



## MEMORANDUM

*Date:* July 11, 2018

*To:* Ryan A. Lorenzini, MAI  
Vice President, Claremont Homes, Inc.

*From:* Colin Burgett  
Senior Project Manager, TJKM

*Jurisdiction:* Hercules, CA

*Subject:* ***Trip Generation Comparison for Willow Avenue Project***

This memorandum provides a comparison of vehicle trips generated by the proposed Willow Avenue project ("the project"), and an alternative mix of land uses on a portion of the site ("the alternative"). The alternative would not include the mini-storage or U-Haul truck rental facility (and would thus not include an on-site resident manager). Instead, under the alternative: the easternmost portion of the site would instead be developed with a gas station, convenience market and fast food restaurant. A comparison of project vehicle trip generation with the alternative is shown on the following page:

- ▶ **Table 1** shows the vehicle trip generation forecast for the proposed Willow Avenue project, developed for the Transportation Impact Analysis (TIA) report that was prepared for the project's environmental impact analysis document. As shown: the proposed project is forecasted to generate 1,709 daily vehicle trips, including 138 vehicle trips during the a.m. peak hour and 190 vehicle trips during the p.m. peak hour. As stated in the TIA: to provide a conservative assessment of project impacts, this forecast did not include a pass-by trip reduction. Nonetheless, the TIA estimated that roughly nine percent of project trips would be pass-by trips based on Institute of Transportation Engineers (ITE) pass-by rates. Incorporating a nine-percent pass-by reduction: project trip generation equates to 126 net vehicle trips during the a.m. peak hour, 173 net vehicle trips during the p.m. peak hour, and 1,555 net daily vehicle trips.
- ▶ **Table 2** shows the vehicle trip forecast for the alternative. A large share of trips to/from gas stations, convenience markets and fast-food restaurants tend to be "pass-by trips" (i.e., vehicles that would already be traveling on the road network, even without the alternative) – therefore, the trip generation forecast for the alternative includes a larger number of pass-by trips. As shown: after subtracting pass-by trips (estimated based on I.T.E. pass-by percentages), the alternative would be forecasted to generate 3,313 net daily vehicle trips, including 265 net vehicle trips during the a.m. peak hour and 290 net vehicle trips during the p.m. peak. **Therefore, based on this comparison: the alternative would generate more than twice as many net vehicle trips as the proposed project.**



**Table 1: Vehicle Trip Generation – Proposed Willow Avenue Project**

Land Use (ITE Code)	Size	Daily		AM Peak Hour					PM Peak Hour				
		Rate <sup>1</sup>	Trips	Rate <sup>1</sup>	In %	In	Out	Total	Rate <sup>1</sup>	In %	In	Out	Total
Mini-Warehouse (151)	125,865 sf	2.50	315	0.14	55%	10	8	18	0.26	50%	17	16	33
U-Haul Truck Rental (N/A)	8 trucks	3.32	27	0.51	48%	2	2	4	0.38	56%	2	1	3
Apartment (220)	1 unit	6.65	7	0.51	20%	0	1	1	0.62	32%	0	1	1
Tire Store (848)	9,555 sf	24.87	238	2.89	63%	18	10	28	4.15	43%	17	23	40
Automobile Care Center (942)	2,734 sf	23.72	65	2.25	66%	4	2	6	3.11	48%	4	5	9
Car Wash – Self Service (947)	4 stalls	108.00	432	5.54	50%	11	11	22	5.54	50%	11	11	22
Car Wash – Automated (948)	2 stalls	312.71	625	29.66	51%	30	29	59	41.00	51%	42	40	82
<b>Total Vehicle Trips (including pass-by trips)</b>			<b>1,709</b>	-	-	75	63	<b>138</b>	-	-	93	97	<b>190</b>
<b>Net Vehicle Trips (subtracting 9% to account for pass-by trips)</b>			<b>1,555</b>			68	57	<b>126</b>			85	88	<b>173</b>

Note: <sup>1</sup> Rate per 1,000 s.f. (except u-haul truck rate is "per truck").

**Table 2: Vehicle Trip Generation with Alternative**

Land Use (ITE Code)	Size	Daily		AM Peak Hour					PM Peak Hour				
		Rate <sup>1</sup>	Trips	Rate <sup>1</sup>	In %	In	Out	Total	Rate <sup>1</sup>	In %	In	Out	Total
Gas Station (944)	9 pumps	172.01	1,548	10.28	55%	51	42	93	14.03	50%	63	63	126
Convenience Market (851)	3,000 sf	762.28	2,287	62.54	50%	94	94	188	49.11	51%	75	72	147
Fast-food with Drive-through (934)	3,000 sf	470.95	1,288	40.19	51%	56	54	110	32.67	48%	43	46	89
Tire Store (848)	9,555 sf	24.87	238	2.89	63%	18	10	28	4.15	43%	17	23	40
Automobile Care Center (942)	2,734 sf	23.72	65	2.25	66%	4	2	6	3.11	48%	4	5	9
Car Wash – Self Service (947)	4 stalls	108.00	432	5.54	50%	11	11	22	5.54	50%	11	11	22
Car Wash – Automated (948)	2 stalls	312.71	625	29.66	51%	30	29	59	41.00	51%	42	40	82
<b>Total Vehicle Trips (including pass-by)</b>			6,483			264	242	506			255	260	515
<b>Pass-by trips to/from site with Alternative</b>													
Gas Station				58%	-30	-24	-54	-30	42%		-26	-26	-53
Convenience Mkt				51%	-48	-48	-96	-48	63%		-47	-45	-93
Fast-food				83%	-46	-45	-91	-46	89%		-38	-41	-79
<b>Total Pass-by Trips with Alternative</b>			-3,170			-124	-117	-241			-112	-113	-225
<b>Net Vehicle Trips (after subtracting pass-by trips)</b>			<b>3,313</b>	-	-	140	125	<b>265</b>	-	-	143	147	<b>290</b>

Note: <sup>1</sup> Rate per 1,000 s.f. (except gas station rate is "per pump").

<sup>2</sup> Daily pass-by rates were estimated by averaging the peak-hour pass-by rates for each use.