

**Appendix T “No Cumulative Impact” Project
Alternative – Traffic Analysis
Memorandum (May 2016)**

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MEMORANDUM



To: Jack Henthorn
Jack Henthorn & Associates

Date: May 12, 2016

From: Chris Mendiara 
LLG, Engineers

LLG Ref: 3-13-2299

Subject: 661 Bear Valley Parkway – “No Cumulative Impact” Project Alternative

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The Project Applicant for the 661 Bear Valley Parkway project (Project) has requested Linscott, Law & Greenspan, Engineers (LLG) determine the maximum project size that would result in no significant cumulative traffic impacts at the Bear Valley Parkway/Encino Drive unsignalized intersection. At present, the proposed Project consists of 55 single-family dwelling units and results in one (1) cumulative impact at this location.

The City of Escondido’s significance threshold for intersections is a maximum of 2.0 seconds of delay added by the project during peak hour operations, if the intersection operates at Level of Service (LOS) D or worse. LLG used an iterative process to determine the maximum number of units that could be built without exceeding this threshold. The Project trip generation was reduced in increments until delay was within 2.0 seconds of without Project operations. As with the Traffic Impact Analysis report, intersection analysis was completed using *Synchro* (version 8), consistent with City standards.

Table A, on the following page, shows the peak hour operations for the Existing + Cumulative scenario “Without Project”, “With Project” (55-units proposed), and with the “No Impact Alternative” (37-units). As shown in *Table A*, the 37-unit No Impact Alternative increases delay by no more than 2.0 seconds as compared to Without Project operations during both AM and PM peak hour operations.

The intersection calculation worksheets are included as attachments to this memo.

cc: File

MEMORANDUM

TABLE A
"NO IMPACT ALTERNATIVE" INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing + Cumulative ^a		Existing + Cumulative + Proposed Project (55 Units) ^a			Existing + Cumulative + No Impact Alternative (37 Units)		
			Delay ^b	LOS ^c	Delay	LOS	Δ ^d	Delay	LOS	Δ
Bear Valley Parkway / Encino Drive	MSSC ^e	AM	57.2	F	61.1	F	3.9	59.2	F	2.0
		PM	28.7	D	35.4	E	6.7	30.6	D	1.9

Footnotes:

- a. Source: Traffic Impact Analysis (LLG) 3-30-2016.
- b. Average delay expressed in seconds per vehicle.
- c. Level of Service.
- d. Δ = Project-related increase in delay.
- e. Minor Street Stop Controlled intersection. Minor street left-turn delay is reported.

UN SIGNALIZED	
DELAY/LOS THRESHOLDS	
Delay	LOS
0.0 ≤ 10.0	A
10.1 to 15.0	B
15.1 to 25.0	C
25.1 to 35.0	D
35.1 to 50.0	E
≥ 50.1	F

ATTACHMENTS

INTERSECTION ANALYSIS WORKSHEETS

Intersection

Int Delay, s/veh 6.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	4	133	111	571	984	25
Future Vol, veh/h	4	133	111	571	984	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Stop
Storage Length	110	0	130	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	91	91	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	211	122	627	1093	28

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1964	1093	0
Stage 1	1093	-	-
Stage 2	871	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	69	261	638
Stage 1	321	-	-
Stage 2	410	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	56	261	638
Mov Cap-2 Maneuver	56	-	-
Stage 1	321	-	-
Stage 2	332	-	-

Approach	EB	NB	SB
HCM Control Delay, s	59.2	1.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	638	-	56	261	-	-
HCM Lane V/C Ratio	0.191	-	0.113	0.809	-	-
HCM Control Delay (s)	12	-	77.3	58.7	-	-
HCM Lane LOS	B	-	F	F	-	-
HCM 95th %tile Q(veh)	0.7	-	0.4	6.3	-	-

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	7	47	91	1186	716	12
Future Vol, veh/h	7	47	91	1186	716	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Stop
Storage Length	110	0	130	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	95	95	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	82	96	1248	796	13

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2236	796	0
Stage 1	796	-	-
Stage 2	1440	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	47	387	826
Stage 1	444	-	-
Stage 2	218	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	42	387	826
Mov Cap-2 Maneuver	42	-	-
Stage 1	444	-	-
Stage 2	193	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.6	0.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	826	-	42	387	-	-
HCM Lane V/C Ratio	0.116	-	0.292	0.213	-	-
HCM Control Delay (s)	9.9	-	122.9	16.8	-	-
HCM Lane LOS	A	-	F	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1	0.8	-	-

