

Appendix L

Project Trip Generation for Alternatives 2 and 3



TABLE A
PROJECT TRIP GENERATION RATES¹
THE VILLAGE SANTA ANA, SANTA ANA

Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
<u>Trip Generation Rates:</u>							
▪ 222: Multifamily Housing (High-Rise) – Not Close to Rail Transit (TE/DU)	4.54	34%	66%	0.27	56%	44%	0.32
▪ 252: Senior Adult Housing Multifamily (TE/DU)	3.24	34%	66%	0.20	56%	44%	0.25
▪ 445: Movie Theater (TE/1000 SF)	78.09	100% ²	0% ²	0.22	94%	6%	6.17
▪ 821: Shopping Plaza (40K-150K) without Supermarket (TE/1000 SF)	67.52	62%	38%	1.73	49%	51%	5.19
▪ 821: Shopping Plaza (40K-150K) with Supermarket (TE/1000 SF)	94.49	62%	38%	3.53	48%	52%	9.03
▪ 822: Strip Retail Plaza (Less than 40K) (TE/1000 SF)	54.45	60%	40%	2.36	50%	50%	6.59
▪ 890: Furniture Store (TE/1000 SF)	6.30	71%	29%	0.26	47%	53%	0.52
▪ 931: Fine Dining Restaurant (TE/1000 SF)	83.84	50% ³	50% ³	0.73	67%	33%	7.80
▪ 932: High-Turnover Sit-Down Restaurant (TE/1000 SF)	107.20	55%	45%	9.57	61%	39%	9.05

Notes:

TE/1000 SF = Trip end per 1,000 SF

TE/DU = Trip end per Dwelling Unit

¹ Source: *Trip Generation, 11th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2021)*.

² ITE's *Trip Generation, 11th Edition*, does not provide information on the entering and exiting distribution during the AM peak hour for ITE LU 445: Movie Theater. Therefore, it has been assumed that 100% of trips are entering during the AM peak hour.

³ ITE's *Trip Generation, 11th Edition*, does not provide information on the entering and exiting distribution during the AM peak hour for ITE LU 931: Fine Dining Restaurant. Therefore, it has been assumed that 50% of trips are entering and 50% of trips are exiting during the AM peak hour.



TABLE B
ALTERNATIVE 2 (SENIOR HOUSING) PROJECT TRIP GENERATION FORECAST⁴
THE VILLAGE SANTA ANA, SANTA ANA

Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
<u>Existing Land Use Trip Generation Forecast:</u>							
▪ Retail (40,743 SF)	2,751	43	27	70	103	108	211
▪ Furniture Store (47,301 SF)	298	9	3	12	12	13	25
▪ Quality Restaurant (51,990 SF)	4,359	19	19	38	272	134	406
▪ High-Turnover Sit-Down Restaurant (5,653 SF)	606	30	24	54	31	20	51
▪ Movie Theater (18,362 SF)	<u>1,434</u>	<u>4</u>	<u>0</u>	<u>4</u>	<u>106</u>	<u>7</u>	<u>113</u>
Subtotal	9,448	105	73	178	524	282	806
Pass-by (10% Daily, 10% AM, 42% PM) ⁵	-772	-9	-7	-16	-174	-111	-285
Total Existing Land Use Trips	8,676	96	66	162	350	171	521
<u>Project Alternative 2 Trip Generation Forecast:</u>							
▪ Senior Adult Housing Multifamily (150 DU)	486	10	20	30	21	17	38
▪ Retail (50,000 SF)	4,725	110	67	177	217	235	452
▪ Multifamily Residential (1,433 DU)	<u>6,506</u>	<u>132</u>	<u>255</u>	<u>387</u>	<u>257</u>	<u>202</u>	<u>459</u>
Subtotal	11,717	252	342	594	495	454	949
Internal Capture (15% Daily, 2% AM, 17% PM) ⁶	-1,701	-6	-4	-10	-83	-83	-166
Non-Auto Trip Reduction (5% Daily, 5% AM, 5% PM)	-585	-14	-16	-30	-25	-23	-48
TDM Reduction (5% Daily, 5% AM, 5% PM)	-585	-14	-16	-30	-25	-23	-48
Pass-by (10% Daily, 10% AM, 40% PM) ⁵	-340	-10	-5	-15	-69	-60	-129
Total Project Alternative 2 Trips	8,506	208	301	509	293	265	558
Total Net Project Alternative 2 Trip Generation	-170	112	235	347	-57	94	37

⁴ Source: *Trip Generation, 11th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2021)*.

⁵ Pass-by trips are made as intermediate stop on the way from one origin to a primary trip destination. Pass-by trips are attracted from traffic passing the site on adjacent streets, which contain direct access to the generator. For this analysis, the following pass-by reduction factors were used *Trip Generation, 11th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2021)*:

- ITE LU 821 Shopping Plaza (40K to 150K) without Supermarket: Daily – Estimated to be 10% / AM Peak Hour – Estimated to be 10% / PM Peak Hour – 40%
- ITE LU 821 Shopping Plaza (40K to 150K) with Supermarket: Daily – Estimated to be 10% / AM Peak Hour – Estimated to be 10% / PM Peak Hour – 40%
- ITE LU 931 Fine Dining Restaurant: Daily – Estimated to be 10% / AM Peak Hour – Estimated to be 10% / PM Peak Hour – 44%
- ITE LU 932 High Turnover Sit Down Restaurant: Daily – Estimated to be 10% / AM Peak Hour – Estimated to be 10% / PM Peak Hour – 43%

⁶ Internal capture trip reduction is consistent with the *Trip Generation Handbook, 3rd Edition*, published by ITE (September 2017). Project trip generation was adjusted to account for internal capture between the residential and retail components of the Project.



TABLE C
ALTERNATIVE 3 (NO SUBTERRANEAN) PROJECT TRIP GENERATION FORECAST⁷
THE VILLAGE SANTA ANA, SANTA ANA

Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
<u>Existing Land Use Trip Generation Forecast:</u>							
▪ Retail (40,743 SF)	2,751	43	27	70	103	108	211
▪ Furniture Store (47,301 SF)	298	9	3	12	12	13	25
▪ Quality Restaurant (51,990 SF)	4,359	19	19	38	272	134	406
▪ High-Turnover Sit-Down Restaurant (5,653 SF)	606	30	24	54	31	20	51
▪ Movie Theater (18,362 SF)	<u>1,434</u>	<u>4</u>	<u>0</u>	<u>4</u>	<u>106</u>	<u>7</u>	<u>113</u>
Subtotal	9,448	105	73	178	524	282	806
Pass-by (10% Daily, 10% AM, 42% PM) ⁸	-772	-9	-7	-16	-174	-111	-285
Total Existing Land Use Trips	8,676	96	66	162	350	171	521
<u>Project Alternative 3 Trip Generation Forecast:</u>							
▪ Retail (25,000 SF)	1,361	35	24	59	83	82	165
▪ Multifamily Residential (1,000 DU)	<u>4,540</u>	<u>92</u>	<u>178</u>	<u>270</u>	<u>179</u>	<u>141</u>	<u>320</u>
Subtotal	5,901	127	202	329	262	223	485
Internal Capture (8% Daily, 2% AM, 12% PM) ⁹	-490	-4	-4	-8	-29	-29	-58
Non-Auto Trip Reduction (5% Daily, 5% AM, 5% PM)	-295	-7	-10	-17	-13	-11	-24
TDM Reduction (5% Daily, 5% AM, 5% PM)	-295	-7	-10	-17	-13	-11	-24
Pass-by (10% Daily, 10% AM, 40% PM) ⁸	-98	-3	-2	-5	-27	-21	-48
Total Project Alternative 3 Trips	4,723	106	176	282	180	151	331
Total Net Project Alternative 3 Trip Generation	-3,953	10	110	120	-170	-20	-190

⁷ Source: *Trip Generation, 11th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2021)*.

⁸ Pass-by trips are made as intermediate stop on the way from one origin to a primary trip destination. Pass-by trips are attracted from traffic passing the site on adjacent streets, which contain direct access to the generator. For this analysis, the following pass-by reduction factors were used *Trip Generation, 11th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2021)*:

- ITE LU 821 Shopping Plaza (40K to 150K) without Supermarket: Daily – Estimated to be 10% / AM Peak Hour – Estimated to be 10% / PM Peak Hour – 40%
- ITE LU 822 Strip Retail Plaza (Less than 40K): Daily – Estimated to be 10% / AM Peak Hour – Estimated to be 10% / PM Peak Hour – 40%, consistent with ITE LU 821
- ITE LU 931 Fine Dining Restaurant: Daily – Estimated to be 10% / AM Peak Hour – Estimated to be 10% / PM Peak Hour – 44%
- ITE LU 932 High Turnover Sit Down Restaurant: Daily – Estimated to be 10% / AM Peak Hour – Estimated to be 10% / PM Peak Hour – 43%

⁹ Internal capture trip reduction is consistent with the *Trip Generation Handbook, 3rd Edition*, published by ITE (September 2017). Project trip generation was adjusted to account for internal capture between the residential and retail components of the Project.