MEMORANDUM

To:	Mr. Scott Molloy Newland Communities	Date:	May 16, 2018
From:	John Boarman, P. E. LLG, Engineers	LLG Ref:	3-16-2664
Subject:	Sierra – Monte Vista Drive / Foothill Drive intersection Operations		

We have completed analysis of the Monte Vista Drive / Foothill Drive intersection under the Existing + Project and Existing + Project + Cumulative Projects scenarios. This intersection is calculated to operate at LOS C or better under both scenarios during both, the AM and PM peak hours.

The corresponding Synchro analysis worksheets are attached for your reference. Please review and call if you have any questions.

cc: File

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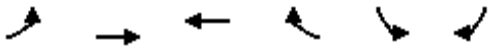
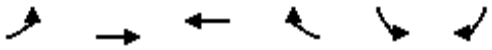


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	40	240	165	156	242	30
Future Volume (vph)	40	240	165	156	242	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	261	179	170	263	33

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total (vph)	304	179	170	296
Volume Left (vph)	43	0	0	263
Volume Right (vph)	0	0	170	33
Hadj (s)	0.06	0.03	-0.67	0.14
Departure Headway (s)	5.5	5.8	5.1	5.6
Degree Utilization, x	0.46	0.29	0.24	0.46
Capacity (veh/h)	630	587	665	594
Control Delay (s)	13.0	10.0	8.6	13.4
Approach Delay (s)	13.0	9.3		13.4
Approach LOS	B	A		B

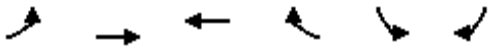
Intersection Summary			
Delay	11.8		
Level of Service	B		
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	30	223	306	310	234	40
Future Volume (vph)	30	223	306	310	234	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	242	333	337	254	43

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total (vph)	275	333	337	297
Volume Left (vph)	33	0	0	254
Volume Right (vph)	0	0	337	43
Hadj (s)	0.06	0.03	-0.67	0.12
Departure Headway (s)	5.9	5.9	5.2	6.1
Degree Utilization, x	0.45	0.55	0.49	0.50
Capacity (veh/h)	588	593	673	554
Control Delay (s)	13.5	14.7	11.9	15.1
Approach Delay (s)	13.5	13.3		15.1
Approach LOS	B	B		C

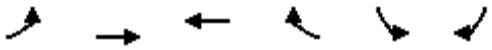
Intersection Summary			
Delay	13.8		
Level of Service	B		
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	40	290	186	195	290	40
Future Volume (vph)	40	290	186	195	290	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	315	202	212	315	43

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total (vph)	358	202	212	358
Volume Left (vph)	43	0	0	315
Volume Right (vph)	0	0	212	43
Hadj (s)	0.06	0.03	-0.67	0.14
Departure Headway (s)	5.8	6.3	5.5	6.0
Degree Utilization, x	0.58	0.35	0.33	0.60
Capacity (veh/h)	590	549	618	569
Control Delay (s)	16.6	11.4	10.0	17.4
Approach Delay (s)	16.6	10.7		17.4
Approach LOS	C	B		C

Intersection Summary			
Delay	14.7		
Level of Service	B		
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	40	262	366	370	273	50
Future Volume (vph)	40	262	366	370	273	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	285	398	402	297	54

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total (vph)	328	398	402	351
Volume Left (vph)	43	0	0	297
Volume Right (vph)	0	0	402	54
Hadj (s)	0.06	0.03	-0.67	0.11
Departure Headway (s)	6.3	6.3	5.6	6.5
Degree Utilization, x	0.57	0.70	0.63	0.63
Capacity (veh/h)	551	559	630	533
Control Delay (s)	17.3	21.6	16.4	19.8
Approach Delay (s)	17.3	19.0		19.8
Approach LOS	C	C		C

Intersection Summary				
Delay	18.8			
Level of Service	C			
Intersection Capacity Utilization	63.4%	ICU Level of Service	B	
Analysis Period (min)	15			