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DEVELOPMENT SERVICES
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May 24, 2017

MEMORANDUM

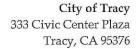TO: Planning Commission

FROM: Andrew Malik, Development Services Director

SUBJECT: Traffic Study for Intersections Related to the Barcelona Infill Project

During the Planning Commission discussion for the Barcelona Infill revised architecture on March 22, 2017, a number of questions regarding traffic impacts in the project area were posed. In particular, the intersections of Barcelona and Cypress Drives sparked concern over the potential need for a stop sign, and the intersections of Corral Hollow Road and Cypress Drive, and Corral Hollow and Schulte Roads were also discussed and Commission wanted them to be studied for future improvements. Because the project on the agenda was only the addition of new architectural elevations and a Vesting Tentative Subdivision Map was already previously approved for the development of the 51 housing units, a condition of approval to require a traffic study could not be added to the project on the agenda.

After some research, it was determined that the two intersections on Corral Hollow Road were already studied with the Tracy Hills project, and mitigations will be completed with the development of that project. As for the intersection of Barcelona and Cypress, staff initiated traffic counts for the intersection and evaluated the results in compliance with the 2014 California Manual of Uniform Traffic Devices. The resulting study showed that no additional traffic controls are necessary at the intersection. Please see the attached memo for reference.

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Memorandum

Date: May 23, 2017

To: Robert Armijo, City Engineer

Cris Mina, Senior Civil Engineer

Victoria Lombardo, Senior Planner

From: Al Gali, Associate Civil Engineer ALG

Subject: Multi-Way Stop Criterion Analysis for Barcelona Drive and Cypress Drive

The following represents the results of the City Engineer's Office traffic counts for a multi-way stop (four-way stop) located at Barcelona Drive and Cypress Drive. Per the criterion analysis of the traffic counts by the City Engineer's Office a four-way stop is not warranted.

On April 14, 2017 at the regularly scheduled Planning Commission meeting, the Commissioners, requested City staff to investigate the potential need for a four-way stop at Cypress Drive and Barcelona Drive. The Commissioners were concerned about future traffic impacts to the established subdivisions. On May 1, 2017, City staff started the analysis by installing traffic counters on each leg of the subject intersection. On May 5, 2017, the traffic counts were concluded. The traffic count data and pictures of the site are located in Appendix A.

The traffic counts were compared to the requirements outlined in the 2014 California Manual of Uniform Traffic Control Devices (2014 CA-MUTCD) Section 2B.07. The criterion and results are as follows:

Criterion	Result
• A – Traffic Signal Required	NOT MET: Barcelona Drive and Cypress Drive is not identified to have a traffic signal.

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- B – Five or more reported crashes in a 12-month period

  NOT MET:
  One (1) incident was reported at the subject intersection in the last 12 months.

- C1* - Major street vehicular volumes entering the intersection averages at least 300 vehicles per hour for any 8-hours of an average day.

  NOT MET:
  Max. major street average: 188

- C2* - Combined minor street vehicle, pedestrian, and bicycle volume averages at least 200 units per hour for the same 8 hours as C1, **with** an average vehicular minor-street delay of at least 30 seconds.

  NOT MET:
  Max. minor street average in same 8-hour period: 186
  Pedestrian, bicycle, and vehicle delay data not available.

- 3 – If the major street's 85th percentile speed exceeds 40 miles-per-hour, the minimum volumes can be reduced by 30% (210-major and 140-minor).

  NOT MET:
  Major street's 85th percentile speed is set at 30 miles-per-hour and therefore cannot reduce the volume requirements.

- 4 – No single criterion is triggered but if Criterion B, C1, and C2 are met to 80% of the required numbers (4 accidents, 240-major, and 160-minor).

  NOT MET:
  Criterion B not met due to only one (1) of reported crash.
  Criterion 1 not met due lack of volume.
  Criterion 2 not met due lack of pedestrian, bicycle, and delay data.

*Note: C1 must be combined with C2 (per the 2014 CA-MUTCD)

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APPENDIX A

Traffic Count Data and Pictures of the Intersection

Site: Cypress Going West.0.0W
Description: MetroCount Factory Test Setup
Filter time: 9:32 Tuesday, May 02, 2017 => 10:48 Friday, May 05, 2017
Scheme: Count events divided by setup divisor
Filter: GapX(>0) Lane(0-16)

Hour	Mon 01 May	Tue 02 May	Wed 03 May	Thu 04 May	Fri 05 May	Sat 06 May	Sun 07 May	Averages 1 - 5	1 - 7
0000-0100	*	*	11	8	9	*	*	9.0	9.0
0100-0200	*	*	8	1	7	*	*	5.3	5.3
0200-0300	*	*	3	4	5	*	*	3.7	3.7
0300-0400	*	*	3	4	4	*	*	3.7	3.7
0400-0500	*	*	8	13	9	*	*	9.7	9.7
0500-0600	*	*	14	8	11	*	*	10.7	10.7
0600-0700	*	*	18	17	15	*	*	16.0	16.0
0700-0800	*	*	56	57	63	*	*	58.7	58.7
0800-0900	*	*	97	102	93	*	*	97.0	97.0
0900-1000	*	3	53	47	24	*	*	31.0	31.0
1000-1100	*	47	31	54	0	*	*	32.5	32.5
1100-1200	*	64	47	51	*	*	*	53.7	53.7
1200-1300	*	68	64	63	*	*	*	64.3	64.3
1300-1400	*	68	68	55	*	*	*	63.0	63.0
1400-1500	*	103	75	76	*	*	*	84.7	84.7
1500-1600	*	84	87	108	*	*	*	92.7	92.7
1600-1700	*	109	80	80	*	*	*	89.3	89.3
1700-1800	*	105	90	106	*	*	*	100.3	100.3
1800-1900	*	103	88	124	*	*	*	104.3	104.3
1900-2000	*	96	101	85	*	*	*	93.3	93.3
2000-2100	*	83	104	98	*	*	*	95.0	95.0
2100-2200	*	63	64	68	*	*	*	64.7	64.7
2200-2300	*	34	46	28	*	*	*	35.0	35.0
2300-2400	*	9	12	36	*	*	*	18.7	18.7

Hour	Mon 01 May	Tue 02 May	Wed 03 May	Thu 04 May	Fri 05 May	Sat 06 May	Sun 07 May	Averages 1 - 5	1 - 7
0000-0100	*	*	17	8	13	*	*	12.0	12.0
0100-0200	*	*	11	7	7	*	*	8.0	8.0
0200-0300	*	*	3	2	4	*	*	2.0	2.0
0300-0400	*	*	2	7	5	*	*	4.3	4.3
0400-0500	*	*	18	14	11	*	*	14.3	14.3
0500-0600	*	*	18	12	16	*	*	15.0	15.0
0600-0700	*	*	27	30	32	*	*	29.0	29.0
0700-0800	*	*	153	176	139	*	*	155.7	155.7
0800-0900	*	*	158	135	145	*	*	146.0	146.0
0900-1000	*	1	36	37	11	*	*	20.5	20.5
1000-1100	*	25	33	38	2	*	*	24.0	24.0
1100-1200	*	77	99	62	*	*	*	78.7	78.7
1200-1300	*	40	54	39	*	*	*	44.3	44.3
1300-1400	*	64	113	62	*	*	*	79.0	79.0
1400-1500	*	159	234	167	*	*	*	186.0	186.0
1500-1600	*	166	164	156	*	*	*	161.3	161.3
1600-1700	*	112	112	100	*	*	*	108.0	108.0
1700-1800	*	138	105	113	*	*	*	118.7	118.7
1800-1900	*	99	84	97	*	*	*	92.7	92.7
1900-2000	*	86	92	89	*	*	*	88.0	88.0
2000-2100	*	85	72	88	*	*	*	81.3	81.3
2100-2200	*	42	61	58	*	*	*	53.7	53.7
2200-2300	*	39	31	35	*	*	*	34.3	34.3
2300-2400	*	25	23	29	*	*	*	24.7	24.7

Site:	Barcelona Going North.0.0N
Description:	MetroCount Factory Test Setup
Filter time:	11:02 Monday, May 01, 2017 => 10:53 Friday, May 05, 2017
Scheme:	Count events divided by setup divisor
Filter:	GapX(>0) Lane(0-16)

Hour	Mon 01 May	Tue 02 May	Wed 03 May	Thu 04 May	Fri 05 May	Sat 06 May	Sun 07 May		Averages 1 - 5	1 - 7
0000-0100	*	0	9	9	2	*	*		4.5	4.5
0100-0200	*	1	0	0	5	*	*		1.3	1.3
0200-0300	*	2	0	3	0	*	*		1.0	1.0
0300-0400	*	6	6	3	4	*	*		4.5	4.5
0400-0500	*	17	12	15	3	*	*		11.5	11.5
0500-0600	*	25	17	19	23	*	*		20.0	20.0
0600-0700	*	13	26	20	19	*	*		19.5	19.5
0700-0800	*	55	68	70	77	*	*		67.3	67.3
0800-0900	*	42	50	69	53	*	*		52.8	52.8
0900-1000	*	27	46	42	7	*	*		29.8	29.8
1000-1100	*	23	30	26	1	*	*		19.5	19.5
1100-1200	3	30	31	39	*	*	*		25.3	25.3
1200-1300	0	29	15	16	*	*	*		14.3	14.3
1300-1400	0	21	40	32	*	*	*		22.5	22.5
1400-1500	1	45	47	52	*	*	*		35.5	35.5
1500-1600	50	50	36	46	*	*	*		45.0	45.0
1600-1700	27	44	28	32	*	*	*		32.5	32.5
1700-1800	26	23	33	61	*	*	*		34.8	34.8
1800-1900	23	33	27	44	*	*	*		31.8	31.8
1900-2000	18	19	29	25	*	*	*		22.5	22.5
2000-2100	20	32	39	20	*	*	*		27.3	27.3
2100-2200	6	8	16	28	*	*	*		13.5	13.5
2200-2300	13	12	8	12	*	*	*		10.3	10.3
2300-2400	3	2	5	13	*	*	*		4.8	4.8

Site: Barcelona Going South.0.0S
Description: MetroCount Factory Test Setup
Filter time: 11:01 Monday, May 01, 2017 => 10:54 Friday, May 05, 2017
Scheme: Count events divided by setup divisor
Filter: GapX(>0) Lane(0-16)

	Mon 01 May	Tue 02 May	Wed 03 May	Thu 04 May	Fri 05 May	Sat 06 May	Sun 07 May	Averages 1 - 5	1 - 7
Hour									
0000-0100	*	6	4	5	4	*	*	4.5	4.5
0100-0200	*	4	8	3	1	*	*	3.8	3.8
0200-0300	*	4	3	4	2	*	*	2.3	2.3
0300-0400	*	10	10	9	11	*	*	9.5	9.5
0400-0500	*	28	18	16	14	*	*	18.5	18.5
0500-0600	*	25	32	22	25	*	*	25.3	25.3
0600-0700	*	44	40	29	42	*	*	38.5	38.5
0700-0800	*	157	220	154	129	*	*	164.8	164.8
0800-0900	*	187	287	124	154	*	*	187.5	187.5
0900-1000	*	107	107	62	20	*	*	73.5	73.5
1000-1100	*	77	61	59	0	*	*	49.0	49.0
1100-1200	1	134	115	68	*	*	*	78.5	78.5
1200-1300	0	65	70	28	*	*	*	40.3	40.3
1300-1400	0	91	97	38	*	*	*	56.3	56.3
1400-1500	0	139	141	114	*	*	*	97.8	97.8
1500-1600	27	202	125	144	*	*	*	123.8	123.8
1600-1700	99	83	89	76	*	*	*	86.5	86.5
1700-1800	83	102	90	93	*	*	*	91.3	91.3
1800-1900	60	87	60	55	*	*	*	64.8	64.8
1900-2000	64	54	70	57	*	*	*	61.0	61.0
2000-2100	50	60	51	46	*	*	*	51.5	51.5
2100-2200	25	24	37	36	*	*	*	29.8	29.8
2200-2300	22	16	20	18	*	*	*	18.5	18.5
2300-2400	8	14	7	20	*	*	*	11.8	11.8