

KLEIN

TRAFFIC CONSULTING, LLC

156 Walker Road
West Orange, NJ 07052
973-985-3464
leekleintraffic@gmail.com

September 3, 2020

Father Simon El Hajj
c/o St. Sharbel Maronite Catholic Church
526 Easton Avenue
Somerset, NJ 08873

VIA EMAIL: yamarsharbel@gmail.com

**Re: Traffic Engineering and Parking Evaluation
Proposed Expansion of St. Sharbel Maronite Catholic Church
From 220 Seats with 39 Parking Spaces to 300 Seats with 100 Parking Spaces
526 Easton Avenue, Somerset, Somerset County, NJ**

Dear Father Simon:

Klein Traffic Consulting, LLC (Klein Traffic) is pleased to submit this letter report outlining our findings and conclusions regarding the ability of the surrounding public street network and proposed expanded parking lot to accommodate the increased traffic and parking demand of the proposed expansion of St. Sharbel Maronite Catholic Church at 526 Easton Avenue in Somerset, NJ.

Introduction

Based on the information you provided, the church masses are scheduled on Saturday evening at 5:00PM and on Sunday mornings at 9:00 AM and at 11:00 AM. The 9:00 AM mass has less attendance than the 11:00 AM mass. The church experiences peak activity on Saturdays from 4:30 PM to 6:30 PM and Sundays from 10:30 AM to 12:30 PM. You informed me that there was a bake sale at the church on Saturday, August 15, 2020. For purposes of this traffic and parking evaluation, we chose to study the traffic and parking activities of the church on Saturday, August 15, 2020 between 10:30 AM and 12:30 PM and Sunday, August 16, 2020 between 10:30 AM to 12:30 PM.

The church plans to expand the seating capacity from 220 seats to 300 seats. The local Ordinance parking requirement is 1 parking space per 3 seats or 100 parking spaces. The existing parking lot has 39 striped parking spaces. The adjacent gravel area accommodates parking for additional cars. The proposed site plan will provide 100 parking spaces on-site. Reeve Street has capacity for approximately 10 parked cars. The purpose of the proposed expansion from 220 seats to 300 seats in the sanctuary would be to have the ability to accommodate the peak demand of a larger service. The church has a membership of approximately 500 families. With one Saturday mass, two Sunday masses, and seating capacity for 300 people, the church will be able to accommodate up to 900 congregants per weekend.

Field Reconnaissance

We visited the site and the study area on Saturday, August 15, 2020 from 4:30 PM to 6:30 PM and on Sunday, August 16, 2020 from 10:30 AM to 12:30 PM to observe traffic operations at the signalized intersection of Easton Avenue with Franklin Boulevard. We observed vehicle queues along Franklin Boulevard and Easton Avenue during the peak activity period of the church's operation during the Saturday and Sunday peak periods. We assessed the operation of the site driveway with respect to the vehicle queueing along Franklin Boulevard. There were no parking restrictions on Reeve Street or Blake Avenue other than "No Parking Here to Corner".

Saturday Parking Accumulation

To assess the current parking demand, we counted the number of vehicles parked in the church parking lot, and on Reeve Street between Easton Avenue and Blake Avenue between 4:30 PM and 6:30 PM. At 4:30 PM, there were 12 cars parked in the church parking lot, and 1 car parked on Reeve Street (which you informed me was a neighbor's car) between Easton Avenue and Blake Avenue. At 5:00 PM, there were 36 cars parked in the church lot, and 2 cars parked on Reeve Street. At 5:30 PM, there were 38 cars in the church parking lot, and 2 cars on Reeve Street. At 6:00 PM, there were 37 cars parked in the church lot, and 2 cars on Reeve Street. At 6:30 PM, there were 4 cars parked in the church parking lot, and 1 car parked on Reeve Street. There was a maximum of 39 parked cars associated with the church at 5:30 PM.

Sunday Parking Accumulation

At 10:30 AM on Sunday, there were 4 cars parked in the church parking lot, and 1 car (the same resident's car) parked on Reeve Street, between Easton Avenue and Blake Avenue. At 11:00 AM, there were 42 cars in the church parking lot (3 cars were parked on the gravel area), 5 cars on Reeve Street. At 11:30 AM, there were 42 cars in the church parking lot (6 cars were parked on the gravel area), and 9 cars on Reeve Street. At 12:00 Noon, there were 44 cars in the church parking lot, and 11 on Reeve Street. At 12:30 PM on Sunday, there were 14 cars parked in the church parking lot, and 3 cars parked on Reeve Street. There was a maximum of 55 parked cars associated with the church at 12:00 Noon.

Parking Analysis

Based on the local Ordinance requirement of 1 parking space per 3 seats, the proposed parking supply of 100 parking spaces meets the local Ordinance for 300 seats.

We assessed the current peak parking demand for the current seating capacity, based on the parking counts that we collect during the Saturday and Sunday services. With the maximum of 44 cars parked in the church parking lot, and 11 cars parked on Reeve Street, the peak parking demand ratio is 55 parked cars per 220 seats or 1 parked car per 4 seats, which is less than the 1 parking space per 3 seats required by Ordinance.

The reconfiguration of the existing parking lot to provide 100 on-site parking spaces alone would be expected to be sufficient for the 300 seats. With the additional capacity of approximately 12 cars on Reeve Street, as well as additional parking capacity on Blake Avenue, the church would continue to have the parking capacity necessary to support the proposed expansion. Therefore, the expansion of the church seating capacity would not impact the parking supply or traffic operations in the area.

Traffic Operational Evaluation

Traffic along Easton Avenue and Franklin Boulevard during the Saturday 4:30 PM to 6:30 PM observation period would be categorized as "moderate". Traffic would queue along eastbound Easton Avenue past Reeve Street and along northbound Franklin Boulevard past the site driveway during the red phase of the traffic signal, and those vehicle queues would clear during the green phase. Traffic entering and exiting the existing church parking lot was well distributed over the time, with no concentration of traffic associated with the church. Most of the traffic entered the site from the Franklin Boulevard driveway.

As can be seen from the Saturday parking accumulation, 12 vehicles arrived before 4:30 PM, 24 vehicles arrived between 4:30 PM and 5:00 PM and 2 cars arrived between 5:00 PM and 5:30 PM. No cars arrived between 5:30 PM and 6:00 PM. Approximately 1 vehicle per minute arrived during the peak half hour. Between 6:00 PM and 6:30 PM, 33 vehicles departed, approximately 1 vehicle per minute during the peak half hour.

On Sunday, August 16, 2020, we observed vehicle queues extending past the driveway on Franklin Boulevard and past Reeve Street; however, this occurred less often than on Saturday afternoon. We observed vehicles randomly arrive and depart the area, with no concentration in arrival or departure.

As can be seen from the parking accumulation, 46 vehicles arrived between 10:30 AM and 11:30 AM. Between 12:00 PM and 12:30 PM, 44 vehicles departed the church lot and Reeve Street.

Trip Generation

Table 1 – Trip Generation Summary calculates the trip generation of a 220-Seat church and a 300-Seat church for a Saturday and a Sunday using the data provided in the *Trip Generation, 10th Edition*, published by the Institute of Transportation Engineers (ITE). The additional trips associated with the expansion of 80 seats from 220 seats to 300 seats would generate an additional 35 peak hour trips on a Saturday and 43 additional trips on a Sunday. However, it should be noted that based on our field observations and parking accumulation counts, the existing 220-seat church generated 40 trips entering and no trips exiting, compared to the calculated 45 trips entering and 52 trips exiting during the Saturday peak hour. The existing 220-seat church generated 44 trips entering and no trips exiting, compared the calculated 58 trips entering and 61 trips exiting during the Sunday peak hour.

The increase of 80 seats from 220 seats to 300 seats is a 36 percent increase. If the existing traffic arrival patterns of the 220 seat church were used to predict the trips associated with 300 seats that would translate to a 36 percent increase in the arriving trips of 14 trips per hour (36 percent of 40 trips) on a Saturday and an increase of 16 new trips per hour (36 percent of 44 trips) on a Sunday. But, to be conservative, we assumed the increase would be 35 trips during the Saturday peak hour and 43 trips during the Sunday peak hour.

According to Transportation Impact Analysis for Site Development, published by the Institute of Transportation Engineers (ITE), an increase of less than 100 vehicle trips would not change the level of service of the local street network nor appreciably increase the volume-to-capacity ratio of an intersection approach. Therefore, the proposed development is not anticipated to significantly impact the operations of the local streets.

Site Plan Review

We reviewed the proposed site plan from a perspective of parking supply, traffic and pedestrian circulation, and site access. The site plan is designed with 24-foot wide, two-way drive aisles. The parking spaces are proposed at 9-foot wide by 18-foot deep. *The Dimensions of Parking, Fifth Edition*, published by the Urban Land Institute (ULI) and the National Parking Association shows in Figure 7-2: Recommended Minimum Widths of Parking Stalls, from Parking Consultants Council, Guidelines for Parking Geometrics (Washington, D.C.: National Parking Association, 2002) that moderate to high turnover (community retail, medical facilities, etc.) recommends a width from 8-foot, 9-inches to 9-feet. The proposed 9-foot width will be adequate.

Passenger cars would be able to enter the parking lot from either Franklin Boulevard (right-turn in only), Blake Avenue, or Reeve Street, circulate throughout the parking fields, maneuver into and out of the proposed parking spaces, and exit the parking lot onto either Franklin Boulevard (right-turn out only), Blake Avenue, or Reeve Street.

The Franklin Boulevard driveway and the Reeve Street driveway are proposed to be aligned along the main east-west drive aisle across the frontage of the building. This alignment provides for adequate access and circulation of emergency vehicles. The East Franklin Fire Company, located at 121 Pinegrove Avenue, would likely access the site by turning left into the Franklin Boulevard driveway.

The Franklin Boulevard driveway is proposed approximately 200 feet from the intersection of Easton Avenue. The Franklin Boulevard approach has an exclusive left turn lane that extends past Blake Avenue. While during our field visits on Saturday, August 15 and Sunday, August 16, we did not observe any issues with vehicles waiting to make the left turn into the site, it is my opinion that the left turning movement from Franklin Boulevard to Easton Avenue must be quite heavy due to the length of the left turn lane extending to Blake Avenue. Therefore, it is my opinion that restricting the Franklin Boulevard driveway to right-turn in/right-turn out movements is an efficient design and would be accomplished with the proposed signage, as well as a mountable-curb island to restrict passenger cars from making the left turning movement into or out of the driveway, but still allow an emergency vehicle to make the left turn in. The Blake Avenue driveway would provide ingress and egress movements that would replace the left turning movements out of the Franklin Boulevard driveway.

Removing three single-family homes each with a driveway (one on Reeve Street and two on Blake Avenue) and replacing those three driveways with one driveway on Blake Avenue is a reduction in curb cuts and a potential increase in on-street parking for the neighborhood.

Pedestrians would be able to circulate between the parking spaces and the building entrance. Reeve Street had low traffic volumes during our Saturday and Sunday field observations. The sight distance is adequate for drivers to see pedestrians and pedestrians to see oncoming vehicles.

Reeve Street has no parking restrictions, other than the posted "No Parking Here to Corner". The on-street parking capacity of both sides of Reeve Street between Blake Avenue and Easton Avenue is approximately 12 parked cars. Blake Avenue has additional on-street parking capacity.

KLEIN

TRAFFIC CONSULTING, LLC

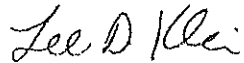
Conclusions

Based on the assumption that the congregation would slightly increase in population with the expansion from 220 seats to 300 seats and the expansion from 39 on-site parking spaces to 100 on-site parking spaces, it is my opinion that the proposed expansion of St. Sharbel Maronite Catholic Church would not have a negative impact on the surrounding area. The proposed parking supply of 100 parking spaces on-site, the existing parking for up to 12 cars on Reeve Street, and the additional on-street parking capacity on Blake Avenue would be more than adequate to support the church's Saturday and Sunday services.

The increase in the number of vehicle trips generated by the increase in the number of seats from 220 seats to 300 seats is not a significant amount of traffic and would not have a significant impact on the traffic operations at the intersections of the site driveways with Franklin Boulevard, Reeve Street, or Blake Avenue.

The foregoing is a true representation of my findings.

Sincerely ,



Lee D. Klein, P.E., PTOE

NJPE 24GE03710400

PTOE Certification 1627

C:\LeeWork\FranklinTwp-Church\Klein_TrafficPrkgEval_StSharbelChurch-090320.docm

Table 1 - Trip Generation Summary
Saint Sharbel Maronite Church
526 Easton Avenue, Somerset, Somerset County, NJ

SATURDAY

CODE	LAND USE	AMOUNT	PEAK HOUR		TOTAL
			IN	OUT	
EXISTING					
560	Church (Saturday)	220 Seats	45	52	97
PROPOSED					
560	Church (Saturday)	300 Seats	61	71	132
INCREASE					
560	Church (Saturday)	80 Seats	16	19	35

SUNDAY

CODE	LAND USE	AMOUNT	PEAK HOUR		TOTAL
			IN	OUT	
EXISTING					
560	Church (Sunday)	220 Seats	58	61	119
PROPOSED					
560	Church (Sunday)	300 Seats	79	83	162
INCREASE					
560	Church (Sunday)	80 Seats	21	22	43

SOURCE: *Trip Generation, 10th Edition*, published by the Institute of Transportation Engineers (ITE)