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August 23, 2018

Ramiro Perez
Chief Financial Officer
Cross Border Xpress
2745 Otay Pacific Drive
San Diego, CA 92154

Subject: Cross Border Xpress – Alternative Access Configuration Traffic Analysis

Dear Mr. Perez:

LSA is pleased to submit this alternative access configuration traffic analysis for the Cross Border Xpress (CBX) facility in the Otay Mesa community of San Diego. The CBX is located on a 55.5-acre site south of Siempre Viva Road, east of Britannia Boulevard, west of La Media Road, and north of the Tijuana International Airport. The CBX consists of a 95,000-square-foot (sf) border crossing facility that is currently operational, as well as the following proposed uses: 402,000 sf of industrial use, 34,000 sf of specialty retail use, 340 hotel rooms, a 12-pump gas station with a 1,200 sf convenience market and car wash, and 6,000 sf of restaurant use. LSA prepared the *San Diego-Tijuana Cross Border Facility Project Traffic Impact Study* (TIS) (dated June 28, 2011) for the approved CBX and ancillary commercial/industrial uses.

The purpose of this traffic analysis is to reevaluate the forecasted operation of four intersections that have been constructed as part of the CBX:

- Otay Pacific Drive/Siempre Viva Road
- Las Californias Drive/Siempre Viva Road
- Otay Pacific Drive/Otay Pacific Place
- Las Californias Drive/Otay Pacific Place

The approved TIS previously considered two-way public streets within the CBX site (i.e., Otay Pacific Drive, Otay Pacific Place, and Las Californias Drive). The project proposes to convert these streets to private one-way streets. As a result, all vehicles would enter the CBX site at Otay Pacific Drive/Siempre Viva Road and exit at Las Californias Drive/Siempre Viva Road (i.e., vehicles would travel southbound on Otay Pacific Drive, eastbound on Otay Pacific Place, and northbound on Las Californias Drive).

Approved San Diego-Tijuana Cross Border Facility Project Traffic Impact Study

LSA prepared a TIS to identify the potential traffic and circulation impacts resulting from the development of the CBX and the ancillary commercial/industrial uses. The TIS was subsequently reviewed and approved by City of San Diego (City) staff.

The TIS anticipated build out of the CBX facility would occur in the following three phases:

- **Phase 1** (now complete) – The CBX building will be an approximately 45,000 sf, two-level facility designed to serve up to approximately 6,838 average daily passengers.
- **Phase 2** (currently under construction, but the TIS anticipated completion in 2017) – The CBX will be expanded by approximately 10,000 sf to a 55,000 sf facility designed to serve up to approximately 10,141 average daily passenger service. A total of 20,000 sf of specialty retail use, 170 hotel rooms, and a 12-pump gas station with a 1,200 sf convenience market and car wash will also be constructed.
- **Phase 3** (the TIS anticipated completion in 2026) – The CBX building will be expanded by approximately 40,000 sf for a total of 95,000 sf, which is designed to serve 17,225 average daily passengers. The remaining 402,000 sf of industrial use, 14,000 sf of specialty retail use, 170 hotel rooms, and 6,000 sf of restaurant use will also be built.

The approved TIS previously analyzed the four intersections listed above for all three phases of the CBX. These intersections were assessed utilizing the Highway Capacity Manual (HCM) methodology. The intersection operations results for each of the three development phases of the CBX are summarized on Table A (all tables attached).

Proposed Volume and Geometric Adjustments

Based on the proposed reconfiguration of the two-way public streets of Otay Pacific Drive and Las Californias Drive, the traffic volumes for the three CBX development phases at the four study intersections have been reassigned. The regional trip distribution remains unchanged and is based on the select zone assignment traffic forecasts prepared by the City using the Series 11 traffic model for the approved TIS. All CBX inbound vehicles have been adjusted to make an eastbound right turn or westbound left turn from Siempre Viva Road onto Otay Pacific Drive while all CBX outbound vehicles have been adjusted to make a northbound left turn or right turn from Las Californias Drive onto Siempre Viva Road. Similar adjustments have been made to inbound and outbound vehicles along Otay Pacific Place to and from Otay Pacific Drive and Las Californias Drive. A detailed worksheet illustrating the intersection volumes analyzed in the approved TIS at these four locations and the subsequent intersection volumes after the proposed one-way, counter-clockwise circulation adjustment is included in Attachment A.

Similarly, the proposed intersection geometrics at the four study intersections analyzed in the TIS have been adjusted to reflect the proposed counter-clockwise circulation. The reconfigured geometrics at these intersections for the three phases of the CBX development are illustrated on Figure 1.

As shown on Figure 1, Phase 1 of the CBX development does not require a traffic signal at any of the study intersections with the one-way counter-clockwise reconfiguration. In addition, these intersections require fewer lanes with the one-way counter-clockwise reconfiguration as compared to the configuration analyzed in the TIS, as Otay Pacific Drive will not have northbound lanes, Las Californias Drive will not have southbound lanes, and Otay Pacific Place will not have westbound lanes. Similarly, Phase 2 of the one-way counter-clockwise reconfiguration requires fewer

improvements (traffic signals and intersection turn lanes) as compared to Phase 2 of the configuration analyzed in the TIS. This reduced need for improvements is also reflected in the comparison of the proposed configuration and the TIS configuration under Phase 3 of the CBX development, with the exception of the need for an additional westbound left-turn lane at Otay Pacific Drive/Siempre Viva Road.

Level of Service Analysis

The proposed geometric reconfiguration and the traffic volume adjustment of the four intersections were analyzed with the same methodology under all three CBX development phases as utilized in the TIS, in order to provide an acceptable comparison of intersection level of service (LOS). The HCM intersection LOS worksheets are included in Attachment B.

As shown on Table A, the four study intersections are anticipated to operate at acceptable LOS C or better under all three phases of the CBX development. It should be noted that the intersection of Otay Pacific Drive/Siempre Viva Road experiences no delay under both Phases 1 and 2 of the CBX development as the reconfigured intersection and anticipated traffic will not result in any points of conflict between turn movements.

Turn-Pocket Storage Length Recommendations

Turn-pocket length recommendations at the four study intersections are based on the same 95th percentile queue criteria utilized in the TIS. These 95th percentile queues were obtained from averaging multiple iterations of traffic simulations in *SimTraffic*, which is a microsimulation tool that builds upon the operational data utilized in the intersection LOS analysis and produces a simulation of the study area by mirroring the behavior of discrete vehicles. The resultant model is able to provide a more extensive look at possible traffic conditions. The 95th percentile queues at turn pockets from these simulation runs are summarized on Table B. *SimTraffic* queuing worksheets are included in Attachment C.

As shown on Table B, minimal queuing was simulated in all of the turn pockets at the four study intersections under Phases 1 and 2 of the CBX development. This can be attributed to the lack of vehicular conflicts at these intersections due to the proposed one-way counter-clockwise circulation for the internal roadways of the CBX (i.e., there is no opposing traffic for eastbound right-turning vehicles onto Otay Pacific Drive from Siempre Viva Road under CBX development Phases 1 and 2). It should be noted that 95th percentile queues and subsequent storage length recommendations have not been reported or made at various turning movements because these movements are trap lanes where storage would be limited only by the distance to the next upstream intersection (i.e., northbound left-turns made at Las Californias Drive/Siempre Viva Road).

Turn-pocket storage length recommendations have been made based on the highest 95th percentile queues simulated under any development phase of the CBX. As expected, the highest 95th percentile queues are anticipated to occur once the CBX is built out. As shown on Table B, the dual eastbound right-turn lanes at Otay Pacific Drive/Siempre Viva Road are anticipated to each require 300 feet (ft) of storage while the dual westbound left-turn lanes are anticipated to each require 200 ft of storage. The private intersections of Otay Pacific Drive/Otay Pacific Place and Las Californias Drive/Otay Pacific Place are anticipated to require storage lengths of up to 150 ft for any of the left-turn pockets

envisioned to be required under buildout conditions. Consistent with the TIS, all of the turn pockets at these study intersections should provide 120 ft transitions.

Adopted Otay Mesa Community Plan Update

The original 2011 TIS was prepared and approved prior to the approval of the Otay Mesa Community Plan Update. At this time, the adopted Buildout Community Plan included Siempre Viva Road between Britannia Boulevard and La Media Road as a six-lane Primary Arterial. The forecasted average daily traffic (ADT) volumes (and LOS) along Siempre Viva Road were 52,500 ADT (and satisfactory LOS D) east of Britannia Boulevard and 41,500 ADT (and satisfactory LOS C) west of La Media Road. The CBX would add approximately 30,200 ADT to Siempre Viva Road east of Britannia Boulevard (resulting in 82,700 total ADT and unsatisfactory LOS F) and 16,500 ADT to Siempre Viva Road west of La Media Road (resulting in 58,000 total ADT and unsatisfactory LOS E). The recommended mitigation measure in the approved TIS included construction of the segment of Siempre Viva Road between Britannia Boulevard and La Media Road as an eight-lane Primary Arterial.

Urban Systems Associates, Inc. prepared the *Otay Mesa Community Plan Update Traffic Analysis* (dated June 14, 2014) for the approved Otay Mesa Community Plan Update. The adopted Otay Mesa Community Plan Update includes Siempre Viva Road between Britannia Boulevard and La Media Road as a six-lane Primary Arterial. The forecasted ADT volumes (and LOS) along Siempre Viva Road are 42,500 ADT (and satisfactory LOS C) east of Britannia Boulevard and 40,000 ADT (and satisfactory LOS C) west of La Media Road. The CBX would add approximately 30,200 ADT to Siempre Viva Road east of Britannia Boulevard (resulting in 72,700 total ADT and unsatisfactory LOS F) and 16,500 ADT to Siempre Viva Road west of La Media Road (resulting in 56,500 total ADT and unsatisfactory LOS E). Similar to the approved TIS, the recommended mitigation measure includes construction of the segment of Siempre Viva Road between Britannia Boulevard and La Media Road as an eight-lane Primary Arterial.

The roadway segment LOS for Siempre Viva Road between Britannia Boulevard and La Media Road for the previously adopted Buildout Community Plan and the current Otay Mesa Community Plan Update are summarized on Table C.

Conclusion

Based on the results of this analysis (intersection geometrics are shown on Figure 1, and intersection LOS is shown on Table A), the proposed project would not require the signalization of any of the four intersections during Phase 1 unlike the access configuration analyzed in Phase 1 of the TIS. Similarly, the analysis of the access reconfiguration found that fewer total improvements would be required at the four intersections under Phases 2 and 3 of the CBX. The acceptable operations of the four intersections with fewer total improvements can be attributed to the partial restriction of access. As such, the proposed one-way, counter-clockwise CBX circulation is anticipated to provide acceptable operations during all three phases of development with fewer improvements. In addition, the mitigation measure for Siempre Viva Road as an eight-lane Primary Arterial between Britannia Boulevard and La Media Road is still valid with the proposed one-way, counter-clockwise CBX circulation and adoption of the Otay Mesa Community Plan Update.

If you have any questions, please contact me at (949) 553-0666.

Sincerely,

LSA Associates, Inc.



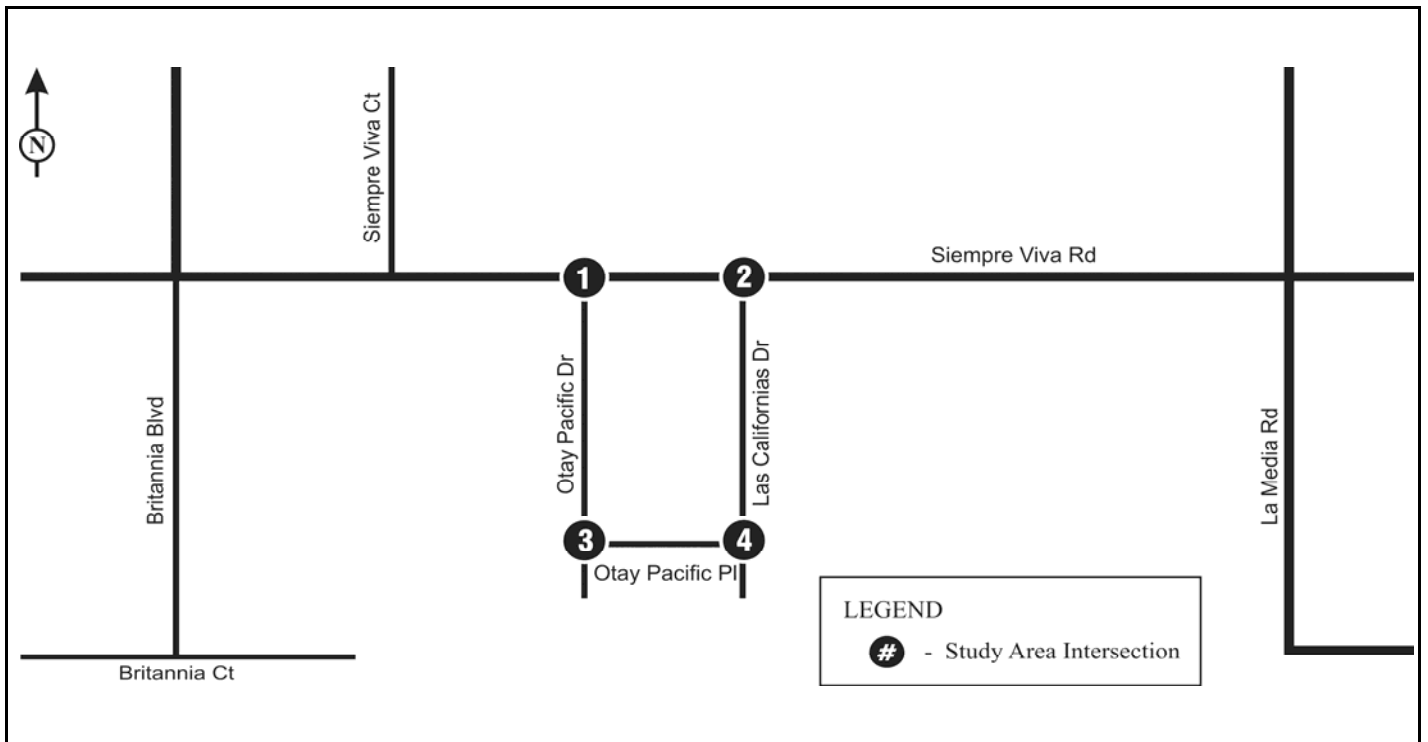
Dean Arizabal
Associate

REFERENCES

LSA Associates, Inc., 2011. *San Diego-Tijuana Cross Border Facility Project Traffic Impact Study*. San Diego.

Urban Systems Associates, Inc., 2014. *Otay Mesa Community Plan Update Traffic Analysis*. San Diego.

Attachments: Figure 1: Internal Circulation Geometric Comparison
Table A: Cross Border Facility Midday Peak-Hour Intersection LOS Summary
Table B: Recommended Turn-Pocket Lengths
Table C: Cross Border Facility Roadway Segment Level of Service Summary
Attachment A: Intersection Turning Movement Adjustment Worksheet
Attachment B: Highway Capacity Manual Level of Service Worksheets
Attachment C: Turn-Pocket Queuing Worksheets



	June 2011 Traffic Impact Study Configuration		One-Way Counter-Clockwise Reconfiguration	
Phase 1	 1 Otay Pacific Drive/Siempre Viva Road	 2 Las Californias Drive/Siempre Viva Road	 1 Otay Pacific Drive/Siempre Viva Road	 2 Las Californias Drive/Siempre Viva Road
Phase 2	 1 Otay Pacific Drive/Siempre Viva Road	 2 Las Californias Drive/Siempre Viva Road	 1 Otay Pacific Drive/Siempre Viva Road	 2 Las Californias Drive/Siempre Viva Road
Phase 3	 1 Otay Pacific Drive/Siempre Viva Road	 2 Las Californias Drive/Siempre Viva Road	 1 Otay Pacific Drive/Siempre Viva Road	 2 Las Californias Drive/Siempre Viva Road

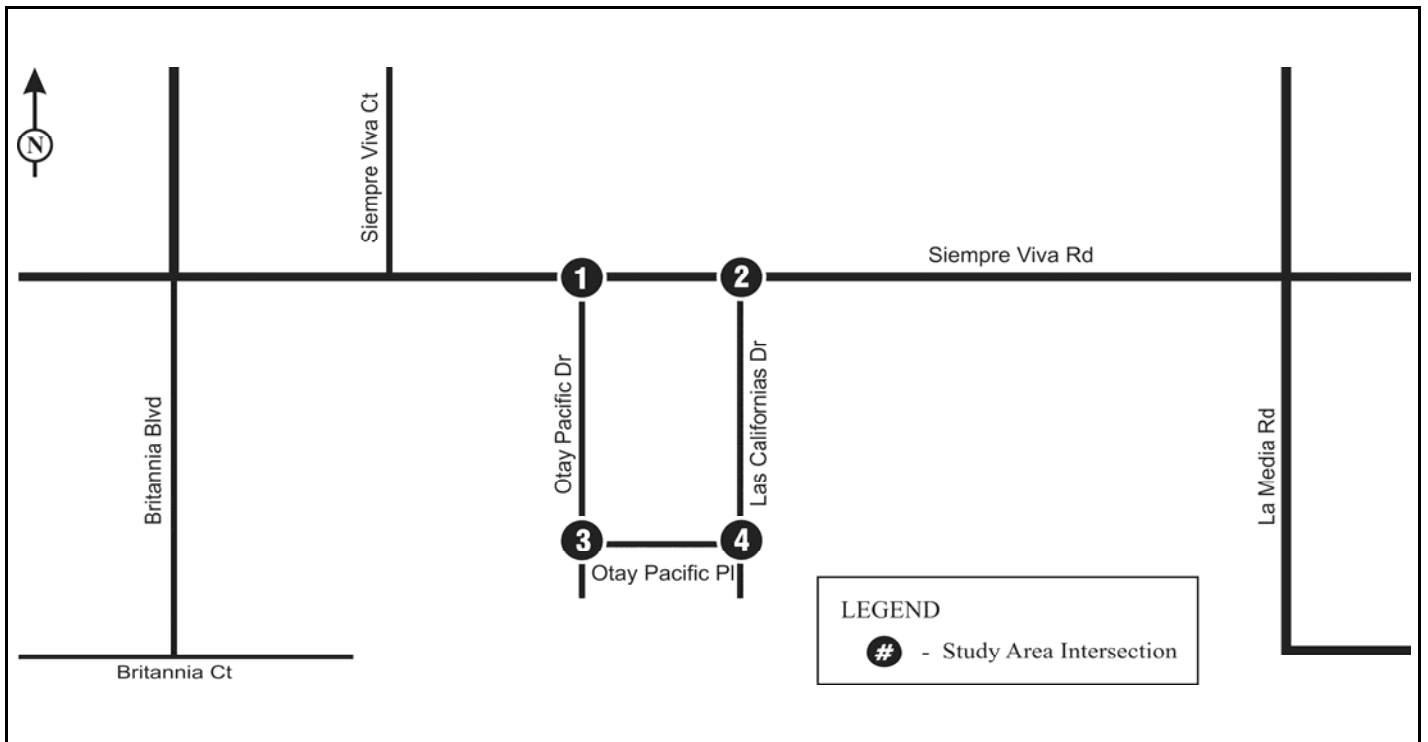
FIGURE 1



Legend
 ○ Signal
 ┣ Stop Sign

Cross Border Xpress

Internal Circulation Geometric Comparison (1 of 2)



	June 2011 Traffic Impact Study Configuration		One-Way Counter-Clockwise Reconfiguration	
Phase 1	 3 Otay Pacific Drive/Otay Pacific Place	 4 Las Californias Drive/Otay Pacific Place	 3 Otay Pacific Drive/Otay Pacific Place	 4 Las Californias Drive/Otay Pacific Place
Phase 2	 3 Otay Pacific Drive/Otay Pacific Place	 4 Las Californias Drive/Otay Pacific Place	 3 Otay Pacific Drive/Otay Pacific Place	 4 Las Californias Drive/Otay Pacific Place
Phase 3	 3 Otay Pacific Drive/Otay Pacific Place	 4 Las Californias Drive/Otay Pacific Place	 3 Otay Pacific Drive/Otay Pacific Place	 4 Las Californias Drive/Otay Pacific Place

FIGURE 1

LSA

- Legend
- Signal
 - Stop Sign

Cross Border Xpress

Internal Circulation Geometric Comparison (2 of 2)

Table A: Cross Border Facility Midday Peak Hour Intersection Level of Service Summary

Intersection		Phase 1			
		June 2011 TIS		Reconfiguration ¹	
		Delay (seconds)	LOS	Delay (seconds)	LOS
1	Otay Pacific Drive/Siempre Viva Road	22.2	C	0.0	A
2	Las Californias Drive/Siempre Viva Road	9.6	A	12.0	B
3	Otay Pacific Drive/Otay Pacific Place	9.2	A	9.8	A
4	Las Californias Drive/Otay Pacific Place	7.9	A	9.5	A

Intersection		Phase 2			
		June 2011 TIS		Reconfiguration ¹	
		Delay (seconds)	LOS	Delay (seconds)	LOS
1	Otay Pacific Drive/Siempre Viva Road	18.5	B	0.0	A
2	Las Californias Drive/Siempre Viva Road	17.8	C	22.5	C
3	Otay Pacific Drive/Otay Pacific Place	14.0	B	11.4	B
4	Las Californias Drive/Otay Pacific Place	8.8	A	13.7	B

Intersection		Build Out Adopted Otay Mesa Community Plan			
		June 2011 TIS		Reconfiguration ¹	
		Delay (seconds)	LOS	Delay (seconds)	LOS
1	Otay Pacific Drive/Siempre Viva Road	23.1	C	8.9	A
2	Las Californias Drive/Siempre Viva Road	7.1	A	13.1	B
3	Otay Pacific Drive/Otay Pacific Place	16.2	B	2.4	A
4	Las Californias Drive/Otay Pacific Place	28.2	C	13.4	B


 = exceeds City's Level of Service (LOS) criteria
¹ One-way counter-clockwise reconfigured geometrics.

Table B: Cross Border Facility Internal Circulation Recommended Turn Pocket Lengths

	Intersection	Lane	95th Percentile Queues (ft)			Recommended Turn Pocket Length (ft)
			Phase 1	Phase 2	Buildout	
1	Otay Pacific Drive/Siempre Viva Road	EBR 1	0	0	280	300
		EBR 2	--	--	255	300
		WBL 1	--	--	170	200
		WBL 2	0	0	179	200
3	Otay Pacific Drive/Otay Pacific Place	SBL 1	--	--	70	100
		SBL 2	0	0	97	100
4	Las Californias Drive/Otay Pacific Place	EBL	--	--	148	150

ft = feet; -- = turn pocket does not exist for this phase; EBR 1 = inside eastbound right-turn lane; EBR 2 = outside eastbound right-turn lane; WBL 1= outside westbound left-turn lane; WBL 2= inside westbound left-turn lane; SBL 1 = outside southbound left-turn lane; SBL 2 = inside southbound left-turn lane; EBL = eastbound left-turn lane.

Table C: Cross Border Facility Roadway Segment Level of Service Summary

San Diego-Tijuana Cross Border Facility Project Traffic Impact Study (LSA, June 28, 2011)

Adopted Buildout Community Plan No Project	# of Lanes	Classification	Capacity	ADT	V/C	LOS
Siempre Viva Rd east of Britannia Blvd	6	Primary Arterial	60,000	52,500	0.88	D
Siempre Viva Rd west of La Media Rd	6	Primary Arterial	60,000	41,500	0.69	C

Adopted Buildout Community Plan Plus CBF	# of Lanes	Classification	Capacity	ADT	V/C	LOS
Siempre Viva Rd east of Britannia Blvd	6	Primary Arterial	60,000	82,700	1.38	F
Siempre Viva Rd west of La Media Rd	6	Primary Arterial	60,000	58,000	0.97	E

With Mitigation	# of Lanes	Classification	Capacity	ADT	V/C	LOS	Notes
Siempre Viva Rd east of Britannia Blvd	8	Primary Arterial	70,000	82,700	1.18	F	Partially Mitigated
Siempre Viva Rd west of La Media Rd	8	Primary Arterial	70,000	58,000	0.83	C	Mitigated to LOS D or better

Otay Mesa Community Plan Update Traffic Analysis (Urban Systems Associates, Inc., June 14, 2014)

Scenario 3B With La Media Rd	# of Lanes	Classification	Capacity	ADT	V/C	LOS
Siempre Viva Rd east of Britannia Blvd	6	Primary Arterial	60,000	41,500	0.69	C
Siempre Viva Rd west of La Media Rd	6	Primary Arterial	60,000	40,500	0.68	C

Scenario 3B With La Media Rd Plus CBF	# of Lanes	Classification	Capacity	ADT	V/C	LOS
Siempre Viva Rd east of Britannia Blvd	6	Primary Arterial	60,000	71,700	1.20	F
Siempre Viva Rd west of La Media Rd	6	Primary Arterial	60,000	57,000	0.95	E

With Mitigation	# of Lanes	Classification	Capacity	ADT	V/C	LOS	Notes
Siempre Viva Rd east of Britannia Blvd	8	Primary Arterial	70,000	71,700	1.02	F	Partially Mitigated
Siempre Viva Rd west of La Media Rd	8	Primary Arterial	70,000	57,000	0.81	C	Mitigated to LOS D or better

Scenario 3B Without La Media Rd	# of Lanes	Classification	Capacity	ADT	V/C	LOS
Siempre Viva Rd east of Britannia Blvd	6	Primary Arterial	60,000	42,500	0.71	C
Siempre Viva Rd west of La Media Rd	6	Primary Arterial	60,000	40,000	0.67	C

Scenario 3B Without La Media Rd Plus CBF	# of Lanes	Classification	Capacity	ADT	V/C	LOS
Siempre Viva Rd east of Britannia Blvd	6	Primary Arterial	60,000	72,700	1.21	F
Siempre Viva Rd west of La Media Rd	6	Primary Arterial	60,000	56,500	0.94	E

With Mitigation	# of Lanes	Classification	Capacity	ADT	V/C	LOS	Notes
Siempre Viva Rd east of Britannia Blvd	8	Primary Arterial	70,000	72,700	1.04	F	Partially Mitigated
Siempre Viva Rd west of La Media Rd	8	Primary Arterial	70,000	56,500	0.81	C	Mitigated to LOS D or better

Bolded and shaded values represent unsatisfactory level of service E or F.

ADT = average daily traffic volumes

CBF = Cross Border Facility

LOS = level of service

V/C = volume-to-capacity ratio

ATTACHMENT A

INTERSECTION TURNING MOVEMENT ADJUSTMENT WORKSHEET

**Cross Border Facility Volume Re-Allocation for One-Way Circulation
Midday Peak Hour Traffic Volumes**

1. Otay Pacific Drive (NS) / Siempre Viva Road (EW)

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>Total</u>
San Diego - Tijuana Cross Border Facility Project TIA June 28, 2011 Volumes													
Phase 1:	232	0	0	0	0	0	0	201	350	0	91	0	874
Phase 2:	459	0	0	0	0	0	0	689	655	0	179	0	1982
Build Out:	611	0	115	0	0	0	0	306	874	343	100	0	2349
San Diego - Tijuana Cross Border Facility Project TIA Reconfigured May 2015 Volumes													
Phase 1:	0	0	0	0	0	0	0	114	437	0	323	0	874
Phase 2:	0	0	0	0	0	0	0	559	785	0	638	0	1982
Build Out:	0	0	0	0	0	0	0	0	1180	590	711	0	2481

2. Las Californias Drive (NS) / Siempre Viva Road (EW)

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>Total</u>
San Diego - Tijuana Cross Border Facility Project TIA June 28, 2011 Volumes													
Phase 1:	79	0	0	0	0	0	0	114	87	0	12	0	292
Phase 2:	117	0	0	0	0	0	0	559	130	0	62	0	868
Build Out:	100	0	191	0	0	0	0	115	306	247	343	0	1302
San Diego - Tijuana Cross Border Facility Project TIA Reconfigured May 2015 Volumes													
Phase 1:	311	0	0	0	0	0	0	114	0	0	12	0	437
Phase 2:	576	0	0	0	0	0	0	559	0	0	62	0	1197
Build Out:	711	0	306	0	0	0	0	0	0	0	590	0	1607

3. Otay Pacific Drive (NS) / Otay Pacific Place (EW)

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>Total</u>
San Diego - Tijuana Cross Border Facility Project TIA June 28, 2011 Volumes													
Phase 1:	0	0	0	153	197	0	33	0	0	44	0	232	659
Phase 2:	0	0	0	227	292	56	37	0	0	65	0	345	1022
Build Out:	0	0	0	513	516	49	33	4	0	89	7	564	1775
San Diego - Tijuana Cross Border Facility Project TIA Reconfigured June 2015 Volumes													
Phase 1:	0	0	0	192	245	0	0	0	33	0	0	0	470
Phase 2:	0	0	0	254	395	56	0	0	37	0	0	0	742
Build Out:	0	0	0	564	780	49	0	37	0	0	0	0	1430

4. Las Californias Drive (NS) / Otay Pacific Place (EW)

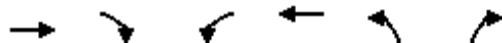
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>Total</u>
San Diego - Tijuana Cross Border Facility Project TIA June 28, 2011 Volumes													
Phase 1:	168	60	0	0	0	87	18	0	0	0	0	0	333
Phase 2:	249	89	0	0	0	130	27	0	0	0	0	0	495
Build Out:	529	179	0	41	0	274	59	15	0	0	10	27	1134
San Diego - Tijuana Cross Border Facility Project TIA Reconfigured June 2015 Volumes													
Phase 1:	0	271	0	0	0	0	166	0	0	0	0	0	437
Phase 2:	0	437	0	0	0	0	268	0	0	0	0	0	705
Build Out:	0	864	0	0	0	0	514	15	0	0	0	37	1430

ATTACHMENT B

HIGHWAY CAPACITY MANUAL LEVEL OF SERVICE WORKSHEETS

Cross Border Facility Traffic Assessment (TST1501)
 1: Otay Pacific Dr & Siempre Viva Rd

6/17/2015
 HCM Unsignalized Intersection Capacity Analysis



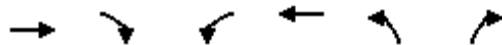
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑		
Volume (veh/h)	114	437	0	323	0	0
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	120	460	0	340	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			580		460	120
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			580		460	120
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			984		556	926

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	120	460	0	340
Volume Left	0	0	0	0
Volume Right	0	460	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.07	0.27	0.00	0.20
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS				
Approach Delay (s)	0.0		0.0	
Approach LOS				

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		37.1%	ICU Level of Service
Analysis Period (min)		15	A

Cross Border Facility Traffic Assessment (TST1501)
 2: Las Californias Dr & Siempre Viva Rd
















6/17/2015
 HCM Unsignalized Intersection Capacity Analysis



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↘	
Volume (veh/h)	114	0	0	12	311	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	124	0	0	13	338	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			124		137	124
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			124		137	124
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		60	100
cM capacity (veh/h)			1451		852	921

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	124	13	338
Volume Left	0	0	338
Volume Right	0	0	0
cSH	1700	1700	852
Volume to Capacity	0.07	0.01	0.40
Queue Length 95th (ft)	0	0	48
Control Delay (s)	0.0	0.0	12.0
Lane LOS			B
Approach Delay (s)	0.0	0.0	12.0
Approach LOS			B

Intersection Summary			
Average Delay		8.5	
Intersection Capacity Utilization		37.1%	ICU Level of Service A
Analysis Period (min)		15	

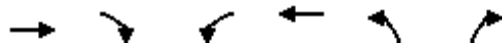
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	33	0	0	0	0	0	0	192	245	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	35	0	0	0	0	0	0	202	258	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	662	662	258	697	662	0	258			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	662	662	258	697	662	0	258			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	96	100	100	100	100			88		
cM capacity (veh/h)	339	334	781	307	334	1085	1307			1623		
Direction, Lane #	EB 1	SB 1	SB 2									
Volume Total	35	202	258									
Volume Left	0	202	0									
Volume Right	35	0	0									
cSH	781	1623	1700									
Volume to Capacity	0.04	0.12	0.15									
Queue Length 95th (ft)	3	11	0									
Control Delay (s)	9.8	7.5	0.0									
Lane LOS	A	A										
Approach Delay (s)	9.8	3.3										
Approach LOS	A											
Intersection Summary												
Average Delay			3.8									
Intersection Capacity Utilization			30.1%			ICU Level of Service				A		
Analysis Period (min)			15									



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	166	0	0	271	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	175	0	0	285	0	0
Direction, Lane #	EB 1	NB 1				
Volume Total (vph)	175	285				
Volume Left (vph)	175	0				
Volume Right (vph)	0	0				
Hadj (s)	0.23	0.03				
Departure Headway (s)	4.8	4.4				
Degree Utilization, x	0.23	0.35				
Capacity (veh/h)	705	795				
Control Delay (s)	9.3	9.7				
Approach Delay (s)	9.3	9.7				
Approach LOS	A	A				
Intersection Summary						
Delay			9.5			
Level of Service			A			
Intersection Capacity Utilization			76.1%		ICU Level of Service	D
Analysis Period (min)			15			

Cross Border Facility Traffic Assessment (TST1501)
 1: Otay Pacific Dr & Siempre Viva Rd

6/17/2015
 HCM Unsignalized Intersection Capacity Analysis



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑		
Volume (veh/h)	559	785	0	638	0	0
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	588	826	0	672	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	653					
pX, platoon unblocked						
vC, conflicting volume			1415		1260	588
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1415		1260	588
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			476		186	505

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	588	826	0	672
Volume Left	0	0	0	0
Volume Right	0	826	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.35	0.49	0.00	0.40
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS				
Approach Delay (s)	0.0		0.0	
Approach LOS				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		

Cross Border Facility Traffic Assessment (TST1501)
 2: Las Californias Dr & Siempre Viva Rd

6/17/2015
 HCM Signalized Intersection Capacity Analysis


















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↔	
Volume (vph)	559	0	0	62	576	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00	
Flt	1.00			1.00	1.00	
Flt Protected	1.00			1.00	0.95	
Satd. Flow (prot)	1827			1827	1736	
Flt Permitted	1.00			1.00	0.95	
Satd. Flow (perm)	1827			1827	1736	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	608	0	0	67	626	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	608	0	0	67	626	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	NA			NA	Prot	
Protected Phases	4			8	2	
Permitted Phases						
Actuated Green, G (s)	23.2			23.2	28.8	
Effective Green, g (s)	23.2			23.2	28.8	
Actuated g/C Ratio	0.39			0.39	0.48	
Clearance Time (s)	4.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	706			706	833	
v/s Ratio Prot	c0.33			0.04	c0.36	
v/s Ratio Perm						
v/c Ratio	0.86			0.09	0.75	
Uniform Delay, d1	16.9			11.7	12.7	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	10.5			0.1	6.2	
Delay (s)	27.4			11.8	18.9	
Level of Service	C			B	B	
Approach Delay (s)	27.4			11.8	18.9	
Approach LOS	C			B	B	

Intersection Summary

HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	105.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	37	0	0	0	0	0	0	254	395	56
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	0	0	40	0	0	0	0	0	0	276	429	61
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1012	1012	460	1022	1042	0	490			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1012	1012	460	1022	1042	0	490			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	93	100	100	100	100			83		
cM capacity (veh/h)	189	199	601	174	190	1085	1073			1623		
Direction, Lane #	EB 1	SB 1	SB 2									
Volume Total	40	276	490									
Volume Left	0	276	0									
Volume Right	40	0	61									
cSH	601	1623	1700									
Volume to Capacity	0.07	0.17	0.29									
Queue Length 95th (ft)	5	15	0									
Control Delay (s)	11.4	7.7	0.0									
Lane LOS	B	A										
Approach Delay (s)	11.4	2.8										
Approach LOS	B											
Intersection Summary												
Average Delay			3.2									
Intersection Capacity Utilization			47.2%			ICU Level of Service				A		
Analysis Period (min)			15									



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶			↷		
Sign Control	Stop			Stop	Stop	
Volume (vph)	268	0	0	437	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	282	0	0	460	0	0

Direction, Lane #	EB 1	NB 1
Volume Total (vph)	282	460
Volume Left (vph)	282	0
Volume Right (vph)	0	0
Hadj (s)	0.23	0.03
Departure Headway (s)	5.3	4.7
Degree Utilization, x	0.42	0.60
Capacity (veh/h)	640	730
Control Delay (s)	12.0	14.7
Approach Delay (s)	12.0	14.7
Approach LOS	B	B

Intersection Summary			
Delay		13.7	
Level of Service		B	
Intersection Capacity Utilization	76.5%		ICU Level of Service D
Analysis Period (min)		15	

Cross Border Facility Traffic Assessment
1: Otay Pacific Dr & Siempre Viva Rd

6/19/2015
HCM Signalized Intersection Capacity Analysis



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑↑	↑↑	↑↑↑		
Volume (vph)	0	1180	590	711	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	10	12	12	12
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		0.88	0.97	0.91		
Frt		0.85	1.00	1.00		
Flt Protected		1.00	0.95	1.00		
Satd. Flow (prot)		2733	3143	4988		
Flt Permitted		1.00	0.95	1.00		
Satd. Flow (perm)		2733	3143	4988		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1242	621	748	0	0
RTOR Reduction (vph)	0	40	0	0	0	0
Lane Group Flow (vph)	0	1202	621	748	0	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)		36.4	15.6	60.0		
Effective Green, g (s)		36.4	15.6	60.0		
Actuated g/C Ratio		0.61	0.26	1.00		
Clearance Time (s)		4.0	4.0	4.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1658	817	4988		
v/s Ratio Prot			c0.20	0.15		
v/s Ratio Perm		c0.44				
v/c Ratio		0.72	0.76	0.15		
Uniform Delay, d1		8.3	20.5	0.0		
Progression Factor		1.00	0.70	1.00		
Incremental Delay, d2		1.6	3.5	0.0		
Delay (s)		9.9	17.8	0.0		
Level of Service		A	B	A		
Approach Delay (s)	9.9			8.1	0.0	
Approach LOS	A			A	A	

Intersection Summary

HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Cross Border Facility Traffic Assessment
2: Las Californias Dr & Siempre Viva Rd

6/19/2015
HCM Signalized Intersection Capacity Analysis



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘	↗
Volume (vph)	0	0	0	590	711	306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	10	12	12	16
Total Lost time (s)				4.0	4.0	4.0
Lane Util. Factor				0.91	1.00	1.00
Frt				1.00	1.00	0.85
Flt Protected				1.00	0.95	1.00
Satd. Flow (prot)				4988	1736	1760
Flt Permitted				1.00	0.95	1.00
Satd. Flow (perm)				4988	1736	1760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	621	748	322
RTOR Reduction (vph)	0	0	0	0	0	117
Lane Group Flow (vph)	0	0	0	621	748	205
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type				NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases						2
Actuated Green, G (s)				13.8	38.2	38.2
Effective Green, g (s)				13.8	38.2	38.2
Actuated g/C Ratio				0.23	0.64	0.64
Clearance Time (s)				4.0	4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0
Lane Grp Cap (vph)				1147	1105	1120
v/s Ratio Prot				c0.12	c0.43	
v/s Ratio Perm						0.12
v/c Ratio				0.54	0.68	0.18
Uniform Delay, d1				20.3	7.0	4.5
Progression Factor				1.00	1.00	1.00
Incremental Delay, d2				0.5	3.3	0.4
Delay (s)				20.8	10.3	4.8
Level of Service				C	B	A
Approach Delay (s)	0.0			20.8	8.7	
Approach LOS	A			C	A	

Intersection Summary

HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Cross Border Facility Traffic Assessment
 3: Otay Pacific Dr & Otay Pacific Pl

6/19/2015
 HCM Signalized Intersection Capacity Analysis




















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔								↔↔	↔↔	
Volume (vph)	0	37	0	0	0	0	0	0	0	564	780	49
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	
Lane Util. Factor		1.00								0.97	0.95	
Fr _t		1.00								1.00	0.99	
Fl _t Protected		1.00								0.95	1.00	
Satd. Flow (prot)		1863								3433	3508	
Fl _t Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		1863								3433	3508	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	39	0	0	0	0	0	0	0	594	821	52
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	145	4	0
Lane Group Flow (vph)	0	39	0	0	0	0	0	0	0	449	869	0
Turn Type		NA								Prot	NA	
Protected Phases		4								1	6	
Permitted Phases												
Actuated Green, G (s)		3.0								34.0	34.0	
Effective Green, g (s)		3.0								34.0	34.0	
Actuated g/C Ratio		0.07								0.76	0.76	
Clearance Time (s)		4.0								4.0	4.0	
Vehicle Extension (s)		3.0								3.0	3.0	
Lane Grp Cap (vph)		124								2593	2650	
v/s Ratio Prot		c0.02								0.13	c0.25	
v/s Ratio Perm												
v/c Ratio		0.31								0.17	0.33	
Uniform Delay, d1		20.0								1.5	1.8	
Progression Factor		1.00								1.00	1.00	
Incremental Delay, d2		1.5								0.0	0.3	
Delay (s)		21.5								1.6	2.1	
Level of Service		C								A	A	
Approach Delay (s)		21.5			0.0			0.0			1.9	
Approach LOS		C			A			A			A	

Intersection Summary

HCM 2000 Control Delay	2.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	33.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Cross Border Facility Traffic Assessment
 4: Las Californias Dr & Otay Pacific PI

6/19/2015
 HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	514	15	0	0	0	37	0	864	0	0	0	0
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				
Lane Util. Factor	0.95	0.95				1.00		0.95				
Frt	1.00	1.00				0.86		1.00				
Flt Protected	0.95	0.95				1.00		1.00				
Satd. Flow (prot)	1681	1690				1611		3539				
Flt Permitted	0.95	0.95				1.00		1.00				
Satd. Flow (perm)	1681	1690				1611		3539				
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	541	16	0	0	0	39	0	909	0	0	0	0
RTOR Reduction (vph)	99	99	0	0	0	38	0	0	0	0	0	0
Lane Group Flow (vph)	177	182	0	0	0	1	0	909	0	0	0	0
Turn Type	Split	NA				Prot		NA				
Protected Phases	4	4				3		2				
Permitted Phases												
Actuated Green, G (s)	11.6	11.6				1.6		29.8				
Effective Green, g (s)	11.6	11.6				1.6		29.8				
Actuated g/C Ratio	0.21	0.21				0.03		0.54				
Clearance Time (s)	4.0	4.0				4.0		4.0				
Vehicle Extension (s)	3.0	3.0				3.0		3.0				
Lane Grp Cap (vph)	354	356				46		1917				
v/s Ratio Prot	0.11	c0.11				c0.00		c0.26				
v/s Ratio Perm												
v/c Ratio	0.50	0.51				0.02		0.47				
Uniform Delay, d1	19.1	19.2				25.9		7.8				
Progression Factor	1.00	1.00				1.00		1.00				
Incremental Delay, d2	1.1	1.2				0.2		0.8				
Delay (s)	20.3	20.4				26.2		8.6				
Level of Service	C	C				C		A				
Approach Delay (s)		20.4			26.2			8.6			0.0	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			13.4				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			55.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			51.8%				ICU Level of Service		A			
Analysis Period (min)			15									
c	Critical Lane Group											

ATTACHMENT C

TURN POCKET QUEUEING WORKSHEETS

Intersection: 1: Otay Pacific Dr & Siempre Viva Rd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 2: Las Californias Dr & Siempre Viva Rd

Movement	NB
Directions Served	LR
Maximum Queue (ft)	105
Average Queue (ft)	53
95th Queue (ft)	84
Link Distance (ft)	1094
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Otay Pacific Dr & Otay Pacific Pl

Movement	EB
Directions Served	R
Maximum Queue (ft)	68
Average Queue (ft)	21
95th Queue (ft)	52
Link Distance (ft)	199
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Las Californias Dr & Otay Pacific PI

Movement	EB	NB
Directions Served	L	T
Maximum Queue (ft)	71	88
Average Queue (ft)	41	51
95th Queue (ft)	61	75
Link Distance (ft)	610	472
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Otay Pacific Dr & Siempre Viva Rd

Movement

Directions Served
 Maximum Queue (ft)
 Average Queue (ft)
 95th Queue (ft)
 Link Distance (ft)
 Upstream Blk Time (%)
 Queuing Penalty (veh)
 Storage Bay Dist (ft)
 Storage Blk Time (%)
 Queuing Penalty (veh)

Intersection: 2: Las Californias Dr & Siempre Viva Rd

Movement	EB	WB	NB
Directions Served	T	T	LR
Maximum Queue (ft)	384	73	291
Average Queue (ft)	198	27	173
95th Queue (ft)	322	62	261
Link Distance (ft)	615	1183	1094
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Otay Pacific Dr & Otay Pacific PI

Movement	EB
Directions Served	R
Maximum Queue (ft)	63
Average Queue (ft)	23
95th Queue (ft)	52
Link Distance (ft)	171
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Las Californias Dr & Otay Pacific PI

Movement	EB	NB
Directions Served	L	T
Maximum Queue (ft)	90	150
Average Queue (ft)	54	77
95th Queue (ft)	83	120
Link Distance (ft)	610	472
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Queuing and Blocking Report
 Buildout (2030) Midday Peak Hour - Base Geometry

6/19/2015

Intersection: 1: Otay Pacific Dr & Siempre Viva Rd

Movement	EB	EB	EB	EB	WB	WB	WB
Directions Served	T	T	R	R	L	L	T
Maximum Queue (ft)	224	224	309	302	212	214	40
Average Queue (ft)	7	7	194	146	109	123	1
95th Queue (ft)	158	158	280	255	170	179	28
Link Distance (ft)	1106	1106					615
Upstream Blk Time (%)	0	0					
Queuing Penalty (veh)	0	0					
Storage Bay Dist (ft)			350	350	250	250	
Storage Blk Time (%)			0	0	0	0	
Queuing Penalty (veh)			0	0	0	0	

Intersection: 2: Las Californias Dr & Siempre Viva Rd

Movement	WB	WB	WB	NB	NB
Directions Served	T	T	T	L	R
Maximum Queue (ft)	308	256	117	332	99
Average Queue (ft)	164	90	15	183	51
95th Queue (ft)	256	195	59	282	84
Link Distance (ft)	1167	1167	1167	1070	1070
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Otay Pacific Dr & Otay Pacific PI

Movement	EB	SB	SB	SB	SB
Directions Served	TR	L	L	T	TR
Maximum Queue (ft)	57	109	143	56	91
Average Queue (ft)	21	17	38	16	29
95th Queue (ft)	48	70	97	45	73
Link Distance (ft)	121			1039	1039
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		350	350		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: Las Californias Dr & Otay Pacific PI

Movement	EB	EB	WB	NB	NB
Directions Served	L	LT	R	T	TR
Maximum Queue (ft)	184	124	82	205	173
Average Queue (ft)	93	54	30	108	66
95th Queue (ft)	148	103	64	179	141
Link Distance (ft)	268	268	73	449	449
Upstream Blk Time (%)			1		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0