

Memorandum

To: Mike Harlan, Blue Mountain Communities
From: Robert Paderna, P.E., Kimley-Horn
Zachary Ramalingam, EIT, Kimley-Horn
Re: Summer Brook
Traffic Signal Warrant Evaluation - Green Valley Road at Deer Valley Road
Date: June 4, 2021

2021 JUN 16 AM 11:25
RECEIVED
PLANNING DEPARTMENT

The purpose of this memorandum is to present the results of the traffic signal warrant evaluation completed for the Green Valley Road and Deer Valley Road intersection in El Dorado County, CA. We understand that El Dorado County has requested completion of the traffic signal warrant evaluation for the subject intersection as part of a condition of approval (COA) for the Summer Brook development project. This memorandum summarizes the signal warrant evaluation and our findings.

Data Collection

Kimley-Horn completed a site visit of the subject intersection on Monday, February 18, 2019, to observe posted speed limits, intersection lane configurations, and intersection geometry. Additionally, we collected 7-day, bi-directional roadway segment counts along each of the Green Valley Road and Deer Valley Road approaches to the subject intersection on the week of May 11, 2021. In addition, we collected intersection turning movement counts during the peak 8-hour window on May 26, 2021 for use in the traffic signal warrant evaluation. The traffic count data sheets are provided in **Attachment A**.

Traffic Control Warrants

We completed a traffic signal warrant evaluation for the subject intersection based on the methodologies noted in Section 4C.01 of the *California Manual on Uniform Traffic Control Devices (CMUTCD), 2014 Edition (with March 2018 revisions)*. The warrant evaluation was completed for the Existing plus Project traffic conditions and included the review of Warrants 1 through 4 noted below.

- **Warrant 1 (Eight-Hour Vehicular Volume)** is intended for application at locations where there is either a large volume of intersecting traffic (Condition A-Warrant 1A) or where the traffic volume on a major street is so heavy that the traffic on the minor intersecting street experiences delay or conflict in entering or crossing the major street (Condition B-Warrant 1B). The need for a traffic control signal shall be considered if an engineering study finds that one of the conditions (Condition A and Condition B) exist for each of any 8 hours of an average day.
- **Warrant 2 (Four-Hour Vehicular Volume)** is intended for locations where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal. The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day the volume conditions are met.
- **Warrant 3 (Peak Hour)** is intended for use at a location where during any one (1) hour of an average day the minor street traffic experiences undue delay when entering or crossing the major street.
- **Warrant 4 (Pedestrian Volumes)** The Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.

TM-R21-0001

Kimley » Horn

Based on the evaluation of the abovementioned traffic signal warrants , it was determined that the warrant for a traffic signal at the Green Valley Road at Deer Valley Road intersection is not satisfied under Existing plus Project conditions. The results of the warrant evaluation is summarized in **Table 1** below. Summary sheets for the warrant evaluation are included as **Attachment B**.

Table 1: Traffic Signal Warrant Evaluation Summary

Intersection	Traffic Signal Warrant			
	Warrant 1 8-hour volume	Warrant 2 4-hour volume	Warrant 3 Peak Hour	Warrant 4 Pedestrian Volume
Green Valley Road & Deer Valley Road	Not Satisfied	Not Satisfied	Not Satisfied	Not Satisfied

Equitable Share Responsibility

Because it was determined that the traffic signal warrant is not satisfied, the County has requested that the project applicant determine the project's fair share percentage of the construction costs to install a traffic signal at the subject intersection. The project's fair share contribution was calculated based on the project's proportionate traffic contribution to the overall future traffic volumes at the subject intersection. Based on the Caltrans *Guide for the Preparation of Traffic Impact Studies* (2002), the fair share calculation for impacts at an intersection is calculated using the following equation:

$$P = T/(T_B - T_E)$$

Where:

P = The equitable share for the proposed project's traffic impact.

T = The vehicle trips generated by the project during the peak hour of subject intersection in vehicles per hour, vph.

T_B = The forecasted traffic volume on impacted intersection at the time of general plan build-out, vph.

T_E = The existing traffic volume on the impacted intersection plus other approved projects that will generate traffic that has yet to be constructed/opened, vph.

Based on proposed project trips and traffic volumes contained in the *Summer Brook Traffic Impact Analysis* (dated February 14, 2007), we calculated a fair share of 3.9% for the proposed project's traffic impact.

Summary and Recommendations

Based on the traffic signal warrant criteria contained in the *CMUTCD*, the Warrants 1 through 4 are not satisfied at the Green Valley Road at Deer Valley Road intersection under Existing plus Project conditions. Therefore, no traffic control or other intersection control modifications are required at this time. The proposed project's fair share contribution percentage of construction costs to install a traffic signal was calculated to be 3.9%, which is equivalent to approximately \$10,000 to \$12,000. Note that this represents an opinion of probable construction costs under current market conditions, and Kimley-Horn cannot guarantee accuracy of construction cost estimates in future years due to factors beyond our control.

Attachments:

Attachment A – Traffic Counts

Attachment B – Warrant Analysis Worksheets

Kimley»Horn

Attachment A
Traffic Counts

National Data & Surveying Services Intersection Turning Movement Count

Location: Green Valley Rd & Deer Valley Rd
 City: Rescue
 Control: 2-Way Stop(EB/WB)

Project ID: 21-070070-001
 Date: 5/26/2021

Data - Total

NS/EW Streets:	Green Valley Rd				Green Valley Rd				Deer Valley Rd				Deer Valley Rd				TOTAL
	1 NL	1 NT	1 NR	0 NU	1 SL	1 ST	1 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
NOON																	
11:00 AM	3	88	1	0	9	74	4	0	2	0	5	0	1	0	5	0	192
11:15 AM	5	85	1	0	4	85	3	0	3	0	4	0	2	1	6	0	199
11:30 AM	2	83	3	0	6	91	5	0	5	0	7	0	1	0	5	0	208
11:45 AM	3	108	2	0	2	79	4	0	3	1	5	0	4	1	8	0	220
12:00 PM	4	81	4	0	4	86	6	0	1	0	2	0	2	0	13	0	203
12:15 PM	7	96	0	2	6	93	3	0	0	5	0	1	0	6	0	0	226
12:30 PM	2	98	0	0	5	89	5	0	4	0	2	0	2	0	10	0	217
12:45 PM	4	108	4	0	5	102	4	0	6	0	3	0	0	0	9	0	245
1:00 PM	4	97	8	0	10	105	6	0	1	1	3	0	4	1	4	0	244
1:15 PM	11	93	6	0	5	113	2	0	3	0	3	0	2	0	1	0	239
1:30 PM	2	94	3	1	9	99	7	0	5	0	3	0	4	0	5	0	232
1:45 PM	8	96	1	0	11	88	5	0	4	1	6	0	1	2	1	0	224
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	55	1127	33	3	76	1104	54	0	44	3	48	0	24	5	73	0	2649
PEAK HR :	12:45 PM - 01:45 PM				6.16% 89.47% 4.38% 0.00%				46.32% 3.16% 50.53% 0.00%				23.53% 4.90% 71.57% 0.00%				TOTAL
PEAK HR VOL :	21	392	21	1	29	419	19	0	15	1	12	0	10	1	19	0	960
PEAK HR FACTOR :	0.477	0.907	0.656	0.250	0.938	0.725	0.927	0.000	0.625	0.250	1.000	0.000	0.625	0.250	0.528	0.000	0.980
PM																	
1	1 NL	1 NT	1 NR	0 NU	1 SL	1 ST	1 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	TOTAL
2:00 PM	4	93	1	0	7	126	0	0	6	1	8	0	2	0	5	0	253
2:15 PM	9	86	7	1	7	124	9	0	3	0	3	0	1	0	4	0	254
2:30 PM	3	77	7	0	2	105	2	0	3	0	1	0	5	0	7	0	212
2:45 PM	4	90	2	0	5	127	2	0	6	0	0	0	2	0	4	0	242
3:00 PM	2	79	6	0	8	129	1	0	3	0	2	0	1	0	6	0	237
3:15 PM	5	99	2	0	8	127	3	0	6	0	8	0	0	0	4	0	262
3:30 PM	3	82	1	0	9	116	5	1	8	1	2	0	4	0	11	0	243
3:45 PM	7	99	1	0	10	128	3	0	4	0	6	0	7	0	7	0	272
4:00 PM	5	129	2	0	8	145	2	0	4	0	3	0	3	0	3	0	304
4:15 PM	5	105	3	0	7	127	4	0	5	1	6	0	3	0	6	0	272
4:30 PM	4	103	5	0	7	103	5	0	4	0	3	0	3	1	5	0	243
4:45 PM	5	86	4	0	5	134	9	0	3	0	6	1	4	0	6	0	263
5:00 PM	10	94	7	0	2	111	6	0	5	0	5	0	0	0	7	0	247
5:15 PM	1	85	5	0	7	170	5	0	2	0	1	0	4	0	6	0	286
5:30 PM	4	104	2	0	7	135	5	0	5	0	4	0	4	0	3	0	273
5:45 PM	3	99	3	0	8	122	3	0	1	0	6	0	2	0	7	0	254
6:00 PM	6	85	1	1	6	105	5	0	2	0	5	0	2	0	0	0	218
6:15 PM	5	73	4	0	6	77	3	0	3	0	5	0	1	0	5	0	182
6:30 PM	0	65	3	0	5	97	2	0	3	0	2	0	0	0	5	0	182
6:45 PM	2	38	3	0	4	93	3	0	2	0	5	0	0	1	2	0	153
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	87	1771	69	2	128	2401	77	1	78	3	81	1	48	2	103	0	4852
PEAK HR :	03:45 PM - 04:45 PM				4.91% 92.10% 2.95% 0.04%				47.85% 1.84% 49.69% 0.61%				31.37% 1.31% 67.32% 0.00%				TOTAL
PEAK HR VOL :	21	436	11	0	32	503	14	0	17	1	18	0	16	1	21	0	1091
PEAK HR FACTOR :	0.750	0.845	0.550	0.000	0.860	0.885	0.700	0.000	0.850	0.250	0.750	0.000	0.571	0.250	0.750	0.000	0.897

Prepared by National Data & Surveying Services

VOLUME

Green Valley Rd & Deer Valley Rd

Day: Tuesday
Date: 5/11/2021

City: El Dorado Hills
Project #: CA21_070069_001

DAILY TOTALS			NB 4,977	SB 5,754	EB 395	WB 554	Total 11,680									
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL					
00:00	2	9	0	2	13	12:00	92	90	7	12	201					
00:15	2	9	0	0	11	12:15	76	104	6	12	198					
00:30	1	3	0	0	4	12:30	79	99	15	10	203					
00:45	1	6	4	25	34	12:45	81	328	90	383	5	181	783			
01:00	2	4	0	0	6	13:00	71	96	6	5	178					
01:15	2	3	0	0	5	13:15	83	107	8	9	207					
01:30	2	3	0	1	6	13:30	95	102	7	9	213					
01:45	0	6	2	12	19	13:45	87	336	109	414	7	28	10	33	213	811
02:00	1	2	0	1	4	14:00	75	129	7	8	219					
02:15	1	1	0	0	2	14:15	111	119	6	9	245					
02:30	2	2	1	0	5	14:30	82	118	9	13	222					
02:45	1	5	0	5	13	14:45	105	373	115	481	11	33	13	43	244	930
03:00	3	4	0	0	7	15:00	89	129	11	11	240					
03:15	2	1	0	0	3	15:15	116	165	3	6	290					
03:30	3	1	0	1	5	15:30	116	139	4	9	268					
03:45	2	10	2	8	19	15:45	89	410	132	565	6	24	14	40	241	1039
04:00	2	4	0	0	6	16:00	106	117	8	8	239					
04:15	5	1	0	3	9	16:15	98	132	11	10	251					
04:30	6	2	0	3	11	16:30	109	153	11	4	277					
04:45	10	23	5	12	43	16:45	102	415	120	522	3	33	6	28	231	998
05:00	7	4	0	2	13	17:00	89	132	6	8	235					
05:15	25	4	0	4	33	17:15	100	172	10	6	288					
05:30	34	7	0	6	47	17:30	66	131	8	7	212					
05:45	38	104	18	33	152	17:45	53	308	119	554	9	33	14	35	195	930
06:00	29	15	1	3	48	18:00	57	101	6	10	174					
06:15	42	17	1	2	62	18:15	64	76	6	8	154					
06:30	82	23	2	7	114	18:30	63	104	7	6	180					
06:45	61	214	42	97	344	18:45	55	239	104	385	3	22	11	35	173	681
07:00	69	40	2	7	118	19:00	53	94	8	5	160					
07:15	110	48	6	11	175	19:15	41	70	1	6	118					
07:30	125	70	10	23	228	19:30	32	56	2	4	94					
07:45	120	424	93	251	763	19:45	35	161	77	297	2	13	2	17	116	488
08:00	100	67	9	14	190	20:00	46	55	0	6	107					
08:15	95	69	6	8	178	20:15	23	52	1	2	78					
08:30	102	73	13	16	204	20:30	27	64	2	2	95					
08:45	114	411	93	302	799	20:45	25	121	81	252	3	6	1	11	110	390
09:00	68	77	12	11	168	21:00	29	48	0	0	77					
09:15	109	72	3	4	188	21:15	24	37	2	5	68					
09:30	78	62	8	6	154	21:30	15	41	6	1	63					
09:45	80	335	78	289	683	21:45	9	77	40	166	1	7	50	258		
10:00	80	56	11	10	157	22:00	13	20	2	0	35					
10:15	66	67	4	9	146	22:15	9	26	1	1	37					
10:30	60	75	7	6	148	22:30	11	13	1	0	25					
10:45	84	290	58	256	605	22:45	5	38	21	80	1	5	0	1	27	124
11:00	75	77	7	10	169	23:00	6	6	0	1	13					
11:15	79	81	9	9	178	23:15	3	8	0	0	11					
11:30	85	86	9	3	183	23:30	3	12	0	1	16					
11:45	88	327	86	330	719	23:45	4	16	9	35	2	4	15	55		
TOTALS	2155	1620	157	261	4193	TOTALS	2822	4134	238	293	7487					
SPLIT %	51.4%	38.6%	3.7%	6.2%	35.9%	SPLIT %	37.7%	55.2%	3.2%	3.9%	64.1%					

DAILY TOTALS		NB		SB		EB		WB				Total
		4,977		5,754		395		554				11,680
AM Peak Hour	07:15	11:45	07:45	07:15	07:30	PM Peak Hour	15:15	16:30	14:15	14:15	14:45	
AM Pk Volume	455	379	40	65	838	PM Pk Volume	427	577	37	46	1042	
Pk Hr Factor	0.910	0.911	0.769	0.707	0.866	Pk Hr Factor	0.920	0.839	0.841	0.885	0.898	
7 - 9 Volume	835	553	65	109	1562	4 - 6 Volume	723	1076	66	63	1928	
7 - 9 Peak Hour	07:15	07:45	07:45	07:15	07:30	4 - 6 Peak Hour	16:00	16:30	16:00	17:00	16:30	
7 - 9 Pk Volume	455	302	40	65	838	Molasses	415	577	33	35	1031	
Pk Hr Factor	0.910	0.812	0.769	0.707	0.866	Pk Hr Factor	0.952	0.839	0.750	0.625	0.895	

Prepared by National Data & Surveying Services

VOLUME

Green Valley Rd & Deer Valley Rd

Day: Wednesday
Date: 5/12/2021

City: El Dorado Hills
Project #: CA21_070069_001

DAILY TOTALS				NB 5,319	SB 5,961	EB 431		WB 582				Total 12,293
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL
00:00	5	8	1	0	14		12:00	98	91	5	12	206
00:15	2	3	0	0	5		12:15	61	97	7	15	180
00:30	1	1	0	0	2		12:30	89	101	6	6	202
00:45	4	12	7	19	0	1	12:45	83	331	110	399	209
01:00	1	4	0	0	5		13:00	89	101	7	13	210
01:15	1	4	0	0	5		13:15	116	115	10	15	256
01:30	4	6	0	0	10		13:30	87	128	15	6	236
01:45	2	8	5	19	1	1	13:45	110	402	128	472	259
02:00	4	3	0	0	7		14:00	83	103	8	11	205
02:15	0	3	0	1	4		14:15	111	124	7	18	260
02:30	4	1	0	0	5		14:30	109	139	11	12	271
02:45	3	11	4	11	0	0	14:45	84	387	114	480	259
03:00	1	6	0	0	7		15:00	95	125	9	7	236
03:15	3	2	0	2	7		15:15	106	139	9	6	260
03:30	3	3	0	0	6		15:30	93	147	15	18	273
03:45	1	8	0	11	0	0	15:45	115	409	129	540	262
04:00	5	2	0	0	7		16:00	91	136	9	6	242
04:15	4	3	0	3	10		16:15	105	157	11	3	276
04:30	6	4	0	3	13		16:30	100	128	12	1	241
04:45	9	24	6	15	0	3	16:45	84	380	107	528	207
05:00	16	1	0	0	17		17:00	99	133	8	8	248
05:15	35	8	0	5	48		17:15	86	138	2	13	239
05:30	32	10	0	4	46		17:30	98	133	6	7	244
05:45	30	113	9	28	0	1	17:45	72	355	157	561	243
06:00	40	13	0	1	54		18:00	79	126	7	14	226
06:15	56	30	0	5	91		18:15	66	106	4	7	183
06:30	61	20	1	7	89		18:30	67	88	5	7	167
06:45	74	231	40	103	5	6	18:45	54	266	85	405	160
07:00	86	44	3	8	141		19:00	58	74	8	7	147
07:15	104	48	3	9	164		19:15	55	81	8	6	150
07:30	105	65	4	23	197		19:30	41	75	5	3	124
07:45	129	424	105	262	15	25	19:45	40	194	66	296	121
08:00	114	68	5	7	194		20:00	33	73	4	5	115
08:15	114	68	7	8	197		20:15	42	83	7	7	139
08:30	126	93	8	17	244		20:30	35	58	9	1	103
08:45	100	454	107	336	3	23	20:45	31	141	58	272	96
09:00	101	86	7	8	202		21:00	34	60	2	7	103
09:15	78	60	7	18	163		21:15	21	43	3	2	69
09:30	80	79	6	9	174		21:30	20	39	0	1	60
09:45	97	356	63	288	11	31	21:45	18	93	33	175	57
10:00	78	66	6	6	156		22:00	19	31	4	3	57
10:15	87	62	7	8	164		22:15	11	31	1	0	43
10:30	89	85	3	3	180		22:30	7	22	1	1	31
10:45	71	325	78	291	7	23	22:45	8	45	8	92	150
11:00	87	71	7	10	175		23:00	7	18	0	0	25
11:15	77	78	7	12	174		23:15	8	11	1	0	20
11:30	74	79	9	9	171		23:30	7	10	1	0	18
11:45	84	322	81	309	8	31	23:45	6	28	10	49	17
TOTALS	2288	1692	141	249	4370		TOTALS	3031	4269	290	333	7923
SPLIT %	52.4%	38.7%	3.2%	5.7%	35.5%	SPLIT %	38.3%	53.9%	3.7%	4.2%	64.5%	

DAILY TOTALS				NB 5,319	SB 5,961	EB 431	WB 582	Total 12,293			
AM Peak Hour	07:45	11:45	07:45	07:00	07:45	PM Peak Hour	13:45	15:30	15:30	13:45	15:30
AM Pk Volume	483	370	35	56	900	PM Pk Volume	413	569	44	57	1053
Pk Hr Factor	0.936	0.916	0.583	0.609	0.849	Pk Hr Factor	0.930	0.906	0.733	0.792	0.954
7 - 9 Volume	878	598	48	96	1620	4 - 6 Volume	735	1089	58	58	1940
7 - 9 Peak Hour	07:45	08:00	07:45	07:00	07:45	4 - 6 Peak Hour	16:15	17:00	16:00	16:45	17:00
7 - 9 Pk Volume	483	336	35	56	900	Volume	388	561	36	40	974
Pk Hr Factor	0.936	0.785	0.583	0.609	0.849	Pk Hr Factor	0.924	0.893	0.750	0.769	0.982

Prepared by National Data & Surveying Services

VOLUME

Green Valley Rd & Deer Valley Rd

Day: Thursday
Date: 5/13/2021

City: El Dorado Hills
Project #: CA21_070069_001

DAILY TOTALS				NB 5,613	SB 5,982	EB 418		WB 555				Total 12,568
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00	7	5	0	0	12	12:00	94	81	4	9	188	
00:15	1	7	0	0	8	12:15	101	107	11	11	230	
00:30	2	4	0	0	6	12:30	92	96	7	13	208	
00:45	2	12	8	24	10	12:45	66	353	99	383	180 806	
01:00	2	1	0	0	3	13:00	84	97	6	4	191	
01:15	5	4	0	2	11	13:15	83	97	9	9	198	
01:30	1	0	1	0	2	13:30	90	101	2	6	199	
01:45	4	12	2	7	6	13:45	78	335	97	392	187 775	
02:00	1	3	0	0	4	14:00	117	96	9	8	230	
02:15	1	2	0	0	3	14:15	88	120	7	5	220	
02:30	4	0	0	0	4	14:30	99	135	7	10	251	
02:45	0	6	5	10	1	14:45	126	430	108	459	9 32 12 35 255 956	
03:00	2	2	0	0	4	15:00	92	157	8	9	266	
03:15	1	6	0	0	7	15:15	107	149	12	5	273	
03:30	4	4	0	0	8	15:30	140	153	8	8	309	
03:45	3	10	1	13	0	15:45	112	451	155	614	13 41 12 34 292 1140	
04:00	6	2	0	0	8	16:00	94	127	16	14	251	
04:15	5	2	0	2	9	16:15	112	122	10	12	256	
04:30	6	2	0	3	11	16:30	112	149	3	9	273	
04:45	13	30	3	9	0	16:45	92	410	196	594	7 36 10 45 305 1085	
05:00	19	5	0	1	25	17:00	109	142	7	14	272	
05:15	19	5	0	3	27	17:15	103	147	10	16	276	
05:30	40	9	0	7	56	17:30	92	152	11	11	266	
05:45	34	112	16	35	0	17:45	101	405	126	567	7 35 9 50 243 1057	
06:00	38	11	0	3	52	18:00	67	99	7	8	181	
06:15	61	31	1	6	99	18:15	80	110	11	4	205	
06:30	68	27	1	2	98	18:30	78	101	10	3	192	
06:45	69	236	25	94	4 6 9 20	18:45	65	290	80	390	3 31 6 21 154 732	
07:00	93	50	3	6	152	19:00	62	77	8	7	154	
07:15	110	51	4	11	176	19:15	61	99	9	10	179	
07:30	121	50	5	21	197	19:30	59	62	4	5	130	
07:45	138	462	112	263	10 22 19 57	19:45	41	223	72	310	12 33 2 24 127 590	
08:00	101	63	6	8	178	20:00	41	53	11	3	108	
08:15	115	72	7	9	203	20:15	36	71	2	4	113	
08:30	136	88	2	13	239	20:30	43	70	4	3	120	
08:45	117	469	103	326	6 21 9 39	20:45	36	156	70	264	4 21 2 12 112 453	
09:00	81	77	6	10	174	21:00	24	52	6	2	84	
09:15	102	70	6	8	186	21:15	25	51	5	3	84	
09:30	106	62	5	9	182	21:30	20	40	1	3	64	
09:45	70	359	72	281	5 22 10 37	21:45	15	84	48	191	5 17 4 12 72 304	
10:00	80	69	6	9	164	22:00	14	38	0	0	52	
10:15	87	63	5	8	163	22:15	13	29	1	0	43	
10:30	82	74	1	12	169	22:30	12	25	2	1	40	
10:45	79	328	84	290	6 18 12 41	22:45	8	47	21	113	1 4 1 2 31 166	
11:00	90	62	1	8	161	23:00	8	16	1	0	25	
11:15	105	68	6	8	187	23:15	6	12	0	2	20	
11:30	92	95	8	9	204	23:30	5	9	1	1	16	
11:45	83	370	82	307	1 16 10 35	23:45	4	23	9	46	1 3 1 4 15 76	
TOTALS	2406	1659	107	256	4428	TOTALS	3207	4323	311	299	8140	
SPLIT %	54.3%	37.5%	2.4%	5.8%	35.2%	SPLIT %	39.4%	53.1%	3.8%	3.7%	64.8%	

DAILY TOTALS				NB 5,613	SB 5,982	EB 418	WB 555	Total 12,568
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AM Peak Hour	07:45	11:45	07:30	07:15	07:45	PM Peak Hour	14:45	16:45	15:15	16:45	15:00
AM Pk Volume	490	366	28	59	899	PM Pk Volume	465	637	49	51	1140
Pk Hr Factor	0.888	0.855	0.700	0.702	0.806	Pk Hr Factor	0.830	0.813	0.766	0.797	0.922
7 - 9 Volume	931	589	43	96	1659	4 - 6 Volume	815	1161	71	95	2142
7 - 9 Peak Hour	07:45	07:45	07:30	07:15	07:45	4 - 6 Peak Hour	16:15	16:45	16:00	16:45	16:30
7 - 9 Pk Volume	490	335	28	59	899	Volume	425	637	36	51	1126
Pk Hr Factor	0.888	0.748	0.700	0.702	0.806	Pk Hr Factor	0.949	0.813	0.563	0.797	0.923

Prepared by National Data & Surveying Services

VOLUME

Green Valley Rd & Deer Valley Rd

Day: Friday

Date: 5/14/2021

City: El Dorado Hills
Project #: CA21_070069_001

DAILY TOTALS				NB 5,730	SB 6,192	EB 443		WB 558				Total 12,923
AM Period	NB	SB	EB	WB		TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	6	7	0	0		13	12:00	70	99	3	14	186
00:15	5	12	0	0		17	12:15	86	89	4	13	192
00:30	6	8	0	0		14	12:30	88	94	9	14	205
00:45	5	22	6	33	2	2	12:45	84	328	117	399	224 807
01:00	0	4	0	0		4	13:00	85	113	5	4	207
01:15	6	6	0	0		12	13:15	88	143	6	8	245
01:30	4	2	0	1		7	13:30	84	117	2	10	213
01:45	2	12	3	15	0	1	13:45	106	363	131	504	259 924
02:00	0	3	0	0		3	14:00	102	103	8	11	224
02:15	1	4	0	0		5	14:15	103	128	6	9	246
02:30	1	3	0	0		4	14:30	124	132	11	10	277
02:45	3	5	2	12	1	1	14:45	103	432	124	487	250 997
03:00	1	2	0	0		3	15:00	110	123	12	12	257
03:15	0	4	0	0		4	15:15	125	170	11	13	319
03:30	5	0	0	0		5	15:30	117	171	10	7	305
03:45	2	8	2	8	0	1	15:45	118	470	124	588	257 1138
04:00	5	2	0	1		8	16:00	93	166	9	10	278
04:15	4	1	0	2		7	16:15	109	157	8	5	279
04:30	8	2	0	2		12	16:30	101	125	10	5	241
04:45	7	24	6	11	1	1	16:45	103	406	151	599	266 1064
05:00	16	2	0	2		20	17:00	92	122	5	8	227
05:15	26	4	1	2		33	17:15	107	146	6	7	266
05:30	39	9	2	7		57	17:30	99	146	8	11	264
05:45	48	129	9	24	1	4	17:45	90	388	125	539	233 990
06:00	52	14	2	2		70	18:00	86	110	7	15	218
06:15	51	37	2	7		97	18:15	63	107	10	4	184
06:30	65	25	2	2		94	18:30	72	86	9	11	178
06:45	59	227	38	114	10	16	18:45	61	282	99	402	174 754
07:00	86	40	2	6		134	19:00	54	81	4	2	141
07:15	95	43	9	11		158	19:15	37	81	2	7	127
07:30	126	60	10	23		219	19:30	46	94	2	2	144
07:45	157	464	90	233	8	29	19:45	40	177	76	332	127 539
08:00	117	72	9	12		210	20:00	40	66	3	6	115
08:15	111	51	8	7		177	20:15	43	67	3	2	115
08:30	118	90	20	9		237	20:30	41	56	2	3	102
08:45	113	459	73	286	9	46	20:45	35	159	56	245	94 426
09:00	90	87	10	9		196	21:00	41	55	3	3	102
09:15	88	67	6	8		169	21:15	24	42	5	2	73
09:30	117	58	7	9		191	21:30	22	31	2	2	57
09:45	89	384	78	290	6	29	21:45	23	110	47	175	74 306
10:00	95	75	11	9		190	22:00	32	56	0	2	90
10:15	103	73	10	8		194	22:15	14	46	0	2	62
10:30	104	73	7	8		192	22:30	15	43	1	1	60
10:45	84	386	82	303	6	34	22:45	11	72	23	168	1 6 35 247
11:00	93	63	10	8		174	23:00	11	23	1	1	36
11:15	94	87	7	11		199	23:15	11	26	0	0	37
11:30	117	90	6	13		226	23:30	13	18	1	0	32
11:45	80	384	101	341	9	32	23:45	4	39	17	84	0 2 1 2 22 127
TOTALS	2504	1670	194	236		4604	TOTALS	3226	4522	249	322	8319
SPLIT %	54.4%	36.3%	4.2%	5.1%		35.6%	SPLIT %	38.8%	54.4%	3.0%	3.9%	64.4%
DAILY TOTALS				NB 5,730	SB 6,192	EB 443	WB 558			Total 12,923		
AM Peak Hour	07:30	11:45	08:15	07:15	07:45	PM Peak Hour	15:00	15:15	14:30	12:00	15:15	
AM Pk Volume	511	383	47	61	894	PM Pk Volume	470	631	45	54	1159	
Pk Hr Factor	0.814	0.948	0.588	0.663	0.828	Pk Hr Factor	0.940	0.923	0.938	0.964	0.908	
7 - 9 Volume	923	519	75	96	1613	4 - 6 Volume	794	1138	57	65	2054	
7 - 9 Peak Hour	07:30	07:45	08:00	07:15	07:45	4 - 6 Peak Hour	16:00	16:00	16:00	17:00	16:00	
7 - 9 Pk Volume	511	303	46	61	894	Volume	406	599	34	40	1064	
Pk Hr Factor	0.814	0.842	0.575	0.663	0.828	Pk Hr Factor	0.931	0.902	0.850	0.714	0.953	

Prepared by National Data & Surveying Services

VOLUME

Green Valley Rd & Deer Valley Rd

Day: Saturday
Date: 5/15/2021

City: El Dorado Hills
Project #: CA21_070069_001

DAILY TOTALS				NB 4,747	SB 5,242	EB 364				WB 538	Total 10,891
AM Period	NB	SB	EB	WB		PM Period	NB	SB	EB	WB	
00:00	5	12	0	0	17	12:00	96	97	6	7	206
00:15	5	14	0	1	20	12:15	87	146	6	9	248
00:30	7	7	1	1	16	12:30	96	110	6	15	227
00:45	2	19	7	40	0	1	0	2	9	62	12:45
01:00	4	5	0	0	9	13:00	96	121	2	5	224
01:15	2	8	0	0	10	13:15	108	110	4	15	237
01:30	5	9	0	0	14	13:30	103	96	6	5	210
01:45	3	14	6	28	0	13:45	95	402	123	450	5
02:00	2	1	1	1	5	14:00	85	102	6	4	197
02:15	1	3	0	1	5	14:15	96	119	7	7	229
02:30	2	4	0	0	6	14:30	100	100	7	7	214
02:45	1	6	3	11	0	1	0	2	4	20	14:45
03:00	3	3	1	0	7	15:00	85	126	5	12	228
03:15	3	1	0	0	4	15:15	69	130	7	10	216
03:30	2	4	0	0	6	15:30	93	101	1	12	207
03:45	0	8	1	9	0	15:45	70	317	101	458	2
04:00	3	3	0	0	6	16:00	93	103	7	7	210
04:15	5	1	0	0	6	16:15	94	102	5	7	208
04:30	6	3	0	1	10	16:30	79	142	11	12	244
04:45	5	19	4	11	0	16:45	72	338	108	455	9
05:00	7	1	0	2	10	17:00	81	93	8	7	189
05:15	10	5	0	0	15	17:15	93	83	7	14	197
05:30	10	7	0	2	19	17:30	67	79	6	15	167
05:45	22	49	7	20	1	17:45	67	308	70	325	8
06:00	21	11	1	2	35	18:00	74	100	2	12	188
06:15	19	8	1	3	31	18:15	62	88	2	9	161
06:30	29	12	2	2	45	18:30	59	73	11	9	152
06:45	31	100	18	49	0	18:45	53	248	79	340	4
07:00	29	18	2	3	52	19:00	52	83	4	5	144
07:15	48	26	6	5	85	19:15	50	67	6	8	131
07:30	58	26	3	8	95	19:30	39	58	5	3	105
07:45	50	185	29	99	6	19:45	42	183	50	258	7
08:00	49	39	5	5	98	20:00	41	55	4	4	104
08:15	55	43	9	5	112	20:15	34	62	4	6	106
08:30	81	49	9	11	150	20:30	34	60	6	5	105
08:45	68	253	67	198	10	20:45	30	139	50	227	1
09:00	67	68	9	12	156	21:00	29	57	3	2	91
09:15	78	49	6	7	140	21:15	31	40	1	1	73
09:30	96	66	6	10	178	21:30	29	53	2	3	87
09:45	91	332	67	250	7	21:45	30	119	63	213	3
10:00	83	90	7	8	188	22:00	32	44	0	6	82
10:15	100	72	7	9	188	22:15	20	29	2	4	55
10:30	100	78	4	8	190	22:30	27	25	1	1	54
10:45	115	398	84	324	5	22:45	18	97	31	129	0
11:00	106	90	12	10	218	23:00	10	24	2	1	37
11:15	104	68	6	10	188	23:15	14	32	2	3	51
11:30	120	94	5	12	231	23:30	9	31	2	3	45
11:45	89	419	100	352	10	23:45	6	39	11	98	2
TOTALS	1802	1391	142	186	3521	TOTALS	2945	3851	222	352	7370
SPLIT %	51.2%	39.5%	4.0%	5.3%	32.3%	SPLIT %	40.0%	52.3%	3.0%	4.8%	67.7%
DAILY TOTALS				NB 4,747	SB 5,242	EB 364	WB 538	Total 10,891			
AM Peak Hour	10:45	11:45	08:15	10:45	11:30	PM Peak Hour	12:45	12:15	16:30	17:15	14:15
AM Pk Volume	445	453	37	41	893	PM Pk Volume	402	479	35	56	918
Pk Hr Factor	0.927	0.776	0.925	0.854	0.900	Pk Hr Factor	0.931	0.820	0.795	0.933	0.929
7 - 9 Volume	438	297	50	53	838	4 - 6 Volume	646	780	61	87	1574
7 - 9 Peak Hour	08:00	08:00	08:00	07:45	08:00	4 - 6 Peak Hour	16:00	16:00	16:30	17:00	16:00
7 - 9 Pk Volume	253	198	33	29	513	Volume	338	455	35	51	861
Pk Hr Factor	0.781	0.739	0.825	0.659	0.838	Pk Hr Factor	0.899	0.801	0.795	0.850	0.882

Prepared by National Data & Surveying Services

VOLUME

Green Valley Rd & Deer Valley Rd

Day: Sunday
Date: 5/16/2021

City: El Dorado Hills
Project #: CA21_070069_001

DAILY TOTALS				NB 3,928	SB 4,386	EB 268		WB 450		Total 9,032	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	7	19	1	0	27	12:00	88	101	10	10	209
00:15	12	14	0	0	26	12:15	82	85	3	6	176
00:30	6	13	0	2	21	12:30	86	109	5	8	208
00:45	7	32	4	50	13	13:45	99	355	93	388	207
01:00	2	5	0	0	7	13:00	83	109	7	10	209
01:15	2	7	0	1	10	13:15	85	86	9	9	189
01:30	3	12	0	1	16	13:30	87	96	10	6	199
01:45	1	8	5	29	0	13:45	83	338	90	381	184
02:00	0	8	0	0	8	14:00	78	114	2	3	197
02:15	4	7	0	0	11	14:15	78	94	4	10	186
02:30	0	2	0	0	2	14:30	81	99	6	6	192
02:45	4	8	2	19	0	14:45	80	317	97	404	190
03:00	1	1	0	0	2	15:00	59	80	4	10	153
03:15	5	1	0	2	8	15:15	71	112	2	6	191
03:30	0	2	0	0	2	15:30	85	106	3	10	204
03:45	4	10	1	5	0	15:45	68	283	109	407	194
04:00	1	1	0	0	2	16:00	85	83	4	5	177
04:15	3	3	0	1	7	16:15	61	109	2	9	181
04:30	1	1	0	1	3	16:30	75	77	5	10	167
04:45	4	9	3	8	0	16:45	71	292	98	367	177
05:00	3	0	0	1	4	17:00	65	95	7	11	178
05:15	9	3	0	0	12	17:15	70	88	3	6	167
05:30	9	5	0	2	16	17:30	64	86	6	7	163
05:45	18	39	5	13	1	17:45	48	247	61	330	120
06:00	13	5	0	3	21	18:00	63	65	4	7	139
06:15	12	6	1	2	21	18:15	51	57	3	5	116
06:30	11	10	1	2	24	18:30	49	61	6	7	123
06:45	15	51	11	32	3	18:45	37	200	63	246	112
07:00	28	6	0	4	38	19:00	35	70	4	6	115
07:15	28	14	2	3	47	19:15	42	60	8	7	117
07:30	42	21	3	3	69	19:30	38	46	0	7	91
07:45	35	133	34	75	4	19:45	30	145	68	244	106
08:00	29	29	5	3	66	20:00	34	55	1	8	98
08:15	43	26	4	15	88	20:15	50	36	2	1	89
08:30	43	34	7	3	87	20:30	31	68	0	2	101
08:45	63	178	29	118	4	20:45	20	135	45	204	70
09:00	64	29	6	8	107	21:00	32	31	5	2	70
09:15	65	38	7	9	119	21:15	23	29	1	0	53
09:30	90	58	8	10	166	21:30	17	28	0	1	46
09:45	89	308	51	176	4	21:45	10	82	29	117	39
10:00	73	66	5	4	148	22:00	12	24	1	0	37
10:15	86	73	9	12	180	22:15	12	24	1	1	38
10:30	88	75	8	13	184	22:30	11	15	0	0	26
10:45	90	337	75	289	2	22:45	10	45	14	77	126
11:00	80	84	2	5	171	23:00	10	9	0	1	20
11:15	90	84	4	7	185	23:15	7	8	0	0	15
11:30	89	99	7	11	206	23:30	4	12	0	0	16
11:45	89	348	100	367	8	23:45	7	28	11	40	69
TOTALS	1461	1181	106	186	2934	TOTALS	2467	3205	162	264	6098
SPLIT %	49.8%	40.3%	3.6%	6.3%	32.5%	SPLIT %	40.5%	52.6%	2.7%	4.3%	67.5%

DAILY TOTALS	NB 3,928	SB 4,386	EB 268	WB 450	Total 9,032
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AM Peak Hour	11:15	11:45	11:15	10:15	11:15	PM Peak Hour	12:00	15:15	12:45	15:00	12:30
AM Pk Volume	356	395	29	47	805	PM Pk Volume	355	410	32	38	813
Pk Hr Factor	0.989	0.906	0.725	0.691	0.963	Pk Hr Factor	0.896	0.915	0.800	0.792	0.972
7 - 9 Volume	311	193	29	47	580	4 - 6 Volume	539	697	32	62	1330
7 - 9 Peak Hour	08:00	07:45	07:45	08:00	08:00	4 - 6 Peak Hour	16:00	16:15	17:00	16:15	16:15
7 - 9 Pk Volume	178	123	20	32	348	Volume	292	379	20	37	703
Pk Hr Factor	0.706	0.904	0.714	0.533	0.813	Pk Hr Factor	0.859	0.869	0.714	0.841	0.971

Prepared by National Data & Surveying Services

VOLUME

Green Valley Rd & Deer Valley Rd

Day: Monday
Date: 5/17/2021

City: El Dorado Hills
Project #: CA21_070069_001

DAILY TOTALS				NB 5,005	SB 5,409	EB 393	WB 528					Total 11,335									
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL										
00:00	3	5	0	0	8	12:00	66	100	8	9	183										
00:15	3	6	0	0	9	12:15	69	78	2	7	156										
00:30	2	8	0	1	11	12:30	85	86	6	10	187										
00:45	3	11	3	22	0	12:45	78	298	99	363	9	25	3	29	189	715					
01:00	5	4	0	0	9	13:00	91	88	9	7	195										
01:15	2	8	0	0	10	13:15	74	96	4	9	183										
01:30	2	2	0	0	4	13:30	67	94	10	15	186										
01:45	3	12	1	15	0	13:45	86	318	91	369	12	35	10	41	199	763					
02:00	1	2	0	0	3	14:00	78	120	8	10	216										
02:15	3	3	0	2	8	14:15	108	108	7	12	235										
02:30	4	0	0	0	4	14:30	97	123	9	5	234										
02:45	5	13	2	7	0	14:45	95	378	131	482	10	34	4	31	240	925					
03:00	0	2	0	0	2	15:00	86	135	6	6	233										
03:15	1	4	0	0	5	15:15	95	136	6	11	248										
03:30	1	3	0	1	5	15:30	109	134	13	15	271										
03:45	3	5	0	9	0	15:45	71	361	148	553	6	31	9	41	234	986					
04:00	6	2	0	0	8	16:00	99	131	6	8	244										
04:15	6	2	0	1	9	16:15	99	125	6	10	240										
04:30	7	3	0	2	12	16:30	83	108	14	8	213										
04:45	12	31	4	11	0	16:45	97	378	130	494	11	37	8	34	246	943					
05:00	10	4	0	1	15	17:00	89	129	10	7	235										
05:15	31	6	0	4	41	17:15	76	117	4	5	202										
05:30	28	6	0	2	36	17:30	77	133	9	14	233										
05:45	37	106	9	25	1	17:45	65	307	123	502	8	31	4	30	200	870					
06:00	45	16	1	5	67	18:00	49	98	3	5	155										
06:15	46	28	1	3	78	18:15	74	99	13	6	192										
06:30	66	25	0	2	93	18:30	39	72	2	6	119										
06:45	60	217	18	87	0	18:45	56	218	78	347	9	27	8	25	151	617					
07:00	77	37	1	12	127	19:00	56	58	5	4	123										
07:15	102	49	2	7	160	19:15	54	55	5	5	119										
07:30	117	71	6	25	219	19:30	36	52	5	7	100										
07:45	121	417	90	247	10	19	14	58	235	741	19:45	28	174	64	229	6	21	4	20	102	444
08:00	103	60	11	16	190	20:00	37	69	4	4	114										
08:15	108	63	8	5	184	20:15	33	64	3	1	101										
08:30	134	73	7	12	226	20:30	33	53	5	3	94										
08:45	113	458	64	260	3	29	5	38	185	785	20:45	25	128	46	232	5	17	4	12	80	389
09:00	78	80	5	10	173	21:00	29	44	3	3	79										
09:15	79	53	6	11	149	21:15	24	45	2	1	72										
09:30	107	62	8	7	184	21:30	10	23	2	4	39										
09:45	79	343	57	252	6	25	12	40	154	660	21:45	10	73	26	138	1	8	0	8	37	227
10:00	79	79	6	6	170	22:00	14	23	0	1	38										
10:15	91	61	2	13	167	22:15	6	20	0	1	27										
10:30	87	65	5	12	169	22:30	7	14	1	0	22										
10:45	101	358	81	286	7	20	6	37	195	701	22:45	7	34	18	75	0	1	3	5	28	115
11:00	88	82	3	2	175	23:00	7	21	1	0	29										
11:15	77	94	6	17	194	23:15	11	8	1	0	20										
11:30	83	99	14	7	203	23:30	4	12	0	0	16										
11:45	94	342	78	353	5	28	7	33	184	756	23:45	3	25	10	51	0	2	0	0	13	78
TOTALS	2313	1574	124	252	4263	TOTALS	2692	3835	269	276	7072										
SPLIT %	54.3%	36.9%	2.9%	5.9%	37.6%	SPLIT %	38.1%	54.2%	3.8%	3.9%	62.4%										

DAILY TOTALS				NB 5,005	SB 5,409	EB 393	WB 528					Total 11,335
AM Peak Hour	07:45	11:15	07:45	07:15	07:45	PM Peak Hour	14:15	15:00	16:15	13:30	15:15	
AM Pk Volume	466	371	36	62	835	PM Pk Volume	386	553	41	47	997	
Pk Hr Factor	0.869	0.928	0.818	0.620	0.888	Pk Hr Factor	0.894	0.934	0.732	0.783	0.920	
7 - 9 Volume	875	507	48	96	1526	4 - 6 Volume	685	996	68	64	1813	
7 - 9 Peak Hour	07:45	07:45	07:45	07:15	07:45	4 - 6 Peak Hour	16:00	16:45	16:15	16:00	16:00	
7 - 9 Pk Volume	466	286	36	62	835	Volume	378	509	41	34	943	
Pk Hr Factor	0.869	0.794	0.818	0.620	0.888	Pk Hr Factor	0.955	0.957	0.732	0.850	0.958	

Kimley»Horn

Attachment B
Warrant Analysis Worksheet

