



# HEXAGON TRANSPORTATION CONSULTANTS, INC.

## Final Memorandum

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**Date:** March 20, 2019

**To:** Mr. Rendell Bustos, City of San Mateo

**From:** Ollie Zhou  
Gary Black

**Subject:** Traffic Study for the Proposed Carey School Expansion Project in San Mateo, CA

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Hexagon Transportation Consultants, Inc. has completed a traffic study for the proposed Carey School expansion project at 1 Carey School Lane in San Mateo, CA. The project proposes to demolish one one-story four-classroom building and construct a two-story four-classroom building with multiuse space and meeting rooms. The proposed building addition would increase the square footage of the campus from 22,952 square feet to 33,762 square feet.

Carey School at the time of this memorandum has 47 staff members and a student enrollment of 249 students. The project would increase staff by 5 to 52 staff members and student enrollment by 9 to 258 students.

The purpose of this analysis is to estimate the impacts of the proposed school expansion on the public street system in the vicinity of the site. The traffic study also includes an evaluation of student drop-off and pick-up operations. The proposed parking plan was reviewed as well.

## Trip Generation Estimates

### Existing Trip Generation

The Carey School serves pre-kindergarten through fifth grades. Grades 1-5 start at 8:30 AM and end at 3:00 PM. Kindergarten starts at 8:45 AM and ends at 2:45 PM. Pre-kindergarten starts at 8:45 AM and ends at 12:30 PM. To catch the peak hour trips, Hexagon conducted trip generation counts and queuing observations at Carey School on Tuesday, January 29, 2019 between 7:30 AM and 8:45 AM, 2:30 PM and 3:30 PM and between 5:00 PM and 6:00 PM to capture the peak school drop-off and pick-up operations, as well as school activities during the PM commute peak period.

As shown on Table 1, Hexagon observed a total of 317 trips generated by the school during the AM peak hour (7:35 AM to 8:35 AM), 162 trips during the afternoon school peak hour (2:30 PM to 3:30 PM) and 36 trips during the PM commute peak hour (5:00 PM to 6:00 PM). Given the current enrollment of 249 students, the school is currently generating traffic at a rate of 1.27 trips per student during the AM peak hour, 0.65 trips per student during the afternoon school peak hour, and 0.14 trips per student during the PM commute peak hour. Carey School provides after school programs until 6:00 PM with a rolling dismissal as parents arrive to pick up their children. Therefore, the afternoon school trips are more dispersed compared to the morning drop-off period.

**Table 1**  
**Trip Generation Estimates**

Land Use	Size		AM Peak Hour				Afternoon School Peak Hour				PM Commute Peak Hour			
			Rate <sup>1</sup>	In	Out	Total	Rate <sup>1</sup>	In	Out	Total	Rate <sup>1</sup>	In	Out	Total
Existing School	249	Students	1.27	162	155	317	0.65	80	82	162	0.15	13	23	36
Proposed School	258	Students	1.27	167	161	328	0.65	82	86	168	0.15	13	24	37
Net Project Trips	9	Students		5	6	11		2	4	6		0	1	1
<b>Notes:</b>														
1. School trip generation rates based on trip generation counts conducted by Hexagon on January 29, 2019.														

### Project Conditions Trip Generation

As shown on Table 1, assuming the same trip generation rates under project conditions, the expanded school with an enrollment of 258 students (9 more than the current enrollment) would generate an additional 11 trips during the AM peak hour (5 inbound and 6 outbound), 6 trips during the afternoon school peak hour (2 inbound and 4 outbound), and 1 trip during the PM commute peak period (1 outbound and no inbound).

### Potential Project Traffic Impacts

The added traffic is equivalent to approximately two trips (one parent inbound and one parent outbound trip) every 5 minutes during the ten to 15 minutes prior to the school start time and approximately two trips every 20 minutes outside of the peak 15 minutes of drop-off operations. This added traffic would not be noticeable. The added traffic during the afternoon school peak hour and PM commute peak period also would not be noticeable. Therefore, it is not expected that the proposed project would create any noticeable changes or impacts to the public street system in the vicinity of the school.

### Drop-off and Pick-up Operations

Carey School relies on two on-street loading zones for drop-off and pick-ups: La Salle Drive and Alameda De Las Pulgas. La Salle Drive is a residential street with a cul-de-sac, such that both traffic volume and vehicle speeds are relatively low. Alameda De Las Pulgas is a 4-lane arterial. According to school staff, drop-off and pick-up operations for students between Kindergarten and Grade 2 use La Salle Drive, and students between Grade 3 and Grade 5 use Alameda De Las Pulgas. Pre-kindergarten students are walked into the school by their parents. Parents using La Salle Drive are encouraged to loop around the cul-de-sac and drop-off students past the school driveway. In front of the school main entrance on Alameda De Las Pulgas, there is a white-painted loading zone that accommodates approximately six cars. Approximately 30 minutes prior to school start time and after school ends, staff are present at both loading zones to facilitate drop-off and pick-up operations.

During the AM peak hour, Hexagon observed no operational issues with the drop-off operations. The maximum queues observed were between five to seven vehicles on both La Salle Drive and Alameda De Las Pulgas, and the queues quickly dissipated within a minute or so. During the school afternoon peak hour, Hexagon observed that some parents arrived prior to school dismissal and waited in their cars. On La Salle Drive, the vehicle queue just prior to school dismissal was 11 vehicles and extended out of the cul-de-sac. On Alameda De Las Pulgas, the vehicle queue just prior to school dismissal was 18 vehicles and extended out of the loading zone, but the queue

stayed in the parking lane and did not block traffic on northbound Alameda De Las Pulgas. The vehicle queues dissipated within 5 to 10 minutes after school dismissal. During the PM commute peak period, no operational issues were observed. During both the AM and afternoon school peak periods, Hexagon observed that a few parents used 20<sup>th</sup> Avenue, 22<sup>nd</sup> Avenue, and Alameda De Las Pulgas, south of 22<sup>nd</sup> Avenue, for loading operations. Traffic operations on these roadways were not affected. It is not expected that the proposed project would create any noticeable changes to the vehicular queues or impacts to the nearby public street system.

## Parking Evaluation

The project proposes to increase staff from 47 to 52 staff members. According to the City of San Mateo parking requirements, the project would require 52 parking spaces (one per employee). According to the project site plans dated November 16, 2018, prepared by HKIT Architects, the project proposes to provide the existing 27 parking spaces on site and leases 30 spaces off-site at 1900/2000 Alameda de las Pulgas, for a total provision of 57 parking spaces. The proposed parking supply would meet City's requirements.

The project should ensure that the total number of provided parking spaces (on-site and off-site rented spaces) do not drop below the required 52 parking spaces. Furthermore, it is recommended that the school assign the parking spaces on site to maximize utilization of the on-site parking spaces and minimize the need for vehicles to drive between the on-site and off-site parking lots looking for parking.

## Conclusion

Based on our analysis, the proposed Carey School Expansion project would not create any noticeable changes or impacts to the public street system in the vicinity of the school. Potential increases in vehicle queues during the AM and afternoon school peak periods would also not be noticeable.

Hexagon recommends that the school ensure the total number of provided parking spaces does not drop below the required 52 parking spaces. Hexagon also recommends that the school assign the parking spaces on site.