



Technical Memorandum

Date: September 29, 2017

To: Carly Panos
Assistant Planner/Community Development
City of Mountain View
Email: Carly.Panos@mountainview.gov

Project No.: 138-053

From: Nayan Amin, T.E.
Project Manager

Jurisdiction: Mountain View

Subject: ***Parking Demand and Trip Generation Study for Proposed Hotel Expansion located at 840 East El Camino Real in the City of Mountain View***

The purpose of this memorandum is to present the analysis results for parking demand and trip generation at the proposed hotel expansion located at 840 East El Camino Real in the City of Mountain View. The project proposes to expand the existing 160-room hotel to add approximately 18,748 square feet, including 40 guest rooms and 4,421 square feet of leasable restaurant space. The restaurant space would be for a standalone full service restaurant. Projected parking demand for the project is based on parking demand at similar hotel uses and the City of Mountain View zoning ordinance. Parking demand estimates were used to determine whether the proposed project will require more parking than the current supply of 149 spaces. Trip generation for the proposed project was also calculated for use in a future transportation impact study.

Parking Demand

Based on rates published by the Institute of Transportation Engineers (ITE) in *Parking Generation (4th Edition)*, the average peak period parking demand for suburban hotels is 0.89 spaces per occupied room on a weekday (Hotel, ITE Code 310). Based on ITE rates, the peak parking demand for the project would be 178 spaces at 100 percent occupancy, compared with the 149 currently proposed. Based on the proposed site plan, which indicates a total of 149 spaces, the proposed parking supply would serve an occupancy of 84 percent as per the ITE standards. It should be noted that these average rates consider a wide variety of suburban hotels and thus may not accurately reflect parking demand at hotels in Mountain View that cater primarily to business travelers.

TJKM surveyed parking demand at three hotel/retail/restaurant locations with a similar mix of uses and shared, free parking supply, along El Camino Real in Mountain View. Two of the three hotels surveyed were mixed use, including one with a freestanding full-service restaurant serving

breakfast, lunch, and dinner. Survey results are attached in **Appendix A**. Although these hotels are representative of hotels in the area and similar to the proposed expanded hotel, the parking surveys were ultimately omitted from this analysis. Room occupancy figures are generally considered proprietary information and were unavailable for the dates surveyed for any of the three hotels. Parking demand is generally calculated based on the number of occupied rooms rather than the total number of rooms in a hotel, avoiding the confounding factor of hotel occupancy fluctuations. As such, parking demand rates calculated from the surveyed parking occupancy are not directly comparable to other sources such as ITE.

TJKM also conducted parking occupancy counts at the project hotel on September 5th 2017 and observed that the parking demand per occupied room was 0.77. These survey results are also included in **Appendix A**. Based on the occupancy rate per room of 0.77 the proposed hotel requires 154 parking spaces at 100 percent occupancy; the project proposes 149 spaces. This corresponds to an occupancy of 97 percent, well above the industry peak average of about 85 percent occupancy (source: *ITE Parking Generation*). The project applicant has reported that the existing hotel has experienced a peak occupancy of 88 percent, with the average over four years of 77.5 percent. In addition, many hotel guests are business people who have arrived from out of town, frequently by air or transit. Recent trends are for hotel guests either to arrive by carpool in rented cars or to utilize taxicabs, Uber, or Lyft. These trends reduce parking demand. This information supports the change from ITE's older demand rates of 0.89 parked vehicles per occupied room to the current observation of 0.77. With a transportation demand management program proposed for the hotel, there should be no parking capacity issues, even in the rare event of 100 percent hotel occupancy.

The experience of TJKM is that many parking ordinances do not account for the fact that different functions within a hotel peak at different times of the day. For example, most employees are on duty during mid-day periods such as 9 a.m. to 4 p.m., when the majority of guests are off site. Also, hotels experience their peak occupancy between 11 p.m. and 6 a.m. when most guests are present. However, during this time, there are usually no restaurant patrons, either from hotel guests or even from off the premises. Therefore, there is no reason to consider separate parking for most restaurants since they can utilize the spaces that guests will occupy after the restaurant is closed.

The City of Mountain View zoning ordinance requires that hotels provide one space per room, one space per two employees, and any parking required for ancillary uses. This would be one space for each 100 square feet of gross floor area for restaurants. The zoning ordinance would require 40 new spaces for the expanded hotel (assuming no additional hotel staff) and 44 additional parking spaces (i.e., $4,421/100 = 44$) for the attached restaurant use, for a total of 84 new spaces. This requirement is higher than the hotel parking demand rate above would generally indicate. Depending on the number of restaurant trips made by hotel guests, the actual parking demand of the project may be significantly lower than the zoning ordinance would require.

Trip Generation

Project trips were estimated based on *Trip Generation (9th Edition)*, published by the Institute of Transportation Engineers (ITE) and the City of Mountain View TDM Trip Reduction Summary (2030 General Plan, table IV.C-1). Trips were estimated using trip generation rates for Hotel (ITE Code 310) and High-Turnover (Sit-Down) Restaurant (ITE Code 932) land uses. Trip generation rates will be used as part of the transportation impact study (TIS) to be completed in the future. Trip reductions were calculated to account for the planned TDM program and passer by trip discount as per ITE. The TDM trip reduction is based on a generic TDM program implemented in this portion of Mountain View and not on the specific plan proposed for this project. To be conservative, TJKM assumed that no restaurant trips are made by hotel guests. The proposed project is expected to generate 858 net additional daily trips, including 66 net additional trips during the a.m. peak hour and 47 net additional trips during the p.m. peak hour. Trip generation calculations are presented in **Table 1** below.

The City has made the implementation of a TDM program a condition of approval for the proposed project. TJKM has reviewed the proposed TDM plan and determined that it would include all major transportation demand strategies that are applicable to this development. Based on this review, the proposed TDM plan is likely to perform at least as well as a generic TDM plan in this portion of Mountain View and thus reduce peak hour trips by at least 3.9 percent and daily trips by at least 1.1 percent. City staff will also review the TDM program to determine if it is adequate to meet the 3.9 percent trip reduction included in this trip generation.

Conclusion

Both ITE parking demand rates and parking demand observations at the project hotel suggest that the City of Mountain View zoning ordinance overestimates parking requirements for developments like the proposed project. This is likely due to differences between current transportation conditions in Mountain View and those in an older, generic suburban context, TJKM concludes that the ITE parking demand rate also likely overestimates parking demand and requirements for business hotels and should not be used to determine parking requirements. Based on parking demand rates observed at this hotel prior to expansion, the proposed parking supply of 149 spaces would serve a hotel occupancy of 97 percent. With a new transportation demand management program proposed for the hotel as well, there should be no parking capacity issues, even in the rare event of 100 percent hotel occupancy.

Based on ITE trip generation rates and implementation of a TDM plan, the proposed project is expected to generate 858 net additional daily trips, including 66 in the a.m. peak hour and 47 in the p.m. peak hour.

Table 1. Proposed Project Trip Generation

Proposed Land Uses (ITE Code)	Building Area	Units	Daily		AM Peak					PM Peak						
			Rate	Trips	Rate	In %	Out %	In	Out	Total	Rate	In %	Out %	In	Out	Total
Hotel (310)	40	rooms	8.17	327	0.53	59	41	13	9	21	0.60	51	49	12	12	24
High Turnover (Sit-Down) Restaurant (ITE Code 932)	4.4	k.s.f	127.15	559	10.81	55	45	26	21	48	9.85	60	40	26	17	43
Grand Total				886				39	30	69				38	29	68
TDM Measure Reduction, 3.9%¹				10				2	1	3				1	1	3
Peak Hour Pass by Trip Reduction (ITE), 43%²				19										11	7	19
Net Total Trips				858				37	29	66				26	21	47

Notes:

Source - ITE Trip Generation Manual, 9th Edition (2012).

Rates per room for hotel use; per 1,000 s.f for restaurant use.

¹TDM Measure Reduction, 3.9% peak hour/1.1% daily based on City of Mountain View TDM Trip Reduction Summary.

²ITE Pass-by reduction rate of 43% for High Turnover (Sit-Down) Restaurant (ITE Code 932).



VISION THAT MOVES YOUR COMMUNITY

Appendix A

Parking Demand Survey Results

Crestview Hotel - 901 E El Camino Real, Mountain View, CA 94040

Total rooms: 64

Sunday 07/02/2017		Monday 07/03/2017		Wednesday 07/05/2017	
Time	Parking Occupied	Time	Parking Occupied	Time	Parking Occupied
6:00 AM	25	6:00 AM	9	6:00 AM	19
7:00 AM	23	7:00 AM	9	7:00 AM	16
8:00 AM	21	8:00 AM	11	8:00 AM	15
6:00 PM	18	6:00 PM	15	6:00 PM	22
7:00 PM	19	7:00 PM	18	7:00 PM	20
8:00 PM	14	8:00 PM	20	8:00 PM	18
10:00 PM	21	10:00 AM	23	10:00 AM	16
11:00 PM	27	11:00 AM	21	11:00 AM	21
Maximum	27		23		22

Hotel Strata - 93 W El Camino Real, Mountain View, CA 94040

Total rooms: 58

Sunday 07/02/2017		Monday 07/03/2017		Wednesday 07/05/2017	
Time	Parking Occupied	Time	Parking Occupied	Time	Parking Occupied
6:00 AM	20	6:00 AM	20	6:00 AM	19
7:00 AM	23	7:00 AM	20	7:00 AM	18
8:00 AM	21	8:00 AM	22	8:00 AM	21
6:00 PM	24	6:00 PM	33	6:00 PM	15
7:00 PM	21	7:00 PM	35	7:00 PM	18
8:00 PM	28	8:00 PM	29	8:00 PM	21
10:00 PM	35	10:00 AM	26	10:00 AM	22
11:00 PM	38	11:00 AM	25	11:00 AM	24
Maximum	38		35		24

Residence Inn by Marriott - 1854 W El Camino Real, Mountain View, CA 94040

Total rooms: 140

Sunday 07/02/2017		Monday 07/03/2017		Wednesday 07/05/2017	
Time	Parking Occupied	Time	Parking Occupied	Time	Parking Occupied
6:00 AM	90	6:00 AM	70	6:00 AM	72
7:00 AM	85	7:00 AM	67	7:00 AM	65
8:00 AM	81	8:00 AM	60	8:00 AM	59
6:00 PM	33	6:00 PM	35	6:00 PM	36
7:00 PM	35	7:00 PM	45	7:00 PM	45
8:00 PM	39	8:00 PM	55	8:00 PM	51
10:00 PM	71	10:00 AM	62	10:00 AM	70
11:00 PM	86	11:00 AM	70	11:00 AM	78
Maximum	90		70		78

Hilton Garden Inn - 840 E El Camino Real, Mountain View, 94040

Tuesday 09/05/2017

	Total	Peak Occupancy	Occupancy Rate
Rooms	160	108	68%
Parking Stalls	149	84	56%
Parking Demand		0.77	