



HEXAGON TRANSPORTATION CONSULTANTS, INC.

Memorandum

Date: December 8, 2016
To: Terri McCracken of Place Works
From: Kai-Ling Kuo, Gary Black
Subject: Cumulative Traffic Impact Analysis for Butcher's Corner Development Project

The memorandum presents the results of a new cumulative traffic impact analysis that has been conducted in addition to the cumulative analysis presented in the traffic impact analysis (TIA) report for the Project's DEIR. The Sunnyvale Planning Commission requested a re-examination of cumulative traffic impacts based on a more current project list, in order to determine if the cumulative traffic growth assumed in the TIA sufficiently accounts for development projects proposed since December 2014.

The results of the analysis indicate that the cumulative trips generated by the additional projects would not cause any new traffic impacts beyond those already identified in the EIR.

Additional Projects

Based on the most recent project list provided by the City on November 30, 2016 and the comments for the DEIR, the following additional projects are identified to potentially add considerable trips to the study intersections and are included in the cumulative trip estimates. The cumulative trips generated by these projects were obtained from the projects' TIAs or estimated by the Hexagon staff if the traffic studies were not available.

Sunnyvale Projects:

- 725 S Fair Oaks Ave
- 777 Sunnyvale-Saratoga Rd
- 845 W Maude Ave
- 615 N Mathilda Ave
- 221 N Mathilda Ave
- 610 N Mary Ave
- 684 W Maude Ave
- 1120 Kifer Rd
- 1050 Kifer Rd
- 520 Almanor Ave
- 803 W El Camino Real
- 265 Sobrante Way
- 840 W. California Ave
- 954 Henderson Ave
- 900 Henderson Ave
- 1008 E El Camino Real
- 1313 S Wolfe Rd
- 830 E El Camino Real
- 150 Aries Way

Projects outside of Sunnyvale:

- 3610 & 3700 El Camino Real (Gateway Village in Santa Clara)
- 3501 El Camino Real (Lawrence Square in Santa Clara)
- 19500 Pruneridge Ave (Hamptons Apartments in Cupertino)
- Cupertino Village
- Hyatt House Hotel in Cupertino
- Cupertino Main Street

Attachment 1 summarizes the status of these additional projects and how project trips were estimated. Attachment 5 presents the list of projects that were considered in the TIA and this cumulative analysis.

Cumulative Trip Comparison

The trips generated by the additional projects were compared to the cumulative growth trips calculated using the growth rates in the TIA. Attachment 2 summarizes the total cumulative trips from new projects, Attachment 3 summarizes cumulative growth trips assumed in the TIA, and Attachment 4 shows the cumulative trip differences ("cumulative growth trips" minus "total new cumulative trips"). Table 1 summarizes the total entering trips at each study intersection and the trip difference.

Table 1
Comparison of Cumulative Trip Estimates

No. Intersection	Cumulative Growth Trips in TIA		Cumulative Trips from New Projects		Trip Difference (Cumulative Growth minus New Project Trips)	
	AM	PM	AM	PM	AM	PM
1 Wolfe Rd & Homestead Rd	735	786	289	455	446	331
2 Wolfe Rd & Fremont Ave	705	845	248	297	457	548
3 Wolfe Rd & El Camino Real (SR 82)	959	1,181	635	600	324	581
4 Wolfe Rd & Old San Francisco Rd/Reed Ave	679	864	144	162	535	702
5 Kingfisher Way & Fremont Ave	313	374	30	40	283	334
6 Fieldfair Dr/Rembrandt Dr & Fremont Ave	336	366	30	40	306	326
7 Bobwhite Ave/Manet Dr & Fremont Ave	382	411	30	40	352	371
8 Sunnyvale-Saratoga Ave & Homestead Rd	1,292	1,365	266	266	1,026	1,099
9 Sunnyvale-Saratoga Rd & Fremont Ave	1,168	1,196	459	433	709	763
10 Sunnyvale-Saratoga Ave & Remington Dr	981	1,042	505	464	476	578
11 Mathilda Ave & El Camino Real (SR 82)	1,029	1,309	1,110	1,003	-81	306

The analysis shows that the cumulative growth assumed in the TIA is more than enough to cover the trips from new developments, except at the Mathilda Avenue/El Camino Real intersection. At this intersection, the TIA cumulative growth trips are 81 trips fewer than the new cumulative trips in the AM peak hour, which is only 1.3% of the intersection volume (6,072) under cumulative plus project conditions.

To confirm that the additional 81 trips would not result in a new significant traffic impact at this intersection, a level of service analysis was conducted for cumulative conditions in the AM peak hour using the new estimate of cumulative trips (by replacing the cumulative growth trips used in the TIA). The level of service results show that the intersection would continue to operate at LOS D under both no-project and project cumulative conditions, which is better than the acceptable level of service standard of LOS E for the intersection.

Therefore, the cumulative trips generated by the additional new projects would not cause any new traffic impacts beyond those already identified in the EIR.

Attachments

Attachment 1 - New Projects for Cumulative Analysis

Attachment 2 - Total New Cumulative Project Trips

Attachment 3 - Cumulative Growth Trips Assumed in TIA

Attachment 4 - Cumulative Trip Difference (TIA Cumulative Growth minus New Cumulative Trips)

Attachment 5 - Butcher's Corner Cumulative Project List

Attachment 1 - New Projects for Cumulative Analysis

Sunnyvale Projects have TIA

Project Type	Planning Permit File No.	Address	Planning Permit Status	Trip Estimate Method
Commercial	2015-7303	725 S Fair Oaks Ave	Approved	Project TIA (Kimly Horn)
Commercial	2015-7399	777 Sunnyvale-Saratoga Rd	Approved	Project TIA (Kimly Horn)
Industrial	2015-7539	845 W Maude Ave	Approved	PPSP Near-term TIA (Hexagon)
Industrial	2013-7609	615 N Mathilda Ave	Comments Provided	Mathilda Commons TIA (Hexagon)
Industrial	2015-7302	221 N Mathilda Ave	Comments Provided	PPSP Near-term TIA (Hexagon)
Industrial	2015-7879	610 N Mary Ave	Comments Provided	PPSP Irvine TIA (Hexagon)
Industrial	2015-8126	684 W Maude Ave	Comments Provided	PPSP Near-term TIA (Hexagon)
Mixed Use	2016-7882	1120 Kifer Rd	Comments Provided	LSAP TIA (Hexagon)
Industrial	2016-7212	1050 Kifer Rd	Pending Review	Intuitive TIA (Hexagon)
Industrial	2015-7256	520 Almanor Ave	Pending Review	PPSP Near-term TIA (Hexagon)

Sunnyvale Projects don't have TIA

Project Type	Planning Permit File No.	Address	Planning Permit Status	Trip Estimate Method
Mixed Use	2015-7756	803 W El Camino Real	Approved	Estimated by Hexagon
Industrial	2016-7173	265 Sobrante Way	Comments Provided	Estimated by Hexagon
Industrial	2016-7787	840 W. California Ave	Comments Provided	Estimated by Hexagon
Residential	2015-7706	954 Henderson Ave	Comments Provided	Estimated by Hexagon
Residential	2015-7707	900 Henderson Ave	Comments Provided	Estimated by Hexagon
Residential	2016-7293	1008 E El Camino Real	Comments Provided	Estimated by Hexagon
Commercial	2015-8116	1313 S Wolfe Rd	Pending Review	Estimated by Hexagon
Commercial	2016-7898	830 E El Camino Real	Pending Review	Estimated by Hexagon
Mixed Use	2016-7438	150 Aries Way	Pending Review	Estimated by Hexagon

Project outside of Sunnyvale

Project Type	City	Address/Project Name	Planning Permit Status	Trip Estimate Method
Mixed Use	Santa Clara	Gateway Village - 3610 & 3700 El Camino Real	Approved	Project TIA (Fehr & Peers)
Mixed Use	Santa Clara	Lawrence Square - 3501 El Camino Real	Pending	Estimated by Hexagon
Residential	Cupertino	Hamptons Apartments - 19500 Pruneridge Ave	Approved	Project TIA (Fehr & Peers)
Commercial	Cupertino	Cupertino Village	Approved	Project TIA (Hexagon)
Commercial	Cupertino	Hyatt House Hotel	Approved	Project TIA (Hexagon)
Commercial	Cupertino	Main Street Development	Approved	Project TIA (Fehr & Peers)
Commercial	Cupertino	Cupertino Main Street	Approved	Project TIA (Fehr & Peers)

Attachment 2 - Total New Cumulative Project Trips

12/5/2016

AM Peak Hour

PM Peak Hour

Study														Study														Intersection Name (N/S & E/W)	
Inter. #	NIL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOT	Inter. #	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOT		
1	31	93	28	0	92	0	2	4	24	13	0	2	289	1	46	103	31	1	158	0	6	9	53	41	5	2	455	Wolfe Rd & Homestead Rd	
2	11	110	7	0	100	14	0	0	3	0	3	0	248	2	9	68	27	0	160	6	0	0	14	0	13	0	297	Wolfe Rd & Fremont Ave	
3	53	54	3	8	42	4	2	74	14	57	296	28	635	3	3	62	4	29	83	0	0	255	48	35	65	16	600	Wolfe Rd & El Camino Real (SR 82) *	
4	0	82	0	0	38	0	0	4	0	0	20	0	144	4	0	48	0	0	82	0	13	19	0	0	0	0	162	Wolfe Rd & Old San Francisco Rd/Reed Ave	
5	0	0	0	0	0	0	0	5	0	0	25	0	30	5	0	0	0	0	0	0	0	26	0	0	14	0	40	Kingfisher Way & Fremont Ave	
6	0	0	0	0	0	0	0	5	0	0	25	0	30	6	0	0	0	0	0	0	0	26	0	0	14	0	40	Fieldfair Dr/Rembrandt Dr & Fremont Ave	
7	0	0	0	0	0	0	0	5	0	0	25	0	30	7	0	0	0	0	0	0	0	26	0	0	14	0	40	Bobwhite Ave/Manet Dr & Fremont Ave	
8	0	213	2	2	44	0	0	2	0	1	1	1	266	8	0	48	4	4	194	0	0	4	0	4	4	4	266	Sunnyvale-Saratoga Ave & Homestead Rd *	
9	0	342	3	0	57	5	25	2	0	14	11	0	459	9	0	61	13	0	305	23	4	13	0	6	8	0	433	Sunnyvale-Saratoga Rd & Fremont Ave *	
10	0	430	0	0	65	0	0	7	0	0	3	0	505	10	0	75	0	0	383	0	0	3	0	0	3	0	464	Sunnyvale-Saratoga Ave & Remington Dr *	
11	2	475	0	39	68	21	109	63	10	2	115	206	1,110	11	5	72	0	187	419	100	13	93	5	0	65	44	1,003	Mathilda Ave & El Camino Real (SR 82) *	

Attachment 3 - Cumulative Growth Trips Assumed in TIA

12/6/2016

AM Peak Hour

PM Peak Hour

Study														Study														Intersection Name (N/S & E/W)	
Inter. #	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOT	Inter. #	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOT		
1	37	179	31	18	139	18	28	77	48	39	104	16	735	1	36	133	27	21	199	18	28	91	73	43	104	14	786	Wolfe Rd & Homestead Rd	
2	33	242	7	4	129	98	82	50	34	1	8	17	705	2	37	146	13	11	284	115	76	82	68	2	6	6	845	Wolfe Rd & Fremont Ave	
3	75	260	7	22	116	14	14	70	38	75	208	60	959	3	64	115	48	51	247	23	19	276	90	70	146	31	1,181	Wolfe Rd & El Camino Real (SR 82) *	
4	13	264	20	7	83	23	48	67	14	32	79	29	679	4	16	98	27	37	329	47	62	103	27	41	62	15	864	Wolfe Rd & Old San Francisco Rd/Reed Ave	
5	6	0	5	0	0	0	2	134	8	7	151	0	313	5	2	0	2	0	0	1	4	199	14	17	133	2	374	Kingfisher Way & Fremont Ave	
6	6	0	1	1	0	3	3	135	9	2	177	1	336	6	2	0	1	0	0	2	7	198	17	4	133	2	366	Fieldfair Dr/Rembrandt Dr & Fremont Ave	
7	4	7	2	3	6	5	20	114	6	4	194	18	382	7	2	1	1	5	3	8	18	207	18	4	134	10	411	Bobwhite Ave/Manet Dr & Fremont Ave	
8	56	451	38	31	227	19	54	66	68	98	122	62	1,292	8	81	302	122	74	339	29	40	147	37	61	97	35	1,365	Sunnyvale-Saratoga Ave & Homestead Rd *	
9	44	423	32	23	167	46	60	107	31	49	139	46	1,168	9	44	184	35	59	415	47	60	149	44	42	89	26	1,196	Sunnyvale-Saratoga Rd & Fremont Ave *	
10	21	463	58	7	124	22	35	74	24	79	63	11	981	10	50	190	75	35	406	27	28	59	32	64	65	10	1,042	Sunnyvale-Saratoga Ave & Remington Dr *	
11	68	343	3	32	65	42	76	98	13	5	223	60	1,029	11	35	70	10	114	387	77	51	257	30	41	189	48	1,309	Mathilda Ave & El Camino Real (SR 82) *	

Attachment 4 - Cumulative Trip Difference (TIA Cumulative Growth minus New Cumulative Trips)

12/6/2016

AM Peak Hour

PM Peak Hour

Study														Study														Intersection Name (N/S & E/W)
Inter. #	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOT	Inter. #	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOT	
1	6	86	3	18	47	18	26	73	24	26	104	14	446	1	-10	30	-4	20	41	18	22	82	20	2	99	12	331	Wolfe Rd & Homestead Rd
2	22	132	0	4	29	84	82	50	31	1	5	17	457	2	28	78	-14	11	124	109	76	82	54	2	-7	6	548	Wolfe Rd & Fremont Ave
3	22	206	4	14	74	10	12	-4	24	18	-88	32	324	3	61	53	44	22	164	23	19	21	42	35	81	15	581	Wolfe Rd & El Camino Real (SR 82) *
4	13	182	20	7	45	23	48	63	14	32	59	29	535	4	16	50	27	37	247	47	49	84	27	41	62	15	702	Wolfe Rd & Old San Francisco Rd/Reed Ave
5	6	0	5	0	0	0	2	129	8	7	126	0	283	5	2	0	2	0	0	1	4	173	14	17	119	2	334	Kingfisher Way & Fremont Ave
6	6	0	1	1	0	3	3	130	9	2	152	1	306	6	2	0	1	0	0	2	7	172	17	4	119	2	326	Fieldfair Dr/Rembrandt Dr & Fremont Ave
7	4	7	2	3	6	5	20	109	6	4	169	18	352	7	2	1	1	5	3	8	18	181	18	4	120	10	371	Bobwhite Ave/Manet Dr & Fremont Ave
8	56	238	36	29	183	19	54	64	68	97	121	61	1,026	8	81	254	118	70	145	29	40	143	37	57	93	31	1,099	Sunnyvale-Saratoga Ave & Homestead Rd *
9	44	81	29	23	110	41	35	105	31	35	128	46	709	9	44	123	22	59	110	24	56	136	44	36	81	26	763	Sunnyvale-Saratoga Rd & Fremont Ave *
10	21	33	58	7	59	22	35	67	24	79	60	11	476	10	50	115	75	35	23	27	28	56	32	64	62	10	578	Sunnyvale-Saratoga Ave & Remington Dr *
11	66	-132	3	-7	-3	21	-33	35	3	3	108	-146	-81	11	30	-2	10	-73	-32	-23	38	164	25	41	124	4	306	Mathilda Ave & El Camino Real (SR 82) *

Attachment 5 - Butcher's Corner Cumulative Project List

	Project Name/Address	Cumulative Analysis Status at time of DEIR & FEIR	Cumulative Analysis Status for CC Memo
Included in Draft EIR	1081 Innovation Way/1111 Lockheed Martin Way	Accounted for in background conditions of the DEIR.	
	1095 West El Camino Real	Accounted for in background conditions of the DEIR.	
	1152 Bordeaux	Accounted for in background conditions of the DEIR.	
	420 South Pastoria Avenue	Accounted for in background conditions of the DEIR.	
	455 Mathilda Avenue	Accounted for in background conditions of the DEIR.	
	457-475 East Evelyn Avenue	Accounted for in background conditions of the DEIR.	
	495 E Java Drive/549 Baltic Way	Accounted for in background conditions of the DEIR.	
	560 South Mathilda Avenue	Accounted for in background conditions of the DEIR.	
	636 West Fremont Avenue	Accounted for in background conditions of the DEIR.	
	660 West El Camino Real	Accounted for in background conditions of the DEIR.	
	696 West El Camino Real	Accounted for in background conditions of the DEIR.	
	955 Stewart Drive	Accounted for in background conditions of the DEIR.	
	Apple Campus 2, Cupertino	Accounted for in background conditions of the DEIR.	
	1010 Sunnyvale-Saratoga Avenue	Accounted for in cumulative conditions of the DEIR.	
	1500 Partridge Ave	Accounted for in cumulative conditions of the DEIR.	
	280 Santa Ana Court (Landbank)	Accounted for in cumulative conditions of the DEIR.	
	590 West El Camino Real, Sunnyvale	Accounted for in cumulative conditions of the DEIR.	
	701-729 East Evelyn Avenue	Accounted for in cumulative conditions of the DEIR.	
	861 East El Camino Real	Accounted for in cumulative conditions of the DEIR.	
	915 De Guigne Drive	Accounted for in cumulative conditions of the DEIR.	
Addressed in Response to Comments for the Final EIR	1008 E. El Camino Real	Accounted for in growth projections per RTC in FEIR.	Accounted for in Dec. 2016 Traffic Analysis
	10123 North Wolfe Road (Cupertino Village) in Cupertino	Accounted for in growth projections per RTC in FEIR.	Accounted for in Dec. 2016 Traffic Analysis
	1080 Stewart Drive	Accounted for in growth projections per RTC in FEIR.	Far from and small amount of new trips generated.
	1111 W. El Camino Real	Accounted for in growth projections per RTC in FEIR.	<i>No longer an active proposal. Not on City's project list dated 11/30/16.</i>
	1313 S. Wolfe Road	Accounted for in growth projections per RTC in FEIR.	Accounted for in Dec. 2016 Traffic Analysis
	3610 and 3700 El Camino Real (Gateway Village) in Santa Clara	Accounted for in growth projections per RTC in FEIR.	Accounted for in Dec. 2016 Traffic Analysis
	598 W. El Camino real	Accounted for in growth projections per RTC in FEIR.	<i>No longer an active proposal. Not on City's project list dated 11/30/16.</i>
	725 S. Fair Oaks	Accounted for in growth projections per RTC in FEIR.	Accounted for in Dec. 2016 Traffic Analysis
	777 Sunnyvale-Saratoga Road	Accounted for in growth projections per RTC in FEIR.	Accounted for in Dec. 2016 Traffic Analysis
	803 W. El Camino Real	Accounted for in growth projections per RTC in FEIR.	Accounted for in Dec. 2016 Traffic Analysis
	830 E. El Camino real	Accounted for in growth projections per RTC in FEIR.	Accounted for in Dec. 2016 Traffic Analysis
	845 Maria Lane	Accounted for in growth projections per RTC in FEIR.	Accounted for in Dec. 2016 Traffic Analysis

	Project Name/Address	Cumulative Analysis Status at time of DEIR & FEIR	Cumulative Analysis Status for CC Memo
	850 E. El Camino Real	Accounted for in growth projections per RTC in FEIR.	<i>No longer an active proposal. Not on City's project list dated 11/30/16.</i>
	970 W. El Camino Real	Accounted for in growth projections per RTC in FEIR.	<i>No longer an active proposal. Not on City's project list dated 11/30/16.</i>
	The Hills at Vallco Project in Cupertino	Accounted for in growth projections per RTC in FEIR.	<i>No longer an active proposal. Cupertino voters denied Measure D on November 2016 ballot. Per Cupertino website on 12/7/16, the project is hold.</i>
	2505 Town Center Lane	Accounted for in growth projections per RTC in FEIR.	Approved 2007; mostly built out. Far from project and small amount of remaining new trips generated.
Addressed per Request of Planning Commission	19500 Pruneridge Ave (The Hamptons Project) in Cupertino	NOI released after Butcher's Corner Project DEIR;	Accounted for in Dec. 2016 Traffic Analysis
	1205 W. El Camino Real	Post-NOP - no application yet; not required	<i>No longer an active proposal. Not on City's project list dated 11/30/16.</i>
	1050 Kifer Rd		Accounted for in Dec. 2016 Traffic Analysis
	1120 Kifer Rd		Accounted for in Dec. 2016 Traffic Analysis
	150 Aries Way		Accounted for in Dec. 2016 Traffic Analysis
	221 N Mathilda Ave		Accounted for in Dec. 2016 Traffic Analysis
	265 Sobrante Way		Accounted for in Dec. 2016 Traffic Analysis
	3501 El Camino Real (Lawrence Square)		Accounted for in Dec. 2016 Traffic Analysis
	520 Almanor Ave		Accounted for in Dec. 2016 Traffic Analysis
	610 N Mary Ave		Accounted for in Dec. 2016 Traffic Analysis
	615 N Mathilda Ave		Accounted for in Dec. 2016 Traffic Analysis
	684 W Maude Ave		Accounted for in Dec. 2016 Traffic Analysis
	840 W. California Ave		Accounted for in Dec. 2016 Traffic Analysis
	900 Henderson Ave		Accounted for in Dec. 2016 Traffic Analysis
	954 Henderson Ave		Accounted for in Dec. 2016 Traffic Analysis
	Hyatt House Hotel (no address provided in Hexagon Table)		Accounted for in Dec. 2016 Traffic Analysis
	Cupertino Main Street (no address provided in Hexagon Table)		Accounted for in Dec. 2016 Traffic Analysis