Appendix K
Alternatives Transportation Impact Analysis

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Memorandum

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To: Michael Kay, ATKINS

From: Gary Black

Subject: 300 Airport Alternatives

Hexagon compared the two alternatives with the 300 Airport proposed project. Table 1 shows the project trip generation estimates for the different alternatives based on trip rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation*, Eighth Edition. Trip reductions were applied to both build alternatives to reflect a potential travel demand management (TDM) program that would be similar to the proposed project. Also, similar trip reductions were taken for internal trips for the amenities center, retail, and restaurant uses.

Based on the ITE rates for each proposed land use, the Existing Zoning Alternative would generate 590 trips during the AM peak hour and 573 trips during the PM peak hour, which are both lower compared to the proposed project. The Office/Hotel Alternative would generate 665 trips during the AM peak hour and 667 trips during the PM peak hour, which are also lower than the proposed project.

Assuming that the project trips for the two build alternatives will following the same trip distribution patterns as the 300 Airport Boulevard project, traffic conditions at the study intersections were evaluated under both alternatives based on a qualitative analysis compared to the project level LOS results.

Existing Plus Project Volumes and Intersection Levels of Service

Since both build alternatives would generate fewer trips compared to project, most of the study intersections would continue to operate at LOS D or better during both peak hours. The unsignalized intersection of Amphlett Boulevard/Poplar Avenue has operational problems under existing conditions. Either alternative would add traffic to this intersection.

Existing Plus Project Freeway Ramp Analysis

With the addition of traffic generated by either build alternative, the freeway ramps would continue to operate at acceptable levels.

Existing Plus Project Freeway Segment Analysis

By factoring down the results from the 300 Airport Boulevard project based on the project trip generation, the Existing Zoning Alternative would have a significant impact on three freeway segments, as follows:

- US 101, northbound, between Peninsula Avenue and SR 92 – AM peak hour
- US 101, southbound between Whipple Avenue and the Santa Clara County line – PM peak hour
- SR 92, eastbound between I-280 and US 101 – AM & PM peak hour

The Office/Hotel Alternative would result in impacts to four freeway segments, as follows:

- US 101, southbound between Millbrae Avenue and Broadway – AM peak hour
- US 101, northbound, between Peninsula Avenue and SR 92 – AM peak hour
- US 101, southbound between Whipple Avenue and the Santa Clara County line –PM peak hour
- SR 92, eastbound between I-280 and US 101 – AM & PM peak hour

Conclusions

Under either the Existing Zoning Alternative or the Office/Hotel Alternative, the unsignalized intersection of Amphlett Boulevard/Poplar Avenue would continue to operate at LOS F during both AM and PM peak hours. Either alternative would add traffic to the intersection. The City of San Mateo does not have level of service standards or an impact threshold for unsignalized intersections. Therefore, the addition of traffic is not considered a significant impact under CEQA. However, just like the project, the two alternatives would add traffic to an intersection that has operational problems under existing conditions.

With the addition of traffic generated by either build alternative, the freeway ramps would continue to operate at acceptable levels.

The Existing Zoning Alternative would add trips equal to one percent or more of the freeway's capacity to three study segments currently operating at an unacceptable level of service during at least one peak hour.

The Office/Hotel Alternative would add trips equal to one percent or more of the freeway's capacity to four study segments currently operating at an unacceptable level of service during at least one peak hour.

Table 1

Project Trip Generation Estimates for Different Alternatives

Land Use	Size		Daily Rate	Daily Trips	AM Peak Hour Peak-Hour Rate	AM In	AM Out	AM Total Trips	PM Peak Hour Peak-Hour Rate	PM In	PM Out	PM Total Trips
300 Airport Blvd Project												
Office[1]	690	ksf	8.56	5,902	1.27	774	106	879	1.23	145	707	851
Day Care[2]	8	ksf	79.26	634	12.25	52	46	98	12.50	47	53	100
Internal Reduction			*50%*	*317*	*50%*	*26*	*23*	*49*	*50%*	*24*	*27*	*50*
Health Club[3]	25	ksf	32.93	836	1.38	16	19	35	3.53	51	39	90
Internal Reduction			*50%*	*418*	*50%*	*8*	*10*	*18*	*50%*	*26*	*19*	*45*
Retail[4]	19	ksf	42.94	826	1.00	12	7	19	3.73	35	37	72
Internal Reduction			*50%*	*413*	*50%*	*6*	*4*	*10*	*50%*	*18*	*18*	*36*
Restaurant[5]	25	ksf	127.15	3,123	11.52	147	136	283	11.15	162	112	274
Internal Reduction			*50%*	*1,561*	*50%*	*74*	*68*	*141*	*50%*	*81*	*56*	*137*
Hotel[6]	0	rooms	8.17	0	0.56	0	0	0	0.59	0	0	0
TDM Reduction			*8% of office*	*450*	*13% of office*	*101*	*14*	*114*	*13% of office*	*19*	*92*	*111*
Total				**8,162**		**786**	**196**	**983**		**273**	**735**	**1,008**
Existing Zoning Alternative												
Office[1]	451	ksf	9.44	4,253	1.39	551	75	626	1.29	99	484	584
Day Care[2]	6	ksf	79.26	437	12.26	36	32	68	12.46	32	36	69
Internal Reduction			*50%*	*218*	*50%*	*18*	*16*	*34*	*50%*	*16*	*18*	*34*
Health Club[3]	18	ksf	32.93	578	1.38	11	13	24	3.53	35	27	62
Internal Reduction			*50%*	*289*	*50%*	*5*	*7*	*12*	*50%*	*18*	*13*	*31*
Retail[4]	0	ksf	42.94	0	1.00	0	0	0	3.73	0	0	0
Internal Reduction			*50%*	*0*	*50%*	*0*	*0*	*0*	*50%*	*0*	*0*	*0*
Restaurant[5]	0	ksf	127.15	0	11.52	0	0	0	11.15	0	0	0
Internal Reduction			*50%*	*0*	*50%*	*0*	*0*	*0*	*50%*	*0*	*0*	*0*
Hotel[6]	0	rooms	8.17	0	0.56	0	0	0	0.59	0	0	0
TDM Reduction			*7% of office*	*314*	*13% of office*	*72*	*10*	*81*	*13% of office*	*13*	*63*	*76*
Total				**4,446**		**502**	**88**	**590**		**120**	**453**	**573**
Office/Hotel Alternative												
Office[1]	428	ksf	9.55	4,089	1.40	529	72	601	1.30	95	464	559
Day Care[2]	9	ksf	79.26	702	12.26	58	51	109	12.46	52	59	110
Internal Reduction			*50%*	*351*	*50%*	*29*	*26*	*54*	*50%*	*26*	*29*	*55*
Health Club[3]	28	ksf	32.93	929	1.38	18	21	39	3.53	57	43	100
Internal Reduction			*50%*	*465*	*50%*	*9*	*11*	*19*	*50%*	*28*	*21*	*50*
Retail[4]	7	ksf	42.94	321	1.00	5	3	7	3.73	14	14	28
Internal Reduction			*50%*	*160*	*50%*	*2*	*1*	*4*	*50%*	*7*	*7*	*14*
Restaurant[5]	11	ksf	127.15	1,424	11.52	67	62	129	11.15	74	51	125
Internal Reduction			*50%*	*712*	*50%*	*34*	*31*	*65*	*50%*	*37*	*26*	*62*
Hotel[6]	425	rooms	8.17	3,472	0.56	145	93	238	0.59	133	118	251
TDM Reduction			*7% of office*	*301*	*13% of office*	*69*	*9*	*78*	*13% of office*	*12*	*60*	*73*
Total				**5,476**		**533**	**131**	**665**		**181**	**487**	**667**

1. Institute of Transportation Engineers, *Trip Generation* , 8th Edition. General Office Building (710).
2. Institute of Transportation Engineers, *Trip Generation* , 8th Edition. Day Care Center (565).
3. Institute of Transportation Engineers, *Trip Generation* , 8th Edition. Health/Fitness Club (492).
4. Institute of Transportation Engineers, *Trip Generation* , 8th Edition. Shopping Center (820).
5. Institute of Transportation Engineers, *Trip Generation* , 8th Edition. High-Turnover (Sit-Down) Restaurant (932).
6. Institute of Transportation Engineers, *Trip Generation* , 8th Edition. Hotel (310).