



Appendix C

Miovision Data Summary



TRANSPORTATION PLANNING AND TRAFFIC ENGINEERING CONSULTANTS

2690 Lake Forest Road, Suite C
Post Office Box 5875
Tahoe City, California 96145
(530) 583-4053
info@lsctahoe.com
www.lsctrans.com

MEMORANDUM

To: John Olejnick, Caltrans

From: Gordon Shaw, PE, AICP, LSC Transportation Consultants, Inc.

Date: August 16, 2019

RE: Big Sur Traffic Counts

This memo presents a summary of detailed traffic counts conducted in the greater Big Sur corridor by Caltrans. Two sources of counts are discussed: roadway volumes collected in 2017, and video camera (“Miovision”) counts conducted in June of 2019.

Roadway Volumes

Caltrans District 5 Transportation Planning staff provided recent roadway directional count data collected along the Big Sur Corridor. As shown in Table 1, the greatest number of recent counts were conducted at the Garrapata Creek Bridge, in 2012, 2015 and 2018 for various periods of the year. Counts were also conducted in October, 2017 at the San Jose Creek Bridge (near the north end of the study corridor), in Carmel Highlands near Yankee Point Road and at the Big Sur River Bridge. A review of this data (also depicted in Figure 1) indicates the following:

- Daily traffic volumes are highest at the northern end of the corridor (San Jose Creek Bridge) and dropping to the south. Volumes were approximately 36 percent lower at Carmel Highlands and 74 percent lower at the Big Sur River Bridge
- For the location with counts in multiple seasons (Garrapata Creek), overall traffic volumes were highest in August. In comparison, traffic volumes in June were 10 percent lower, in March were 35 percent lower and in December were 42 percent lower.

- For the majority of the count periods the volumes were highest on Saturdays, though there were some exceptions when Sunday or a weekday were higher. At the San Jose Creek Bridge, Sunday volumes were 9 percent lower than Saturday volumes, while weekday volumes averaged 15 percent lower than Sunday volumes.

Detailed hourly count data for the busiest overall day of the week (Saturday) is shown in Table 2 and Figure 2, for the October count period that yielded data for multiple locations. This data indicates the following:

- Volumes are higher in the southbound direction in the morning at the San Jose Creek and Carmel Highlands locations, and higher in the northbound direction in the afternoon. However, at the Big Sur River Bridge, directional volumes are very similar throughout the day. Overall, this indicates a pattern of day trips to the northern portions Big Sur arriving from the north and visiting destinations north of the Big Sur River before returning to the north.
- The busiest hour of southbound traffic occurs in the 11 AM or Noon hour. In the northbound direction, the busiest hour occurs in the late afternoon (4 PM or 5 PM) at the northern count locations, and in the Noon hour at the Big Sur River Bridge.
- In this October period, the highest hourly traffic volumes were observed at the San Jose Creek Bridge, with up to 620 vehicles in the 11:00 AM hour in the southbound direction, up to 704 vehicles in the 4:00 PM period in the northbound direction and a total two-way traffic volume of 1,136 vehicles in the 4:00 hour.

A graph depicting the hourly directional volume for Friday through Sunday over two summer weekends is shown in Figure 3. This reflects the relatively low traffic volumes on Fridays in comparison with Saturday and Sunday volumes, and that northbound volumes are relatively high on Sunday mornings in comparison with Saturday morning volumes.

Miovision Data

Turning movement counts were conducted at two intersections along SR 1: at the Point Lobos State Natural Reserve access road and at Sycamore Canyon Road (which provides access to the Pfeiffer Beach Day Use Area). These counts were conducted using Miovision video cameras, and then analyzed for specific periods to identify the number of vehicles making specific turning movements at the two intersections. These counts were analyzed for portions of four days from May 20 to 23, 2019, with the longest count period (6 AM to 10 PM) on Saturday May 22.

Table 3 presents a summary of roadway directional counts at the Point Lobos location. On SR 1 north of the Point Lobos access road, the highest peak-hour volumes were observed to be:

- Northbound – 781 (Saturday, 3:45 PM to 4:45 PM)
- Southbound – 766 (Saturday, 10:45 AM to 11:45 AM)
- Total – 1,404 (Saturday, 3:15 PM to 4:15 PM)

Hourly directional volumes are also plotted on Figure 4, again reflecting the greater southbound travel in the morning and greater northbound travel in late afternoon and evening. The highest volumes on the Point Lobos access road were observed to be:

- Westbound – 133 (Friday, 1:30 PM to 2:20 PM)
- Eastbound – 147 (Friday, 2:00 PM to 3:00 PM)
- Total -- 262 (Friday, 1:30 PM to 2:30 PM)

Hourly directional volumes are shown in Figure 5, showing an early entering peak and a second peak in the mid-afternoon. These data may have been impacted by closure of the access road by park staff to manage parking conditions.

Similar data for the Sycamore Canyon Road intersection is shown in Table 4. All of the busiest hours of traffic were observed on Saturday (June 22). Hourly volumes along SR 1 are shown in Figure 6, with peak-hours volumes as follows:

- Northbound – 468 (Saturday, 4:00 PM to 5:00 PM)
- Southbound – 476 (Saturday, 11:30 AM to 12:30 PM)
- Total – 883 (Saturday, 2:30 PM to 3:30 PM)

Hourly volumes on Sycamore Canyon Road just west of SR 1 are shown in Figure 7. The difference in the directional volumes reflects how the parking area fills in the morning and empties in the evening. The fact that westbound and eastbound volumes are very similar over the middle of the day may reflect that inbound drivers either find an available space (vacated by a departing drive) or depart, generating an outbound vehicle trip. Peak volumes are highest in the mid-day period, with up to 127 vehicles per direction in any one hour and up to 237 vehicles total of both directions.

Finally, Table 5 presents the individual intersection turning movement volumes for the AM and PM peak hours at both locations.

TABLE 1: Summary of SR 1 Daily Traffic Counts

Busiest Day in Each Count Period Shaded														
Garrapata Creek Bridge						Big Sur River Bridge								
2012			2015			2018			2017					
Date	Day of Week	NB	SB	Total	Date	Day of Week	NB	SB	Total	Date	Day of Week	NB	SB	Total
MAR 07	Tue	1738	1749	3487	MAR 06	Fri	2550	2970	5520	MAR 06	Tue	2026	2167	4193
MAR 08	Thu	1858	1911	3769	MAR 07	Sat	3549	3845	7394	MAR 07	Wed	2074	2193	4267
MAR 09	Fri	2138	2343	4481	MAR 08	Sun	3648	3293	6941	MAR 08	Thu	2056	2192	4248
MAR 10	Sat	2292	2622	4914	MAR 09	Mon	2279	2449	4728	MAR 09	Fri	2255	2619	4874
MAR 11	Sun	2518	2247	4765	MAR 10	Tue	2152	2283	4435	MAR 10	Sat	2201	2370	4571
MAR 12	Mon	2006	2018	4024	MAR 11	Wed	2099	2171	4270	MAR 11	Sun	3426	3324	6750
MAR 13	Tue	1742	1801	3543	MAR 12	Thu	2162	2154	4316	MAR 12	Mon	2154	2344	4498
JUN 12	Tue	2659	2721	5380	JUN 13	Sat	4223	4694	8917	MAY 31	Thu	2724	2869	5593
JUN 13	Wed	2609	2781	5390	JUN 14	Sun	4578	4539	9117	JUN 01	Fri	2970	3546	6516
JUN 14	Thu	2683	2893	5576	JUN 15	Mon	3428	3791	7219	JUN 02	Sat	3666	4137	7803
JUN 15	Fri	3211	3701	6912	JUN 16	Tue	3279	3656	6935	JUN 03	Sun	4074	3543	7617
JUN 16	Sat	3515	3789	7304	JUN 17	Wed	3455	3840	7295	JUN 04	Mon	2838	3064	5902
JUN 17	Sun	3963	3675	7638	JUN 18	Thu	3499	3884	7383	JUN 05	Tue	2699	2925	5624
JUN 18	Mon	2638	2939	5577	JUN 19	Fri	3499	4162	7661	JUN 06	Wed	2704	2825	5529
SEP 11	Tue	2618	3104	5722	SEP 18	Fri	3497	4339	7836	JUN 07	Thu	2825	3080	5905
SEP 12	Wed	2732	3031	5763	SEP 19	Sat	3929	4672	8601	JUN 08	Fri	3415	3878	7293
SEP 13	Thu	2757	3119	5876	SEP 20	Sun	4767	4372	9139	JUN 09	Sat	3827	4193	8020
SEP 14	Fri	2881	3697	6578	SEP 21	Mon	3099	3877	6976	JUN 10	Sun	4270	3987	8257
SEP 15	Sat	3237	3755	6992	SEP 22	Tue	3070	3662	6732	AUG 12	Sun	4061	2629	6690
SEP 16	Sun	3623	3322	6945	SEP 23	Wed	3141	3814	6955	AUG 13	Mon	4095	2716	6811
SEP 17	Mon	2558	2990	5548	SEP 24	Thu	3187	3518	6705	AUG 14	Tue	4521	3035	7556
DEC 06	Tue	1437	1450	2887	DEC 10	Wed	1695	1740	3435	AUG 15	Wed	5324	3570	8894
DEC 07	Wed	1438	1443	2881	DEC 11	Thu	773	663	1436	AUG 16	Thu	5443	3082	8525
DEC 08	Thu	1471	1533	3004	DEC 12	Fri	1128	1364	2492	AUG 17	Fri	4032	2728	6760
DEC 09	Fri	1512	1663	3175	DEC 13	Sat	1953	2232	4185	AUG 18	Sat	3326	3095	6421
DEC 10	Sat	1623	1835	3458	DEC 14	Sun	1981	1816	3797	DEC 07	Thu	2211	1594	3805
DEC 11	Sun	1500	1389	2889	DEC 15	Mon	1240	1205	2445	DEC 08	Fri	2548	2014	4562
DEC 12	Mon	1417	1317	2734						DEC 09	Sat	2687	2336	5023
										DEC 10	Sun	2662	2068	4730
										DEC 11	Mon	2105	1710	3815
										DEC 12	Tue	2128	1662	3790
										DEC 13	Wed	2304	1735	4039
										DEC 14	Thu	2404	1604	4008

Carmel Highlands, Yankee Point Road														
2017			2018			2019			2020					
Date	Day of Week	NB	SB	Total	Date	Day of Week	NB	SB	Total	Date	Day of Week	NB	SB	Total
OCT 04	Wed	3225	3184	6409	OCT 04	Wed	2813	2978	5791	OCT 04	Wed	1393	1541	2934
OCT 05	Thu	3284	3316	6600	OCT 05	Thu	2723	2909	5632	OCT 05	Thu	1298	1406	2704
OCT 06	Fri	3574	3817	7391	OCT 06	Fri	2903	3604	6507	OCT 06	Fri	1433	1503	2936
OCT 07	Sat	3942	3970	7912	OCT 07	Sat	3729	4135	7864	OCT 07	Sat	1487	1610	3097
OCT 08	Sun	3811	3444	7255	OCT 08	Sun	4061	3490	7551	OCT 08	Sun	1395	1482	2877
OCT 09	Mon	3258	3059	6317	OCT 09	Mon	2738	2913	5651	OCT 09	Mon	1223	1373	2596
OCT 10	Tue	3117	3048	6165	OCT 10	Tue	2663	2742	5405	OCT 10	Tue	1295	1427	2722
OCT 11	Wed	2813	2978	5791	OCT 11	Wed	2813	2978	5791	OCT 11	Wed	1245	1388	2633
OCT 12	Thu	2723	2909	5632	OCT 12	Thu	2723	2909	5632	OCT 12	Thu	1205	1360	2565
OCT 13	Fri	2903	3604	6507	OCT 13	Fri	2903	3604	6507	OCT 13	Fri	2041	2443	4484
OCT 14	Sat	3729	4135	7864	OCT 14	Sat	3729	4135	7864	OCT 14	Sat	2892	3323	6215
OCT 15	Sun	4061	3490	7551	OCT 15	Sun	4061	3490	7551	OCT 15	Sun	2845	2805	5650
OCT 16	Mon	2738	2913	5651	OCT 16	Mon	2738	2913	5651	OCT 16	Mon	2253	2465	4718
OCT 17	Tue	2663	2742	5405	OCT 17	Tue	2663	2742	5405	OCT 17	Tue	1368	1577	2945

San Jose Creek Bridge														
2017			2018			2019			2020					
Date	Day of Week	NB	SB	Total	Date	Day of Week	NB	SB	Total	Date	Day of Week	NB	SB	Total
OCT 04	Wed	5074	4962	10036	OCT 04	Wed	5074	4962	10036	OCT 04	Wed	5074	4962	10036
OCT 05	Thu	5265	5214	10479	OCT 05	Thu	5265	5214	10479	OCT 05	Thu	5265	5214	10479
OCT 06	Fri	5595	5831	11426	OCT 06	Fri	5595	5831	11426	OCT 06	Fri	5595	5831	11426
OCT 07	Sat	6028	6054	12082	OCT 07	Sat	6028	6054	12082	OCT 07	Sat	6028	6054	12082
OCT 08	Sun	5734	5278	11012	OCT 08	Sun	5734	5278	11012	OCT 08	Sun	5734	5278	11012
OCT 09	Mon	5226	4979	10205	OCT 09	Mon	5226	4979	10205	OCT 09	Mon	5226	4979	10205
OCT 10	Tue	4740	4663	9403	OCT 10	Tue	4740	4663	9403	OCT 10	Tue	4740	4663	9403

Figure 1: Daily Traffic Volumes - SR 1 Along the Big Sur Coast

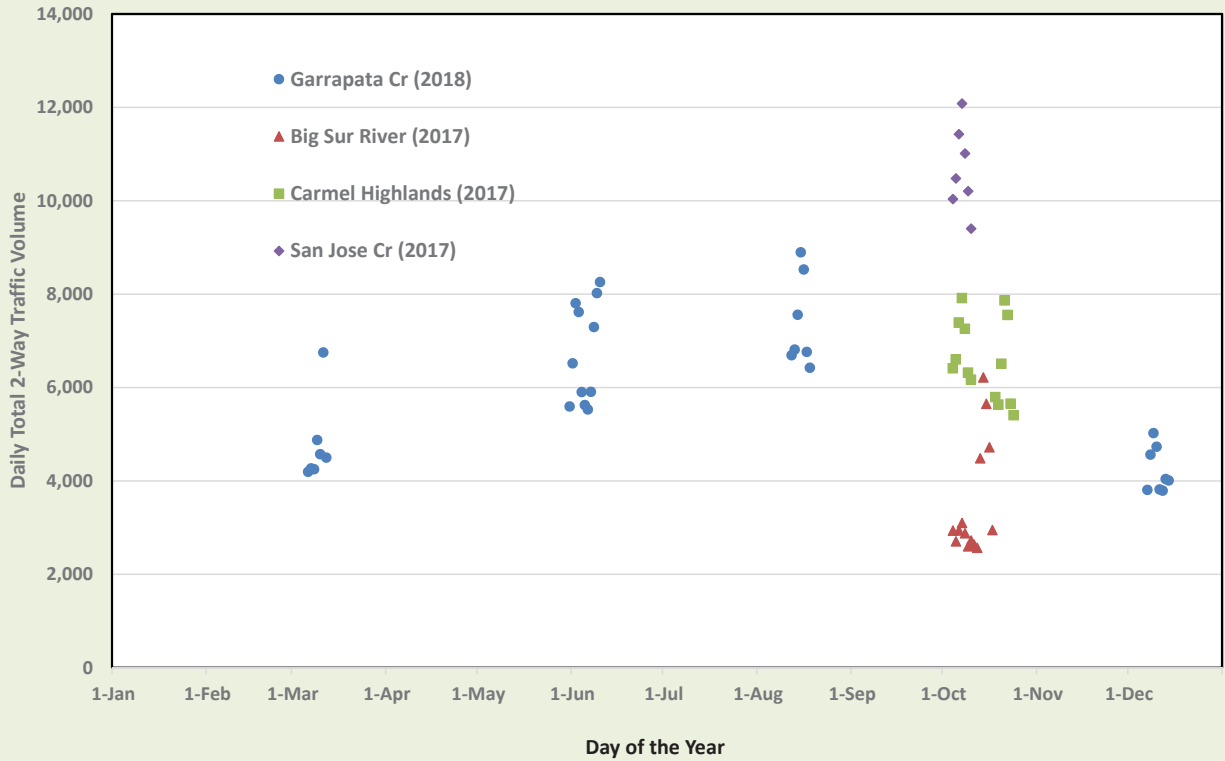


TABLE 2: SR 1 Hourly Traffic Volumes

Saturday October 7, 2017

Hour Beginning	Northbound			Southbound			Total		
	Carmel		Big Sur River Bridge	Carmel		Big Sur River Bridge	Carmel		Big Sur River Bridge
	San Jose Creek Bridge	Highlands, Yankee Pt Dr		San Jose Creek Bridge	Highlands, Yankee Pt Dr		San Jose Creek Bridge	Highlands, Yankee Pt Dr	
Mdnt	8	6	4	27	18	5	35	24	9
1:00 AM	11	5	0	5	2	7	16	7	7
2:00 AM	2	3	0	6	2	0	8	5	0
3:00 AM	4	0	0	5	6	3	9	6	3
4:00 AM	7	1	0	10	6	3	17	7	3
5:00 AM	12	10	3	42	27	11	54	37	14
6:00 AM	40	23	7	116	67	30	156	90	37
7:00 AM	99	48	30	192	106	44	291	154	74
8:00 AM	184	109	61	328	190	67	512	299	128
9:00 AM	241	132	80	423	296	91	664	428	171
10:00 AM	324	208	109	571	335	116	895	543	225
11:00 AM	394	259	169	620	423	158	1014	682	327
Noon	467	288	181	616	437	178	1083	725	359
1:00 PM	560	400	162	571	371	155	1131	771	317
2:00 PM	542	403	148	583	409	168	1125	812	316
3:00 PM	617	409	150	497	339	149	1114	748	299
4:00 PM	704	462	137	432	319	152	1136	781	289
5:00 PM	627	467	110	328	206	120	955	673	230
6:00 PM	511	307	62	242	172	63	753	479	125
7:00 PM	351	237	37	121	70	40	472	307	77
8:00 PM	132	75	17	91	48	13	223	123	30
9:00 PM	72	50	8	109	54	13	181	104	21
10:00 PM	82	29	6	83	44	16	165	73	22
11:00 PM	37	11	6	36	23	8	73	34	14
Day Total	6028	3942	1487	6054	3970	1610	12082	7912	3097
AM Pk Hr	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM
AM Pk Volume	394	259	169	620	423	158	1014	682	327
PM Pk Hr	4:00 PM	5:00 PM	Noon	Noon	Noon	Noon	4:00 PM	3:00 PM	Noon
PM Pk Volume	704	467	181	616	437	178	1136	812	359

Figure 2: Big Sur SR 1 Hourly Volumes on Saturday in October

Saturday October 7, 2017

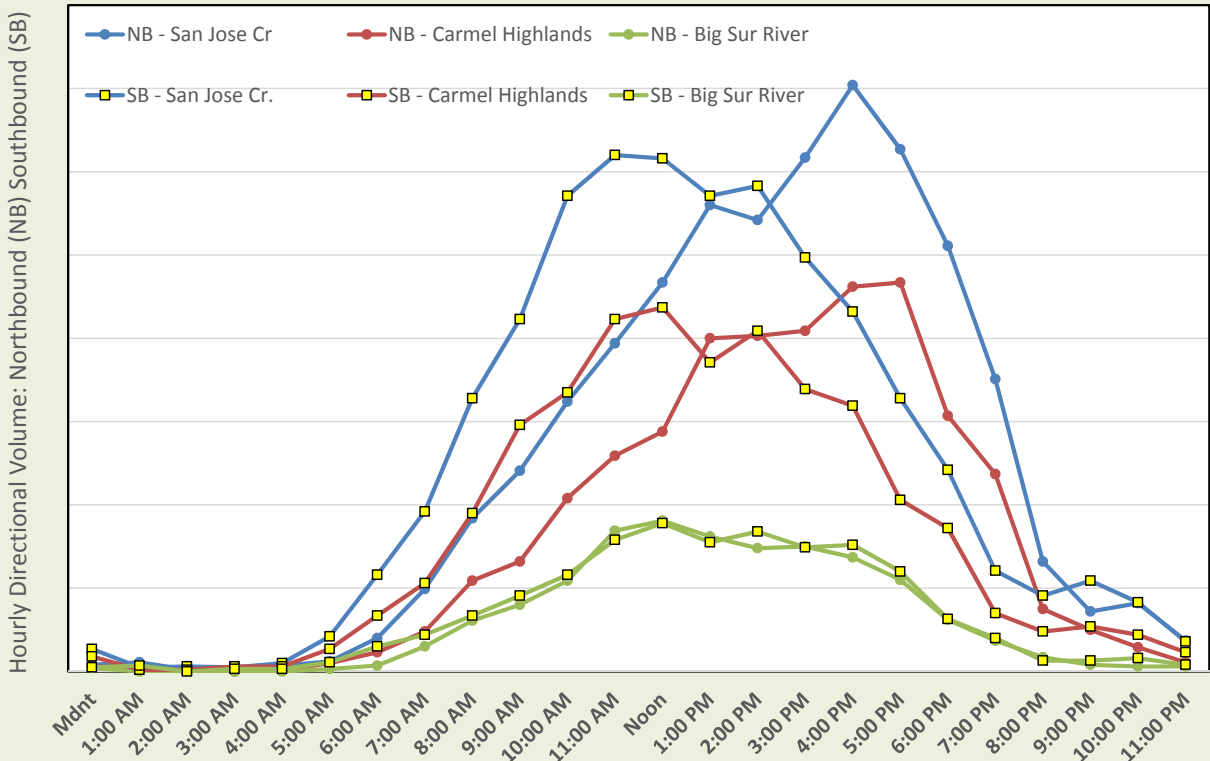


Figure 3: Summer Weekend 1-Way Hourly Traffic Volumes

SR 1 at Garrapata Creek for Friday June 1 through Sunday June 3 and Friday June 8 through Sunday June 10, 2018

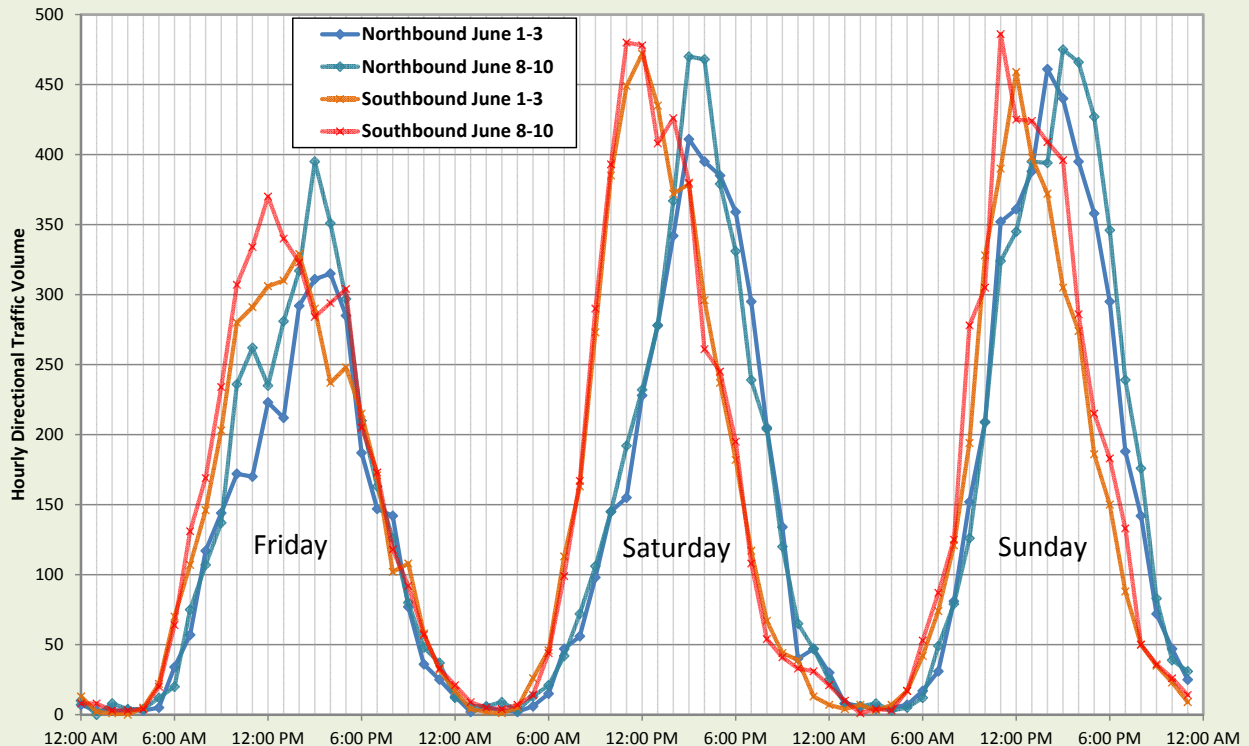


TABLE 3: Summary of Miovision Traffic Counts -- SR 1 / Point Lobos

Count Date		Thursday 6/20/19			Friday 6/21/19			Saturday 6/22/19			Sunday 6/23/19		
Count Start Time		6:00 AM			12:00 PM			6:00 AM			6:00 AM		
Count End Time		9:30 AM			10:00 PM			10:00 PM			12:00 PM		
Count Start Time		4:00 PM			--			--			--		
Count End Time		7:00 PM			--			--			--		
		Total Count	Peak Hour Volume	Peak Hour Start Time	Total Count	Peak Hour Volume	Peak Hour Start Time	Total Count	Peak Hour Volume	Peak Hour Start Time	Total Count	Peak Hour Volume	Peak Hour Start Time
SR 1 North of Point Lobos	Northbound	1997	556	4:00 PM	4557	683	3:00 PM	6765	781	3:45 PM	1335	498	10:45 AM
	Southbound	1953	385	8:15 AM	4070	642	1:45 PM	7433	766	10:45 AM	2526	736	11:00 AM
	Total	3950	935	4:00 PM	8627	1284	1:45 PM	14198	1404	3:15 PM	3861	1231	10:45 AM
Point Lobos West of SR 1	Westbound	210	71	8:15 AM	457	133	1:30 PM	937	129	2:15 PM	282	65	11:00 AM
	Eastbound	214	70	4:00 PM	556	147	2:00 PM	941	128	3:45 PM	180	107	9:00 AM
	Total	424	113	4:00 PM	1013	262	1:30 PM	1878	238	2:15 PM	462	135	9:00 AM

Figure 4: Hourly Traffic Volumes -- SR 1 N of Point Lobos

Saturday June 22 2019

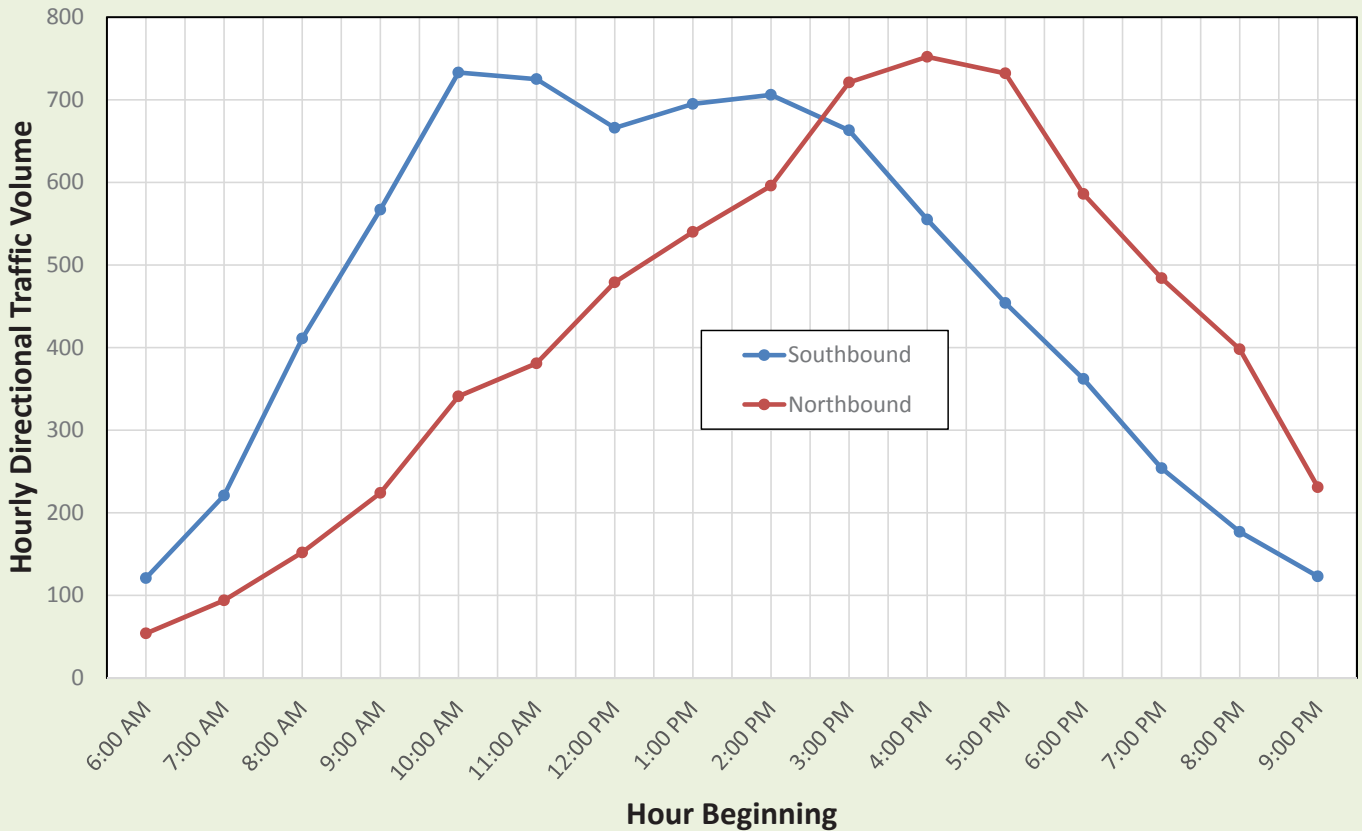


Figure 5: Hourly Traffic Volumes -- Point Lobos Road W of SR-1

Saturday June 22 2019

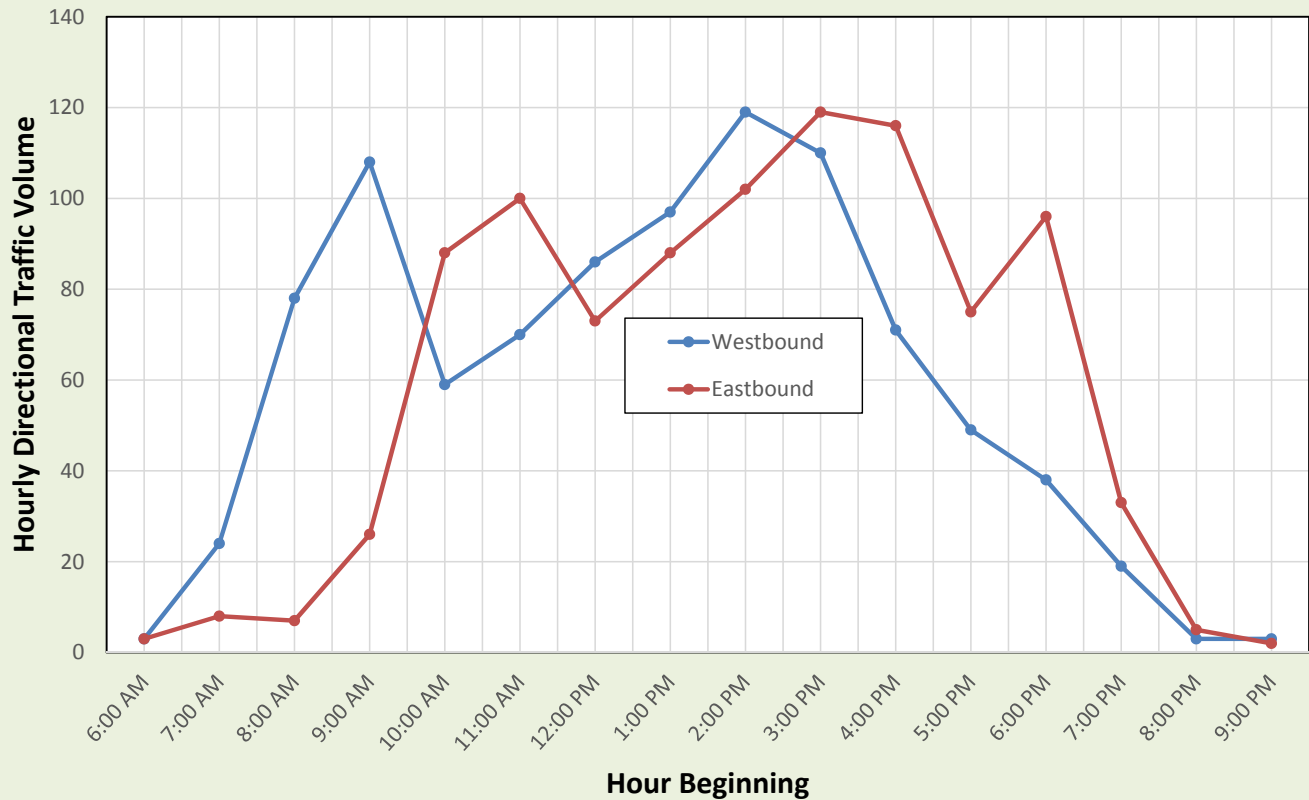


TABLE 4: Summary of Miovision Traffic Counts -- SR 1 / Sycamore Canyon Road

Count Date		Thursday 6/20/19			Friday 6/21/19			Saturday 6/22/19			Sunday 6/23/19		
Count Start Time		6:00 AM			12:00 PM			6:00 AM			6:00 AM		
Count End Time		9:30 AM			10:00 PM			10:00 PM			12:00 PM		
Count Start Time		4:00 PM			--			--			--		
Count End Time		7:00 PM			--			--			--		
		Total Count	Peak Hour Volume	Peak Hour Start Time	Total Count	Peak Hour Volume	Peak Hour Start Time	Total Count	Peak Hour Volume	Peak Hour Start Time	Total Count	Peak Hour Volume	Peak Hour Start Time
SR 1 North of Sycamore Canyon Rd	Northbound	1078	345	4:00 PM	2947	397	3:15 PM	3888	468	4:00 PM	723	279	11:00 AM
	Southbound	944	269	4:15 PM	2490	429	1:15 PM	4339	476	11:30 AM	1154	417	11:00 AM
	Total	2022	603	4:00 PM	5437	741	2:00 PM	8227	883	2:30 PM	1877	696	11:00 AM
Sycamore Canyon Road West of SR 1	Westbound	161	58	4:30 PM	501	90	2:45 PM	992	117	12:00 PM	203	75	11:00 AM
	Eastbound	200	62	4:00 PM	550	91	1:15 PM	1022	127	2:00 PM	160	81	11:00 AM
	Total	361	116	4:00 PM	1051	180	2:45 PM	2014	237	12:00 PM	363	156	11:00 AM

Figure 6 Hourly Traffic Volumes -- SR 1 N of Sycamore Canyon Rd

Saturday June 22 2019

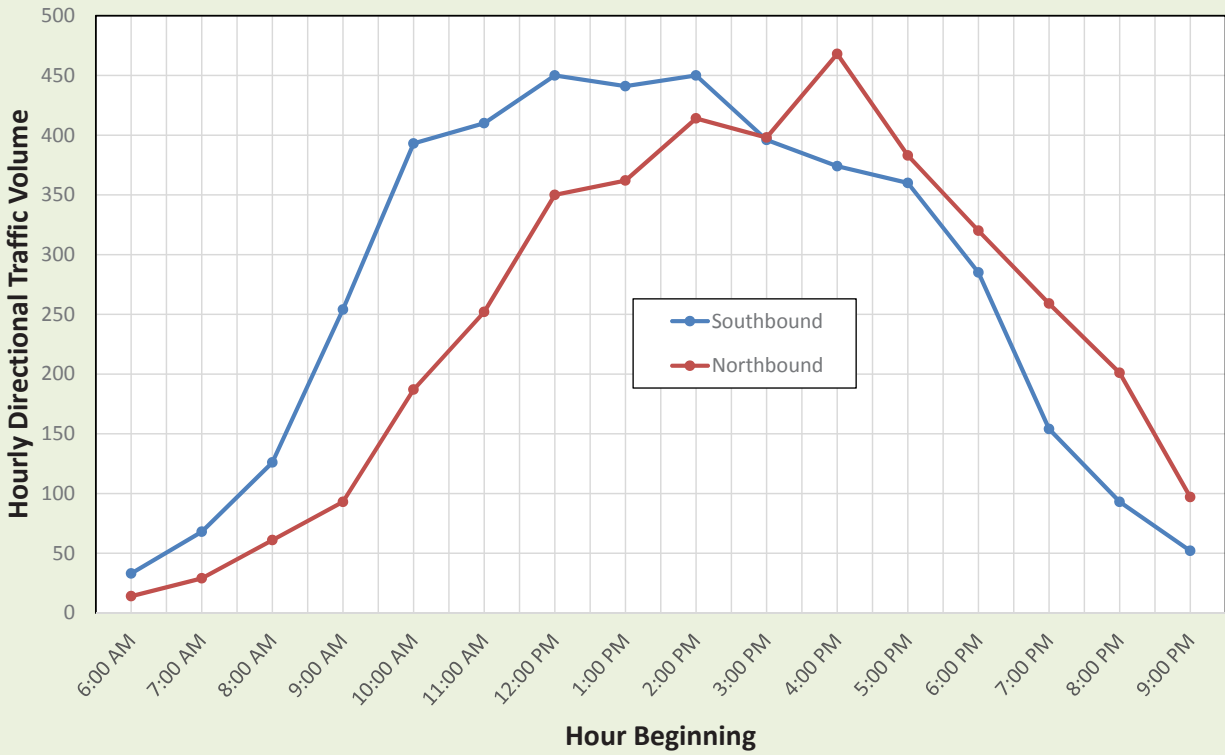


Figure 7: Hourly Traffic Volumes -- Sycamore Canyon Rd W of SR-1

Saturday June 22 2019

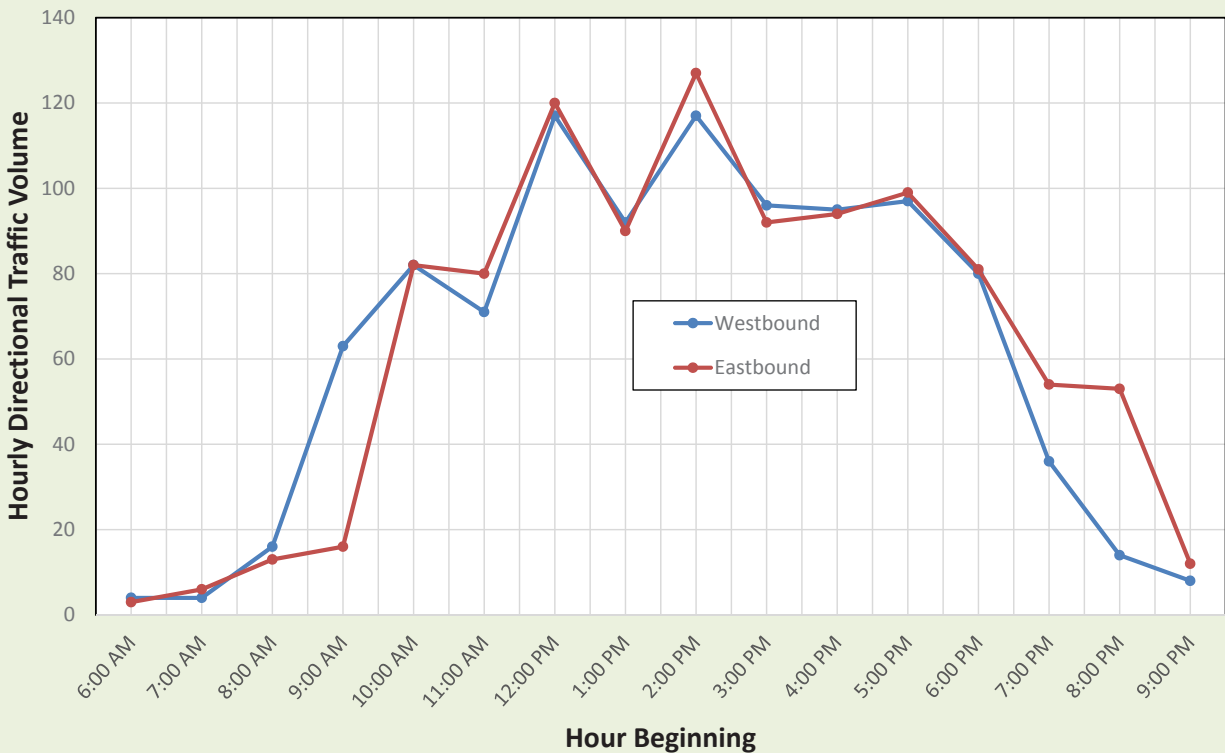


TABLE 5: Peak-Hour Intersection Turning Movement Summary

Saturday June 22, 2019

Pk Hr Start Time	Southbound			Northbound		Eastbound		Total Intersection Volume	
	Through	Right	U-turn	Left	Through	Left	Right		
SR 1 / Point Lobos Road									
AM Peak Hour	11:00 AM	669	55	1	15	321	59	41	1120
PM Peak Hour	3:15 PM	584	67	2	30	668	81	41	1432
SR 1 / Sycamore Canyon Road									
AM Peak Hour	11:00 AM	358	52	0	19	222	30	50	731
PM Peak Hour	2:00 PM	374	76	0	41	384	30	97	1002