



MEMORANDUM

DATE: November 18, 2021

To: Mary Rose Santos, Associate Engineer, City of San Diego

FROM: Les Card, P.E. and T.E., and Shiva Delparastaran, P.E., LSA

SUBJECT: Cross Border Xpress OTN Parking Lot (PTS# 615398) – Addendum Traffic Analysis

LSA Associates, Inc. (LSA) has prepared this Addendum Traffic Analysis memorandum to address comments from the City of San Diego (City) on the Cross Border Xpress (CBX) OTN Parking Lot Project (PTS# 615398). The purpose of this memorandum is to document the trip generation of the proposed 1,918-space OTN parking lot and identify the potential circulation impacts resulting from the new parking lot.

The currently vacant 28.9-acre OTN property is south of Siempre Viva Road and east of the existing CBX terminal. The OTN site is within the Otay Mesa Community Planning Area, designated Industrial, and in the IBT-1-1 zone. The proposed project requires a Conditional Use Permit, a Site Development Permit, and a Planned Development Permit via Process 4 (Planning Commission acting as the decision maker).

Access to the proposed OTN parking lot would be provided along Siempre Viva Road, as the fourth leg of the signalized Border Pacific Drive/Siempre Viva Road intersection. The intent of the 1,918-space parking lot is to address the existing and future parking needs for the CBX terminal.

Project Trip Generation

To estimate the average daily trips (ADT) generated by the proposed OTN parking lot, this analysis uses data collected by LAZ Parking from the CBX parking at Lots 9 and 10. LAZ Parking collected CBX parking transaction data at Lot 9 (755-space supply) and Lot 10 (496-space supply) from January 2017 to October 2018. Each transaction (exit) was multiplied by 2 to estimate the ADT (inbound and outbound) generated by the 1,251 total spaces at these two parking lots. Based on the 22 months of LAZ data, Lots 9 and 10 generated approximately 517 ADT, which is equivalent to 0.41 ADT per parking space, as shown in Table A (provided in Attachment A). With a proposed parking supply of 1,918 spaces, the OTN parking lot would generate approximately 786 ADT (based on 0.41 ADT per parking space).

Based on the approved Traffic Impact Study (TIS) prepared by LSA (dated June 2011) for the Cross Border Facility (CBF) (PTS# 169653), the a.m. peak-hour trip generation of the CBF parking facilities was estimated as 3.85 percent of the daily trip generation with a 58/42 inbound/outbound split.

In addition, the p.m. peak-hour trip generation of the CBF parking facilities was estimated as 3.90 percent of the daily trip generation with a 49/51 inbound/outbound split.

Applying these a.m. and p.m. peak-hour trip percentages (and inbound/outbound splits) to the 786 ADT, the proposed OTN parking lot would generate approximately 30 trips (17 inbound and 13 outbound) in the a.m. peak hour and 31 trips (15 inbound and 16 outbound) in the p.m. peak hour, as shown in Table 1 below.

Table 1: Project Trip Generation

Use	Size	Unit	ADT ¹	AM Peak Hour ²			PM Peak Hour ²		
				In	Out	Total	In	Out	Total
OTN Parking Lot	1,918	Spaces	786	17	13	30	15	16	31

¹ ADT is based on CBX parking transaction data at Lot 9 (755-space supply) and Lot 10 (496-space supply) from January 2017 to October 2018. Each transaction (exit) was multiplied by 2 to estimate the ADT (inbound and outbound) generated by the 1,251 total spaces at these two parking lots. Based on the 22 months of LAZ data, Lots 9 and 10 generated approximately 517 ADT, which is equivalent to 0.41 ADT per parking space

² AM Peak Hour and PM Peak Hour trips are based on the Traffic Impact Study prepared by LSA (dated June 2011) for the CBF (PTS# 169653). The a.m. peak-hour trips of the CBF parking facilities were estimated as 3.85 percent of the daily trips with a 58/42 inbound/outbound split. In addition, the p.m. peak-hour trips of the CBF parking facilities were estimated as 3.90 percent of the daily trips with a 49/51 inbound/outbound split.

ADT = average daily trips

CBF = Cross Border Facility

CBX = Cross Border Xpress

Based on the approved TIS for the CBF, 100 percent of the project trips are destined to and from the north along Britannia Boulevard. Figure 1 (all figures provided in Attachment B) illustrates the project trip distribution (and project trip assignment at the study area intersections).

Near-Term Opening Day Year 2022 Peak-Hour Volumes and LOS

LSA prepared a Near Term Opening Day Year 2022 (Baseline and Plus Project) analysis to determine the LOS of the intersections providing access to the proposed OTN parking lot. The analysis was conducted using the *Highway Capacity Manual* (HCM), 6th Edition (Transportation Research Board 2017) methodology and the *Synchro 10* software.

An analysis of Near Term Opening Day Year 2022 (Baseline and Plus Project) conditions is more conservative than an evaluation of Existing (Baseline and Plus Project) conditions because of higher traffic volumes due to reasonably foreseeable cumulative projects in the project vicinity.

As shown on Figure 2, the analysis study area includes the following four intersections. Figure 2 also depicts the study area intersection lane configurations.

1. Britannia Boulevard/Siempre Viva Road
2. Otay Pacific Drive (and future Otay Truck Park driveway)/Siempre Viva Road
3. Las Californias Drive/Siempre Viva Road
4. Border Pacific Drive (and proposed OTN parking lot driveway)/Siempre Viva Road

The Near Term Opening Day Year 2022 Baseline condition includes existing traffic counts (Wednesday, May 22, 2019 counts for intersections 1-3 and Tuesday, November 2, 2021 counts for intersection 4), as well as traffic volumes for cumulative (approved and/or pending) projects in the project vicinity. The Near Term Opening Day Year 2022 Plus Project condition includes the traffic volumes of the proposed OTN parking lot. The existing counts and traffic volume development are provided in Attachment C. The HCM LOS worksheets are provided in Attachment D.

Based on information from the City, one cumulative project (Otay Truck Park, PTS# 603927) is located directly north of the existing CBX site. The Ota Truck Park project will construct a new driveway (with two inbound and two outbound lanes) as the fourth (north) leg of the currently three-legged signalized intersection of Ota Pacific Drive/Siempre Viva Road. The Ota Truck Park project is estimated to generate approximately 2,142 ADT with 120 trips (60 inbound and 60 outbound) in the a.m. peak hour and 133 trips (52 inbound and 81 outbound) in the p.m. peak hour along Siempre Viva Road. The Ota Truck Park project will only allow truck trips at the northern access point on Airway Road and only non-truck trips at the southern access point at Ota Pacific Drive/Siempre Viva Road.

The proposed OTN parking lot project will construct a new driveway (with two inbound and two outbound lanes) as the fourth (south) leg of the currently three-legged signalized intersection of Border Pacific Drive/Siempre Viva Road. As previously stated, the proposed OTN parking lot is estimated to generate approximately 30 trips (17 inbound and 13 outbound) in the a.m. peak hour and 31 trips (15 inbound and 16 outbound) in the p.m. peak hour along Siempre Viva Road.

Table 2 presents a summary of the intersection LOS for the Near-Term Opening Day Year 2022 (Baseline and Plus Project) conditions. The intersection LOS for the Existing condition is also provided.

Table 2: Near Term Opening Day Year 2022 Intersection LOS Summary

Intersection		Stop Control	Existing			
			AM Peak Hour		PM Peak Hour	
			Delay (seconds)	LOS	Delay (seconds)	LOS
1	Britannia Boulevard/Siempre Viva Road	Signal	22.6	C	24.4	C
2	Ota Pacific Drive-Ota Truck Park Driveway/Siempre Viva Road	Signal	11.5	B	11.9	B
3	Las Californias Drive/Siempre Viva Road	TWSC	9.4	A	9.5	A
4	Border Pacific Drive/Siempre Viva Road	Signal	20.3	C	16.3	B
Intersection		Stop Control	Near Term Opening Day Year 2022 Baseline			
			AM Peak Hour		PM Peak Hour	
			Delay (seconds)	LOS	Delay (seconds)	LOS
1	Britannia Boulevard/Siempre Viva Road	Signal	39.6	D	35.8	D
2	Ota Pacific Drive-Ota Truck Park Driveway/Siempre Viva Road	Signal	16.4	B	16.9	B
3	Las Californias Drive/Siempre Viva Road	TWSC	9.4	A	9.5	A
4	Border Pacific Drive/Siempre Viva Road	Signal	20.3	C	16.3	B

Intersection		Stop Control	Near Term Opening Day Year 2022 Plus Project			
			AM Peak Hour		PM Peak Hour	
			Delay (seconds)	LOS	Delay (seconds)	LOS
1	Britannia Boulevard/Siempre Viva Road	Signal	47.5	D	41.8	D
2	Otay Pacific Drive-Otay Truck Park Driveway/Siempre Viva Road	Signal	16.4	B	17.0	B
3	Las Californias Drive/Siempre Viva Road	TWSC	9.6	A	9.8	A
4	Border Pacific Drive/Siempre Viva Road ¹	Signal	15.8	B	14.5	B

¹ Near Term Opening Day Year 2022 LOS improvement from Baseline to Plus Project conditions is due to the addition of the south leg of the intersection (i.e., the northbound approach), which has an approach LOS of A. Intersection control delay is the weighted average of the control delay of all lane groups, which are based on the volumes in each lane group.

LOS = level of service

TWSC = two-way stop control

As shown in Table 2, all study area intersections currently operate at satisfactory LOS (LOS D or better). All study area intersections are forecast to operate at satisfactory LOS (LOS D or better) in the Near-Term Opening Day Year 2022 Baseline condition. With the addition of the proposed OTN parking lot traffic, all study area intersections would continue to operate at satisfactory LOS (LOS D or better) in the Near-Term Opening Day Year 2022 Plus Project condition. Therefore, the Near Term Opening Day Year 2022 (Baseline and Plus Project) analysis demonstrates no intersection LOS impacts due to the proposed OTN parking lot.

The proposed OTN parking lot would not result in any new circulation deficiencies/impacts or require additional mitigation than identified in the adopted Otay Mesa Community Plan Update.

If you have any questions, please contact Shiva Delparastaran at (949) 553-0666 or shiva.delparastaran@lsa.net.

Attachments: A: Table A
B: Figures 1 and 2
C: Existing Counts and Volume Development
D: HCM LOS Worksheets

ATTACHMENT A

TABLE A

Table A: CBX Parking Lots 9 and 10 Average Daily Trips (January 2017 to October 2018)¹

January 2017	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	3,752	2,934	1,858	1,768	1,594	1,644	3,226	16,776	Parking
# of Days	5	5	4	4	4	4	5	31	Space ²
ADT/Day	750	587	465	442	399	411	645	541	0.43
ADT/Weekend								541	0.43
ADT/Weekday								541	0.43
ADT/(Tues-Thurs)								505	0.40
February 2017	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	3,254	2,024	1,436	1,346	1,268	1,228	2,880	13,436	Parking
# of Days	4	4	4	4	4	4	4	28	Space ²
ADT/Day	814	506	359	337	317	307	720	480	0.38
ADT/Weekend								514	0.41
ADT/Weekday								466	0.37
ADT/(Tues-Thurs)								401	0.32
March 2017	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	3,060	2,110	1,956	1,634	1,672	1,248	3,080	14,760	Parking
# of Days	4	4	5	5	5	4	4	31	Space ²
ADT/Day	765	528	391	327	334	312	770	476	0.38
ADT/Weekend								541	0.43
ADT/Weekday								454	0.36
ADT/(Tues-Thurs)								407	0.33
April 2017	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	2,886	2,084	1,680	1,444	1,318	1,866	3,894	15,172	Parking
# of Days	4	4	4	4	4	5	5	30	Space ²
ADT/Day	722	521	420	361	330	373	779	506	0.40
ADT/Weekend								576	0.46
ADT/Weekday								471	0.38
ADT/(Tues-Thurs)								434	0.35
May 2017	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	3,964	2,760	2,108	1,538	1,254	1,262	2,806	15,692	Parking
# of Days	5	5	5	4	4	4	4	31	Space ²
ADT/Day	793	552	422	385	314	316	702	506	0.40
ADT/Weekend								509	0.41
ADT/Weekday								505	0.40
ADT/(Tues-Thurs)								458	0.37
June 2017	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	2,842	1,980	1,926	1,948	1,546	1,384	2,636	14,262	Parking
# of Days	4	4	4	5	5	4	4	30	Space ²
ADT/Day	711	495	482	390	309	346	659	475	0.38
ADT/Weekend								503	0.40
ADT/Weekday								466	0.37
ADT/(Tues-Thurs)								450	0.36

Table A: CBX Parking Lots 9 and 10 Average Daily Trips (January 2017 to October 2018)¹

July 2017	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	3,664	2,598	2,116	1,634	1,276	1,268	3,238	15,794	Parking
# of Days	5	4	4	4	4	5	5	31	Space ²
ADT/Day	733	650	529	409	319	254	648	509	0.41
ADT/Weekend								451	0.36
ADT/Weekday								538	0.43
ADT/(Tues-Thurs)								529	0.42
August 2017	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	2,964	2,842	2,246	2,110	1,530	1,320	2,880	15,892	Parking
# of Days	4	5	5	5	4	4	4	31	Space ²
ADT/Day	741	568	449	422	383	330	720	513	0.41
ADT/Weekend								525	0.42
ADT/Weekday								508	0.41
ADT/(Tues-Thurs)								480	0.38
September 2017	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	3,146	1,984	1,508	1,458	1,400	1,362	2,566	13,424	Parking
# of Days	4	4	4	4	5	5	4	30	Space ²
ADT/Day	787	496	377	365	280	272	642	447	0.36
ADT/Weekend								436	0.35
ADT/Weekday								452	0.36
ADT/(Tues-Thurs)								413	0.33
October 2017	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	3,838	2,690	1,498	1,368	1,328	1,290	4,012	16,024	Parking
# of Days	5	5	4	4	4	4	5	31	Space ²
ADT/Day	768	538	375	342	332	323	802	517	0.41
ADT/Weekend								589	0.47
ADT/Weekday								487	0.39
ADT/(Tues-Thurs)								427	0.34
November 2017	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	3,332	1,986	1,888	1,592	1,306	1,428	3,058	14,590	Parking
# of Days	4	4	5	5	4	4	4	30	Space ²
ADT/Day	833	497	378	318	327	357	765	486	0.39
ADT/Weekend								561	0.45
ADT/Weekday								459	0.37
ADT/(Tues-Thurs)								390	0.31
December 2017	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	2,242	1,896	1,772	1,296	1,538	1,912	3,200	13,856	Parking
# of Days	4	4	4	4	5	5	5	31	Space ²
ADT/Day	561	474	443	324	308	382	640	447	0.36
ADT/Weekend								511	0.41
ADT/Weekday								416	0.33
ADT/(Tues-Thurs)								414	0.33

Table A: CBX Parking Lots 9 and 10 Average Daily Trips (January 2017 to October 2018)¹

January 2018	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	3,400	2,928	2,422	1,806	1,604	1,944	3,036	17,140	Parking
# of Days	5	5	5	4	4	4	4	31	Space ²
ADT/Day	680	586	484	452	401	486	759	553	0.44
ADT/Weekend								623	0.50
ADT/Weekday								529	0.42
ADT/(Tues-Thurs)								511	0.41
February 2018	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	2,852	2,262	1,644	1,290	1,176	1,176	3,104	13,504	Parking
# of Days	4	4	4	4	4	4	4	28	Space ²
ADT/Day	713	566	411	323	294	294	776	482	0.39
ADT/Weekend								535	0.43
ADT/Weekday								461	0.37
ADT/(Tues-Thurs)								433	0.35
March 2018	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	2,770	2,038	1,720	1,634	1,520	1,572	3,044	14,298	Parking
# of Days	4	4	4	5	5	5	4	31	Space ²
ADT/Day	693	510	430	327	304	314	761	461	0.37
ADT/Weekend								513	0.41
ADT/Weekday								440	0.35
ADT/(Tues-Thurs)								415	0.33
April 2018	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	3,700	1,992	1,718	1,578	1,408	1,228	4,316	15,940	Parking
# of Days	5	4	4	4	4	4	5	30	Space ²
ADT/Day	740	498	430	395	352	307	863	531	0.42
ADT/Weekend								616	0.49
ADT/Weekday								495	0.40
ADT/(Tues-Thurs)								441	0.35
May 2018	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	3,142	2,914	2,116	1,886	1,180	1,048	3,218	15,504	Parking
# of Days	4	5	5	5	4	4	4	31	Space ²
ADT/Day	786	583	423	377	295	262	805	500	0.40
ADT/Weekend								533	0.43
ADT/Weekday								489	0.39
ADT/(Tues-Thurs)								461	0.37
June 2018	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	2,832	2,388	1,872	1,550	1,778	1,878	2,844	15,142	Parking
# of Days	4	4	4	4	5	5	4	30	Space ²
ADT/Day	708	597	468	388	356	376	711	505	0.40
ADT/Weekend								525	0.42
ADT/Weekday								496	0.40
ADT/(Tues-Thurs)								484	0.39

Table A: CBX Parking Lots 9 and 10 Average Daily Trips (January 2017 to October 2018)¹

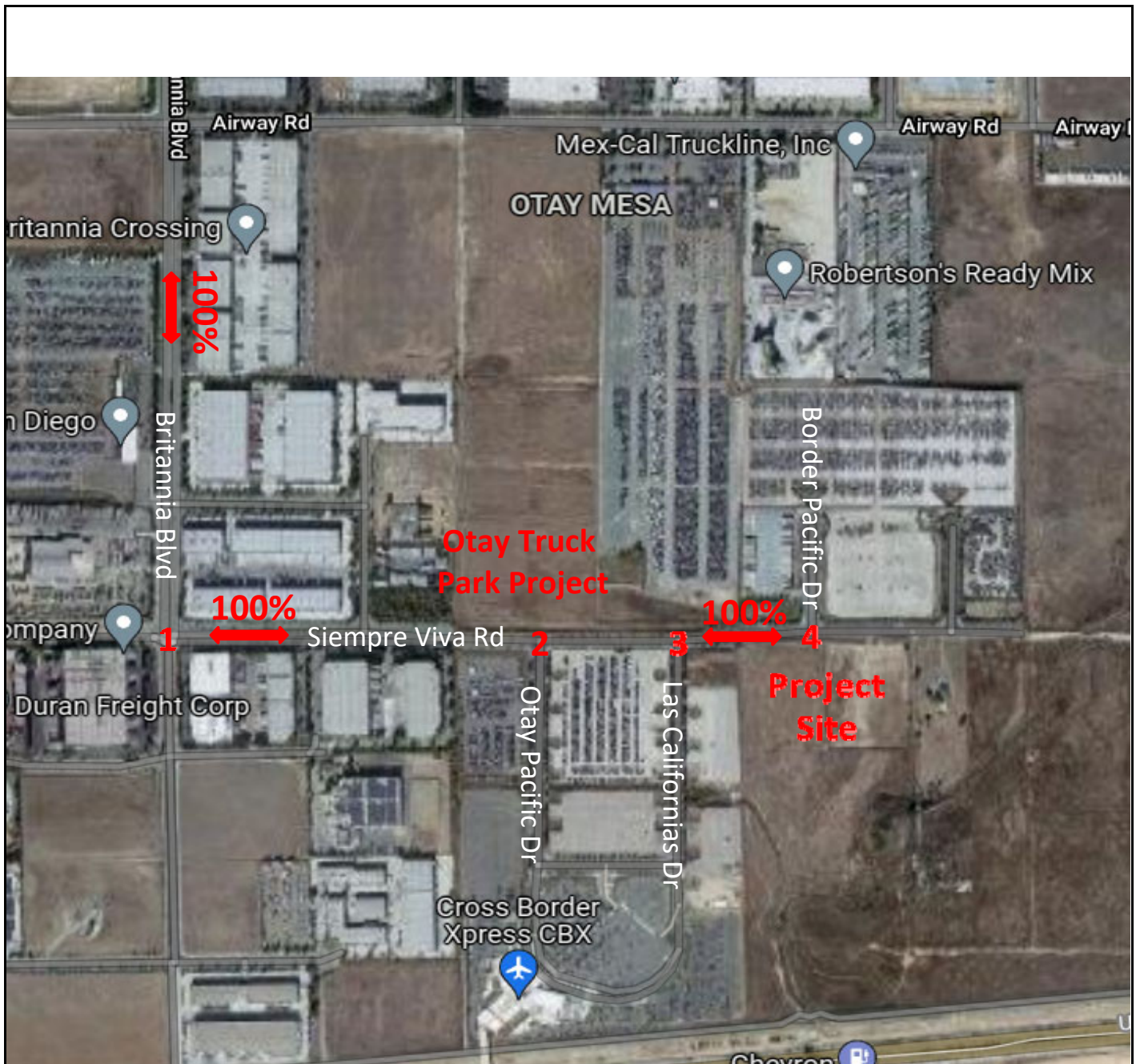
July 2018	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	3,572	3,282	2,260	2,176	1,940	2,110	4,162	19,502	Parking
# of Days	5	5	4	4	4	4	5	31	Space²
ADT/Day	714	656	565	544	485	528	832	629	0.50
ADT/Weekend								697	0.56
ADT/Weekday								601	0.48
ADT/(Tues-Thurs)								594	0.47
August 2018	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	2,986	2,058	2,118	2,130	2,172	2,044	3,390	16,898	Parking
# of Days	4	4	5	5	5	4	4	31	Space²
ADT/Day	747	515	424	426	434	511	848	545	0.44
ADT/Weekend								679	0.54
ADT/Weekday								498	0.40
ADT/(Tues-Thurs)								450	0.36
September 2018	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	3,860	2,636	1,728	1,374	1,526	2,406	4,206	17,736	Parking
# of Days	4	4	4	4	4	5	5	30	Space²
ADT/Day	965	659	432	344	382	481	841	591	0.47
ADT/Weekend								661	0.53
ADT/Weekday								556	0.44
ADT/(Tues-Thurs)								478	0.38
October 2018	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	4,606	3,252	2,438	1,738	1,684	2,456	4,200	20,374	Parking
# of Days	5	5	5	4	4	4	4	31	Space²
ADT/Day	921	650	488	435	421	614	1,050	657	0.53
ADT/Weekend								832	0.67
ADT/Weekday								596	0.48
ADT/(Tues-Thurs)								531	0.42
January 2017 - October 2018	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	ADT Per
Total ADT	72,664	53,638	42,028	36,298	33,018	35,074	72,996	345,716	Parking
# of Days	96	96	96	95	95	95	96	669	Space²
ADT/Day	757	559	438	382	348	369	760	517	0.41
ADT/Weekend								566	0.45
ADT/Weekday								497	0.40
ADT/(Tues-Thurs)								460	0.37

¹ ADT calculated by multiplying parking transaction data collected by LAZ Parking by 2.

² Lot 9 has 755 spaces and Lot 10 has 496 spaces for a total of 1,251 spaces.

ATTACHMENT B

FIGURES 1 AND 2



1 Britannia Boulevard/Siempre Viva Road	2 Otay Pacific Drive/Siempre Viva Road	3 Las Californias Drive/Siempre Viva Road	4 Border Pacific Drive/Siempre Viva Road	

FIGURE 1

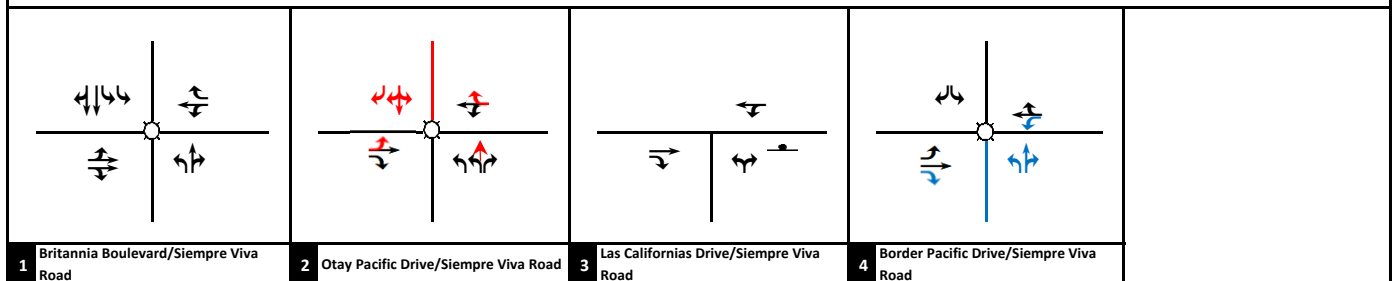
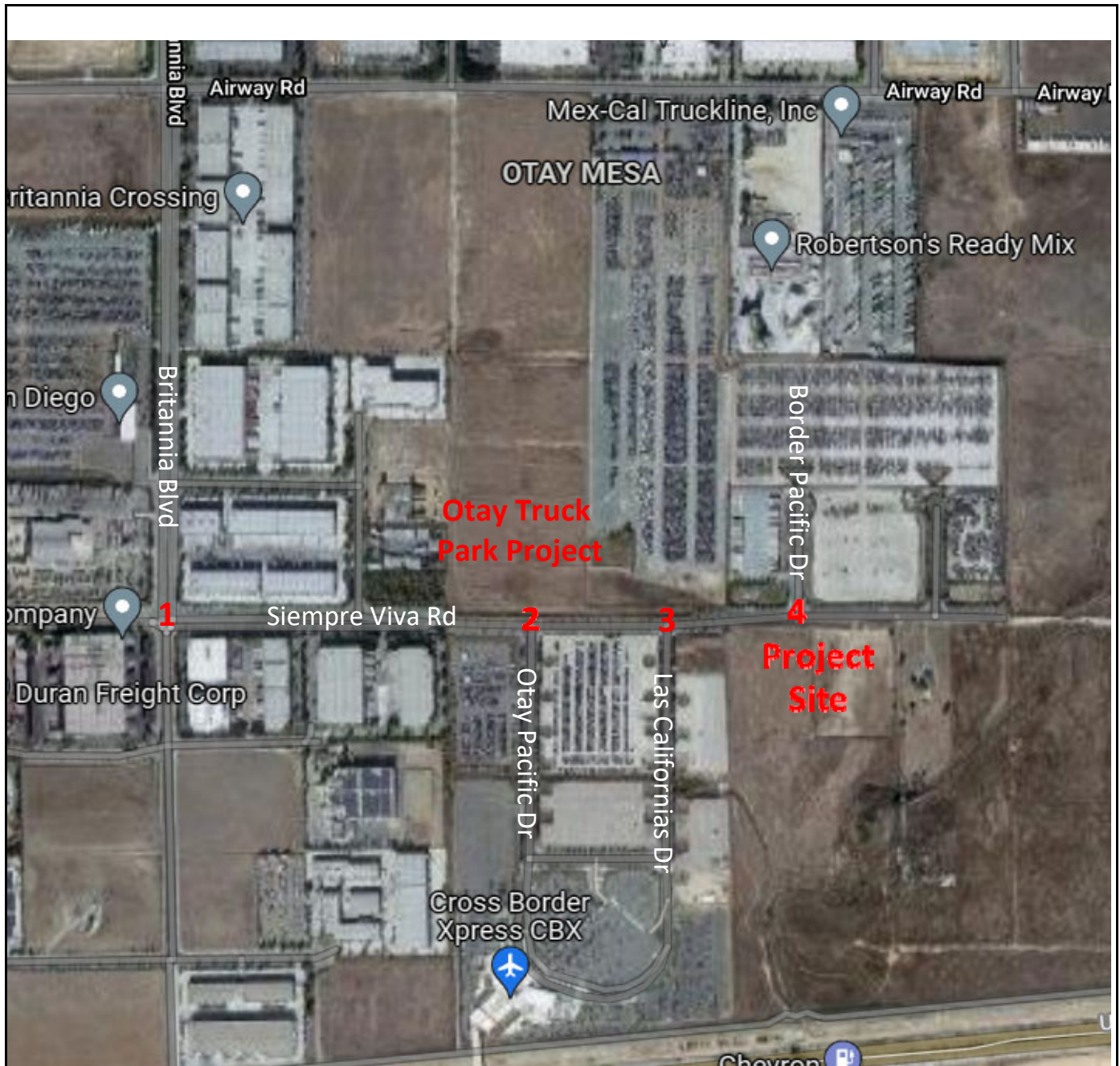
LSA

XXXX / YYYY

AM / PM Peak Hour Traffic Volumes

Cross Border Xpress OTN Parking Lot

Project Trip Distribution and Assignment



LSA

Legend

- Signal
- Future Lane Configuration by the Otay Truck Project
- Stop Sign
- Proposed Lane Configuration by the Project

FIGURE 2

Cross Border Xpress OTN Parking Lot
Existing/Future Intersection Geometrics

ATTACHMENT C

EXISTING COUNTS AND VOLUME DEVELOPMENT

Britannia Blvd & Siempre Viva Rd

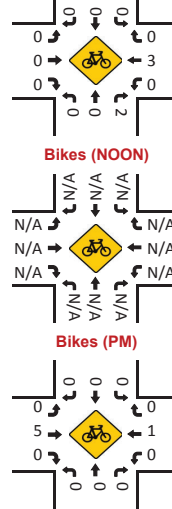
ID: 19-04233-005
City: Otay Mesa

COUNT PERIODS

A diagram of a four-way intersection. In the center is a yellow diamond-shaped sign with a black car icon. Four arrows point towards the center from the top, bottom, left, and right. Each arrow is labeled 'N/A'.

[illegible]

Bikes (PM)



Otay Pacific Dr & Siempre Viva Rd

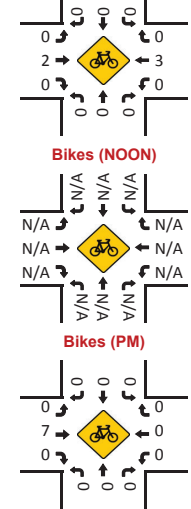
Day: Wednesday
Date: 05/22/2019

07:00 AM - 09:00 AM	
NONE	
04:00 PM - 06:00 PM	

Total Vehicles (AM)

Approach	Through	Left	Right
North	0	0	0
South	0	0	3
East	143	12	0
West	16	214	89

Bikes (PM)



Las Californias Dr & Siempre Viva Rd

ID: 19-04233-007
City: Otay Mesa

Signal Timing Diagram for Siempre Viva Rd / Las Californias Dr

Top Section: Eastbound and Westbound Phases

Eastbound (Left Side):

Phase	AM	NOON	PM
156	0	175	
0	0	0	
0	0	0	
12	0	10	
8	0	7	

Westbound (Right Side):

Phase	PM	NOON	AM
0	0	0	
16	0	22	
5	0	3	
0	0	0	
15	0	17	

Central Control Box (1-Way Stop (NB))

TEV	185 AM	0 NOON	202 PM
PHF	0.80		0.86

Bottom Section: Northbound and Southbound Phases

Northbound (Top Side):

Phase	PM	NOON	AM
12	0	159	5
0	0	0	0
12	1	134	5

Southbound (Bottom Side):

Phase	PM	NOON	AM
0	0	0	0
0	0	0	0
0	0	0	0

Central Signage: Pedestrian Crossing (Yellow Diamond)

Left Side: Total Vehicles (AM, Noon, PM)

Right Side: Bikes (AM, Noon, PM)

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

City of San Diego
N/S: Border Pacific Drive
E/W: Siempre Viva Road
Weather: Clear

File Name : SDG_Border Pacific_Siempre Viva_AM
Site Code : 00321624
Start Date : 11/2/2021
Page No : 1

Groups Printed- Total Volume

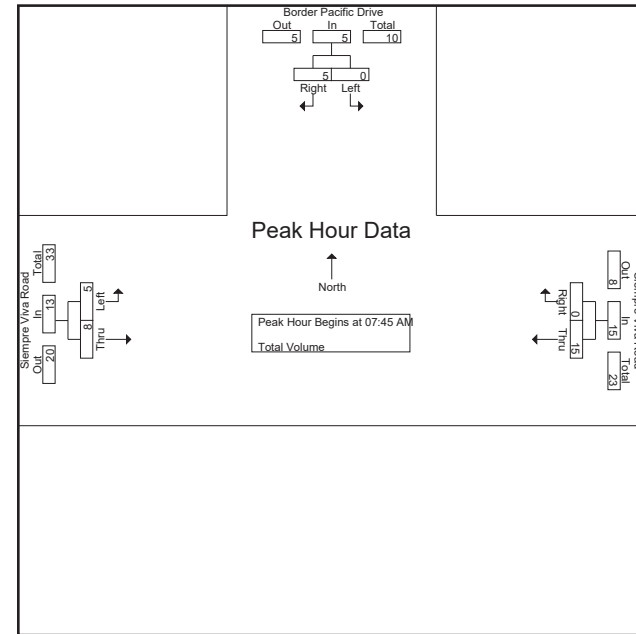
Start Time	Border Pacific Drive Southbound			Siempre Viva Road Westbound			Siempre Viva Road Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	0	3	3	5	0	5	0	4	4	12
07:15 AM	0	1	1	2	0	2	1	1	2	5
07:30 AM	0	0	0	3	0	3	0	1	1	4
07:45 AM	0	0	0	3	0	3	0	0	0	3
Total	0	4	4	13	0	13	1	6	7	24
08:00 AM	0	1	1	7	0	7	1	1	2	10
08:15 AM	0	1	1	2	0	2	3	2	5	8
08:30 AM	0	3	3	3	0	3	1	5	6	12
08:45 AM	0	0	0	0	0	0	0	1	1	1
Total	0	5	5	12	0	12	5	9	14	31
Grand Total	0	9	9	25	0	25	6	15	21	55
Apprch %	0	100		100	0		28.6	71.4		
Total %	0	16.4	16.4	45.5	0	45.5	10.9	27.3	38.2	

	Border Pacific Drive Southbound			Siempre Viva Road Westbound			Siempre Viva Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	0	0	3	0	3	0	0	0	3
08:00 AM	0	1	1	7	0	7	1	1	2	10
08:15 AM	0	1	1	2	0	2	3	2	5	8
08:30 AM	0	3	3	3	0	3	1	5	6	12
Total Volume	0	5	5	15	0	15	5	8	13	33
% App. Total	0	100		100	0		38.5	61.5		
PHF	.000	.417	.417	.536	.000	.536	.417	.400	.542	.688

Counts Unlimited, Inc.
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City of San Diego
N/S: Border Pacific Drive
E/W: Siempre Viva Road
Weather: Clear

File Name : SDG_Border Pacific_Siempre Viva_AM
Site Code : 00321624
Start Date : 11/2/2021
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:15 AM			08:00 AM		
+0 mins.	0	0	0	2	0	2	1	1	2
+15 mins.	0	1	1	3	0	3	3	2	5
+30 mins.	0	1	1	3	0	3	1	5	6
+45 mins.	0	3	3	7	0	7	0	1	1
Total Volume	0	5	5	15	0	15	5	9	14
% App. Total	0	100		100	0		35.7	64.3	
PHF	.000	.417	.417	.536	.000	.536	.417	.450	.583

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City of San Diego
N/S: Border Pacific Drive
E/W: Siempre Viva Road
Weather: Clear

File Name : SDG_Border Pacific_Siempre Viva_PM
Site Code : 00321624
Start Date : 11/2/2021
Page No : 1

Groups Printed- Total Volume

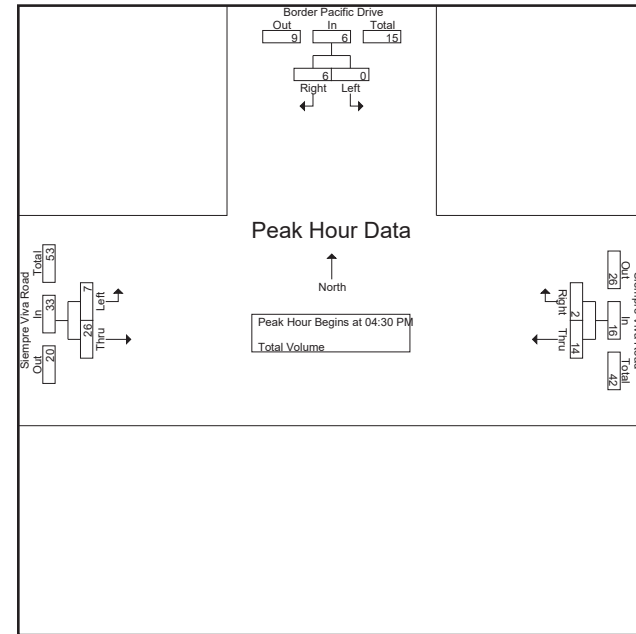
Start Time	Border Pacific Drive Southbound			Siempre Viva Road Westbound			Siempre Viva Road Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	0	2	2	7	0	7	2	3	5	14
04:15 PM	1	1	2	3	0	3	0	4	4	9
04:30 PM	0	3	3	6	0	6	3	7	10	19
04:45 PM	0	1	1	2	1	3	1	7	8	12
Total	1	7	8	18	1	19	6	21	27	54
05:00 PM	0	2	2	3	1	4	2	6	8	14
05:15 PM	0	0	0	3	0	3	1	6	7	10
05:30 PM	0	1	1	2	1	3	0	6	6	10
05:45 PM	0	0	0	2	0	2	0	1	1	3
Total	0	3	3	10	2	12	3	19	22	37
Grand Total	1	10	11	28	3	31	9	40	49	91
Apprch %	9.1	90.9		90.3	9.7		18.4	81.6		
Total %	1.1	11	12.1	30.8	3.3	34.1	9.9	44	53.8	

	Border Pacific Drive Southbound			Siempre Viva Road Westbound			Siempre Viva Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	3	3	6	0	6	3	7	10	19
04:45 PM	0	1	1	2	1	3	1	7	8	12
05:00 PM	0	2	2	3	1	4	2	6	8	14
05:15 PM	0	0	0	3	0	3	1	6	7	10
Total Volume	0	6	6	14	2	16	7	26	33	55
% App. Total	0	100		87.5	12.5		21.2	78.8		
PHF	.000	.500	.500	.583	.500	.667	.583	.929	.825	.724

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City of San Diego
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File Name : SDG_Border Pacific_Siempre Viva_PM
Site Code : 00321624
Start Date : 11/2/2021
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:30 PM		
+0 mins.	0	2	2	7	0	7	3	7	10
+15 mins.	1	1	2	3	0	3	1	7	8
+30 mins.	0	3	3	6	0	6	2	6	8
+45 mins.	0	1	1	2	1	3	1	6	7
Total Volume	1	7	8	18	1	19	7	26	33
% App. Total	12.5	87.5		94.7	5.3		21.2	78.8	
PHF	.250	.583	.667	.643	.250	.679	.583	.929	.825

AM PEAK HOUR

1 Britannia Blvd/Siempre Viva Rd													
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
Existing	1	77	7	237	113	110	79		3	8	4	211	
Otay Truck Project				60								60	
Opening Day Baseline	1	77	7	297	113	110	79	0	3	8	4	271	
Project				17								13	
Opening Day Plus Project	1	77	7	314	113	110	79	0	3	8	4	284	
2 Otay Pacific Dr/Siempre Viva Rd													
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
Existing	90	0	3	0	0	0	0	16	214	12	143	0	
Otay Truck Project						60	60						
Opening Day Baseline	90	0	3	0	0	60	60	16	214	12	143	0	
Project							17				13		
Opening Day Plus Project	90	0	3	0	0	60	60	33	214	12	156	0	
3 Las Californias Dr/Siempre Viva Rd													
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
Existing	135	0	5	0	0	0	0	12	8	3	22	0	
Otay Truck Project													
Opening Day Baseline	135	0	5	0	0	0	0	12	8	3	22	0	
Project								17			13		
Opening Day Plus Project	135	0	5	0	0	0	0	29	8	3	35	0	
4 Border Pacific Pl/Siempre Viva Road													
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
Existing	0	0	0	0	0	5	5	8	0	0	15	0	
Otay Truck Project													
Opening Day Baseline	0	0	0	0	0	5	5	8	0	0	15	0	
Project	13							17					
Opening Day Plus Project	13	0	0	0	0	5	5	8	17	0	15	0	

PM PEAK HOUR

1 Britannia Blvd/Siempre Viva Rd													
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
Existing	4	181	3	186	51	54	195	2	2	8	2	190	
Otay Truck Project				52								81	
Opening Day Baseline	4	181	3	238	51	54	195	2	2	8	2	271	
Project				15								16	
Opening Day Plus Project	4	181	3	253	51	54	195	2	2	8	2	287	
2 Otay Pacific Dr/Siempre Viva Rd													
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
Existing	59	0	2	0	0	0	0	16	172	7	165	0	
Otay Truck Project						81	52						
Opening Day Baseline	59	0	2	0	0	81	52	16	172	7	165	0	
Project							15				16		
Opening Day Plus Project	59	0	2	0	0	81	52	31	172	7	181	0	
3 Las Californias Dr/Siempre Viva Rd													
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
Existing	159	0	5	0	0	0	0	10	7	5	16	0	
Otay Truck Project													
Opening Day Baseline	159	0	5	0	0	0	0	10	7	5	16	0	
Project								15			16		
Opening Day Plus Project	159	0	5	0	0	0	0	25	7	5	32	0	
4 Border Pacific Pl/Siempre Viva Road													
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
Existing	0	0	0	0	0	6	7	26	0	0	14	2	
Otay Truck Project													
Opening Day Baseline	0	0	0	0	0	6	7	26	0	0	14	2	
Project	16							15					
Opening Day Plus Project	16	0	0	0	0	6	7	26	15	0	14	2	

ATTACHMENT D

HCM LOS WORKSHEETS

HCM 6th Signalized Intersection Summary
1: Britannia Blvd & Siempre Viva Rd

11/15/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↔		↔	↔	
Traffic Volume (veh/h)	79	0	3	8	4	211	1	77	7	237	113	110
Future Volume (veh/h)	79	0	3	8	4	211	1	77	7	237	113	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No		No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	0	3	9	4	229	1	84	8	258	123	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	0	105	227	101	287	3	584	56	333	787	702
Arrive On Green	0.07	0.00	0.07	0.18	0.18	0.18	0.00	0.35	0.35	0.10	0.44	0.44
Sat Flow, veh/h	1781	0	1585	1252	556	1585	1781	1681	160	3456	1777	1585
Grp Volume(v), veh/h	86	0	3	13	0	229	1	0	92	258	123	120
Grp Sat Flow(s), veh/h/ln	1781	0	1585	1808	0	1585	1781	0	1842	1728	1777	1585
Q Serve(g_s), s	2.5	0.0	0.1	0.3	0.0	7.2	0.0	0.0	1.8	3.8	2.1	2.4
Cycle Q Clear(g_c), s	2.5	0.0	0.1	0.3	0.0	7.2	0.0	0.0	1.8	3.8	2.1	2.4
Prop In Lane	1.00		1.00	0.69		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	118	0	105	328	0	287	3	0	640	333	787	702
V/C Ratio(X)	0.73	0.00	0.03	0.04	0.00	0.80	0.29	0.00	0.14	0.77	0.16	0.17
Avail Cap(c_a), veh/h	619	0	550	628	0	550	137	0	640	333	787	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	22.6	17.5	0.0	20.3	25.9	0.0	11.6	22.9	8.6	8.7
Incr Delay (d2), s/veh	8.3	0.0	0.1	0.0	0.0	5.0	41.1	0.0	0.5	10.8	0.4	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	1.2	0.0	0.0	0.1	0.0	2.8	0.1	0.0	0.7	1.9	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.1	0.0	22.7	17.5	0.0	25.3	67.0	0.0	12.1	33.7	9.1	9.2
LnGrp LOS	C	A	C	B	A	C	E	A	B	C	A	A
Approach Vol, veh/h		89			242			93			501	
Approach Delay, s/veh		31.7			24.9			12.7			21.8	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	22.0		7.4	4.1	26.9		13.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	18.0		18.0	4.0	19.0		18.0				
Max Q Clear Time (g_c+1), s	5.8	3.8		4.5	2.0	4.4		9.2				
Green Ext Time (p_c), s	0.0	0.3		0.3	0.0	1.2		0.5				
Intersection Summary												
HCM 6th Ctrl Delay				22.6								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
2: Otay Pacific Dr & Siempre Viva Rd

11/15/2021

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔		↔	↔	↔
Traffic Volume (veh/h)	16	214	12	143	90	3
Future Volume (veh/h)	16	214	12	143	90	3
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	17	225	13	151	95	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	389	330	130	366	1872	859
Arrive On Green	0.21	0.21	0.21	0.21	0.55	0.55
Sat Flow, veh/h	1841	1560	67	1730	3401	1560
Grp Volume(v), veh/h	17	225	164	0	95	3
Grp Sat Flow(s), veh/h/ln	1841	1560	1797	0	1700	1560
Q Serve(g_s), s	0.2	4.5	0.0	0.0	0.4	0.0
Cycle Q Clear(g_c), s	0.2	4.5	2.6	0.0	0.4	0.0
Prop In Lane	1.00	0.08		1.00	1.00	
Lane Grp Cap(c), veh/h	389	330	496	0	1872	859
V/C Ratio(X)	0.04	0.68	0.33	0.00	0.05	0.00
Avail Cap(c_a), veh/h	1013	859	1090	0	1872	859
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	10.5	12.2	11.5	0.0	3.5	3.4
Incr Delay (d2), s/veh	0.0	2.5	0.4	0.0	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.1	1.4	0.9	0.0	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	10.6	14.7	11.9	0.0	3.5	3.4
LnGrp LOS	B	B	B	A	A	A
Approach Vol, veh/h		242		164	98	
Approach Delay, s/veh		14.4		11.9	3.5	
Approach LOS		B		B	A	
Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		22.5		11.1		11.1
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		18.5		18.5		18.5
Max Q Clear Time (g_c+1), s		2.4		6.5		4.6
Green Ext Time (p_c), s		0.2		0.6		0.7
Intersection Summary						
HCM 6th Ctrl Delay				11.5		
HCM 6th LOS				B		

HCM 6th TWSC
3: Las Californias Dr & Siempre Viva Rd

11/15/2021

Intersection						
Int Delay, s/veh	7.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	
Traffic Vol, veh/h	12	8	3	22	135	5
Future Vol, veh/h	12	8	3	22	135	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	265	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	13	8	3	23	142	5

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	21
Stage 1	-	-	13
Stage 2	-	-	29
Critical Hdwy	-	4.14	6.44
Critical Hdwy Stg 1	-	-	5.44
Critical Hdwy Stg 2	-	-	5.44
Follow-up Hdwy	-	2.236	3.336
Pot Cap-1 Maneuver	-	1582	964
Stage 1	-	-	1005
Stage 2	-	-	988
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1582	962
Mov Cap-2 Maneuver	-	-	962
Stage 1	-	-	1005
Stage 2	-	-	986

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	965	-	-	1582	-
HCM Lane V/C Ratio	0.153	-	-	0.002	-
HCM Control Delay (s)	9.4	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

HCM 6th Signalized Intersection Summary
4: Siempre Viva Rd & Border Pacific Dr

11/15/2021

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑		↑	↑
Traffic Volume (veh/h)	5	8	15	0	0	5
Future Volume (veh/h)	5	8	15	0	0	5
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	9	16	0	0	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	10	283	46	0	1080	961
Arrive On Green	0.01	0.15	0.02	0.00	0.00	0.61
Sat Flow, veh/h	1781	1870	1870	0	1781	1585
Grp Volume(v), veh/h	5	9	16	0	0	5
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	0	1781	1585
Q Serve(g_s), s	0.1	0.1	0.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.1	0.3	0.0	0.0	0.0
Prop In Lane	1.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	10	283	46	0	1080	961
V/C Ratio(X)	0.52	0.03	0.34	0.00	0.00	0.01
Avail Cap(c_a), veh/h	270	1530	1020	0	1080	961
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	16.4	11.9	15.8	0.0	0.0	2.6
Incr Delay (d2), s/veh	36.8	0.0	4.3	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.0	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.2	12.0	20.2	0.0	0.0	2.6
LnGrp LOS	D	B	C	A	A	A
Approach Vol, veh/h		14	16		5	
Approach Delay, s/veh		26.7	20.2		2.6	
Approach LOS		C	C		A	
Timer - Assigned Phs				4	6	7
Phs Duration (G+Y+Rc), s				9.0	24.0	4.2
Change Period (Y+Rc), s				4.0	4.0	4.0
Max Green Setting (Gmax), s				27.0	20.0	5.0
Max Q Clear Time (g_c+I1), s				2.1	2.0	2.1
Green Ext Time (p_c), s				0.0	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			20.3			
HCM 6th LOS			C			

HCM 6th Signalized Intersection Summary
1: Britannia Blvd & Siempre Viva Rd

11/15/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↔		↔	↔	
Traffic Volume (veh/h)	195	2	2	8	2	190	4	181	3	186	51	54
Future Volume (veh/h)	195	2	2	8	2	190	4	181	3	186	51	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	2	2	9	2	207	4	197	3	202	55	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	280	135	135	240	53	259	8	576	9	301	704	628
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.00	0.31	0.31	0.09	0.40	0.40
Sat Flow, veh/h	1781	858	858	1470	327	1585	1781	1837	28	3456	1777	1585
Grp Volume(v), veh/h	212	0	4	11	0	207	4	0	200	202	55	59
Grp Sat Flow(s), veh/h/ln	1781	0	1716	1797	0	1585	1781	0	1865	1728	1777	1585
Q Serve(g_s), s	6.5	0.0	0.1	0.3	0.0	7.2	0.1	0.0	4.7	3.3	1.1	1.3
Cycle Q Clear(g_c), s	6.5	0.0	0.1	0.3	0.0	7.2	0.1	0.0	4.7	3.3	1.1	1.3
Prop In Lane	1.00		0.50	0.82		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	280	0	270	293	0	259	8	0	585	301	704	628
V/C Ratio(X)	0.76	0.00	0.01	0.04	0.00	0.80	0.52	0.00	0.34	0.67	0.08	0.09
Avail Cap(c_a), veh/h	559	0	538	564	0	497	124	0	585	301	704	628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	0.0	20.4	20.2	0.0	23.1	28.5	0.0	15.1	25.4	10.8	10.9
Incr Delay (d2), s/veh	4.2	0.0	0.0	0.1	0.0	5.6	45.6	0.0	1.6	5.7	0.2	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	2.9	0.0	0.0	0.1	0.0	2.9	0.1	0.0	2.1	1.5	0.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.3	0.0	20.5	20.3	0.0	28.7	74.1	0.0	16.7	31.1	11.0	11.2
LnGrp LOS	C	A	C	C	A	C	E	A	B	C	B	B
Approach Vol, veh/h		216			218			204			316	
Approach Delay, s/veh		27.2			28.3			17.9			23.9	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	22.0		13.0	4.2	26.8		13.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	18.0		18.0	4.0	19.0		18.0				
Max Q Clear Time (g_c+I1), s	5.3	6.7		8.5	2.1	3.3		9.2				
Green Ext Time (p_c), s	0.0	0.8		0.8	0.0	0.5		0.5				
Intersection Summary												
HCM 6th Ctrl Delay				24.4								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
2: Otay Pacific Dr & Siempre Viva Rd

11/15/2021

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔		↔	↔	↔
Traffic Volume (veh/h)	16	172	7	165	59	2
Future Volume (veh/h)	16	172	7	165	59	2
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	17	181	7	174	62	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	340	288	121	330	1936	888
Arrive On Green	0.18	0.18	0.18	0.18	0.57	0.57
Sat Flow, veh/h	1841	1560	33	1789	3401	1560
Grp Volume(v), veh/h	17	181	181	0	62	2
Grp Sat Flow(s), veh/h/ln	1841	1560	1822	0	1700	1560
Q Serve(g_s), s	0.2	3.5	0.0	0.0	0.3	0.0
Cycle Q Clear(g_c), s	0.2	3.5	2.9	0.0	0.3	0.0
Prop In Lane		1.00	0.04		1.00	1.00
Lane Grp Cap(c), veh/h	340	288	451	0	1936	888
V/C Ratio(X)	0.05	0.63	0.40	0.00	0.03	0.00
Avail Cap(c_a), veh/h	1048	888	1144	0	1936	888
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	10.9	12.2	12.0	0.0	3.1	3.0
Incr Delay (d2), s/veh	0.1	2.3	0.6	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.1	1.1	1.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	11.0	14.5	12.6	0.0	3.1	3.0
LnGrp LOS	B	B	B	A	A	A
Approach Vol, veh/h		198		181	64	
Approach Delay, s/veh		14.2		12.6	3.1	
Approach LOS		B		B	A	
Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		22.5		10.0		10.0
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		18.5		18.5		18.5
Max Q Clear Time (g_c+I1), s		2.3		5.5		4.9
Green Ext Time (p_c), s		0.1		0.5		0.8
Intersection Summary						
HCM 6th Ctrl Delay				11.9		
HCM 6th LOS				B		

HCM 6th TWSC
3: Las Californias Dr & Siempre Viva Rd

11/15/2021

Intersection						
Int Delay, s/veh	7.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	
Traffic Vol, veh/h	10	7	5	16	159	5
Future Vol, veh/h	10	7	5	16	159	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	265	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	11	7	5	17	167	5

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	18
Stage 1	-	-	11
Stage 2	-	-	27
Critical Hdwy	-	4.14	6.44
Critical Hdwy Stg 1	-	-	5.44
Critical Hdwy Stg 2	-	-	5.44
Follow-up Hdwy	-	2.236	3.336
Pot Cap-1 Maneuver	-	1586	969
Stage 1	-	-	1007
Stage 2	-	-	990
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1586	966
Mov Cap-2 Maneuver	-	-	966
Stage 1	-	-	1007
Stage 2	-	-	987

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	969	-	-	1586	-
HCM Lane V/C Ratio	0.178	-	-	0.003	-
HCM Control Delay (s)	9.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

HCM 6th Signalized Intersection Summary
4: Siempre Viva Rd & Border Pacific Dr

11/15/2021

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑		↑	↑
Traffic Volume (veh/h)	7	26	14	2	0	6
Future Volume (veh/h)	7	26	14	2	0	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	28	15	2	0	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	15	315	66	9	1058	942
Arrive On Green	0.01	0.17	0.04	0.04	0.00	0.59
Sat Flow, veh/h	1781	1870	1616	215	1781	1585
Grp Volume(v), veh/h	8	28	0	17	0	7
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1832	1781	1585
Q Serve(g_s), s	0.2	0.4	0.0	0.3	0.0	0.1
Cycle Q Clear(g_c), s	0.2	0.4	0.0	0.3	0.0	0.1
Prop In Lane	1.00			0.12	1.00	1.00
Lane Grp Cap(c), veh/h	15	315	0	75	1058	942
V/C Ratio(X)	0.52	0.09	0.00	0.23	0.00	0.01
Avail Cap(c_a), veh/h	265	1500	0	979	1058	942
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.6	11.8	0.0	15.6	0.0	2.8
Incr Delay (d2), s/veh	25.2	0.1	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.8	11.9	0.0	17.2	0.0	2.8
LnGrp LOS	D	B	A	B	A	A
Approach Vol, veh/h		36	17		7	
Approach Delay, s/veh		18.6	17.2		2.8	
Approach LOS		B	B		A	
Timer - Assigned Phs				4	6	7
Phs Duration (G+Y+Rc), s				9.7	24.0	4.3
Change Period (Y+Rc), s				4.0	4.0	4.0
Max Green Setting (Gmax), s				27.0	20.0	5.0
Max Q Clear Time (g_c+I1), s				2.4	2.1	2.2
Green Ext Time (p_c), s				0.1	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			16.3			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary
1: Britannia Blvd & Siempre Viva Rd

11/15/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↔		↔	↔	
Traffic Volume (veh/h)	79	0	3	8	4	271	1	77	7	297	113	110
Future Volume (veh/h)	79	0	3	8	4	271	1	77	7	297	113	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	0	3	9	4	295	1	84	8	323	123	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	0	105	279	124	353	3	552	53	315	743	663
Arrive On Green	0.07	0.00	0.07	0.22	0.22	0.22	0.00	0.33	0.33	0.09	0.42	0.42
Sat Flow, veh/h	1781	0	1585	1252	556	1585	1781	1681	160	3456	1777	1585
Grp Volume(v), veh/h	86	0	3	13	0	295	1	0	92	323	123	120
Grp Sat Flow(s), veh/h/ln	1781	0	1585	1808	0	1585	1781	0	1842	1728	1777	1585
Q Serve(g_s), s	2.6	0.0	0.1	0.3	0.0	9.7	0.0	0.0	1.9	5.0	2.4	2.6
Cycle Q Clear(g_c), s	2.6	0.0	0.1	0.3	0.0	9.7	0.0	0.0	1.9	5.0	2.4	2.6
Prop In Lane	1.00		1.00	0.69		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	118	0	105	403	0	353	3	0	604	315	743	663
V/C Ratio(X)	0.73	0.00	0.03	0.03	0.00	0.84	0.31	0.00	0.15	1.03	0.17	0.18
Avail Cap(c_a), veh/h	585	0	520	593	0	520	130	0	604	315	743	663
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	0.0	24.0	16.7	0.0	20.4	27.4	0.0	13.0	24.9	10.0	10.0
Incr Delay (d2), s/veh	8.3	0.0	0.1	0.0	0.0	7.6	46.4	0.0	0.5	57.4	0.5	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	1.3	0.0	0.0	0.1	0.0	4.0	0.1	0.0	0.8	4.4	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.4	0.0	24.1	16.7	0.0	27.9	73.7	0.0	13.6	82.3	10.5	10.6
LnGrp LOS	C	A	C	B	A	C	E	A	B	F	B	B
Approach Vol, veh/h	89			308			93			566		
Approach Delay, s/veh	33.1			27.4			14.2			51.5		
Approach LOS	C			C			B			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	22.0		7.6	4.1	26.9		16.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	18.0		18.0	4.0	19.0		18.0				
Max Q Clear Time (g_c+I1), s	7.0	3.9		4.6	2.0	4.6		11.7				
Green Ext Time (p_c), s	0.0	0.3		0.3	0.0	1.2		0.6				
Intersection Summary												
HCM 6th Ctrl Delay				39.6								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary
2: Otay Pacific Dr & Siempre Viva Rd

11/15/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔	↔	↔		↔	↔	↔
Traffic Volume (veh/h)	60	16	214	12	143	0	90	0	3	0	0	60
Future Volume (veh/h)	60	16	214	12	143	0	90	0	3	0	0	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1870	1841	1870	1870	1870
Adj Flow Rate, veh/h	65	17	225	13	151	0	95	0	3	0	0	65
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.95	0.92	0.95	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4	4	2	4	2	2	2
Cap, veh/h	364	79	313	99	348	0	1557	0	693	0	166	282
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.00	0.44	0.00	0.44	0.00	0.00	0.09
Sat Flow, veh/h	1099	394	1560	64	1735	0	3506	0	1560	0	1870	1585
Grp Volume(v), veh/h	82	0	225	164	0	0	95	0	3	0	0	65
Grp Sat Flow(s), veh/h/ln	1493	0	1560	1800	0	0	1753	0	1560	0	1870	1585
Q Serve(g_s), s	0.0	0.0	6.1	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.9
Cycle Q Clear(g_c), s	1.7	0.0	6.1	3.5	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.9
Prop In Lane	0.79		1.00	0.08		0.00	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	443	0	313	447	0	0	1557	0	693	0	166	282
V/C Ratio(X)	0.19	0.00	0.72	0.37	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.23
Avail Cap(c_a), veh/h	761	0	693	874	0	0	1557	0	693	0	748	1267
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	15.1	0.0	16.8	15.8	0.0	0.0	7.2	0.0	7.0	0.0	0.0	19.1
Incr Delay (d2), s/veh	0.2	0.0	3.1	0.5	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.6	0.0	2.1	1.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.3	0.0	19.9	16.3	0.0	0.0	7.2	0.0	7.0	0.0	0.0	19.5
LnGrp LOS	B	A	B	B	A	A	A	A	A	A	A	B
Approach Vol, veh/h	307			164			98			65		
Approach Delay, s/veh	18.7			16.3			7.2			19.5		
Approach LOS	B			B			A			B		
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	24.0		13.0		8.0		13.0					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	20.0		20.0		18.0		20.0					
Max Q Clear Time (g_c+I1), s	2.7		8.1		2.9		5.5					
Green Ext Time (p_c), s	0.2		1.0		0.1		0.7					
Intersection Summary												
HCM 6th Ctrl Delay				16.4								
HCM 6th LOS				B								

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC
3: Las Californias Dr & Siempre Viva Rd

11/15/2021

Intersection						
Int Delay, s/veh	7.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	
Traffic Vol, veh/h	12	8	3	22	135	5
Future Vol, veh/h	12	8	3	22	135	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	265	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	13	8	3	23	142	5

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	21
Stage 1	-	-	13
Stage 2	-	-	29
Critical Hdwy	-	4.14	6.44
Critical Hdwy Stg 1	-	-	5.44
Critical Hdwy Stg 2	-	-	5.44
Follow-up Hdwy	-	2.236	3.336
Pot Cap-1 Maneuver	-	1582	964
Stage 1	-	-	1005
Stage 2	-	-	988
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1582	962
Mov Cap-2 Maneuver	-	-	962
Stage 1	-	-	1005
Stage 2	-	-	986

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	965	-	-	1582	-
HCM Lane V/C Ratio	0.153	-	-	0.002	-
HCM Control Delay (s)	9.4	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

HCM 6th Signalized Intersection Summary
4: Siempre Viva Rd & Border Pacific Dr

11/15/2021

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑		↑	↑
Traffic Volume (veh/h)	5	8	15	0	0	5
Future Volume (veh/h)	5	8	15	0	0	5
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	9	16	0	0	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	10	283	46	0	1080	961
Arrive On Green	0.01	0.15	0.02	0.00	0.00	0.61
Sat Flow, veh/h	1781	1870	1870	0	1781	1585
Grp Volume(v), veh/h	5	9	16	0	0	5
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	0	1781	1585
Q Serve(g_s), s	0.1	0.1	0.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.1	0.3	0.0	0.0	0.0
Prop In Lane	1.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	10	283	46	0	1080	961
V/C Ratio(X)	0.52	0.03	0.34	0.00	0.00	0.01
Avail Cap(c_a), veh/h	270	1530	1020	0	1080	961
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	16.4	11.9	15.8	0.0	0.0	2.6
Incr Delay (d2), s/veh	36.8	0.0	4.3	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.0	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.2	12.0	20.2	0.0	0.0	2.6
LnGrp LOS	D	B	C	A	A	A
Approach Vol, veh/h		14	16		5	
Approach Delay, s/veh		26.7	20.2		2.6	
Approach LOS		C	C		A	
Timer - Assigned Phs				4	6	7
Phs Duration (G+Y+Rc), s				9.0	24.0	4.2
Change Period (Y+Rc), s				4.0	4.0	4.0
Max Green Setting (Gmax), s				27.0	20.0	5.0
Max Q Clear Time (g_c+I1), s				2.1	2.0	2.1
Green Ext Time (p_c), s				0.0	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			20.3			
HCM 6th LOS			C			

HCM 6th Signalized Intersection Summary
1: Britannia Blvd & Siempre Viva Rd

11/15/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↔		↔	↔	
Traffic Volume (veh/h)	195	2	2	8	2	271	4	181	3	238	51	54
Future Volume (veh/h)	195	2	2	8	2	271	4	181	3	238	51	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	2	2	9	2	295	4	197	3	259	55	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	133	133	320	71	345	8	532	8	278	650	580
Arrive On Green	0.15	0.15	0.15	0.22	0.22	0.22	0.00	0.29	0.29	0.08	0.37	0.37
Sat Flow, veh/h	1781	858	858	1470	327	1585	1781	1837	28	3456	1777	1585
Grp Volume(v), veh/h	212	0	4	11	0	295	4	0	200	259	55	59
Grp Sat Flow(s), veh/h/ln	1781	0	1716	1797	0	1585	1781	0	1865	1728	1777	1585
Q Serve(g_s), s	7.1	0.0	0.1	0.3	0.0	11.1	0.1	0.0	5.3	4.6	1.3	1.5
Cycle Q Clear(g_c), s	7.1	0.0	0.1	0.3	0.0	11.1	0.1	0.0	5.3	4.6	1.3	1.5
Prop In Lane	1.00		0.50	0.82		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	275	0	265	391	0	345	8	0	540	278	650	580
V/C Ratio(X)	0.77	0.00	0.02	0.03	0.00	0.85	0.52	0.00	0.37	0.93	0.08	0.10
Avail Cap(c_a), veh/h	516	0	497	521	0	459	115	0	540	278	650	580
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	0.0	22.3	19.1	0.0	23.4	30.9	0.0	17.6	28.4	12.9	13.0
Incr Delay (d2), s/veh	4.5	0.0	0.0	0.0	0.0	11.5	45.9	0.0	1.9	36.1	0.3	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.2	0.0	0.0	0.1	0.0	4.9	0.2	0.0	2.4	3.2	0.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.7	0.0	22.3	19.2	0.0	34.8	76.8	0.0	19.5	64.5	13.1	13.3
LnGrp LOS	C	A	C	B	A	C	E	A	B	E	B	B
Approach Vol, veh/h	216			306			204			373		
Approach Delay, s/veh	29.6			34.3			20.6			48.9		
Approach LOS	C			C			C			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	22.0		13.6	4.3	26.7		17.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	18.0		18.0	4.0	19.0		18.0				
Max Q Clear Time (g_c+I1), s	6.6	7.3		9.1	2.1	3.5		13.1				
Green Ext Time (p_c), s	0.0	0.7		0.7	0.0	0.5		0.5				
Intersection Summary												
HCM 6th Ctrl Delay				35.8								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary
2: Otay Pacific Dr & Siempre Viva Rd

11/15/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔	↔	↔		↔	↔	↔
Traffic Volume (veh/h)	52	16	172	7	165	0	59	0	2	0	0	81
Future Volume (veh/h)	52	16	172	7	165	0	59	0	2	0	0	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1870	1841	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	17	181	7	174	0	62	0	2	0	0	88
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.95	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4	4	2	4	2	2	2
Cap, veh/h	334	81	271	91	311	0	1610	0	716	0	172	291
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.00	0.46	0.00	0.46	0.00	0.00	0.09
Sat Flow, veh/h	1082	467	1560	30	1793	0	3506	0	1560	0	1870	3170
Grp Volume(v), veh/h	74	0	181	181	0	0	62	0	2	0	0	88
Grp Sat Flow(s), veh/h/ln	1549	0	1560	1823	0	0	1753	0	1560	0	1870	1585
Q Serve(g_s), s	0.0	0.0	4.7	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	1.1
Cycle Q Clear(g_c), s	1.5	0.0	4.7	3.9	0.0	0.4	0.0	0.0	0.0	0.0	0.0	1.1
Prop In Lane	0.77		1.00	0.04		0.00	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	415	0	271	402	0	0	1610	0	716	0	172	291
V/C Ratio(X)	0.18	0.00	0.67	0.45	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.30
Avail Cap(c_a), veh/h	786	0	716	917	0	0	1610	0	716	0	773	1310
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	0.0	16.8	16.5	0.0	0.0	6.5	0.0	6.4	0.0	0.0	18.5
Incr Delay (d2), s/veh	0.2	0.0	2.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.6	0.0	1.7	1.5	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.7	0.0	19.7	17.3	0.0	0.0	6.5	0.0	6.4	0.0	0.0	19.1
LnGrp LOS	B	A	B	B	A	A	A	A	A	A	A	B
Approach Vol, veh/h	255			181			64			88		
Approach Delay, s/veh	18.5			17.3			6.5			19.1		
Approach LOS	B			B			A			B		
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	24.0		11.6		8.0		11.6					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	20.0		20.0		18.0		20.0					
Max Q Clear Time (g_c+I1), s	2.4		6.7		3.1		5.9					
Green Ext Time (p_c), s	0.1		0.8		0.2		0.8					
Intersection Summary												
HCM 6th Ctrl Delay				16.9								
HCM 6th LOS				B								
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th TWSC
3: Las Californias Dr & Siempre Viva Rd

11/15/2021

Intersection						
Int Delay, s/veh	7.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	
Traffic Vol, veh/h	10	7	5	16	159	5
Future Vol, veh/h	10	7	5	16	159	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	265	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	11	7	5	17	167	5

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	18
Stage 1	-	-	11
Stage 2	-	-	27
Critical Hdwy	-	4.14	6.44
Critical Hdwy Stg 1	-	-	5.44
Critical Hdwy Stg 2	-	-	5.44
Follow-up Hdwy	-	2.236	3.336
Pot Cap-1 Maneuver	-	1586	969
Stage 1	-	-	1007
Stage 2	-	-	990
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1586	966
Mov Cap-2 Maneuver	-	-	966
Stage 1	-	-	1007
Stage 2	-	-	987

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	969	-	-	1586	-
HCM Lane V/C Ratio	0.178	-	-	0.003	-
HCM Control Delay (s)	9.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

HCM 6th Signalized Intersection Summary
4: Siempre Viva Rd & Border Pacific Dr

11/15/2021

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑		↑	↑
Traffic Volume (veh/h)	7	26	14	2	0	6
Future Volume (veh/h)	7	26	14	2	0	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	28	15	2	0	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	15	315	66	9	1058	942
Arrive On Green	0.01	0.17	0.04	0.04	0.00	0.59
Sat Flow, veh/h	1781	1870	1616	215	1781	1585
Grp Volume(v), veh/h	8	28	0	17	0	7
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1832	1781	1585
Q Serve(g_s), s	0.2	0.4	0.0	0.3	0.0	0.1
Cycle Q Clear(g_c), s	0.2	0.4	0.0	0.3	0.0	0.1
Prop In Lane	1.00			0.12	1.00	1.00
Lane Grp Cap(c), veh/h	15	315	0	75	1058	942
V/C Ratio(X)	0.52	0.09	0.00	0.23	0.00	0.01
Avail Cap(c_a), veh/h	265	1500	0	979	1058	942
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.6	11.8	0.0	15.6	0.0	2.8
Incr Delay (d2), s/veh	25.2	0.1	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.8	11.9	0.0	17.2	0.0	2.8
LnGrp LOS	D	B	A	B	A	A
Approach Vol, veh/h		36	17		7	
Approach Delay, s/veh		18.6	17.2		2.8	
Approach LOS		B	B		A	
Timer - Assigned Phs				4	6	7
Phs Duration (G+Y+Rc), s				9.7	24.0	4.3
Change Period (Y+Rc), s				4.0	4.0	4.0
Max Green Setting (Gmax), s				27.0	20.0	5.0
Max Q Clear Time (g_c+I1), s				2.4	2.1	2.2
Green Ext Time (p_c), s				0.1	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay				16.3		
HCM 6th LOS				B		

HCM 6th Signalized Intersection Summary
1: Britannia Blvd & Siempre Viva Rd

11/15/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↔		↔	↔	
Traffic Volume (veh/h)	79	0	3	8	4	284	1	77	7	314	113	110
Future Volume (veh/h)	79	0	3	8	4	284	1	77	7	314	113	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	0	3	9	4	309	1	84	8	341	123	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	0	105	289	128	366	3	545	52	311	735	655
Arrive On Green	0.07	0.00	0.07	0.23	0.23	0.23	0.00	0.32	0.32	0.09	0.41	0.41
Sat Flow, veh/h	1781	0	1585	1252	556	1585	1781	1681	160	3456	1777	1585
Grp Volume(v), veh/h	86	0	3	13	0	309	1	0	92	341	123	120
Grp Sat Flow(s), veh/h/ln	1781	0	1585	1808	0	1585	1781	0	1842	1728	1777	1585
Q Serve(g_s), s	2.6	0.0	0.1	0.3	0.0	10.3	0.0	0.0	2.0	5.0	2.4	2.7
Cycle Q Clear(g_c), s	2.6	0.0	0.1	0.3	0.0	10.3	0.0	0.0	2.0	5.0	2.4	2.7
Prop In Lane	1.00		1.00	0.69		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	118	0	105	418	0	366	3	0	597	311	734	655
V/C Ratio(X)	0.73	0.00	0.03	0.03	0.00	0.84	0.31	0.00	0.15	1.10	0.17	0.18
Avail Cap(c_a), veh/h	578	0	514	586	0	514	128	0	597	311	734	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.4	0.0	24.2	16.5	0.0	20.4	27.7	0.0	13.3	25.2	10.3	10.3
Incr Delay (d2), s/veh	8.3	0.0	0.1	0.0	0.0	8.8	47.5	0.0	0.5	78.9	0.5	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	1.3	0.0	0.0	0.1	0.0	4.3	0.1	0.0	0.8	5.3	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.7	0.0	24.3	16.6	0.0	29.2	75.2	0.0	13.9	104.2	10.8	10.9
LnGrp LOS	C	A	C	B	A	C	E	A	B	F	B	B
Approach Vol, veh/h	89				322			93			584	
Approach Delay, s/veh	33.4				28.7			14.5			65.3	
Approach LOS	C				C			B			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	22.0		7.7	4.1	26.9		16.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	18.0		18.0	4.0	19.0		18.0				
Max Q Clear Time (g_c+I1), s	7.0	4.0		4.6	2.0	4.7		12.3				
Green Ext Time (p_c), s	0.0	0.3		0.3	0.0	1.2		0.6				

Intersection Summary

HCM 6th Ctrl Delay	47.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
2: Otay Pacific Dr & Siempre Viva Rd

11/15/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔	↔	↔		↔	↔	↔
Traffic Volume (veh/h)	60	33	214	12	156	0	90	0	3	0	0	60
Future Volume (veh/h)	60	33	214	12	156	0	90	0	3	0	0	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1870	1841	1870	1870	1870
Adj Flow Rate, veh/h	65	35	225	13	164	0	95	0	3	0	0	65
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.95	0.92	0.95	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4	4	2	4	2	2	2
Cap, veh/h	307	138	315	98	352	0	1554	0	691	0	166	281
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.00	0.44	0.00	0.44	0.00	0.00	0.09
Sat Flow, veh/h	867	682	1560	59	1742	0	3506	0	1560	0	1870	1585
Grp Volume(v), veh/h	100	0	225	177	0	0	95	0	3	0	0	65
Grp Sat Flow(s), veh/h/ln	1549	0	1560	1801	0	0	1753	0	1560	0	1870	1585
Q Serve(g_s), s	0.0	0.0	6.1	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.9
Cycle Q Clear(g_c), s	2.1	0.0	6.1	3.8	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.9
Prop In Lane	0.65		1.00	0.07		0.00	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	445	0	315	450	0	0	1554	0	691	0	166	281
V/C Ratio(X)	0.22	0.00	0.71	0.39	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.23
Avail Cap(c_a), veh/h	775	0	691	873	0	0	1554	0	691	0	166	281
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	15.2	0.0	16.8	15.9	0.0	0.0	7.2	0.0	7.0	0.0	0.0	19.1
Incr Delay (d2), s/veh	0.3	0.0	3.0	0.6	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.8	0.0	2.1	1.5	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.4	0.0	19.8	16.4	0.0	0.0	7.3	0.0	7.0	0.0	0.0	19.5
LnGrp LOS	B	A	B	B	A	A	A	A	A	A	A	B
Approach Vol, veh/h	325			177			98			65		
Approach Delay, s/veh	18.4			16.4			7.3			19.5		
Approach LOS	B			B			A			B		
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	24.0		13.1		8.0		13.1					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	20.0		20.0		18.0		20.0					
Max Q Clear Time (g_c+I1), s	2.7		8.1		2.9		5.8					
Green Ext Time (p_c), s	0.2		1.1		0.1		0.8					

Intersection Summary

HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC
3: Las Californias Dr & Siempre Viva Rd

11/15/2021

Intersection						
Int Delay, s/veh	6.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	
Traffic Vol, veh/h	29	8	3	35	135	5
Future Vol, veh/h	29	8	3	35	135	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	265	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	31	8	3	37	142	5
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	39	0	74	31
Stage 1	-	-	-	-	31	-
Stage 2	-	-	-	-	43	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1558	-	925	1037
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	974	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1558	-	923	1037
Mov Cap-2 Maneuver	-	-	-	-	923	-
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	972	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.6	9.6			
HCM LOS			A			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	927	-	-	1558	-	
HCM Lane V/C Ratio	0.159	-	-	0.002	-	
HCM Control Delay (s)	9.6	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.6	-	-	0	-	

HCM Signalized Intersection Capacity Analysis
4: Border Pacific Dr & Siempre Viva Rd

11/15/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	17	0	15	0	13	0	0	0	0	5
Future Volume (vph)	5	8	17	0	15	0	13	0	0	0	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0					4.0
Lane Util. Factor	1.00	1.00	1.00		1.00		1.00					1.00
Frt	1.00	1.00	0.85		1.00		1.00					0.85
Flt Protected	0.95	1.00	1.00		1.00		0.95					1.00
Satd. Flow (prot)	1770	1863	1583		1863		1770					1583
Flt Permitted	0.95	1.00	1.00		1.00		0.95					1.00
Satd. Flow (perm)	1770	1863	1583		1863		1770					1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	9	18	0	16	0	14	0	0	0	0	5
RTOR Reduction (vph)	0	0	16	0	0	0	0	0	0	0	0	2
Lane Group Flow (vph)	5	9	2	0	16	0	14	0	0	0	0	3
Turn Type	Prot	NA	Perm	Prot	NA		Perm			Perm		Perm
Protected Phases	7	4		3	8			2				
Permitted Phases			4				2			6		6
Actuated Green, G (s)	0.9	6.1	6.1		1.2		32.3					32.3
Effective Green, g (s)	0.9	6.1	6.1		1.2		32.3					32.3
Actuated g/C Ratio	0.02	0.13	0.13		0.03		0.70					0.70
Clearance Time (s)	4.0	4.0	4.0		4.0		4.0					4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0					3.0
Lane Grp Cap (vph)	34	244	208		48		1232					1101
v/s Ratio Prot	c0.00	0.00			c0.01							
v/s Ratio Perm			0.00				c0.01					0.00
v/c Ratio	0.15	0.04	0.01		0.33		0.01					0.00
Uniform Delay, d1	22.4	17.6	17.5		22.2		2.2					2.1
Progression Factor	1.00	1.00	1.00		1.00		1.00					1.00
Incremental Delay, d2	2.0	0.1	0.0		4.1		0.0					0.0
Delay (s)	24.4	17.6	17.5		26.3		2.2					2.2
Level of Service	C	B	B		C		A					A
Approach Delay (s)		18.6			26.3			2.2			2.2	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM 2000 Control Delay	15.8			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	0.03											
Actuated Cycle Length (s)	46.4			Sum of lost time (s)			12.0					
Intersection Capacity Utilization	20.0%			ICU Level of Service			A					
Analysis Period (min)	15											
c Critical Lane Group												

c Critical Lane Group

HCM 6th Signalized Intersection Summary
1: Britannia Blvd & Siempre Viva Rd

11/15/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↔		↔	↔	
Traffic Volume (veh/h)	195	2	2	8	2	287	4	181	3	253	51	54
Future Volume (veh/h)	195	2	2	8	2	287	4	181	3	253	51	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	2	2	9	2	312	4	197	3	275	55	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	132	132	334	74	360	8	524	8	274	640	571
Arrive On Green	0.15	0.15	0.15	0.23	0.23	0.23	0.00	0.29	0.29	0.08	0.36	0.36
Sat Flow, veh/h	1781	858	858	1470	327	1585	1781	1837	28	3456	1777	1585
Grp Volume(v), veh/h	212	0	4	11	0	312	4	0	200	275	55	59
Grp Sat Flow(s), veh/h/ln	1781	0	1716	1797	0	1585	1781	0	1865	1728	1777	1585
Q Serve(g_s), s	7.2	0.0	0.1	0.3	0.0	11.9	0.1	0.0	5.4	5.0	1.3	1.6
Cycle Q Clear(g_c), s	7.2	0.0	0.1	0.3	0.0	11.9	0.1	0.0	5.4	5.0	1.3	1.6
Prop In Lane	1.00		0.50	0.82		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	275	0	265	409	0	360	8	0	532	274	640	571
V/C Ratio(X)	0.77	0.00	0.02	0.03	0.00	0.87	0.52	0.00	0.38	1.00	0.09	0.10
Avail Cap(c_a), veh/h	508	0	490	513	0	452	113	0	532	274	640	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	0.0	22.6	18.9	0.0	23.4	31.3	0.0	18.0	29.0	13.3	13.4
Incr Delay (d2), s/veh	4.6	0.0	0.0	0.0	0.0	13.5	46.0	0.0	2.0	55.3	0.3	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.2	0.0	0.0	0.1	0.0	5.5	0.2	0.0	2.5	4.1	0.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.2	0.0	22.6	19.0	0.0	36.9	77.3	0.0	20.1	84.3	13.6	13.8
LnGrp LOS	C	A	C	B	A	D	E	A	C	F	B	B
Approach Vol, veh/h	216				323			204			389	
Approach Delay, s/veh	30.1				36.3			21.2			63.6	
Approach LOS	C				D			C			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	22.0		13.7	4.3	26.7		18.3				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	18.0		18.0	4.0	19.0		18.0				
Max Q Clear Time (g_c+I1), s	7.0	7.4		9.2	2.1	3.6		13.9				
Green Ext Time (p_c), s	0.0	0.7		0.7	0.0	0.5		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				41.8								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary
2: Otay Pacific Dr & Siempre Viva Rd

11/15/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔	↔	↔		↔	↔	
Traffic Volume (veh/h)	52	31	172	7	181	0	59	0	2	0	0	81
Future Volume (veh/h)	52	31	172	7	181	0	59	0	2	0	0	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No		No		No		No		No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1870	1841	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	33	181	7	191	0	62	0	2	0	0	88
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.92	0.95	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4	4	2	4	2	2	2
Cap, veh/h	283	133	273	90	314	0	1607	0	715	0	171	291
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.00	0.46	0.00	0.46	0.00	0.00	0.09
Sat Flow, veh/h	845	762	1560	27	1797	0	3506	0	1560	0	1870	3170
Grp Volume(v), veh/h	90	0	181	198	0	0	62	0	2	0	0	88
Grp Sat Flow(s), veh/h/ln	1606	0	1560	1824	0	0	1753	0	1560	0	1870	1585
Q Serve(g_s), s	0.0	0.0	4.7	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	1.1
Cycle Q Clear(g_c), s	1.9	0.0	4.7	4.3	0.0	0.0	0.4	0.0	0.0	0.0	0.0	1.1
Prop In Lane	0.63		1.00	0.04		0.00	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	416	0	273	405	0	0	1607	0	715	0	171	291
V/C Ratio(X)	0.22	0.00	0.66	0.49	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.30
Avail Cap(c_a), veh/h	799	0	715	915	0	0	1607	0	715	0	772	1308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	15.6	0.0	16.8	16.6	0.0	0.0	6.5	0.0	6.4	0.0	0.0	18.5
Incr Delay (d2), s/veh	0.3	0.0	2.8	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.7	0.0	1.7	1.7	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.9	0.0	19.6	17.6	0.0	0.0	6.6	0.0	6.4	0.0	0.0	19.1
LnGrp LOS	B	A	B	B	A	A	A	A	A	A	A	B
Approach Vol, veh/h	271			198			64				88	
Approach Delay, s/veh	18.3			17.6			6.6				19.1	
Approach LOS	B			B			A				B	
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	24.0		11.6		8.0		11.6					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	20.0		20.0		18.0		20.0					
Max Q Clear Time (g_c+I1), s	2.4		6.7		3.1		6.3					
Green Ext Time (p_c), s	0.1		0.9		0.2		0.9					
Intersection Summary												
HCM 6th Ctrl Delay				17.0								
HCM 6th LOS				B								

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC
3: Las Californias Dr & Siempre Viva Rd

11/15/2021

Intersection						
Int Delay, s/veh	7.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↗	
Traffic Vol, veh/h	25	7	5	32	159	5
Future Vol, veh/h	25	7	5	32	159	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	265	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	26	7	5	34	167	5
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	33	0	70	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	44	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1566	-	930	1044
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	973	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1566	-	927	1044
Mov Cap-2 Maneuver	-	-	-	-	927	-
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	970	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	1		9.8		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	930	-	-	1566	-	
HCM Lane V/C Ratio	0.186	-	-	0.003	-	
HCM Control Delay (s)	9.8	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.7	-	-	0	-	

HCM Signalized Intersection Capacity Analysis
4: Border Pacific Dr & Siempre Viva Rd

11/15/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	26	15	0	14	2	16	0	0	0	0	6
Future Volume (vph)	7	26	15	0	14	2	16	0	0	0	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0					4.0
Lane Util. Factor	1.00	1.00	1.00		1.00		1.00					1.00
Flt	1.00	1.00	0.85		0.98		1.00					0.85
Flt Protected	0.95	1.00	1.00		1.00		0.95					1.00
Satd. Flow (prot)	1770	1863	1583		1830		1770					1583
Flt Permitted	0.95	1.00	1.00		1.00		0.95					1.00
Satd. Flow (perm)	1770	1863	1583		1830		1770					1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	28	16	0	15	2	17	0	0	0	0	7
RTOR Reduction (vph)	0	0	13	0	2	0	0	0	0	0	0	2
Lane Group Flow (vph)	8	28	3	0	15	0	17	0	0	0	0	5
Turn Type	Prot	NA	Perm	Perm	NA		Perm			Perm		Perm
Protected Phases	7	4			8			2				
Permitted Phases			4	8			2			6		6
Actuated Green, G (s)	0.9	7.4	7.4		2.5		30.2					30.2
Effective Green, g (s)	0.9	7.4	7.4		2.5		30.2					30.2
Actuated g/C Ratio	0.02	0.16	0.16		0.05		0.66					0.66
Clearance Time (s)	4.0	4.0	4.0		4.0		4.0					4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0					3.0
Lane Grp Cap (vph)	34	302	256		100		1172					1048
v/s Ratio Prot	0.00	c0.02			0.01							
v/s Ratio Perm			0.00				c0.01					0.00
v/c Ratio	0.24	0.09	0.01		0.15		0.01					0.00
Uniform Delay, d1	22.0	16.2	16.0		20.5		2.6					2.6
Progression Factor	1.00	1.00	1.00		1.00		1.00					1.00
Incremental Delay, d2	3.5	0.1	0.0		0.7		0.0					0.0
Delay (s)	25.6	16.4	16.0		21.2		2.6					2.6
Level of Service	C	B	B		C		A					A
Approach Delay (s)	17.7		21.2		2.6		2.6					
Approach LOS	B		C		A		A		A			
Intersection Summary												
HCM 2000 Control Delay			14.5	HCM 2000 Level of Service				B				
HCM 2000 Volume to Capacity ratio			0.03									
Actuated Cycle Length (s)			45.6	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			20.0%	ICU Level of Service				A				
Analysis Period (min)			15									
c Critical Lane Group												

c Critical Lane Group