

APPENDIX C:
TRANSPORTATION



MEMORANDUM

From: Frederik Venter, P.E.

To: Mark Tersini, KT Urban

Cc: Gian Martire, Senior Planner, City of Cupertino

Date: March 27, 2020

Re: Westport Cupertino – Alternative Proposal: Trip Generation Comparison

1. Introduction

This memorandum summarizes the trip generation findings that result from the alternative proposal for the Westport Mixed-Use project. The purpose of this memorandum is to provide a comparison between the total trips generated by the originally proposed project, as documented in the Kimley-Horn Technical Memorandum dated December 12, 2019, and the alternative proposal provided to Kimley-Horn by KT Urban on February 5, 2020. Daily, AM peak hour, and PM peak hour trips for the Alternative Proposal, taking credits for the for the existing land uses (trip credits) are calculated. The Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, was used to develop trip generation estimates.

2. Existing Trips

The existing site is 71,254 square feet of shopping center use (The Oaks), which includes specialty restaurants, retailers, and other commercial space. The existing shopping center has been approximately 85% occupied over the last 2 +years. At 85% occupancy, the existing shopping center generates approximately 2,287 daily trips, 57 AM peak hour trips (36 IN / 21 OUT), and 230 PM peak hour trips (110 IN / 120 OUT). It should be noted that if full occupancy was assumed for the existing shopping center, the trips credited would have been even higher. This is a conservative estimate since ITE is based on gross lease area, which typically includes unoccupied units between 5% and 15%.

3. Alternative Proposal Project Trips

The trip generation for the Alternative Proposal was calculated using the same methodology and trip reduction credits as for the originally Proposed Project. The Multi-Family (mid-rise) land use was removed and Assisted Living, Continuing Care (Life Guidance / Memory Support), and Medical Office land users were added.

The Alternative Proposal would demolish the existing buildings and construct a mixed-use urban village with 88 low-rise multifamily residential units, 39 senior residential units, 140 assisted living units, and 27 life guidance/memory care units, 8,040 square feet of general retail and 2,140 square feet of medical office.

Internal trip capture was then applied using the National Cooperative Highway Research Program Report 684 (NCHRP 684), dated 2011. This methodology estimates the number of trips that have both the origin and destination within the alternative proposed site development. These internal trips are then subtracted from the total gross trips. After applying internal capture to the proposed project, reductions of 7% daily trips, 2% AM, and 12% PM were applied to gross trips.

Additional trip reductions were applied because the site is in a high-quality transit area. According to VTA TIA Guidelines, a 2% trip reduction can be used for housing within 2,000 feet (0.38 miles) of a major bus stop. A major bus stop meeting VTA's high-quality transit area definition of 6 buses per hour is located at De Anza College approximately 1900 feet from the project site. Applying the 2% trip reduction results in a reduction of -24 daily trips, -2 AM peak hour trips, and -2 PM peak hour trips. This trip reduction was only taken for residential trips. Lastly, pass-by reductions were applied to retail trips resulting in 8 fewer new trips during the PM peak. The net change between the originally Proposed Project and the Alternative Proposal results in 472 fewer daily trips.

Table 1 below summarizes the trip generation calculations.

Table 1 – Alternative Project, Original Project and Existing Conditions Trip Generation

Land Uses	ITE Land Use Code	Project Size		WEEKDAY	AM PEAK HOUR			PM PEAK HOUR				
				Daily Trips	Total Peak Hour	IN	/	OUT	Total Peak Hour	IN	/	OUT
Multifamily Housing (Low Rise)	220	-	Dwelling Unit(s)	7.32	0.46	23%	/	77%	0.56	63%	/	37%
Multifamily Housing (Mid-Rise)	221	-	Dwelling Unit(s)	5.44	0.36	26%	/	74%	0.44	61%	/	39%
Senior Adult Housing-Attached	252	-	Dwelling Unit(s)	3.70	0.20	35%	/	65%	0.26	55%	/	45%
Shopping Center	820	-	1,000 Sq Ft GLA	37.75	0.94	62%	/	38%	3.81	48%	/	52%
Existing Conditions												
Shopping Center (100% Occupancy)	820	71.254	1,000 Sq Ft GLA	2690	67	42	/	25	271	130	/	141
Shopping Center (85% Occupancy) ¹	820	60.5659	1,000 Sq Ft GLA	2287	57	36	/	21	230	110	/	120
<i>Pass-By Trips for Shopping Center (PM = 34%)^{3,4}</i>				(78)	0	0	/	0	(78)	(37)	/	(41)
TOAL EXISTING TRIP CREDIT				2209	57	36	/	21	152	73	/	79
Proposed Alternative Project Conditions												
Multifamily Housing (Low-Rise)	220	88	Dwelling Unit(s)	646	40	9	/	31	49	31	/	18
Senior Adult Housing-Attached	252	39	Dwelling Unit(s)	146	8	3	/	5	10	6	/	4
Assisted Living	254	140	Bed(s)	364	27	17	/	10	36	14	/	22
Continuing Care Retirement Community	255	27	Unit(s)	66	4	3	/	1	4	2	/	2
Medical-Dental Office Building	720	2.14	1,000 Sq Ft	76	6	5	/	1	7	2	/	5
Shopping Center	820	8.04	1,000 Sq Ft GLA	304	8	5	/	3	31	15	/	16
Gross Trips Generated before Internal Capture				1,602	93	42	/	51	137	70	/	67
Internal Capture Trips for Alternative Project Conditions												
Multifamily Housing (Low-Rise)	220	88	Dwelling Unit(s)	(22)					(4)	(2)	/	(1)
Senior Adult Housing-Attached	252	39	Dwelling Unit(s)	(4)					0			
Assisted Living	254	140	Bed(s)	(12)					(2)	(1)	/	(1)
Continuing Care Retirement Community	255	27	Unit(s)	(2)					0			
Medical-Dental Office Building	720	2.14	1,000 Sq Ft	(16)	(1)	(1)			(2)	(1)	/	(1)
Shopping Center	820	8.04	1,000 Sq Ft GLA	(52)	(1)	(1)			(7)	(3)	/	(4)
Internal Capture Reduction				(108)	(2)	(2)			(15)	(7)	/	(8)
Trip Reductions due to Internal Capture⁵				7%	2%	5%			11%	10%	/	12%
Additional Project Trip Reductions												
<i>VTA Major Bus Stop (Daily, AM, PM = 2%)²</i>				(24)	(1)	(1)			(2)	(1)	/	(1)
<i>Pass-By Trips for Shopping Center (PM = 34%)^{3,4}</i>				(8)					(8)	(4)	/	(4)
Project Trips				1,462	39	39	#	0	112	58	/	54
Existing Trip Credit				2209	57	36	/	21	152	73	/	79
Total Alternative Project Trips				1462	39	39	#	0	112	58	/	54
Net New Alternative Project Trips				(747)	(18)	3	/	(21)	(40)	(15)	/	(25)
Originally Proposed Project				(275)	47	(3)	/	50	(22)	4	/	(26)
Net Change Originally Proposed Project/ Alternative Proposal				(472)	(65)	6	/	(71)	(18)	(19)	/	1
Notes:												
1. Assume current retail is 85% occupied												
2. Per VTA Transportation Impact Analysis guidelines, a 2% vehicle trip reduction for housing trips can be applied for a nearby major bus stop												
3. Pass-By trip reduction applied to shopping center PM peak hour trips and based on average rates from Appendix E ITE Trip Generation Handbook 3rd Edition												
4. Daily pass-by trips only represent PM peak hour pass-by trips because no daily pass-by trip is resented in the ITE Trip Generation Handbook.												
5. Trips reductions due to internal capture was calculated using NCHRP 684 methodology												
6. Trip generation land uses based on average rates from ITE Trip Generation 10th Edition												

4. Conclusions

Based on a comparison of the Proposed Project, the Alternative Proposal would result in 472 fewer daily trips, 65 fewer AM peak hour trips, and 18 fewer PM peak hour trips, and therefore project impacts would be less than those previously analyzed under the originally proposed project.