



## MEMORANDUM

Date: August 22, 2014  
To: David NP Hopkins, Sares Regis Group of Northern California  
From: Dennis Lee, Matthew Crane, and Jane Bierstedt, Fehr & Peers  
**Subject: Pilgrim Triton Phase C Trip Generation Assessment**

*SF14-0768*

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The purpose of this memorandum is to compare the vehicle trip generation for three new alternatives for the Pilgrim Triton Phase C site to the Existing Entitlement included in the Pilgrim Triton Master Plan Environmental Impact Report (EIR). Based on our analysis, it is possible that new significant traffic impacts beyond those already identified in the Pilgrim Triton Master Plan EIR may occur for Alternative 3 during the PM peak hour.

### DESCRIPTIONS OF THE EXISTING ENTITLEMENT AND NEW ALTERNATIVES

This section presents a brief description of the Existing Entitlement for Phase C and the three new alternatives proposed for the site. Existing uses on the site comprise of 38,000 square feet (sf) of office and light industrial uses. The amount of traffic generated by these uses was estimated and subtracted to obtain estimates of the net amount of added traffic.



The Phase C development analyzed as part of the Pilgrim Triton Master Plan EIR included 17 residential units and 172,943 square feet (sf) of office uses (“Existing Entitlement”). The three new alternatives include two residential-only configurations and one mixed-use configuration with residential and retail. The land uses for the Existing Entitlement and three new land use alternatives are summarized in **Table 1**.

**TABLE 1: LAND USE ALTERNATIVES**

<b>Alternative</b>	<b>Residential</b>	<b>Office</b>	<b>Retail</b>
<b><i>Existing Entitlement</i></b>	17 units	172,943 sf	-
<b><i>Alternative 1</i></b>	80 townhomes	-	-
<b><i>Alternative 2</i></b>	95 townhomes	-	-
<b><i>Alternative 3</i></b>	80 townhomes	-	10,000 sf

## TRIP GENERATION ESTIMATES

Vehicle trip generation for the Existing Entitlement and three new alternatives were prepared for daily and peak hour periods. Two peak one-hour periods during the weekday morning (AM) and evening (PM) commute hours are presented to reflect the periods when traffic volumes on adjacent streets are typically at their highest.

The Pilgrim Triton Master Plan EIR trip generation was based on rates published in the Institute of Transportation Engineer’s (ITE) *Trip Generation, 7<sup>th</sup> Edition*. The trip generation for the Existing Entitlement for Phase C using this methodology is shown in **Table 2**. No reduction for internalization of trips on the project site was applied. Under this methodology, the Existing Entitlement is expected to generate 1,912 daily, 272 AM peak hour, and 254 PM peak hour net new vehicle trips.



**TABLE 2: EXISTING ENTITLEMENT TRIP GENERATION (ITE 7<sup>TH</sup> EDITION)**

Land Use	ITE Code	Amount	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
<b>Proposed Land Uses</b>									
Condo/Townhouse	230	17 units	142	2	11	13	9	5	14
General Office	710	172.9 ksf	2,034	256	35	291	46	227	273
		<i>Subtotal</i>	2,176	258	46	304	55	232	287
<b>Existing Land Uses (to be Removed)</b>									
Industrial Park	130	38 ksf	264	26	6	32	7	26	33
		<i>Subtotal</i>	264	26	6	32	7	26	33
<b>Net New Trips</b>			<b>1,912</b>	<b>232</b>	<b>40</b>	<b>272</b>	<b>48</b>	<b>206</b>	<b>254</b>

Source: *Trip Generation* (7<sup>th</sup> Edition), ITE, 2003.

Since the publication of the EIR, there have been updates to the ITE trip generation data. Therefore, trip generation for the Existing Entitlement was updated using the trip generation rates published in the latest ITE publication, *Trip Generation Manual, 9<sup>th</sup> Edition* and is shown in **Table 3**. No reduction for internalization of trips on the project site was applied, consistent with the EIR. Under this updated methodology, the Existing Entitlement is expected to generate 1,869 daily, 279 AM peak hour, and 254 PM peak hour net new vehicle trips. The updated ITE trip generation methodology results in a similar net trip generation compared to the previous methodology, with minor differences in daily and AM peak period estimates.



**TABLE 3: EXISTING ENTITLEMENT TRIP GENERATION (ITE 9<sup>TH</sup> EDITION)**

Land Use	ITE Code	Amount	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
<b>Proposed Land Uses</b>									
Condo/Townhouse	230	17 units	138	2	11	13	9	5	14
General Office	710	172.9 ksf	1,991	261	36	297	46	226	272
		<i>Subtotal</i>	2,129	263	47	310	55	231	286
<b>Existing Land Uses (to be Removed)</b>									
Industrial Park	130	38 ksf	260	25	6	31	7	25	32
		<i>Subtotal</i>	260	25	6	31	7	25	32
<b>Net New Trips</b>			<b>1,869</b>	<b>238</b>	<b>41</b>	<b>279</b>	<b>48</b>	<b>206</b>	<b>254</b>

Source: *Trip Generation Manual* (9<sup>th</sup> Edition), ITE, 2012.

The trip generation forecasts for the three new land use alternatives based on the *Trip Generation Manual, 9<sup>th</sup> Edition* are shown in **Table 4**. The trip generation rates for single-family detached housing (ITE Land Use 210) were used for the new alternatives since the size of the proposed units (3-4 bedrooms) is larger than typical townhomes.



**TABLE 4: PROPOSED ALTERNATIVES TRIP GENERATION**

Land Use	ITE Code	Amount	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
<b>Existing Land Uses (to be removed from each Alternative)</b>									
Industrial Park	130	38 ksf	260	25	6	31	7	25	32
<b>Alternative 1 Proposed Land Uses</b>									
Single-Family Housing	210	80 units	855	16	50	66	54	32	86
		<i>Subtotal</i>	855	16	50	66	54	32	86
<b>Alternative 1 Net New Trips</b>			<b>595</b>	<b>-9</b>	<b>44</b>	<b>35</b>	<b>47</b>	<b>7</b>	<b>54</b>
<b>Alternative 2 Proposed Land Uses</b>									
Single-Family Housing	210	95 units	1,002	19	57	76	63	37	100
		<i>Subtotal</i>	1,002	19	57	76	63	37	100
<b>Alternative 2 Net New Trips</b>			<b>742</b>	<b>-6</b>	<b>51</b>	<b>45</b>	<b>56</b>	<b>12</b>	<b>68</b>
<b>Alternative 3 Proposed Land Uses</b>									
Single-Family Housing	210	80 units	855	16	50	66	54	32	86
Shopping Center	820	10 ksf	1,520	24	14	38	61	67	128
		<i>Subtotal</i>	2,375	40	64	104	115	99	214
<b>Alternative 3 Net New Trips</b>			<b>2,115</b>	<b>15</b>	<b>58</b>	<b>73</b>	<b>108</b>	<b>74</b>	<b>182</b>

Source: *Trip Generation Manual* (9<sup>th</sup> Edition), ITE, 2012.

**Table 5** presents the trip generation summary of the Alternatives and the difference in net trips between each Alternative and the Existing Entitlement. Alternative 1 would generate 1,274 fewer daily trips, 244 fewer AM peak hour trips, and 200 fewer PM peak hour trips than the Existing Entitlement. However, Alternative 1 would slightly increase the number of outbound trips during the AM peak hour.

Alternative 2 would generate 1,127 fewer daily trips, 234 fewer AM peak hour trips, and 186 fewer PM peak hour trips than the Existing Entitlement. However, Alternative 2 would slightly increase



the number of outbound trips during the AM peak hour and inbound trips during the PM peak hour.

Alternative 3 is would generate 246 additional daily trips, 206 fewer AM peak hour trips, and 72 fewer PM peak hour trips than the Existing Entitlement. However, Alternative 3 would slightly increase the number of outbound trips during the AM peak hour and moderately increase the number of inbound trips during the PM peak hour.

Although the peak hour trip generation for each alternative results in fewer total trips, the change in land use types results in differing in and out splits compared to the Existing Entitlement. This generates more outbound trips during the AM peak hour for all the alternatives and more inbound trips during the PM peak hour for all the alternatives except for Alternative 1. These additional trips would be distributed throughout the roadway network via Foster City Boulevard or East Hillsdale Boulevard. These trips would contribute a relatively minor amount of traffic to most nearby intersections; however it is possible that the added inbound PM peak-hour trips for Alternative 3 could worsen congested movements at nearby intersections.

**TABLE 5: TRIP GENERATION COMPARISON SUMMARY**

Alternative	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
<b>Existing Entitlement</b>	<b>1,869</b>	<b>238</b>	<b>41</b>	<b>279</b>	<b>48</b>	<b>206</b>	<b>254</b>
Alternative 1	595	-9	44	35	47	7	54
<i>Net Change from Existing Entitlement</i>	<i>-1,274</i>	<i>-247</i>	<i>3</i>	<i>-244</i>	<i>-1</i>	<i>-199</i>	<i>-200</i>
Alternative 2	742	-6	51	45	56	12	68
<i>Net Change from Existing Entitlement</i>	<i>-1,127</i>	<i>-244</i>	<i>10</i>	<i>-234</i>	<i>9</i>	<i>-194</i>	<i>-186</i>
Alternative 3	2,115	16	58	73	108	74	182
<i>Net Change from Existing Entitlement</i>	<i>246</i>	<i>-222</i>	<i>17</i>	<i>-206</i>	<i>60</i>	<i>-132</i>	<i>-72</i>

Notes:

Source: *Trip Generation Manual* (9<sup>th</sup> Edition), ITE, 2012.



## CONCLUSION

All of the new alternatives would generate fewer total trips in the AM and PM peak periods than the Existing Entitlement. However, these alternatives would generate more trips in the outbound direction during the AM peak hour and in the inbound direction during the PM peak hour. One of the alternatives, Alternative 3 would generate enough added inbound traffic to the PM peak hour to potentially cause a significant traffic impact beyond what was identified in the Pilgrim Triton Master Plan EIR. The analysis for Alternative 3 is based on conservative assumptions (i.e., no retail pass-by or internalization reduction). However, the resulting vehicle trip estimates based on a refined analysis would likely yield similar results. Additional review of surrounding roadway operations would be required to determine whether new significant impacts would occur.