



June 14, 2016 (Revised)

Amir Ibrahim, Principal
IBRA Automation Systems, Inc
1724 Kenwood Place
San Marcos, CA92078

**Re: Shared Parking Study
Farmer Boys Restaurant, Laguna Hills**

Dear Amir,

Per your request, we have conducted a parking study and trip generation estimate for the proposed restaurant. This letter presents our methodologies, findings, and recommendations.

PROJECT INFORMATION

The proposed Farmer Boys Restaurant is situated at 23952 Avenida De La Carlota in the City of Laguna Hills. The project includes demolishing the existing building (5,223 square feet) that was previously approved for the Carrows Restaurant and constructing a 3,143-sq.ft. building and drive-through facilities for the Farmer Boys Restaurant. The proposed business will open daily from 6 am to 10 pm. Site plan is shown in **Exhibit 1**.

PARKING RATIO STUDY

Farmer Boys Restaurant operates its made-to-order food preparation process that differs from most other typical fast food chains. In order to determine the parking ratio of this specific business model, the City official concurs the need for a parking ratio study at existing Farmer Boys Restaurants. The following locations have been identified for this study:

Farmer Boys Restaurant # 1030

Address: 2205 E. 17th Street, Santa Ana

Building Size: 2,980 sq. ft.

Features: Dine In and Drive Through

Farmer Boys Restaurant # 1076

Address: 1220 N. Batavia Street, Orange

Building Size: 3,000 sq. ft.

Features: Dine In and Drive Through

Farmer Boys Restaurant # 3002

Address: 2800 W. Lincoln Avenue, Anaheim

Building Size: 3,152 sq. ft.

Features: Dine In and Drive Through

Restaurant sales records of each study location for the week of January 25, 2016 have been collected to study the business peak hours and days. **Exhibit 1** illustrates the half hourly sales of each location as a percentage of daily volumes. **Exhibit 2** illustrates the daily sales of each location as a percentage of weekly volumes. Friday is generally the busiest day of the week, trailed by Saturday. As shown in **Table 1**, all three study locations are busiest during lunch hours from 11:30 am to 1:30 pm.

Table 1. Percentage of Restaurant Sales*

Time Period	Peak Hour	Santa Ana	Orange	Anaheim
11:30 am - 1:30 pm	Lunch Hours	20.0%	28.7%	28.3%
5:30 pm - 7:30 pm	Dinner Hours	11.1%	12.1%	12.3%

* Based on actual records of the subject restaurants as a percentage of daily sales from Jan. 25, 2016 to Jan. 31, 2016.

In order to observe the peak parking demand, parked vehicles were counted at the study locations on a typical Friday and Saturday during lunch hours. The observation found that, although study locations all have similar building sizes, the peak parking demand varied in the range of 14 and 32 parking spaces. The results of the parking ratio study are shown in **Table 2**.

Exhibit 2. Sales Chart Per Half Hour
As a Percentage of Daily Total

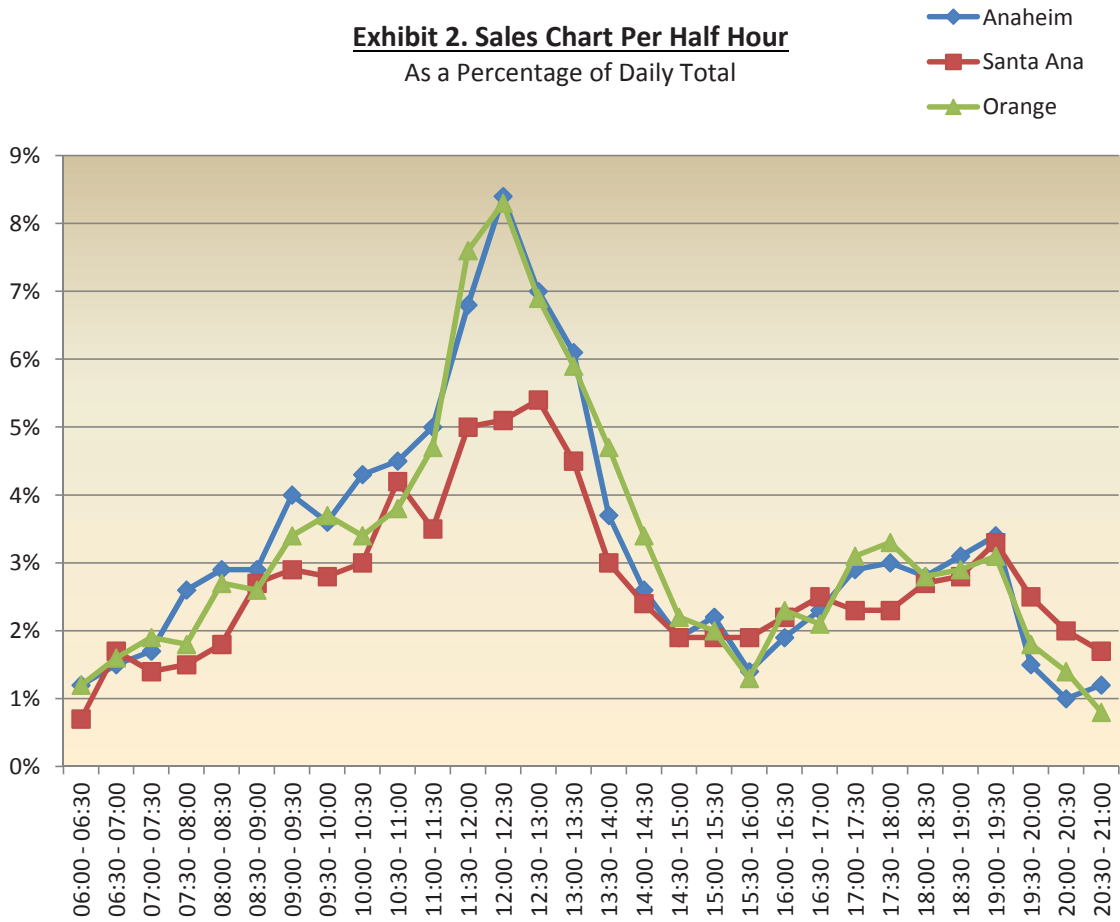


Exhibit 3. Sales Chart Per Day of the Week
As a Percentage of Weekly Total

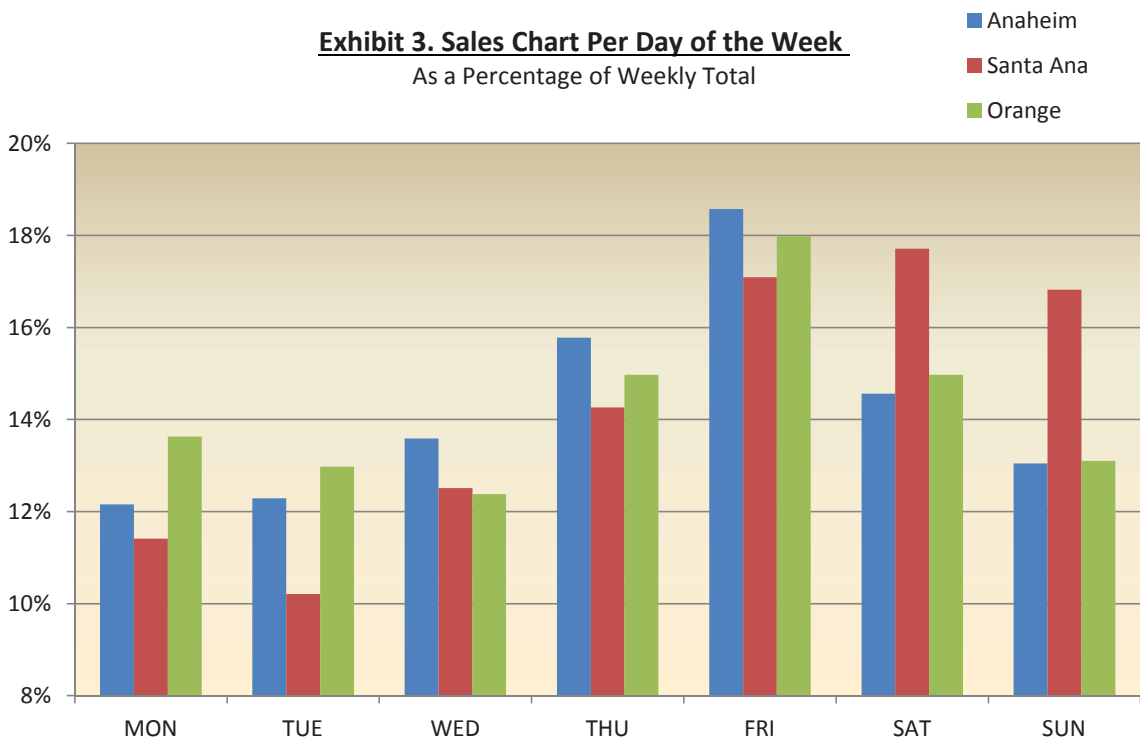


Table 2. Parking Ratio Study - Farmer Boys Restaurant

Farmer Boys Restaurant Location	Santa Ana		Orange		Anaheim	
Address	2205 E. 17th Street		1220 N. Batavia St		2800 W. Lincoln Ave	
Building Area (GFA)	2,980 SF		3,000 SF		3,152 SF	
Parking Capacity	74 (Shared parking)		33		76 (Shared parking)	
Date	2/26/2016	2/27/2016	3/4/2016	2/27/2016	3/4/2016	2/27/2016
Day of Week	<i>Friday</i>	<i>Saturday</i>	<i>Friday</i>	<i>Saturday</i>	<i>Friday</i>	<i>Saturday</i>
11:30 AM	5	11	27	18	16	24
12:00 PM	9	10	27	19	20	26
12:30 PM	14	9	32	22	27	22
1:00 PM	11	14	21	18	12	24
1:30 PM	11	13	27	16	10	22
Peak Demand	14	14	32	22	27	26
Parking Ratio Per 1,000 SF	4.7	4.7	10.7	7.4	9.1	8.7

Table 2 indicates that parking ratio at study locations varied in the range of 4.7 and 10.7 spaces per 1,000 square foot in our survey. As a conservative approach, this study recommends adapting the highest parking ratio in the study, 10.7 spaces per 1,000 square foot for the proposed Laguna Hills location. For the building size of 3,143 sq. ft., project's parking demand is 34 parking spaces.

CURRENT PARKING USAGE

The project has a shared parking lot with the adjacent Don Jose Restaurant. As a reference to the Municipal Codes and Planning Department's records, the parking requirement for the existing Don Jose Restaurant is 55 parking spaces.

Table 4. Don Jose Restaurant Parking per Municipal Codes

Don Jose Restaurant	Area	Code Requirement	Parking Requirement
Building GFA	6,583 SF	40 stalls plus 1/50SF above 4,000 SF	52
Outdoor Dining Area	481 SF	1/150Sf	3
Total			55

The study has conducted field surveys to observe actual parking usages by Don Jose Restaurant. Parked vehicles were counted during lunch and dinner hours on a typical weekday and weekend day. Complete survey data can be found in **Appendix A**.

The study found that Don Jose Restaurant generate higher parking demands in the lunch hours, similar to parking patterns of Farmer Boys Restaurants. The observed peak demand of Don Jose Restaurant is 57 parking spaces at 1:00 pm on Friday.

SHARED PARKING CALCULATION

As shown in **Table 3**, the shared parking lot provides 100 parking spaces for Don Jose Restaurant and Farmer Boys Restaurant, representing a 10% surplus over the anticipated parking demands.

Table 3. Shared Parking Calculation

Use	Parking Demand	10% Surplus	Total
Don Jose	57	6	63
Farmer Boys	34	3	37
Total	91	9	100

TRIP GENERATION

Trip generation represents the amount of traffic change due to the project development. Based upon the recommendations from "Trip Generation", 9th Edition, published by the Institute of Transportation Engineers (ITE), the trip generation rates are shown in **Table 4**.

Table 4. Trip Generation Rate

LAND USE	ITE CODE	UNIT	AM Peak Hour			PM Peak Hour		
			Rate	In	Out	Rate	In	Out
High-Turnover (Sit-Down) Restaurant	932	1000 sq.ft.	11.52	52%	48%	11.15	59%	41%
Fast Food Restaurant with Drive-Through Window	934	1000 sq.ft.	49.35	51%	49%	33.84	52%	48%

The calculation shown in **Table 5** outlines the credits of the previously approved land use by the former Carrows Restaurant. The calculation also includes a pass-by trip reduction. Statistics from ITE's *Trip Generation Handbook* indicates that the average pass-by trip percentages is 50% for fast food restaurant with drive-through window.

Table 5. Project Trip Generation

LAND USE	ITE CODE	Quantity (D.U.)	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Former Carrows Restaurant	932	-5.22	-60	-31	-29	-58	-34	-24
Proposed Farmer Boys Restaurant	934	3.2	158	81	77	108	56	52
Sub-Total			98	50	48	50	22	28
Pass-By Reduction (50%)			(49)	(25)	(24)	(25)	(11)	(14)
NET Trip Generation			49	25	24	25	11	14

The project's **NET** trip generation is 49 trips in the AM peak hour, including 25 inbound and 24 outbound trips, and 25 trips in the PM peak hour, including 11 inbound and 14 outbound trips.

PROJECT DRIVEWAY

Given the fact that the project driveway provides the only left out on Avenida Del La Carlota for all three connected sites (Farmer Boys, Don Jose, and Raising Cane's), this study included a review of the driveway operation. Existing turning movement counts at the driveway, accounting for Don Jose's current trips, were collected in February 2016 for the AM, noon, and PM peak hours. Anticipated turning movements generated by Raising Cane's and Farmer Boys restaurants are added in order to evaluate the cumulative impacts of all three restaurants. Detailed data and analysis can be found in **Appendix B**.

Table 6. Driveway Analysis

Peak Hour	Left-Turn IN*			Left-Turn OUT**			Overall LOS
	95% Queue Length	Approach Delay	Approach LOS	95% Queue Length	Approach Delay	Approach LOS	
AM	7 ft	10 Sec	A	32 ft	22 Sec	C	A
Noon	7 ft	10 Sec	A	65 ft	30 Sec	D	A
PM	5 ft	9 Sec	A	27 ft	22 Sec	C	A

* Left-turn IN = Inbound left turns from the left-turn pocket on Avenida Del La Carlota.

** Left-turn OUT = Outbound left turns from the driveway

As shown in **Table 6**, the 95th percentile queue at the southbound left-turn pocket on Avenida Del La Carlota is expected to be less than one vehicle length, and its 45-foot pocket length is apparently sufficient. The 95th percentile queue for outbound trips at the project driveway is expected to be approximately 3 vehicle length. Considering its geographic location adjacent to a major arterial and close proximity to freeway ramps, the driveway layout and queue length appear reasonable. This intersection maintains overall LOS A for AM, noon, and PM peak hours and no negative impact is anticipated.

ON-SITE CIRCULATION

As shown above, the anticipated maximum queue at the project driveway is 3 vehicles, with consideration of all three connected parcels. The analysis indicates that although the drive-thru exit of Farmer Boys Restaurant is within close

proximity to the driveway, no unusual conflict is expected and queuing at the project driveway remains reasonable.

The site plan shows that drive-thru lane can accommodate queuing of five cars behind the service window and three cars behind the ordering station. Such queue length is similarly designed at many existing Farmer Boys Restaurants and apparently sufficient based on our observations. Nonetheless, additional queue length, if needed, is readily available on the project's site to accommodate excessive demand. The possibility of traffic overflow is very low. On-site circulation appears efficient and safe, without unnecessary bottlenecks.

Regards,

K2 Traffic Engineering, Inc.



Jende "Kay" Hsu, T.E.
California Licensed TR2285



APPENDIX A. PARKING SURVEY

Don Jose Restaurant

23972 Avenida De La Carlota, Laguna Hills

Lunch Hours Parking

By Jill L.

Date	2/26/2016	2/27/2016
Day of Week	<i>Friday</i>	<i>Saturday</i>
11:30 AM	29	16
12:00 PM	40	20
12:30 PM	55	33
1:00 PM	57 *	34
1:30 PM	55	40
Peak Usage	57	40

* Peak parking occurred at 1:00 pm on Friday using 57 spaces

Dinner Hours Parking

By Tim C.

Date	11/17/2015	11/21/2015
Day of Week	<i>Tuesday</i>	<i>Saturday</i>
5:30 PM	48	36
6:00 PM	49	34
6:30 PM	52 **	40
7:00 PM	47	43
7:30 PM	43	28
8:00 PM	33	26
8:30 PM	26	17
Peak Usage	52	43

** Peak parking occurred at 6:30 pm on Tuesday using 52 spaces

APPENDIX B

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TRAFFIC DATA SERVICES

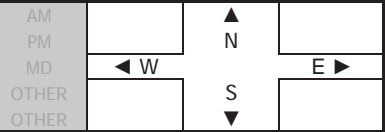
DATE:
2/11/16
THURSDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

LAGUNA HILLS
AVENINA DE LA CARLOTA
PROJECT DRIVEWAY

PROJECT #:
LOCATION #: 1
CONTROL: 1 WAY STOP WB

NOTES:



LANES:	NORTHBOUND AVENINA DE LA CARLOTA			SOUTHBOUND AVENINA DE LA CARLOTA			EASTBOUND PROJECT DRIVEWAY			WESTBOUND PROJECT DRIVEWAY			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	X	2	0	1	2	X	X	X	X	0.5	X	0.5	

	NORTHBOUND AVENINA DE LA CARLOTA			SOUTHBOUND AVENINA DE LA CARLOTA			EASTBOUND PROJECT DRIVEWAY			WESTBOUND PROJECT DRIVEWAY			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
AM													
6:30 AM													0
6:45 AM													0
7:00 AM		118	1	0	184					1		2	306
7:15 AM		131	0	1	203					0		1	336
7:30 AM		137	0	1	226					0		1	365
7:45 AM		183	1	1	250					0		1	436
8:00 AM		182	0	0	222					1		0	405
8:15 AM		215	1	1	252					0		1	470
8:30 AM		207	2	2	236					1		2	450
8:45 AM		186	0	0	246					2		0	434
9:00 AM													0
9:15 AM													0
VOLUMES	0	1,359	5	6	1,819	0	0	0	0	5	0	8	3,202
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	38%	0%	62%	
APP/DEPART	1,364	/	1,367	1,825	/	1,824	0	/	11	13	/	0	0
BEGIN PEAK HR		7:45 AM											
VOLUMES	0	787	4	4	960	0	0	0	0	2	0	4	1,761
APPROACH %	0%	99%	1%	0%	100%	0%	0%	0%	0%	33%	0%	67%	
PEAK HR FACTOR		0.916			0.953			0.000			0.500		0.937
APP/DEPART	791	/	791	964	/	962	0	/	8	6	/	0	0
MIDDAY													
11:00 AM													0
11:15 AM													0
11:30 AM		167	3	2	259					1		2	434
11:45 AM		164	3	6	301					0		2	476
12:00 PM		173	3	3	298					1		3	481
12:15 PM		160	9	10	319					4		3	505
12:30 PM		149	1	3	320					12		5	490
12:45 PM		164	4	3	283					2		6	462
1:00 PM		172	1	6	293					0		3	475
1:15 PM		174	1	3	343					2		14	537
1:30 PM													0
1:45 PM													0
VOLUMES	0	1,323	25	36	2,416	0	0	0	0	22	0	38	3,860
APPROACH %	0%	98%	2%	1%	99%	0%	0%	0%	0%	37%	0%	63%	
APP/DEPART	1,348	/	1,361	2,452	/	2,438	0	/	61	60	/	0	0
BEGIN PEAK HR		12:30 PM											
VOLUMES	0	659	7	15	1,239	0	0	0	0	16	0	28	1,964
APPROACH %	0%	99%	1%	1%	99%	0%	0%	0%	0%	36%	0%	64%	
PEAK HR FACTOR		0.951			0.906			0.000			0.647		0.914
APP/DEPART	666	/	687	1,254	/	1,255	0	/	22	44	/	0	0
PM													
4:30 PM													0
4:45 PM													0
5:00 PM		175	2	0	320					3		5	505
5:15 PM		161	0	3	303					0		0	467
5:30 PM		160	2	4	348					1		1	516
5:45 PM		138	2	5	319					1		2	467
6:00 PM		129	1	7	283					0		4	424
6:15 PM		182	2	5	264					6		6	465
6:30 PM		177	0	6	237					1		5	426
6:45 PM		169	0	4	216					0		3	392
7:00 PM													0
7:15 PM													0
VOLUMES	0	1,291	9	34	2,290	0	0	0	0	12	0	26	3,662
APPROACH %	0%	99%	1%	1%	99%	0%	0%	0%	0%	32%	0%	68%	
APP/DEPART	1,300	/	1,317	2,324	/	2,302	0	/	43	38	/	0	0
BEGIN PEAK HR		5:00 PM											
VOLUMES	0	634	6	12	1,290	0	0	0	0	5	0	8	1,955
APPROACH %	0%	99%	1%	1%	99%	0%	0%	0%	0%	38%	0%	62%	
PEAK HR FACTOR		0.904			0.925			0.000			0.406		0.947
APP/DEPART	640	/	642	1,302	/	1,295	0	/	18	13	/	0	0

Project Driveway Analysis

Project Driveway (EW) at Avenida Del La Carlota (NS)

Full Project Trip Generation

AM Peak Hour	In	Out
	81	77

Trip Distribution

To/From North	To/From South
68%	32%

Traffic Assignment

AM Peak Hour	SBL	NBR	WBL	WBR
	55	26	25	52

PM Peak Hour	In	Out
	56	52

PM Peak Hour	SBL	NBR	WBL	WBR
	38	18	17	35

Existing Conditions

Peak Hour	SBL	SBT*	SBR	NBL	NBT	NBR	EBL	EBT	EBR	WBL	WBT	WBR
AM	4	480			787	4				2		4
Noon	15	620			659	7				16		28
PM	12	645			634	6				5		8

* Traffic volumes of the first two lanes on SBT Avenida Del La Carlota are used for analysis as permitted by the program

Project Traffic

Peak Hour	SBL	SBT	SBR	NBL	NBT	NBR	EBL	EBT	EBR	WBL	WBT	WBR
AM	55					26				25		52
Noon**	55					26				25		52
PM	38					18				17		35

** Noon peak hour is based on the higher volume of either AM or PM peak hour

Raising Cane's***

Peak Hour	SBL	SBT	SBR	NBL	NBT	NBR	EBL	EBT	EBR	WBL	WBT	WBR
AM	0									0		
Noon	7									9		
PM	7									9		











*** Raising Cane's restaurants do not open until 10 am. SBL & WBL = 15% of inbound trips (49) & 20% of outbound trips (45) in the PM peak hour

Existing Conditions + Project + Raising Cane's

Peak Hour	SBL	SBT	SBR	NBL	NBT	NBR	EBL	EBT	EBR	WBL	WBT	WBR
AM	59	480			787	30				27		56
Noon	77	620			659	33				50		80
PM	57	645			634	24				31		43

HCM Unsignalized Intersection Capacity Analysis
 1: Project Driveway & Avenida Del La Carlota

Existing + Project AM Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Volume (veh/h)	27	56	787	30	59	480
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	29	61	855	33	64	522
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
vC, conflicting volume	1261	444			888	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	80	89			92	
cM capacity (veh/h)	148	561			758	











Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	90	570	318	64	261	261
Volume Left	29	0	0	64	0	0
Volume Right	61	0	33	0	0	0
cSH	295	1700	1700	758	1700	1700
Volume to Capacity	0.31	0.34	0.19	0.08	0.15	0.15
Queue Length (ft)	32	0	0	7	0	0
Control Delay (s)	22.5	0.0	0.0	10.2	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	22.5	0.0		1.1		
Approach LOS	C					

Intersection Summary

Average Delay	1.7	
Intersection Capacity Utilization	46.0%	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis
 1: Project Driveway & Avenida Del La Carlota

Existing + Project Noon Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Volume (veh/h)	50	80	659	33	77	619
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	54	87	716	36	84	673
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
vC, conflicting volume	1238	376			752	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	64	86			90	
cM capacity (veh/h)	151	621			853	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	141	478	275	84	336	336
Volume Left	54	0	0	84	0	0
Volume Right	87	0	36	0	0	0
cSH	283	1700	1700	853	1700	1700
Volume to Capacity	0.50	0.28	0.16	0.10	0.20	0.20
Queue Length (ft)	65	0	0	8	0	0
Control Delay (s)	29.7	0.0	0.0	9.7	0.0	0.0
Lane LOS	D			A		
Approach Delay (s)	29.7	0.0		1.1		
Approach LOS	D					

Intersection Summary

Average Delay		3.0				
Intersection Capacity Utilization		46.6%		ICU Level of Service		A

HCM Unsignalized Intersection Capacity Analysis
 1: Project Driveway & Avenida Del La Carlota

Existing + Project PM Peak

	↙	↘	↑	↙	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↑↑		↘	↑↑
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Volume (veh/h)	31	43	634	24	57	645
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	34	47	689	26	62	701
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
vC, conflicting volume	1177	358			715	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	80	93			93	
cM capacity (veh/h)	171	639			881	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	80	459	256	62	351	351
Volume Left	34	0	0	62	0	0
Volume Right	47	0	26	0	0	0
cSH	298	1700	1700	881	1700	1700
Volume to Capacity	0.27	0.27	0.15	0.07	0.21	0.21
Queue Length (ft)	27	0	0	6	0	0
Control Delay (s)	21.5	0.0	0.0	9.4	0.0	0.0
Lane LOS	C		A			
Approach Delay (s)	21.5	0.0		0.8		
Approach LOS	C					

Intersection Summary

Average Delay			1.5			
Intersection Capacity Utilization			40.1%	ICU Level of Service	A	