



HEXAGON TRANSPORTATION CONSULTANTS, INC.

Memorandum

Date: November 2, 2012
To: Christy Usher, City of San Mateo
From: Gary Black
Subject: Traffic Impact Analysis for the Carey School Expansion

Introduction

This memorandum documents the traffic impact analysis results for the proposed expansion of the Carey School located at One Carey School Lane in San Mateo, CA. This independent private school currently has an enrollment of 249 students in pre-kindergarten through 5th grade and 47 staff members. However, the existing 2006 conditional use permit allows only 224 students and 43 staff. The proposed project would update the conditional use permit and increase the square footage of the campus by 9,409 square feet from the existing 18,423 square feet to 27,832 square feet.

The purpose of this analysis is to describe the impacts of the school on the public street system in the vicinity of the site and to review general traffic flow as it relates to safety issues and conflicts between users. The traffic analysis includes an evaluation of on-site circulation and student drop-off and pick-up. Hexagon also compares the on-site and off-site parking supply and demand to identify any potential parking impacts.

Trip Generation Counts

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 surveys and queuing observations at Carey School between 7:45 AM and 8:45 AM on May 8, 2012 (Tuesday) and 2:30 PM and 3:30 PM on May 9, 2012 (Wednesday). Additional field observations of school pick-up operations were conducted on October 15, 2012 (Monday). The survey data show that there are 287 total trips in the AM peak hour (between 7:45 AM and 8:45 AM) and 232 trips in the afternoon peak hour (between 2:30 PM and 3:30 PM). Applying the count to the current enrollment of 249 students, the existing trip generation rate of the school is 1.15 trips per student in the AM peak hour and 0.93 trips per student in the afternoon peak hour. Applying these rates to the permitted enrollment of 224 students, the traffic generated with the existing school enrollment is 29 trips more than with the currently permitted enrollment in the AM peak hour and 24 more trips in the afternoon peak hour (see Table 1).

The Carey School administration encourages walking, bicycling, and carpooling to school. They encourage walking and bicycling with a Bike-Ped Club (walkbiketoschool@careyschool.org). They encourage carpooling with a link to the School Pools carpool matching website (carpooltoschool.com). No students were observed walking or bicycling to school. Carey School is a private school and draws students from a large area, in which case it is less likely that as many students live close enough to walk or bike compared to a public school. Carpooling of students was noticed during the traffic observations. However, no formal count of the number of carpooling students was conducted.

The City of San Mateo will be assisting in the Safe Routes to School program by conducting walk/bike audits in the San Mateo-Foster City School District, but currently data are not available to evaluate the

effectiveness of carpool and bike commutes for Carey School nor are there data at this time to benchmark results to other schools on record.

**Table 1
Project Trips under Existing and Permitted Enrollment**

Land Use	Size	AM Peak Hour			Total Trips	PM Peak Hour			
		Peak-Hour Rate ¹	In	Out		Peak-Hour Rate ¹	In	Out	Total Trips
<u>Existing School Enrollment</u>									
	249 students	1.15	146	141	287	0.93	122	110	232
<u>Permitted Enrollment</u>									
	224 students	1.15	132	127	258	0.93	110	99	208
<u>Existing - Capacity</u>			14	14	29		12	11	24

1. Based on trip generation survey conducted by Hexagon on May 8, 2012 and May 9, 2012.

Drop-off and Pick-up Operations

The Carey School relies on two on-street loading zones for drop-offs and pick-ups: La Salle Drive and Alameda De Las Pulgas. The school drop-off/pick-up plan uses La Salle Drive for Kindergarten and Grades 1 and 2 and uses Alameda De Las Pulgas for Grades 3-5. Pre-K students must be walked into and out of school by a parent or guardian. They can park either on La Salle Drive or 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 very low. Alameda De Las Pulgas is a 4-lane arterial. There is a white-painted loading zone on Alameda De Las Pulgas in front of the school. The loading zone accommodates about 5 cars. In front of the loading zone, the curb is painted red. However, vehicles were seen to use the red zone to drop-off and pick-up students. The red zone is left over from when there used to be a bus stop on Alameda de las Pulgas at that location. The bus stop has been moved to 20th Avenue. Beyond (south of) the loading zone, there is curb parking along Alameda De Las Pulgas. All the on-street parking spaces between the loading zone and the intersection at 22nd Avenue were used by drop-off and pick-up vehicles during both AM and PM peak hours. There are about 17 curb parking spaces beyond the loading zone.

Hexagon did field observations of the student drop-offs in the AM peak hour and pick-ups during the PM peak hour to evaluate any operational issues. During the AM peak hour, the drop-off vehicles line up along La Salle Drive with an average queue of 10 cars. During the PM peak hour, there was a maximum 14 cars lining up along La Salle Drive. This neighborhood street has a low volume and low usage of the available street parking. Therefore, the momentary peak queue of 10 to 15 cars does not significantly impact traffic operations in the neighborhood. The school asks parents not to use residential driveways to turn around, and they have traffic monitors and signs to that effect. During Hexagon’s observations, no parents were observed using the residential driveways.

During the AM peak hour, there were a maximum of 17 vehicles using Alameda De Las Pulgas beyond the white painted loading zone to drop off students. The pick-up area was also very busy during the PM peak hour, with 17 vehicles parked along Alameda De Las Pulgas between the loading zone and the intersection with 22nd Avenue. There were multiple school staff members to help load cars and move

traffic. Drop-off and pick-up operations did not cause any operational issues for traffic on Alameda De Las Pulgas. Some vehicles were seen parking in the red zone to drop off and pick up students.

Parking Evaluation

The school provides 27 parking spaces at the site and 20 spaces at a leased off-site parking lot at 1900 Alameda De Las Pulgas for daytime staff parking. There are currently 47 school staff members. An on-site parking survey showed that there were 22 cars parked on site during the AM peak hour and 26 cars parked on site during the PM peak hour. The peak parking demand on site reflects an overall peak occupancy of nearly 76 percent in the AM peak hour and 90 percent in the PM peak hour.

For special events at night, the school parks vehicles on site in the lower playground area. This area can accommodate 30 cars. Thus, the total number of on-site spaces is 57 for night time special events (27 spaces in the regular parking lot + 30 spaces on the lower playground).

The school also has entered into a lease agreement with 1900 Alameda De Las Pulgas for overflow parking for night time special events that require more than 57 spaces. The lease agreement anticipates that there will be four such special events each year. The parking lots at 1900 Alameda De Las Pulgas can accommodate up to 370 cars. The school anticipates using no more than 150 of those spaces. They have 180 families enrolled at school. Assuming each family drives one car, they need 180 spaces. The school can provide 30 spaces in the lower playground area, which leaves a demand for 150 off-site spaces.

Impacts and Recommendations

The results of the traffic analysis for the proposed Carey School project indicate that there would be no adverse traffic impacts. The expansion in students and staff already has taken place, and the school operates without traffic or parking problems. The applicant's rigorous Traffic and Parking Plan (see Appendix) insures a minimum of traffic conflicts. Hexagon has the following recommendations to insure that traffic and parking continues to operate efficiently in the future.

- The red painted curb area on Alameda De Las Pulgas in front of the school should be painted white as an extension to the school loading zone, which will help facilitate loading. The red curb is no longer needed because the bus stop has moved to the north side of 20th Avenue.
- Signs should be installed along the cul-de-sac on La Salle Drive to indicate that cars should park parallel to the curb so that loading on La Salle is not impeded by perpendicularly parked vehicles. Although none were observed during our field visits, Hexagon has been advised that cars occasionally park head-in.
- The current staggered start times for the different grades should be maintained.
- The use of traffic monitors should be maintained to insure that drop-offs/pick-ups operate smoothly and safely and do not block driveways on La Salle Drive.
- The off-site parking lease with 1900 Alameda De Las Pulgas should be maintained.