



March 24, 2016

Ed Petre, P.E.  
Traffic Division  
San Bernardino County Public Works Dept.  
825 E. Third Street  
San Bernardino Ca. 91404

RE: TRAFFIC IMPACT STUDY FOR PARCEL MAP 19030

We have been requested to review a traffic impact study approved by the County in 2009 for proposed improvements on parcel 19030. The review is to determine if the study is still applicable for a modified site plan and a revised project opening year.

The site plan for the 2009 study showed a single phase development of a gasoline station with twelve fueling positions, a Convenience Market, Car Wash and Fast Food Restaurant on 1.93 acre parcel. The current site plan show a two phase construction: gasoline station with sixteen fueling positions and a convenience store in the first phase and a fast food restaurant in the second phase.

The traffic data used in the 2009 study was obtained from Hesperia High School (HES) study conducted in 2007. In 2009, the High School was under construction and it was determined appropriate to consider the High School project traffic for the 2009 study since the High School, planned to open in August of 2009, would have a major impact on the analysis elements of the study.

The study analysis elements included two project driveways and three intersections, namely: Rancho Road at Cayote Trail, Rancho Road at Escondido Avenue and Rancho Road at Fuente Avenue. Rancho Road at Cayote Trail was planned to be the main access to the High School under the HES study. The following were the recommendation from the 2009 study:

- Fair share cost of a traffic signal at Rancho Road at Cayote Trail in year 2035.
- Fair share cost of north and southbound left turn lanes at Rancho Rd at Escondido Avenue in 2035. It was assumed that a traffic signal and addition of north and south bound left turn lanes and one east and one westbound through

lanes will be funded under the San Bernardino County fee plan. The east and westbound through lanes were to be funded under Regional Facilities Fee Plan.

- Fair share of cost of traffic signal at Rancho Rd @ Fuente Avenue with east and westbound left turn lanes in year 2035.

The total cost of improvements in the 2009 study was \$1,050,000. The project fair share contribution was \$91,320. The dollar figure of the fair share mitigation for potential traffic impacts was an estimate intended for discussion purpose in the TIA and did not imply any legal responsibility or formula for contribution or mitigation.

The site plan has changed from a one phase development of a gasoline station with twelve fueling positions, a Convenience Market, Car Wash and Fast Food Restaurant to a two phased construction of gasoline station with sixteen fueling positions with a convenience store in the first phase and a fast food restaurant in the second phase. Phase one is estimated to be completed by 2018 but the timeline for the phase two construction is not yet determined. The traffic generation potential of the site is increased due to the increase in the proposed number of fuel pumps.

The traffic circulation in the project area has also changed. The main access to Hesperia High School was established at Catapa Avenue instead of Cayote Trail. A traffic signal was installed at Catapa Avenue to accept traffic that was originally planned to access the High School through Cayote Trail. The roads have also been widened at the two intersections to HES. There are now two through lanes in each direction and left turn lanes for all the approaches. Recommended improvements at Cayote Trail on the 2009 traffic study could be deemed satisfied with the improvements on Catapa Avenue. Also, the intersection of Rancho Road at Cayote Trail was improved to the lane configurations recommended in the 2009 study with the construction of HES.

At Rancho Road at Escondido Avenue, a traffic signal has been constructed with the widening of the intersection to two through lanes for the east-west approaches and left turn lanes in all the approaches. The improvement satisfies recommended improvement in the 2009 study.

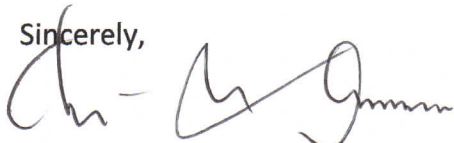
The intersection of Rancho Road at Fuente Avenue lane configuration has not changed. However, traffic volumes have changed drastically along Rancho Road within the project area. Existing turning movement counts were performed at signalized intersections of Rancho Road at Catapa Avenue and Rancho Road at Escondido Avenue. The peak period turning movement counts are provided in Appendix 1. Peak hour turning movement volumes for time frames pertinent to the analysis are depicted in Appendix 2.

The change in the number of fuel pumps proposed on the revised site plan changes the trip generation potential of the site. Attached Tables 1 and 2 provide the revised trip generation.

Based on all the above, all mitigations for traffic impact at the study intersections have been satisfied by road improvements performed post 2009 with the exception of the intersection of Rancho Road at Fuente Avenue. The revised fair share of improvements recommended at Rancho Road at Fuentes Avenue could remain unchanged in spite of the scope and timeline changes.

Please call me at the contact number below, if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Chidi Onumonu', followed by the date '4-5-16'.

Chidi Onumonu, P.E, T.E

TABLE 1: PHASE 1.

PROJECT TRIP GENERATION

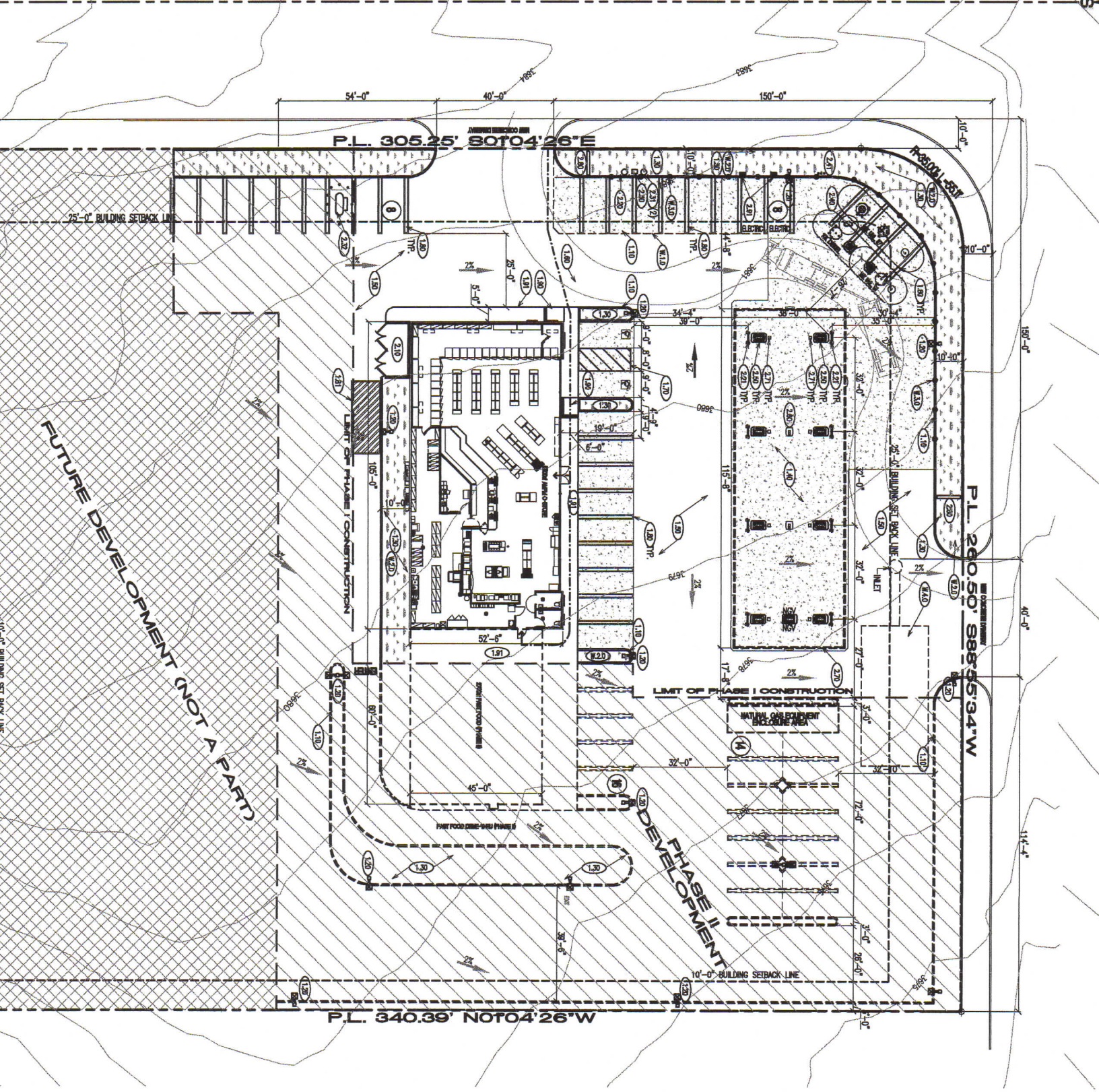
LAND USE	UNITS	A.M. PEAK HOUR			P.M. PEAK HOUR			DAILY
		IN	OUT	TOT	IN	OUT	TOT	
Land Use 945: Gasoline/ Service Station with Convenience Market	16 Fueling Positions							
		5.08	5.08	10.16	6.69	6.69	13.38	162.78
Trips/Unit		81	81	162	107	107	214	2604
Trips		16	16	32	21	21	43	521
Pass-by trips 20%								
New Trips		65	65	130	86	86	171	2083
Total Trips		81	81	162	107	107	214	2604

TABLE 2: PHASE 2

PROJECT TRIP GENERATION

LAND USE	UNITS	A.M. PEAK HOUR			P.M. PEAK HOUR			DAILY
		IN	OUT	TOT	IN	OUT	TOT	
Land Use 934: Fast Food Restaurant with Drive Through Windows	2.70 TSF							
Trips/Unit		25.17	24.18	49.35	17.60	16.24	33.84	496.12
Trips		68	65	133	48	44	92	1340
Pass-by trips 20%		14	13	27	10	9	18	264
Total New Trips		54	52	106	38	35	74	1076
Total trips		68	65	133	48	44	92	1340

# ESCONDIDO AVENUE • 50' R.O.W.



FUTURE DEVELOPMENT (NOT A PART)

P.L. 260.50' S88°55'34\"W

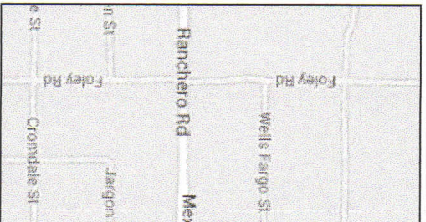
P.L. 305.25' S070°4'26\"E

P.L. 340.39' N070°4'26\"W

### LEGEND

- ① SITE NOTES
- ① NO. OF PARKING SPACES
- ♿ INDICATES ACCESSIBILITY
- INDICATES PROPERTY
- - - - - INDICATES SETBACK
- ← INDICATES HANDICAPPED
- [Hatched] CONCRETE AREA
- [Dotted] LANDSCAPE AREA

### VICINITY MAP



### LEGAL DESCRIPTION

PARCEL 1 OF PARCEL MAP NO. 13400, AS PER RECORDS OF THE COUNTY OF SAN BERNARDINO, CALIFORNIA.

### SITE PLAN KEY NOT

- 1.10 NEW 6\"/>

APPENDIX 1.  
TURNING MOVEMENT COUNTS

## Albert Wilson & Associates Standard Report

Location: Ranchoero Road @ Escondido Ave  
Unit ID: AWA 002  
Study Date: Tuesday March 01, 2016  
Interval: 15 minutes

### Vehicles

	Southbound			Westbound			Northbound			Eastbound			Grand Total				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	Total			
	Total			Total			Total			Total							
07:00	16	1	51	68	3	265	12	280	15	20	3	38	22	61	7	90	476
07:15	26	8	49	83	1	291	6	298	15	5	4	24	37	113	5	155	560
07:30	49	4	34	87	4	163	4	171	5	6	5	16	16	111	4	131	405
07:45	16	3	17	36	1	116	12	129	3	2	6	11	7	54	0	61	237
<b>Subtotal</b>	<b>107</b>	<b>16</b>	<b>151</b>	<b>274</b>	<b>9</b>	<b>835</b>	<b>34</b>	<b>878</b>	<b>38</b>	<b>33</b>	<b>18</b>	<b>89</b>	<b>82</b>	<b>339</b>	<b>16</b>	<b>437</b>	<b>1678</b>
08:00	13	1	22	36	5	109	13	127	2	5	3	10	18	53	2	73	246
08:15	17	2	29	48	6	137	8	151	5	12	0	17	25	56	1	82	298
08:30	11	4	19	34	1	129	12	142	2	1	2	5	9	48	1	58	239
08:45	14	3	15	32	2	120	14	136	5	1	2	8	9	61	3	73	249
<b>Subtotal</b>	<b>55</b>	<b>10</b>	<b>85</b>	<b>150</b>	<b>14</b>	<b>495</b>	<b>47</b>	<b>556</b>	<b>14</b>	<b>19</b>	<b>7</b>	<b>40</b>	<b>61</b>	<b>218</b>	<b>7</b>	<b>286</b>	<b>1032</b>
09:00	4	0	5	9	4	40	4	48	2	2	0	4	6	19	1	26	87
<b>Total</b>	<b>166</b>	<b>26</b>	<b>241</b>	<b>433</b>	<b>27</b>	<b>1370</b>	<b>85</b>	<b>1482</b>	<b>54</b>	<b>54</b>	<b>25</b>	<b>133</b>	<b>149</b>	<b>576</b>	<b>24</b>	<b>749</b>	<b>2797</b>
Table %	5.9	0.9	8.6	15.5	1.0	49.0	3.0	53.0	1.9	1.9	0.9	4.8	5.3	20.6	0.9	26.8	100.0
Intersection %	5.9	0.9	8.6	15.5	1.0	49.0	3.0	53.0	1.9	1.9	0.9	4.8	5.3	20.6	0.9	26.8	100.0
Approach %	38.3	6.0	55.7	100.0	1.8	92.4	5.7	100.0	40.6	40.6	18.8	100.0	19.9	76.9	3.2	100.0	-
Total Approach %	38.3	6.0	55.7	100.0	1.8	92.4	5.7	100.0	40.6	40.6	18.8	100.0	19.9	76.9	3.2	100.0	-
Peak Hour	07:00	07:00	07:00	07:00	07:30	07:00	08:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00
Peak Total	107	16	151	274	16	835	47	878	38	33	18	89	82	339	16	437	1678
Peak Factor (PHF)	0.5	0.5	0.7	0.8	0.7	0.7	0.8	0.7	0.6	0.4	0.8	0.6	0.6	0.8	0.6	0.7	0.7



## Albert Wilson & Associates Standard Report

Location: Ranchoero Road @ Escondido Ave  
Unit ID: AWA 002  
Study Date: Tuesday March 01, 2016  
Interval: 15 minutes

### Vehicles

	Southbound			Westbound			Northbound			Eastbound			Grand Total				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right					
	Total		Total	Total		Total	Total		Total	Total		Total					
16:00	16	5	19	40	4	81	26	111	8	4	0	12	45	147	4	196	359
16:15	34	8	13	55	6	82	15	103	4	5	3	12	63	169	4	236	406
16:30	23	8	15	46	4	98	14	116	1	12	1	14	40	149	6	195	371
16:45	23	5	10	38	2	88	18	108	5	9	3	17	55	165	6	226	389
<b>Subtotal</b>	<b>96</b>	<b>26</b>	<b>57</b>	<b>179</b>	<b>16</b>	<b>349</b>	<b>73</b>	<b>438</b>	<b>18</b>	<b>30</b>	<b>7</b>	<b>55</b>	<b>203</b>	<b>630</b>	<b>20</b>	<b>853</b>	<b>1525</b>
17:00	28	5	15	48	6	82	11	99	5	7	5	17	48	149	4	201	365
17:15	18	4	16	38	6	95	20	121	3	5	1	9	55	141	1	197	365
17:30	18	4	17	39	9	61	14	84	4	4	3	11	73	143	4	220	354
17:45	37	3	13	53	7	82	24	113	4	5	4	13	56	149	11	216	395
<b>Subtotal</b>	<b>101</b>	<b>16</b>	<b>61</b>	<b>178</b>	<b>28</b>	<b>320</b>	<b>69</b>	<b>417</b>	<b>16</b>	<b>21</b>	<b>13</b>	<b>50</b>	<b>232</b>	<b>582</b>	<b>20</b>	<b>834</b>	<b>1479</b>
<b>Total</b>	<b>197</b>	<b>42</b>	<b>118</b>	<b>357</b>	<b>44</b>	<b>669</b>	<b>142</b>	<b>855</b>	<b>34</b>	<b>51</b>	<b>20</b>	<b>105</b>	<b>435</b>	<b>1212</b>	<b>40</b>	<b>1687</b>	<b>3004</b>
Table %	6.6	1.4	3.9	11.9	1.5	22.3	4.7	28.5	1.1	1.7	0.7	3.5	14.5	40.3	1.3	56.2	100.0
Intersection %	6.6	1.4	3.9	11.9	1.5	22.3	4.7	28.5	1.1	1.7	0.7	3.5	14.5	40.3	1.3	56.2	100.0
Approach %	55.2	11.8	33.1	100.0	5.1	78.2	16.6	100.0	32.4	48.6	19.0	100.0	25.8	71.8	2.4	100.0	-
Total Approach %	55.2	11.8	33.1	100.0	5.1	78.2	16.6	100.0	32.4	48.6	19.0	100.0	25.8	71.8	2.4	100.0	-
Peak Hour	16:15	16:00	17:00	16:15	17:00	16:30	16:00	16:30	16:00	16:15	17:00	16:15	17:00	16:15	16:00	16:15	16:15
Peak Total	108	26	61	187	28	363	73	444	18	33	13	60	232	632	20	858	1531
Peak Factor (PHF)	0.8	0.8	0.9	0.9	0.8	0.9	0.7	0.9	0.6	0.7	0.6	0.9	0.8	0.9	0.8	0.9	0.5

## Albert Wilson & Associates Standard Report

Location: Rancho Road @ Cataba Rd  
Unit ID: AWA 002  
Study Date: Wednesday March 02, 2016  
Interval: 15 minutes

### Vehicles

	Southbound			Westbound			Northbound			Eastbound			Grand Total		
	Left	Right	Total	Left	Thru	Right	Total	Left	Right	Total	Left	Thru		Right	Total
	07:00	5	6	11	0	169	10	179	7	2	9	5		71	0
07:15	5	8	13	3	154	16	173	4	1	5	17	65	0	82	273
07:30	13	30	43	0	152	45	197	4	0	4	22	76	0	98	342
07:45	33	32	65	0	125	133	258	0	0	0	65	93	0	158	481
<b>Subtotal</b>	<b>56</b>	<b>76</b>	<b>132</b>	<b>3</b>	<b>600</b>	<b>204</b>	<b>807</b>	<b>15</b>	<b>3</b>	<b>18</b>	<b>109</b>	<b>305</b>	<b>0</b>	<b>414</b>	<b>1371</b>
08:00	71	73	144	3	200	167	370	0	0	0	52	74	0	126	640
08:15	18	21	39	0	141	9	150	2	2	4	6	52	2	60	253
08:30	1	2	3	0	125	5	130	3	2	5	9	67	0	76	214
08:45	1	2	3	0	87	8	95	2	2	4	6	33	0	39	141
<b>Subtotal</b>	<b>91</b>	<b>98</b>	<b>189</b>	<b>3</b>	<b>553</b>	<b>189</b>	<b>745</b>	<b>7</b>	<b>6</b>	<b>13</b>	<b>73</b>	<b>226</b>	<b>2</b>	<b>301</b>	<b>1248</b>
<b>Total</b>	<b>147</b>	<b>174</b>	<b>321</b>	<b>6</b>	<b>1153</b>	<b>393</b>	<b>1552</b>	<b>22</b>	<b>9</b>	<b>31</b>	<b>182</b>	<b>531</b>	<b>2</b>	<b>715</b>	<b>2619</b>
Table %	5.6	6.6	12.3	0.2	44.0	15.0	59.3	0.8	0.3	1.2	6.9	20.3	0.1	27.3	100.0
Intersection %	5.6	6.6	12.3	0.2	44.0	15.0	59.3	0.8	0.3	1.2	6.9	20.3	0.1	27.3	100.0
Approach %	45.8	54.2	100.0	0.4	74.3	25.3	100.0	71.0	29.0	100.0	25.5	74.3	0.3	100.0	-
Total Approach %	45.8	54.2	100.0	0.4	74.3	25.3	100.0	71.0	29.0	100.0	25.5	74.3	0.3	100.0	-
Peak Hour	07:30	07:30	07:30	07:15	07:15	07:15	07:15	07:00	08:00	07:00	07:15	07:15	07:30	07:15	07:15
Peak Total	135	156	291	6	631	361	998	15	6	18	156	308	2	464	1736
Peak Factor (PHF)	0.5	0.5	0.5	0.5	0.8	0.5	0.7	0.5	0.8	0.5	0.6	0.8	0.3	0.7	0.5

## Albert Wilson & Associates Standard Report

Location: Ranchero Road @ Cataba Rd  
Unit ID: AWA 002  
Study Date: Wednesday March 02, 2016  
Interval: 15 minutes

### Vehicles

	Southbound			Westbound			Northbound			Eastbound			Grand Total			
	Left	Right	Total	Left	Thru	Right	Total	Left	Right	Total	Left	Thru	Right	Total	Total	
	16:00	4	10	14	1	105	6	112	0	2	2	8	198	0	206	334
16:15	15	14	29	3	101	12	116	1	3	4	15	162	0	177	326	
16:30	15	17	32	1	130	5	136	0	1	1	16	190	2	208	377	
16:45	14	10	24	1	87	5	93	1	1	2	4	212	1	217	336	
<b>Subtotal</b>	<b>48</b>	<b>51</b>	<b>99</b>	<b>6</b>	<b>423</b>	<b>28</b>	<b>457</b>	<b>2</b>	<b>7</b>	<b>9</b>	<b>43</b>	<b>762</b>	<b>3</b>	<b>808</b>	<b>1373</b>	
17:00	12	6	18	2	100	5	107	0	1	1	3	227	0	230	356	
17:15	6	8	14	2	88	1	91	1	0	1	7	219	1	227	333	
17:30	3	11	14	3	87	6	96	2	2	4	5	219	0	224	338	
17:45	4	12	16	2	80	1	83	0	2	2	2	219	1	222	323	
<b>Subtotal</b>	<b>25</b>	<b>37</b>	<b>62</b>	<b>9</b>	<b>355</b>	<b>13</b>	<b>377</b>	<b>3</b>	<b>5</b>	<b>8</b>	<b>17</b>	<b>884</b>	<b>2</b>	<b>903</b>	<b>1350</b>	
<b>Total</b>	<b>73</b>	<b>88</b>	<b>161</b>	<b>15</b>	<b>778</b>	<b>41</b>	<b>834</b>	<b>5</b>	<b>12</b>	<b>17</b>	<b>60</b>	<b>1646</b>	<b>5</b>	<b>1711</b>	<b>2723</b>	
Table %	2.7	3.2	5.9	0.6	28.6	1.5	30.6	0.2	0.4	0.6	2.2	60.4	0.2	62.8	100.0	
Intersection %	2.7	3.2	5.9	0.6	28.6	1.5	30.6	0.2	0.4	0.6	2.2	60.4	0.2	62.8	100.0	
Approach %	45.3	54.7	100.0	1.8	93.3	4.9	100.0	29.4	70.6	100.0	3.5	96.2	0.3	100.0	-	
Total Approach %	45.3	54.7	100.0	1.8	93.3	4.9	100.0	29.4	70.6	100.0	3.5	96.2	0.3	100.0	-	
Peak Hour	16:15	16:00	16:15	17:00	16:00	16:00	16:00	16:45	16:00	16:00	16:00	16:00	17:00	16:30	16:30	16:30
Peak Total	56	51	103	9	423	28	457	4	7	9	43	884	4	903	1402	
Peak Factor (PHF)	0.9	0.8	0.8	0.8	0.8	0.6	0.8	0.5	0.6	0.6	0.7	1.0	0.5	1.0	0.5	

## APPENDIX 2

