

# SUMMIT SCHOOL PARKING STUDY

PREPARED FOR:  
SUMMIT PUBLIC SCHOOLS



DECEMBER 2018 | FINAL

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## 1. INTRODUCTION

This report documents the parking study conducted at five (5) existing Summit Public School campuses within the California Bay Area. The intent of this analysis is to identify parking conditions at the existing campus and the results of the evaluation can be used for estimating the future parking demand for the proposed Summit Denali High School campus in Sunnyvale, California.

### SUMMIT PUBLIC SCHOOL

Summit Public School has nine school locations around the San Francisco Bay Area. These schools have grade levels ranging from 6<sup>th</sup> to 12<sup>th</sup> grade. Of these nine schools, five schools were observed as a part of the parking study because they consist of high school enrollment and have self-contained off-street parking for the school. **Table 1** lists the location, grades, and student enrollment for the five schools that were observed.

**Table 1: Summit Public Schools Observed in Parking Study**

School	City	Grades	Total Student Enrolment
Summit K2	El Cerrito	7 - 12	400 (225 for Grades 9-12)
Summit Shasta	Daly City	9 - 12	445
Summit Everest	Redwood City	9 - 12	400
Summit Preparatory Charter High School (Summit Prep)	Redwood City	9 - 12	414
Summit Denali High (temporary site)	Sunnyvale	9 - 11	300

## 2. SUMMIT DENALI TEMPORARY SITE

Summit Denali High School is currently operating at a temporary location in Sunnyvale at the St. Cyprian Church (1133 Washington Avenue / 195 Leota Avenue). The school utilizes the parking lot on the northern portion of the site, as shown in **Figure 1**.

**Figure 1: Parking Area for Summit Denali High School**



At this temporary location, it was observed that most vehicles parked on campus were associated with school staff and faculty. It was observed that students mostly utilized alternative modes of transportation to travel to/from school, such as riding bicycles or being dropped off by their parents. During pick up and drop off hours, it was observed that most parents parked along the street adjacent to the school or parked in some parking spaces. Even at the maximum parking demand, less than half of the school parking lot was occupied. On-street parking was observed along Leota Avenue, but that parking was associated with Vargas Elementary school, located about 350 feet north of the Summit Denali temporary location.

### 3. PARKING OCCUPANCY STUDY

Kimley-Horn conducted parking occupancy counts in October 2018 for each school. The data was collected in the field on three consecutive days, Tuesday through Thursday, on a typical school week. Each day, counts were collected for two (2) hours in the morning, one (1) hour before to one (1) hour after the first bell, and two (2) hours in the afternoon, one (1) hour before to one (1) hour after the afternoon dismissal bell. The number of occupied parking spaces was observed in the field and recorded at 15-minute intervals during this two-hour period.

#### FIELD OBSERVATIONS

In addition to conducting parking occupancy for the school parking lots, parking-related activities were observed. Below are existing field observations that should be noted for each school.

**Summit K2** has one parking lot located southwest of the school building. Additional parking is available near the entrance of the school, which consists of temporary parking spaces for drop-off/pick-up activities. It was observed that no student or school staff/faculty parked along the adjacent street.

**Summit Shasta** has one parking lot located south of the school building. On-street parking was observed near the school, but parked vehicles were associated with the apartment complex located across the street or with a construction site near the school.

**Summit Everest** has one parking lot located south of the school building. It was observed that only three to five school staff would park along Fifth Avenue. After discussion with the Summit Public School, these staff were identified as being staff from Summit Public School central and not staff for Summit Everest. No students were observed to park along the adjacent streets.

**Summit Prep** has two locations for school parking. Majority of parking is located within the school parking garage and additional parking is located in a surface lot west of the school building. On-street parking was observed near the school, but parked vehicles were associated with the 24 Hour Fitness Center located across the street. It was observed that the majority of students were drop-off/pick-up.

**Summit Denali** has one parking lot located north of the school building. As mentioned previously, it was observed that half of the parking lot was utilized throughout the day. On-street parking was observed near the school, but parked vehicles were associated with Vargas Elementary School.

#### PARKING OCCUPANCY

**Table 2** summarizes the number of available parking spaces and maximum observed parking occupancy for each school. Schools that meet or exceeded “practical capacity” are shaded. Practical capacity, generally 85 – 95 percent occupancy, is a balance point between parking supply and demand. If parking demand is greater than practical capacity, it may be difficult for drivers to find available parking. For this study, a practical capacity of 90 percent was used.

The maximum observed parking occupancy exceeded 90 percent practical capacity at Summit K2, Summit Shasta, and Summit Everest. It would be expected these schools would have higher parking occupancies because of their lower available parking supply for school staff, faculty, and students.

**Table 2: Maximum Parking Occupancy Summary**

School	Total Available Parking Spaces	Maximum Occupied Parking Spaces	Maximum % Occupancy
Summit K2	60	56	93%
Summit Shasta	49	47	96%
Summit Everest	40	40	100%
Summit Prep	79	61	77%
Summit Denali High	103	31	30%

Note: Shaded cells indicate schools that exceeded a practical capacity of 90 percent.

**Table 3** through **Table 7** present the number of occupied parking spaces and parking occupancy during each time interval for each of the schools, with timeslots meeting or exceeding “practical capacity” (90%) being shaded.

At all schools except for Summit Everest, the observed parking occupancy is below practical capacity during the morning peak period, which would be the parking needed for school staff, faculty, and students during the school day. During the afternoon period, the maximum occupancy was observed around the time when the afternoon dismissal bell occurred. This peak in parking occupancy in the afternoon can be attributed to parents arriving early to pick up students and parking to wait for the dismissal bell. The parking occupancy at Summit Everest is at near full capacity during school hours due to the limited parking supply of 40 spaces for school faculty, staff, and students.

**Table 3: Summit K2 Parking Occupancy**

Time	Summit K2 (60 Available Spaces)							
	Tuesday		Wednesday		Thursday		Maximum	
	Spaces Occupied	% Occupied	Spaces Occupied	% Occupied	Spaces Occupied	% Occupied	Spaces Occupied	% Occupied
7:00 AM	3	5%	5	8%	2	3%	5	8%
7:15 AM	5	8%	7	12%	5	8%	7	12%
7:30 AM	10	17%	12	20%	11	18%	12	20%
<b><u>7:45 AM</u></b>	19	32%	25	42%	19	32%	25	42%
8:00 AM	30	50%	32	53%	33	55%	33	55%
8:15 AM	33	55%	34	57%	34	57%	34	57%
8:30 AM	37	62%	34	57%	34	57%	37	62%
8:45 AM	37	62%	35	58%	35	58%	37	62%
9:00 AM	37	62%	35	58%	35	58%	37	62%
2:30 PM	49	82%	48	80%	44	73%	49	82%
2:45 PM	53	88%	54	90%	49	82%	54	90%
3:00 PM	56	93%	56	93%	51	85%	56	93%
<b><u>3:15 PM</u></b>	56	93%	56	93%	56	93%	56	93%
3:30 PM	53	88%	51	85%	53	88%	53	88%
3:45 PM	41	68%	41	68%	42	70%	42	70%
4:00 PM	42	70%	34	57%	38	63%	42	70%
4:15 PM	44	73%	32	53%	36	60%	44	73%
4:30 PM	44	73%	29	48%	35	58%	44	73%

Note:

Time interval with either morning first bell or afternoon dismissal is **bolded and underlined**.  
Time periods that exceed practical occupancy (90%) are shaded.



**Table 4: Summit Shasta Parking Occupancy**

Time	Summit Shasta (49 Available Spaces)							
	Tuesday		Wednesday		Thursday		Maximum	
	Spaces Occupied	% Occupied	Spaces Occupied	% Occupied	Spaces Occupied	% Occupied	Spaces Occupied	% Occupied
7:20 AM	11	22%	9	18%	14	29%	14	29%
7:35 AM	16	33%	14	29%	17	35%	17	35%
7:50 AM	21	43%	18	37%	20	41%	21	43%
<b><u>8:05 AM</u></b>	26	53%	29	59%	33	67%	33	67%
8:20 AM	31	63%	35	71%	37	76%	37	76%
8:35 AM	31	63%	34	69%	39	80%	39	80%
8:50 AM	32	65%	33	67%	39	80%	39	80%
9:05 AM	33	67%	35	71%	38	78%	38	78%
9:20 AM	34	69%	35	71%	37	76%	37	76%
2:30 PM	34	69%	36	73%	31	63%	36	73%
2:45 PM	34	69%	34	69%	32	65%	34	69%
3:00 PM	37	76%	35	71%	35	71%	37	76%
<b><u>3:15 PM</u></b>	42	86%	41	84%	34	69%	42	86%
3:30 PM	44	90%	39	80%	39	80%	44	90%
3:45 PM	29	59%	23	47%	35	71%	35	71%
4:00 PM	32	65%	21	43%	39	80%	39	80%
4:15 PM	27	55%	19	39%	44	90%	44	90%
4:30 PM	25	51%	16	33%	47	96%	47	96%

Note:

Time interval with either morning first bell or afternoon dismissal is **bolded and underlined**.

Time periods that exceed practical occupancy (90%) are shaded.

Table 5: Summit Everest Parking Occupancy

Time	Summit Everest (40 Available Spaces)							
	Tuesday		Wednesday		Thursday		Maximum	
	Spaces Occupied	% Occupied	Spaces Occupied	% Occupied	Spaces Occupied	% Occupied	Spaces Occupied	% Occupied
7:15 AM	11	28%	14	35%	14	35%	14	35%
7:30 AM	16	40%	19	48%	16	40%	19	48%
7:45 AM	26	65%	28	70%	23	58%	28	70%
<b><u>8:00 AM</u></b>	31	78%	34	85%	34	85%	34	85%
8:15 AM	35	88%	39	98%	37	93%	39	98%
8:30 AM	35	88%	39	98%	37	93%	39	98%
8:45 AM	38	95%	38	95%	38	95%	38	95%
9:00 AM	38	95%	39	98%	38	95%	39	98%
9:15 AM	38	95%	38	95%	38	95%	38	95%
2:20 PM	32	80%	38	95%	37	93%	38	95%
2:35 PM	34	85%	38	95%	37	93%	38	95%
2:50 PM	34	85%	38	95%	37	93%	38	95%
<b><u>3:05 PM</u></b>	36	90%	38	95%	38	95%	38	95%
3:20 PM	40	100%	38	95%	38	95%	40	100%
3:35 PM	29	73%	29	73%	32	80%	32	80%
3:50 PM	25	63%	18	45%	33	83%	33	83%
4:05 PM	26	65%	19	48%	35	88%	35	88%
4:20 PM	26	65%	22	55%	33	83%	33	83%

Note:

Time interval with either morning first bell or afternoon dismissal is **bolded and underlined**.

Time periods that exceed practical occupancy (90%) are shaded.

**Table 6: Summit Prep Parking Occupancy**

Time	Summit Prep (79 Available Spaces)							
	Tuesday		Wednesday		Thursday		Maximum	
	Spaces Occupied	% Occupied	Spaces Occupied	% Occupied	Spaces Occupied	% Occupied	Spaces Occupied	% Occupied
7:15 AM	4	5%	3	4%	-	-	4	5%
7:30 AM	8	10%	6	8%	2	3%	8	10%
7:45 AM	16	20%	10	13%	10	13%	16	20%
<b><u>8:00 AM</u></b>	27	34%	24	30%	23	29%	27	34%
8:15 AM	43	54%	45	57%	36	46%	45	57%
8:30 AM	54	68%	52	66%	42	53%	54	68%
8:45 AM	58	73%	56	71%	51	65%	58	73%
9:00 AM	59	75%	60	76%	54	68%	60	76%
9:15 AM	59	75%	61	77%	54	68%	61	77%
2:20 PM	60	76%	53	67%	49	62%	60	76%
2:35 PM	59	75%	54	68%	50	63%	59	75%
2:50 PM	59	75%	52	66%	48	61%	59	75%
<b><u>3:05 PM</u></b>	60	76%	52	66%	47	59%	60	76%
3:20 PM	57	72%	52	66%	52	66%	57	72%
3:35 PM	34	43%	29	37%	29	37%	34	43%
3:50 PM	29	37%	25	32%	27	34%	29	37%
4:05 PM	28	35%	20	25%	27	34%	28	35%
4:20 PM	28	35%	17	22%	27	34%	28	35%

Note:

Time interval with either morning first bell or afternoon dismissal is **bolded and underlined**.

Time periods that exceed practical occupancy (90%) are shaded.

Counts during the Thursday 7:15 AM interval was not recorded because the school parking lot was closed.

**Table 7: Summit Denali High Parking Occupancy**

Time	Summit Denali High (103 Available Spaces)							
	Tuesday		Wednesday		Thursday		Maximum	
	Spaces Occupied	% Occupied	Spaces Occupied	% Occupied	Spaces Occupied	% Occupied	Spaces Occupied	% Occupied
7:30 AM	7	7%	6	6%	5	5%	7	7%
7:45 AM	11	11%	9	9%	7	7%	11	11%
8:00 AM	15	15%	12	12%	10	10%	15	15%
<b><u>8:15 AM</u></b>	26	25%	24	23%	21	20%	26	25%
8:30 AM	28	27%	27	26%	29	28%	29	28%
8:45 AM	29	28%	27	26%	30	29%	30	29%
9:00 AM	28	27%	27	26%	30	29%	30	29%
9:15 AM	28	27%	27	26%	30	29%	30	29%
9:30 AM	29	28%	29	28%	31	30%	31	30%
2:40 PM	27	26%	27	26%	29	28%	29	28%
2:55 PM	28	27%	28	27%	30	29%	30	29%
3:10 PM	31	30%	30	29%	32	31%	32	31%
<b><u>3:25 PM</u></b>	34	33%	32	31%	37	36%	37	36%
3:40 PM	40	39%	41	40%	42	41%	42	41%
3:55 PM	22	21%	23	22%	24	23%	24	23%
4:10 PM	21	20%	19	18%	27	26%	27	26%
4:25 PM	19	18%	16	16%	25	24%	25	24%
4:40 PM	21	20%	16	16%	27	26%	27	26%

Note:

Time interval with either morning first bell or afternoon dismissal is **bolded and underlined**.

Time periods that exceed practical occupancy (90%) are shaded.

## 4. PARKING DEMAND ANALYSIS

A parking demand rate for schools was calculated based on the student enrollment and the observed parking occupancy at each school. To be conservative, the maximum number of occupied spots at any given time were used for the parking demand. For all schools, the maximum number of occupied spots occurred during the afternoon dismissal period and includes the maximum number of staff/faculty and students parked during the school day and the addition of temporarily parked vehicles associated with parents picking-up students. **Table 8** summarizes the parking rates for each school and a weighted average for all schools combined.

**Table 8: School Parking Demand Rate**

School	Student Enrollment	Maximum Occupied Parking Spaces	Parking Demand Rate
Summit K2	400	56	0.14
Summit Shasta	445	47	0.11
Summit Everest	400	40	0.10
Summit Prep	414	61	0.15
Summit Denali High	300	42	0.14
<b>Weighted Average</b>			<b>0.13</b>

The observed parking rates for the schools were compared to parking rates listed in the Sunnyvale Municipal Code (SMC) and the parking rates listed in the Institute of Transportation Engineers (ITE) *Parking Generation, 4<sup>th</sup> Edition*, and are summarized in **Table 9**. For a High School land use, the SMC requires 0.25 spaces per student. For ITE Land Use 530 (High School), the average parking rate for a suburban high school is 0.23 spaces per student. As shown in **Table 9**, the maximum parking rate, weighted average parking rate, and Summit Denali parking rate are less than the parking rates in ITE *Parking Generation* and in the SMC.

**Table 9: Parking Rate Comparison**

Source	Parking Demand Rate
Summit School (Maximum)	0.15
Summit School (Weighted Average)	0.13
Summit School (Denali High)	0.14
Sunnyvale Municipal Code	0.25
ITE Parking Generation	0.23

## 5. CONCLUSION

Kimley-Horn conducted a parking study to determine an average parking demand rate for the Summit Public School high schools to be used to estimate the parking at the proposed new charter high school in Sunnyvale, California. Kimley-Horn conducted a parking occupancy study at five schools and calculated the parking demand rates based on the maximum observed occupancy and student enrollment at each school. The school parking demand for the school was compared to the parking demand rate for ITE Land Use 530 (High School) in *ITE Parking Generation, 4<sup>th</sup> Edition* and in the Sunnyvale Municipal Code. Based on the results of the parking study, on average Summit Schools need 0.13 spaces per student, which is less than the national value in *ITE Parking Generation* of 0.23 parking spaces per student and less than the 0.25 parking spaces per student required by Sunnyvale Municipal Code.