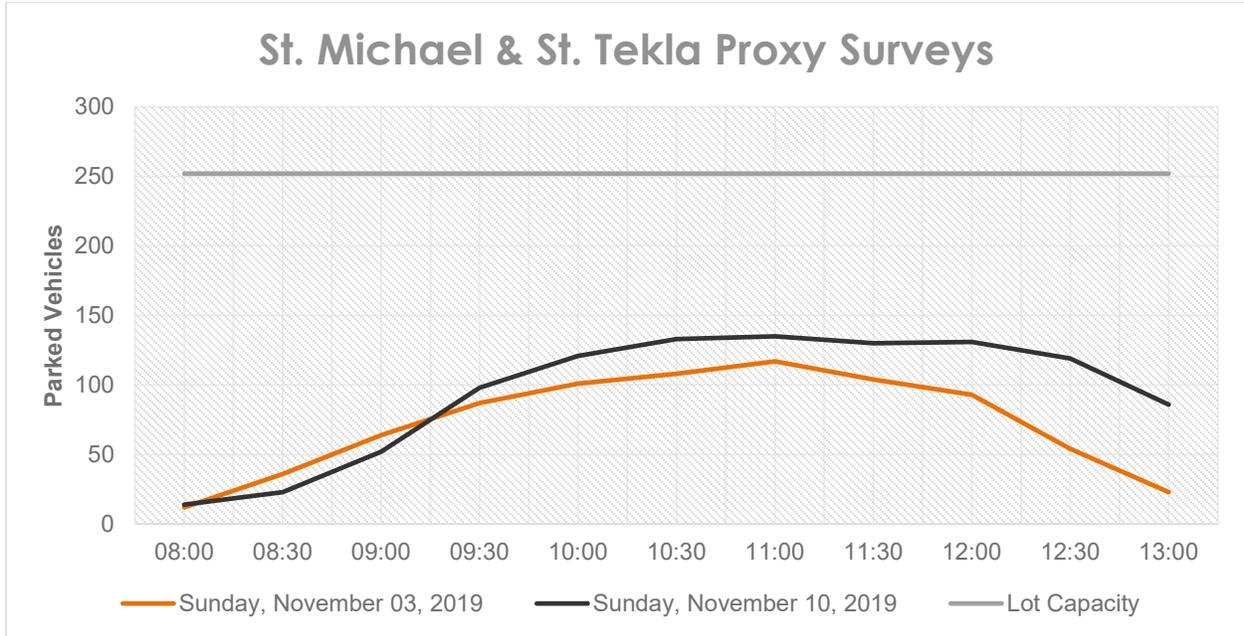


Figure 3 - St. Michael & St. Tekla Proxy Surveys

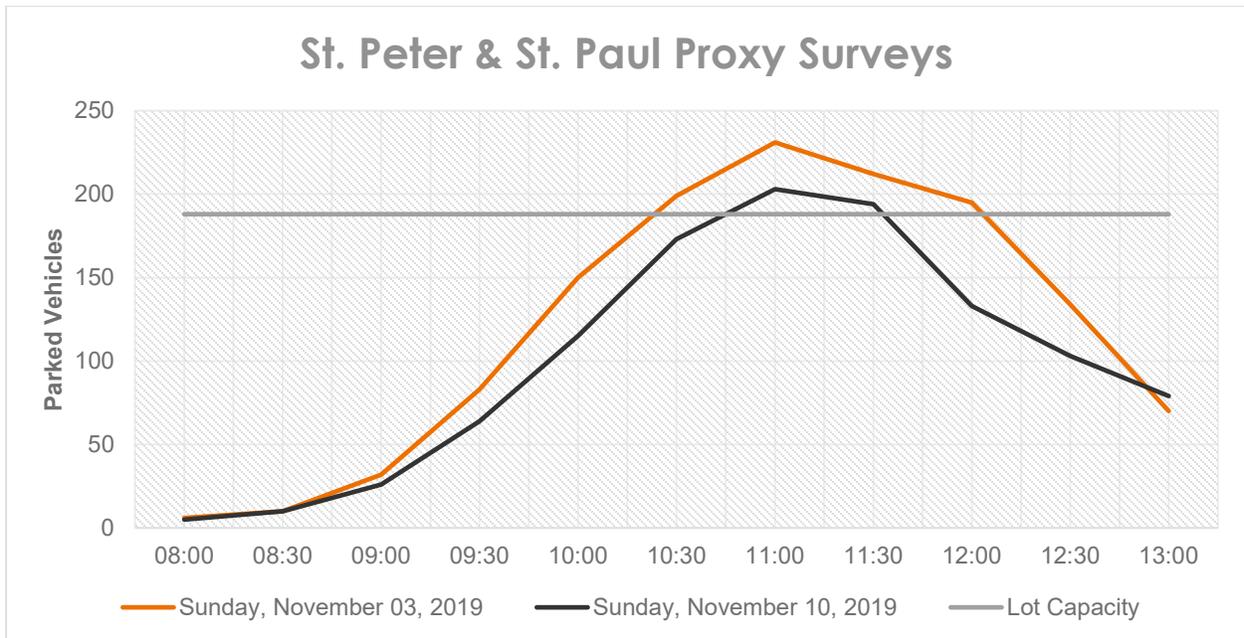


Figure 4 - St. Peter & St. Paul Proxy Surveys

Reference: St. Mark and St. Demiana Church Parking Utilization Study

Table 3 - Parking Survey Results Peak Utilization (10:30 a.m. to 11:00 a.m.)

Site Location	Date	Total Cars Parked	Capacity Utilized	Ratio (spaces / 100 m ²)
St. Michael & St. Tekla	November 3, 2019	117	46%	1.87
	November 10, 2019	135	54%	2.15
St. Peter & St. Paul	November 3, 2019	231	123%	5.35
	November 10, 2019	203	108%	4.70

5 ANALYSIS

With a conservative approach applying the highest parking demand ratio from the St. Michael & St. Tekla (2.15 spaces per 100 m²) and the St. Peter & St. Paul (5.35 spaces per 100 m²) sites, the proposed St. Mark and St. Demiana church would require between 249 and 620 parking spaces, respectively, with a GFA of 11,592 m² (excluding the Community Services Center building).

As shown in **Table 2**, the St. Peter and St. Paul church provides a very high mass capacity relative to the overall GFA and number of parking spaces available on-site, resulting in parking demand rates that are not expected to translate directly for the proposed development. The St. Peter and St. Paul church provides a higher mass capacity with fewer available parking spaces than the St. Michael and St. Tekla church and, as shown in **Table 3**, experiences parking demand that exceeds the available supply.

As shown in **Table 1**, the subject development will have many community uses within the church and the Community Services Center building, however, these uses will not coincide with the use of the mass. The peak demand on-site is expected to occur during holiday seasons when mass is attended the most, at which time the other uses within the church will not be in operation. The office spaces in the Community Services Center building will be used for counselling, mentoring, teaching, etc. and will operate during weekdays only such that it will not be in operation at the same time as the church mass. The parking around the Community Services Center building will be used as additional parking to accommodate the church's seasonal peaks.

Using the mass capacity to determine the parking rate (spaces per person) results in a maximum rate of 0.22 spaces per person for the St. Michael & St. Tekla church and 0.27 spaces per person for the St. Peter & St. Paul church. Applying the more conservative rate of 0.27 spaces per person to the proposed development (800 maximum mass capacity) results in a maximum parking demand of 216. The parking demand rates derived from the mass capacity are much closer to each other than those derived from the building GFA and are expected to more accurately forecast the demand of the subject development.

Additionally, using the data from the Institute of Transportation Engineers (ITE) *Parking Generation Manual, 5th Edition* (LU 560 Church), results in an average Sunday parking demand of 109 parking spaces based on the GFA independent variable, and 176 parking spaces based on the seats independent variable, both of which are significantly below the proposed parking supply on-site. As such, it is expected that the initial proposed parking supply of 523 spaces (including the additional 109 opening-day parking spaces within the MTO setback) will be sufficient to accommodate the parking demand of the proposed development.

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6 TRANSPORTATION DEMAND MANAGEMENT

The location of the subject development is not conducive to the implementation of transportation demand management strategies due to the isolated location bounded by Highway 403 and the lack of transit service to the site. Therefore, it is assumed that trips to and from the site will primarily be accommodated by personal automobiles.

It is worth considering promoting carpooling for both the Community Services Center building and the church to improve efficiency and reduce emissions.

7 CONCLUSIONS AND RECOMMENDATIONS

The conclusions of the study are as follows:

- The City of Mississauga Zoning By-law parking rates result in a requirement of 535 spaces for the Church building and 190 spaces for the Community Services Center building, totaling 725 spaces. The subject development proposes to provide 523 parking spaces on-site on opening day (including 109 spaces within the MTO setback) and an additional 65 parking spaces in the future. A deficiency of 202 parking spaces exists between the proposed opening day parking supply and the City of Mississauga's by-law requirements.
- Both proxy sites evaluated exhibited peak parking demand during the period of 10:30 a.m. to 11:00 a.m. A utilization above 100% was observed at the church of St. Peter and St. Paul as a result of the limited parking and high mass capacity.
- Using a conservative approach, we applied the highest parking demand ratio from the St. Michael and St. Tekla (2.15 spaces per 100 m²) and the St. Peter and St. Paul (5.35 spaces per 100 m²) sites, resulting in an estimated parking supply demand between 249 and 620 parking spaces at St. Mark and St. Demiana, respectively, with a GFA of 11,592 m² (excluding the Community Services Center building).
- The peak demand on-site is expected to occur during holiday seasons when mass is attended the most, at which time the other uses within the church will not be in operation. The office spaces in the Community Services Center building will be used for counselling, mentoring, teaching, etc. and will operate during weekdays only such that it will not be in operation at the same time as the church mass.
- Using the mass capacity to determine the parking rate (spaces per person) results in a maximum rate of 0.22 spaces per person for the St. Michael and St. Tekla church and 0.27 spaces per person for the St. Peter and St. Paul church. Applying the more conservative rate of 0.27 spaces per person to the proposed development (800 maximum mass capacity) results in a maximum parking demand of 216.
- Using the data from the Institute of Transportation Engineers (ITE) *Parking Generation Manual, 5th Edition* (LU 560 Church) results in an average Sunday parking demand of 109 parking spaces based on the GFA variable, and 176 parking spaces based on the seats variable, both of which are significantly below the proposed parking supply on-site.

Reference: **St. Mark and St. Demiana Church Parking Utilization Study**

- It is expected that the proposed opening day parking supply of 523 spaces (including the additional 109 opening-day parking spaces within the MTO setback, but excluding the proposed 65 additional future spaces) will be sufficient to accommodate the parking demand of the proposed development based on the estimated parking demand of 216 spaces during mass. We note that the subject development will have many community uses within the church and the Community Services Center building, however, these uses will not coincide during hours when mass will occur. The peak demand on-site is expected to occur during holiday seasons when mass is attended the most, at which time the other uses within the church will not be in operation. The office spaces in the Community Services Center building will be used for counselling, mentoring, teaching, etc. and will operate during weekdays only such that it will not be in operation at the same time as the church mass. The parking around the Community Services Center building will be used as additional parking to accommodate the church's seasonal peaks and vice-versa.
- It is recommended to provide the proposed opening-day parking supply of 523 parking spaces, inclusive of 109 parking spaces within the MTO setback, subject to reaching a shared parking agreement with the MTO to officially include this supply within the parking supply count. It is also recommended to monitor the parking utilization throughout the peak seasons to ensure that adequate parking is provided. The proposed addition of 65 parking spaces should only be implemented if parking supply concerns are observed during the monitoring period.

Regards,

Stantec Consulting Ltd.



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Attachment: Parking Survey Results Analysis Summary, Site Plan

c. Naji Alimam (Stantec), John Bero (Stantec)

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