Traffic Impact Study
704-714 West Las Tunas Drive
Mixed-Use Project
San Gabriel

April 9, 2014

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1. Introduction

This study report identifies the potential traffic impacts associated with the proposed Project in the City of San Gabriel, located at 704-712 West Las Tunas Drive. KOA Corporation was retained by LSG Las Tunas, LP to produce this traffic impact study report.

The proposed mixed-use development would consist of a total of 5,868 square-foot of retail commercial floor area, assumed to be sit-down restaurant space for purposes of this analysis, and 37 residential condominium units.

The following sections examine the potential impacts of Project-generated vehicle trips on weekday peak-hour operations at nearby signalized intersections. Prior to the start of the study, KOA coordinated with staff from the City of San Gabriel to obtain consensus on the traffic scope, methodology and assumptions. A scoping document was submitted to the City of San Gabriel to define the Project analysis details, and finalized to complete the scoping coordination between KOA and the City.

Initially, the study included the evaluation of three intersections, one which included a full signal warrant analysis. Per comments received from the City of San Gabriel on January 7th the following additional items have been incorporated into this revised analysis:

- Review existing on-street parking regulations on Alanmay Avenue.
- Analyze potential residential neighborhood impacts, on Alanmay Avenue and Padilla Street.
- Add Mission Drive and Padilla Street as a study intersection.

A. Project Location

The proposed Project site is located at the southeast corner of the intersection of Mission Drive and Las Tunas Drive, within the Mission District of San Gabriel. The site is located at the rear of an existing commercial center. Access to the proposed residential uses would only be provided via Alanmay Avenue. Access to the proposed restaurant use would only be provided via Las Tunas Drive and Mission Drive.

North-south access between the northern existing site uses and the southern portion of the site that would contain the proposed new land uses would be removed. The existing/northern site land uses would be accessible from Las Tunas Drive and Mission Drive. Direct pedestrian access to the Project site will remain from the existing/northern commercial area.

Figure 1 illustrates the study area and the site location in relation to the surrounding street system.

B. Project Study Area

For the Project traffic impact analysis, four study intersections were defined for the study area:

1. Mission Drive/Las Tunas Drive
2. Santa Anita Avenue/Las Tunas Drive
3. Alanmay Avenue/Las Tunas Drive (unsignalized)
4. Mission Drive/Padilla Street (unsignalized)

A full traffic signal warrant analysis was conducted for the analysis of future post-Project conditions at the unsignalized Alanmay Avenue/Las Tunas Drive intersection.

In addition to the study intersections, two residential roadways in the vicinity of the Project site were evaluated:

1. Alanmay Avenue between Las Tunas Drive and Padilla Street
2. Padilla Street between Mission Drive and Santa Anita Avenue.

Figures 2A (overall site), 2B (detailed plans), and 2C (summary text) illustrate the proposed Project site plan. Figure 3 illustrates the locations of the four study intersections and two roadway segments.

LEGEND

Project Site

N

Not To Scale

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Figure 1

Project Location

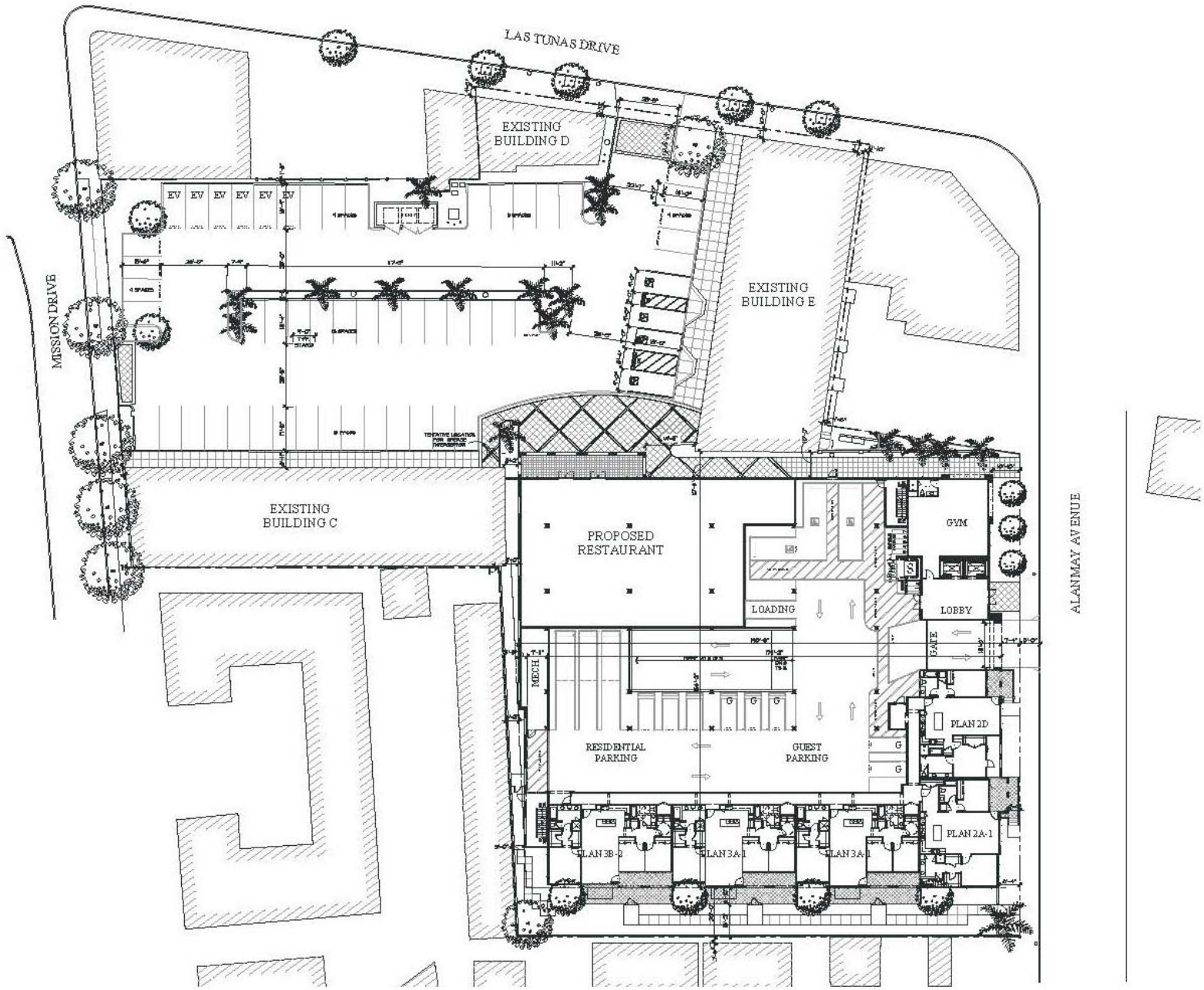

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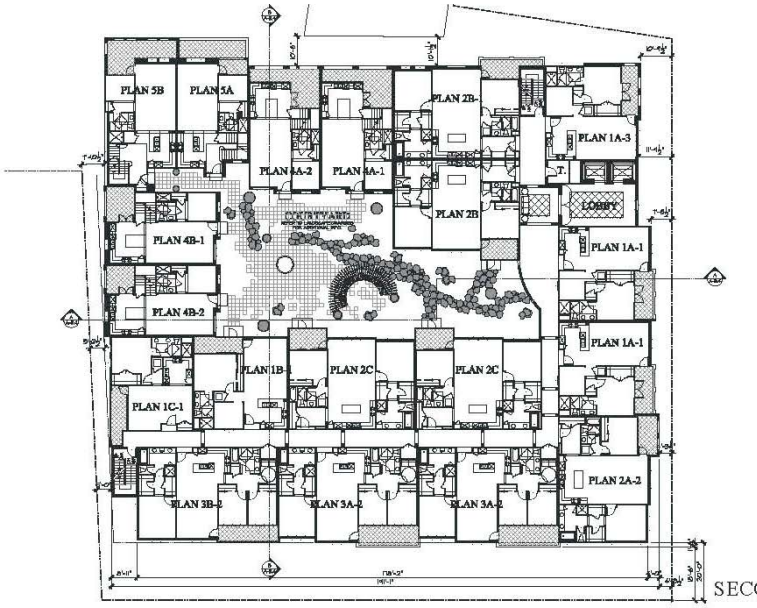
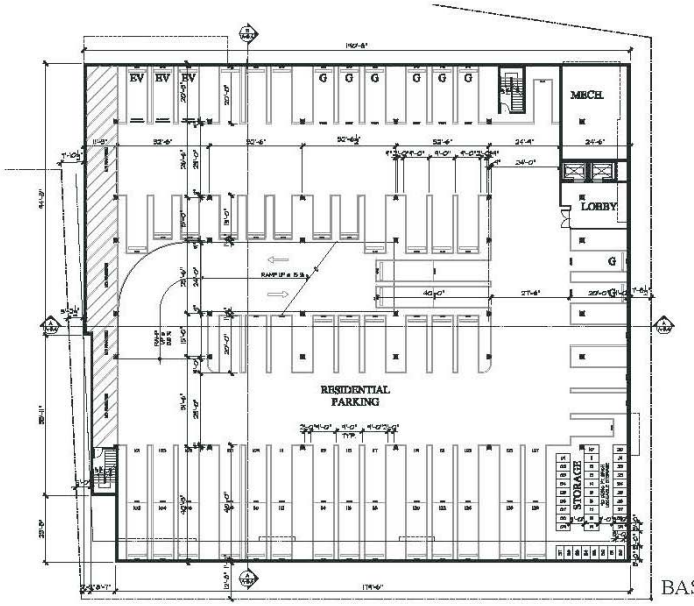
Figure 2A

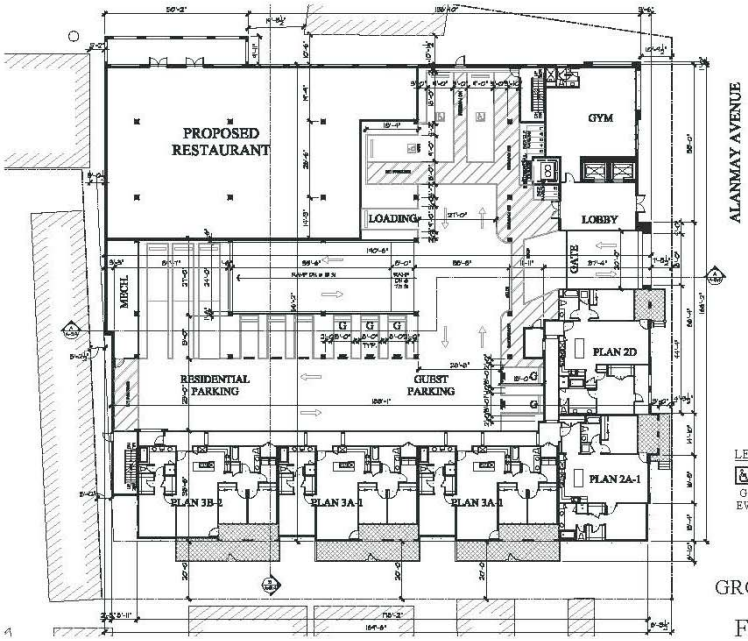
Project Site Plan - Overall



SECOND FLOOR



BASEMENT



GROUND FLOOR

LEGEND

ACCESSIBILITY PARKING STALL

G GUEST PARKING

EV CLEAN AIR / VAN POOL / EV PARKING

FLOOR PLANS

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Figure 2B

Project Site Plan - Detail

Las Tunas/Mission Mixed-Use
Project Data Summary
December 18, 2013

Site

Site Area	1.905 Acres (82,964 S.F.)
Private Open Space	
Required	3,700 S.F.(100/unit)
Provided	3,700 S.F.
F.A.R	
Maximum	1.00 (82,964 S.F.)
Proposed	0.90 (75,010 S.F.)
Lot Coverage	
Maximum Allowed	60% max.
Proposed	54% (44,537 S.F.)

Leaseable Area

Retail Leaseable Area

Existing Retail in other Bldgs.	
Building C	3,000 S.F.
Building D	0 S.F.
Building E	3,432 S.F.
Total Retail in Center	**6,432 S.F. Gross**

Restaurant Leaseable Area

Existing Restaurants in other Bldgs.	
Building C	2,780 S.F.
Building D	1,150 S.F.
Building E	2,592 S.F.
Total	**6,522 S.F.**
Proposed Restaurant	5,868 S.F.
Total Restaurant in Center	**12,390 S.F. Gross**

Total Commercial Leaseable Area **18,822 S.F. Gross**
(existing + proposed)

Residential Area

Units	Area	Number	Subtotal
Plan 1A – 1 Bedroom Flat + Den	945sf	6	5,670sf
Plan 1B – 1 Bedroom Flat + Den	945sf	2	1,890sf
Plan 1C – 1 Bedroom Flat	835sf	2	1,670sf
Plan 2A – 2 Bedroom Flat	1,323sf	3	3,969sf
Plan 2B – 2 Bedroom Flat	1,325sf	4	5,300sf
Plan 2C – 2 Bedroom Flat	1,323sf	4	5,292sf
Plan 2D – 2 Bedroom Flat	1,242sf	1	1,242sf
Plan 3A – 3 Bedroom Flat	1,441sf	6	8,646sf
Plan 3B – 3 Bedroom Flat	1,435sf	3	4,305sf
Plan 4 – 2 Bedroom + Den Townhome	1,634sf	4	6,536sf
Plan 5A – 2 Bedroom + Den Townhome	1,627sf	1	1,627sf
Plan 5B – 2 Bedroom + Den Townhome	1,746sf	1	1,746sf
Total Residential		**37**	**47,893sf**

Circulation	Area
Lobby/Gym/Corridor 1st floor	2,518 sf
Lobby/Corridor 2nd floor	3,049 sf
Lobby/Corridor 3rd floor	2,728 sf
Total Circulation	**8,295 sf**

Total Building Residential Area **56,188 S.F. Gross**

Total Proposed Building Area

Proposed Commercial	5,868 S.F.
Proposed Residential	56,188 S.F.
	61,056 S.F. Gross

Parking Garage Area

Level 1	12,630 S.F. Gross
Level P-1	32,748 S.F. Gross
Total Garage	**45,377 S.F. Gross**

Parking Requirements

Commercial Required

Existing Retail	9 (1/750 based on 6,432sf)
Existing Restaurant	22 (1/300 based on 6,522sf)
Proposed Restaurant	16 (1/300 based on 4,814sf)
Total Parking Required	**47 Spaces**

Provided

Surface Parking	55 Spaces
Total Parking Provided	**55 Spaces**
Includes:	
Handicap Parking	4 Spaces (Title-24)
Clean Air/Vanpool/EV	6 spaces (T5.106.5.2)

Residential Required

1 Bedroom	10 (1 per Br based on 10 units)
2 Bedroom	36 (1 per Br based on 18 units)
3 Bedroom	27 (1 per Br based on 9 units)
Guest Parking	13 (1 per 3 units based on 37 units)
Total Parking Required	**86 Spaces**

Provided

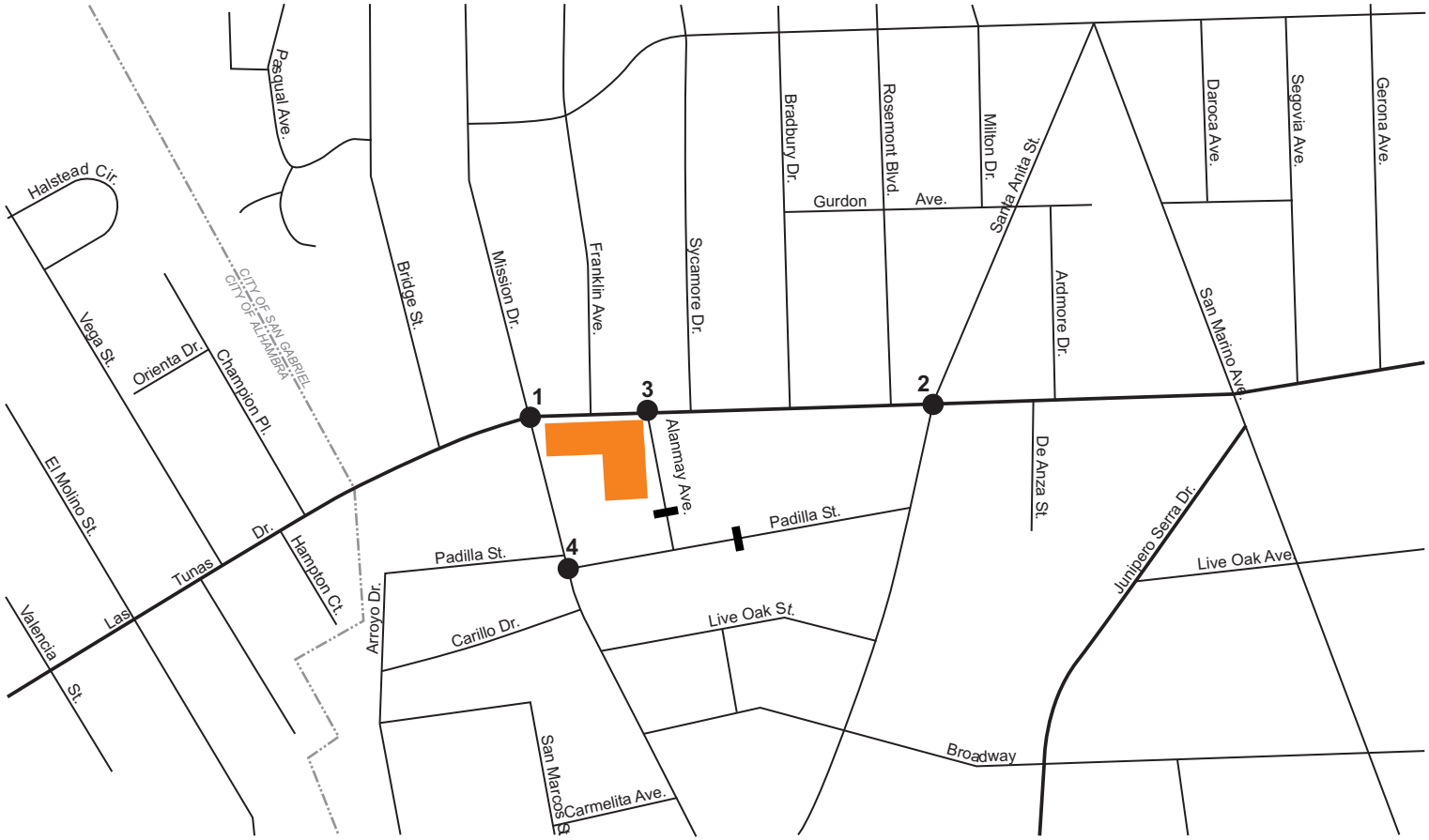
Level 1	18 Spaces (10 standard, 8 compact)
Level P-1	73 Spaces (64 standard, 9 compact)
Total Parking Provided	**91 Spaces** (compact/standard ratio: 22.9%)*
Includes:	
Handicap Parking**	2 Spaces (2% of req. 87 stalls)
	1 Guest Space (5% of req. 13 stalls)
Clean Air/Vanpool/EV	3 Spaces (3% of req. 87 stalls)

Separate bicycle parking provided within parking structure: 7 (1 per 6 units based on 37 units)

*Minimum parking stall dimensions: Standard 9'-0"W x 20'-0"D, Compact 8'-0"W x 15'-0"D.
**Handicap parking stalls requirements:
18'-0" minimum depth and 9'-0"W min. parking stall with 5'-0" wide loading access aisle.
Provide 8'-0" wide access aisle at van accessible parking stall.

GENERAL NOTES

1. THIS PROJECT TO COMPLY WITH THE CONSTRUCTION AND DEMOLITION ORDINANCE.
2. THIS PROJECT TO INCORPORATE MEASURES FROM THE COUNTY LOW IMPACT DEVELOPMENT MANUAL TO COMPLY WITH THE GREEN BUILDING CODE AND THE NEW MS4 PERMIT.



LEGEND

- Project Site
- Study Intersection
- Study Roadway Segment

N

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Figure 3

Study Intersections

C. Analysis Methodology

The proposed Project site is located within the City of San Gabriel. KOA coordinated with the City at the start of this study to achieve consensus on assumptions such as study intersections, ambient growth and area/cumulative projects. A scoping document is provided in Appendix A, which was prepared and submitted to the City of San Gabriel, and subsequently revised based on City comments.

The Project study area extents, as defined through consultation with City staff, included weekday peak-hour impact analysis at four study intersections with a full signal warrant analysis at the Alanmay Avenue/Las Tunas Drive intersection. Additionally, roadway segments in the vicinity of the Project site were analyzed that included Alanmay Avenue between Las Tunas Drive and Padilla Street and Padilla Street between Mission Drive and Santa Anita Avenue.

Traffic impacts were analyzed during the weekday a.m. and p.m. peak hours at the study intersections and for daily conditions along the roadway segments. The traffic analysis included the following scenarios:

- Existing Conditions
- Future Pre-Project Conditions
- Future Post-Project Conditions

The TRAFFIX software was used by KOA Corporation to perform the analysis of level of service at the study intersections.

Existing Conditions

Fieldwork within the Project study area was undertaken to identify the conditions of major roadways, and to identify traffic control, approach lane configuration, and other characteristics of each study intersection.

KOA compiled new manual intersection turn movement counts that were conducted at the study intersections on Thursday, August 22, 2013 between the hours of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. Supplemental counts for the additional study intersection and two roadway segments were conducted on Wednesday, February 19, 2014. The results of the counts were utilized to determine existing weekday a.m. and p.m. peak-hour study intersection conditions and the average daily traffic (ADT) along the roadway segments.

Traffic count summaries for the study intersection analysis are provided in Appendix B1 of this report. Traffic count summaries for the study roadway segments analysis are provided in Appendix B2.

Additional vehicle and pedestrian crossing counts were conducted for the signal warrant analysis of the Alanmay Avenue/Las Tunas Drive intersection. These supplemental counts are provided in Appendix B3 of this report.

Existing level of service values at the study intersections and on the roadway segments are discussed within Section 2 of this report.

Future Pre-Project Conditions

In order to acknowledge regional traffic growth that would affect operations at the study intersections during the anticipated Project completion year of 2015, an ambient/background traffic growth rate was applied. Per the scoping document, an annual rate of 1% per year was utilized to create year-2015 base traffic volumes.

In addition to future ambient growth, traffic from area projects (approved and pending developments) was also included as part of the 2015 analysis. KOA obtained information from planning staff at the cities of San Gabriel and Alhambra pertaining to area projects that would add measurable volumes to the study area intersections and are located within an approximate 1.5-mile radius from the Project site. Peak-hour trips that would be generated from each of the area projects were computed based on *Trip Generation (9th edition)*, published by the Institute of Transportation Engineers (ITE).

Operations at the study intersections for the future pre-Project scenario are discussed in Section 3 of this report.

Project Trip Generation and Distribution

Project trip generation calculations included rates established by *Trip Generation.* Trip generation credits were applied for the recent former use.

The methodology utilized for Project trip generation and distribution calculations is discussed in Section 4 of this report.

Level of Service Methodology

For analysis of Level of Service (LOS) at signalized intersections, the City of San Gabriel has designated the Intersection Capacity Utilization (ICU) methodology as the desired tool. The concept of roadway level of service under the ICU is calculated as the volume of vehicles that pass through the facility divided by the capacity of that facility. A 10% adjustment to the clearance and loss time factor based on the critical phases of the signalized control were included in the traffic analysis. A facility is "at capacity" (ICU value of 1.00 or greater) when extreme congestion occurs. This value is a function of hourly volumes, signal phasing, and approach lane configuration on each leg of the intersection.

For the stop-controlled study intersection, LOS values were calculated using the unsignalized intersection analysis methodology defined by the *Highway Capacity Manual (HCM)*. For this methodology, conditions are based upon intersection delay, defined as the worst-case approach delay experienced by users of the intersection who must stop or yield to free-flow through traffic. This method uses a "gap acceptance" technique to predict driver delay. This methodology is applicable to unsignalized and partially-controlled intersections on major streets where there is potential for crossing difficulty from the minor approaches due to heavy traffic volumes on the major approaches.

For a mid-block two-lane residential roadway segment, as is representative of the study segments, the City of San Gabriel has established an ADT capacity of 5,000 vehicles.

Level of service (LOS) values range from LOS A to LOS F. LOS A indicates excellent operating conditions with little delay to motorists, whereas LOS F represents congested conditions with excessive vehicle delay. LOS E is typically defined as the operating "capacity" of a roadway.

Table 1 provides descriptions of general roadway operations for each LOS value, as defined within the *Highway Capacity Manual* (published by the Transportation Research Board).

Table 1 – Level of Service Definitions

LOS	Definition	Average Stop Delay Per Vehicle (Sec/Veh) (HCM)	Volume/Capacity Ratio (CMA/ICU)
A	**Excellent operation**. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	≤10	0.000 - 0.600
B	**Very good operation**. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	>10 - 15	0.601 - 0.700
C	**Good operation**. Occasionally backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	>15 - 25	0.701 - 0.800
D	**Fair operation**. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	>25 - 35	0.801 - 0.900
E	**Poor operation**. Some long standing vehicular queues develop on critical approaches.	>35 - 50	0.901 - 1.000
F	**Forced flow**. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movements of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	>50	Greater than 1.000

Source: *Highway Capacity Manual, 2010 and Interim Materials on Highway Capacity, NCHRP Circular 212, 1982*

Significant Traffic Impacts

Traffic impacts are identified if the proposed development will result in a significant change in traffic conditions at a study intersection or roadway segment. A significant impact is typically identified if project-related traffic will cause service levels to deteriorate beyond a threshold limit specified by the overseeing agency. Impacts can also be significant if an intersection or roadway segment is already operating below acceptable level of service values and project traffic will cause a further decline below a threshold.

As defined by City of San Gabriel traffic study guidelines, significant impacts of a proposed project to an intersection and/or roadway segment must be mitigated to a level of insignificance. In cases where capacity increases are possible, KOA analyzed mitigation measures that would restore operations commensurate with the removal of the incremental impacts of the Project.

The City significant traffic impact standards are provided in Table 2.

Table 2 – Significant Traffic Impact Thresholds - Intersection

Level of Service	Volume/Capacity Ratio	Project-Related Increase in V/C
A, B	Equal to or lesser than 0.700	Equal to or greater than 0.06
C	> 0.700 – 0.800	Equal to or greater than 0.04
D	> 0.800 – 0.900	Equal to or greater than 0.02
E, F	> 0.900 or greater	Equal to or greater than 0.01

It should be noted that many agencies including the City of San Gabriel do not have established significant impact criteria for stop-controlled intersections. For this study, significant impacts for the stop-controlled study intersections were determined by conducting analysis under the HCM unsignalized methodology, and determining if the Project would cause or worsen poor LOS values of E or F.

For the analysis of roadway segments on local residential streets, the City impact standards are summarized in Table 3.

Table 3 – Significant Traffic Impact Thresholds – Roadway Segments

Average Daily Traffic (ADT)	Project-Related Increase in ADT
1,000 or more	12 percent or more
2,000 or more	10 percent or more
3,000 or more	8 percent or more

2. Existing Conditions

This section describes the existing conditions within the study area, in terms of roadway facilities and operational characteristics.

A. Existing Roadway System

Fieldwork within the Project study area was undertaken to identify traffic control and approach lane configurations at each study intersection, and to identify the roadway characteristics that included the number of travel lanes, on-street parking availability, and the locations of transit stops. The discussion presented here is limited to specific roadways that traverse the study intersections and provide access to the Project site.

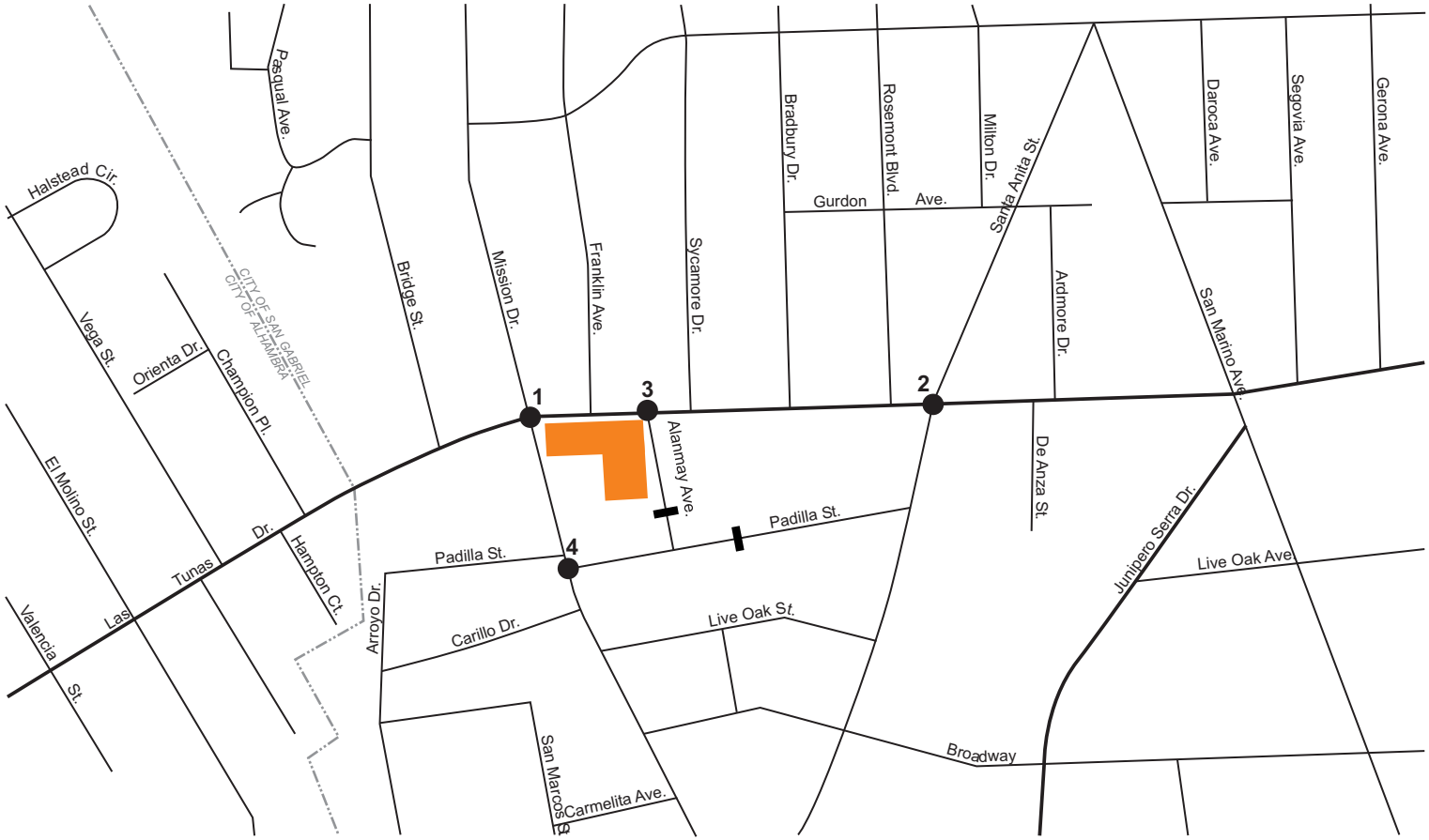
Roadway characteristics within the study area are described in Table 4.

Figure 4 illustrates the existing approach lane and control configurations of the study intersections.

Table 4 – Study Area Roadway Descriptions

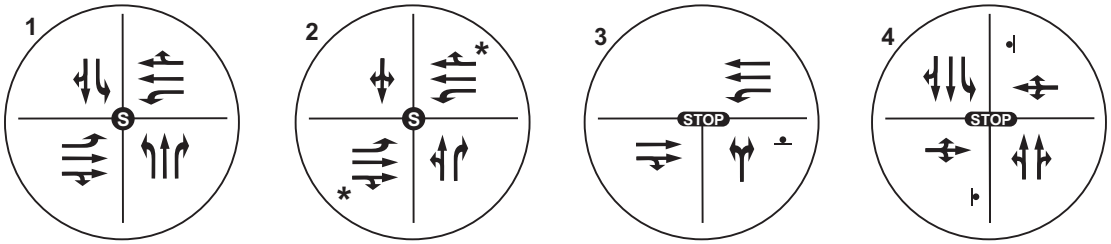
Segment	From	To	# Lanes		Median Type	Parking Restrictions		General Land Use	Posted Speed Limit
			NB / EB	SB / WB		NB / WB	SB / EB		
Las Tunas Drive	Mission Dr	Santa Anita St	2	2	CTWL	Permitted	Permitted	Commercial	35
Mission Drive	Las Tunas Dr	Padilla St	2	2	RM	Permitted	Permitted	Commercial	25
Alanmay Avenue	Las Tunas Dr	Padilla St	1	1	NS	Permitted	Permitted	Commercial	25
Santa Anita St	Las Tunas Dr	Padilla St	1	1	DY	Permitted	Permitted	Commercial	25
Padilla St	Mission Dr	Santa Anita St	1	1	NS	Permitted	Permitted	Residential	NP

Legend: DY = Double Yellow, CTWL = Center Two-Way Left Turn, RM = Raised Median, NS = Not Striped, NP = Not Posted



LEGEND

- Project Site
- Study Intersection
- Study Roadway Segment
- Signalized Intersection
- STOP Stop Sign Controlled Intersection
- Stop Sign
- Intersection Lane Geometry



Note

* De facto right turn lane assumed due to wide curb lane

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Figure 4

Existing Study Intersection Approach/Control Configurations

B. Existing Transit Service

The Project study area is served by bus transit lines operated by The Los Angeles County Metropolitan Transportation Authority (Metro). The following transit lines provide service on Las Tunas Drive (north side of Project site) and Mission Drive (west side of Project site):

Metro Line 78/378 This joint line provides service along Valley Boulevard within the study area, on an overall route between downtown Los Angeles and Arcadia. Line 378 does not operate during the weekends or on specific holidays. The joint line runs from to 4:00 a.m. to 2:00 a.m. on weekdays. The peak trip frequency is approximately six to 28 minutes on weekdays.

Metro Line 176 This line provides weekday-only service along Mission Drive on its route between Highland Park and Montebello. The line runs from 5:00 a.m. to 9:20 p.m. at a trip frequency of approximately 45 minutes.

Metro Line 487/489 This joint line provides express service along Las Tunas Drive on its route between Los Angeles and El Monte. However, only Line 487 serves stops on Las Tunas Drive and Mission Drive. The joint line runs from 5:00 a.m. to 11:00 p.m. on weekdays. Weekday trip frequency across both lines is approximately 20 to 30 minutes.

Figure 5 illustrates the routes of these transit lines within the study area.

The nearest transit stop to the Project site, located on Las Tunas Drive near Mission Drive, is not anticipated to be affected by construction of the proposed Project.

LEGEND

- Project Site
- Metro 176
- Metro 78 & 378
- Metro 487

N

Not To Scale

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Figure 5

Existing Transit Lines

C. Existing Intersection Level of Service

Based on the peak period traffic counts at the study area intersections, an ICU value (equating to a volume-to-capacity ratio) and corresponding level of service value were determined for each of the signalized study area intersections. For each of the two unsignalized study intersections, an HCM value that equates to the amount of average delay a driver would experience and corresponding level of service value were determined.

Table 5 provides the level of service results at the study intersections under existing conditions. The study intersections are currently operating at LOS values of C or better during the analyzed peak hours.

Table 5 – Intersection Level of Service – Existing Conditions

Study Intersections		AM Peak		PM Peak	
		ICU (V/C) or HCM (sec.)	LOS	ICU (V/C) or HCM (sec.)	LOS
1	Mission Dr / Las Tunas Dr	0.646	B	0.738	C
2	Santa Anita Ave / Las Tunas Dr	0.615	B	0.688	B
3	Alanmay Ave / Las Tunas Dr *	11.9	B	22.8	C
4	Mission Dr / Padilla St *	14.5	B	15.6	C

** - Unsignalized intersection - This T-intersection operates as a two-way stop controlled intersection. The average delay and corresponding LOS are shown for most constrained movement(s).*

Traffic count summaries are provided in Appendix B1 of this report. Level of service worksheets for existing conditions are provided in Appendix C of this report.

D. Existing Roadway Segment ADT Level of Service

To determine the existing roadway segment level of service, the existing volumes in relation to the roadway capacity (5,000 ADT) were analyzed.

Table 6 summarizes the level of service results at the two roadway segments under existing conditions. The segments are currently operating at LOS A.

Table 6 – Roadway Segment ADT Level of Service – Existing Conditions

Segment			Existing Conditions (2013)				
			Capacity	# of Lanes	Volume	V/C	LOS
1	Alanmay Avenue	North of Padilla Street	5,000	2	693	0.139	A
2	Padilla Street	East of Alanmay Avenue	5,000	2	693	0.139	A

The results of the traffic counts were utilized to determine existing weekday a.m. and p.m. peak-hour study intersection conditions and roadway segment daily conditions. The existing peak-hour intersection and roadway segment volumes are illustrated on Figure 6 (a.m. peak hour) and Figure 7 (p.m. peak).

Traffic count summaries for the roadway segments are provided in Appendix B2 of this report.

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Figure 6

Existing AM Peak Hour Intersection Volumes

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Figure 7

Existing PM Peak Hour Intersection Volumes

3. Future Pre-Project Conditions

This section provides an analysis of future pre-Project traffic conditions in the study area with ambient growth and area project trips but without traffic from the Project. The year 2015 was selected for analysis based on the anticipated completion date of the proposed Project. The ambient growth factor and trips generated by area/related projects are discussed further below.

A. Ambient Growth

The future period forecast included an ambient growth rate to account for both regional population and employment growth outside of the study area. An annual growth rate of 1% was used for this purpose. This annual rate was included in the scoping document to the City of San Gabriel.

The future (2015) ambient growth for the study intersections and roadway segments are illustrated in Figure 8 (a.m. peak) and Figure 9 (p.m. peak).

B. Area/Cumulative Projects

KOA contacted planning staff at the City of San Gabriel and the City of Alhambra to define a list of planned area/cumulative projects. From this effort, KOA received information from planning staff at both cities pertaining to seven area projects that would add measurable volumes to the study area intersections and roadway segments.

Figure 10 illustrates the locations of the included area projects. Trip generation calculations were based on the project land use intensities and trip generation rates defined by *Trip Generation (9th Edition)* published by the Institute of Transportation Engineers (ITE).

Table 7 summarizes the trip generation of the area projects. This traffic was added to the surrounding roadway network using a distribution pattern based on the hierarchy of that network.

LEGEND

- Project Site
- Study Intersection
- Study Roadway Segment (XX)
- Intersection Turn Volume (XX)

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Figure 8

Future Ambient Growth - AM Peak Hour Intersection Volumes

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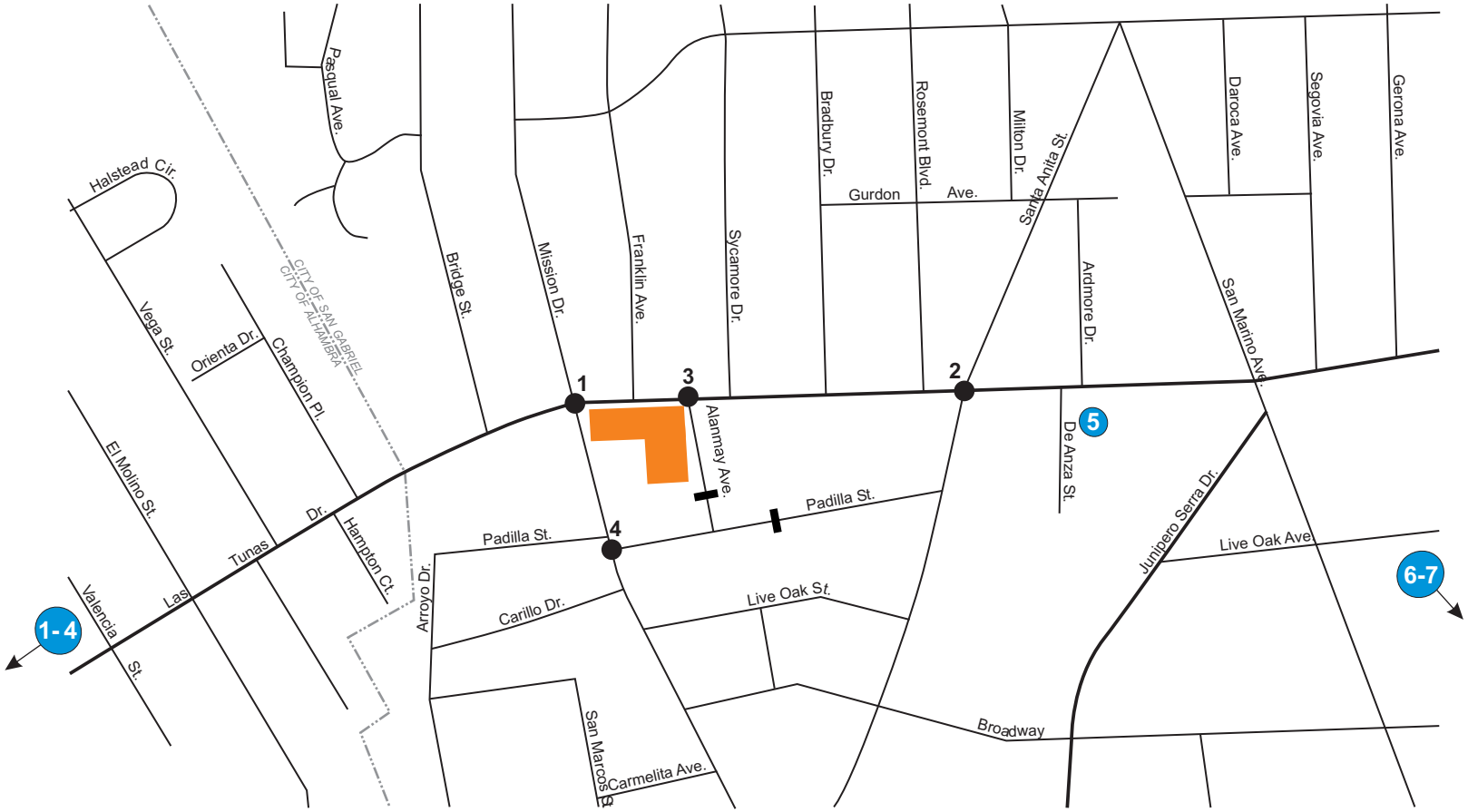
Figure 9

Future Ambient Growth - PM Peak Hour Intersection Volumes



LEGEND

- Project Site
- Study Intersection
- Study Roadway Segment
- Area Project Location

N

Not To Scale

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Figure 10

Locations of Area Projects

Table 7 – Trip Generation of Included Cumulative/Area Projects

Map #	Project Location	Jurisdiction	Land Use	Intensity	Unit	Daily	AM Peak			PM Peak		
						Total	Total	In	Out	Total	In	Out
1	410 W. Main St	Alhambra	Retail	9.064	ksf	402	62	30	32	25	11	14
			Residential	82	du	343	28	5	23	31	19	12
					Subtotal:	***744***	***90***	***35***	***55***	***56***	***30***	***26***
2	300 W. Main St	Alhambra	Restaurant	4.000	ksf	509	43	24	19	39	24	16
			Retail	10.000	ksf	1,022	34	21	13	95	48	46
			Retail	4.000	ksf	177	27	13	14	11	5	6
			Residential	120	du	502	41	8	33	46	28	17
					Subtotal:	***2,210***	***145***	***66***	***80***	***191***	***105***	***86***
3	235 W. Main St	Alhambra	Restaurant	5.000	ksf	636	54	30	24	49	30	20
			Residential	92	du	385	31	6	25	35	22	13
					Subtotal:	***1,020***	***85***	***36***	***50***	***84***	***51***	***33***
4	150 E. Main St	Alhambra	Commercial	140.000	ksf	6,205	958	460	498	379	167	212
			Residential	260	du	1,087	88	17	72	99	61	38
					Subtotal:	***7,292***	***1,046***	***476***	***570***	***478***	***228***	***250***
5	416 E. Las Tunas Dr	San Gabriel	Live Work	18	du	120	9	2	7	11	7	4
			Residential	15	du	63	5	1	4	6	4	2
			Restaurant	6.200	ksf	788	67	37	30	61	37	24
			Retail	3.100	ksf	137	21	10	11	8	4	5
					Subtotal:	***1,108***	***103***	***50***	***53***	***86***	***51***	***35***
6	825 E. Broadway	San Gabriel	Retail	3.100	ksf	137	21	10	11	8	4	5
			Residential	15	du	63	5	1	4	6	4	2
					Subtotal:	***200***	***26***	***11***	***15***	***14***	***7***	***7***
7	402-404 S. San Gabriel Blvd	San Gabriel	Retail	9.000	ksf	399	62	30	32	24	11	14
			Residential	31	du	130	11	2	9	12	7	4
					Subtotal:	***528***	***72***	***32***	***41***	***36***	***18***	***18***
					NET TOTAL	**13,103**	**1,568**	**705**	**862**	**945**	**491**	**454**

Source: ITE Trip Generation, 9th Edition

The area projects are expected to generate approximately 13,103 daily weekday trips, of which 1,568 trips (705 inbound and 862 outbound) would occur during the a.m. peak hour and 945 trips (491 inbound and 454 outbound) would occur during the p.m. peak hour.

The assignment for the area project trips is illustrated on Figure 11 (a.m. peak) and Figure 12 (p.m. peak).

LEGEND

- Project Site
- Study Intersection
- Study Roadway Segment (XX)
- Intersection Turn Volume (XX)

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Figure 11

Area Project Trip Assignment - AM Peak Hour Trips

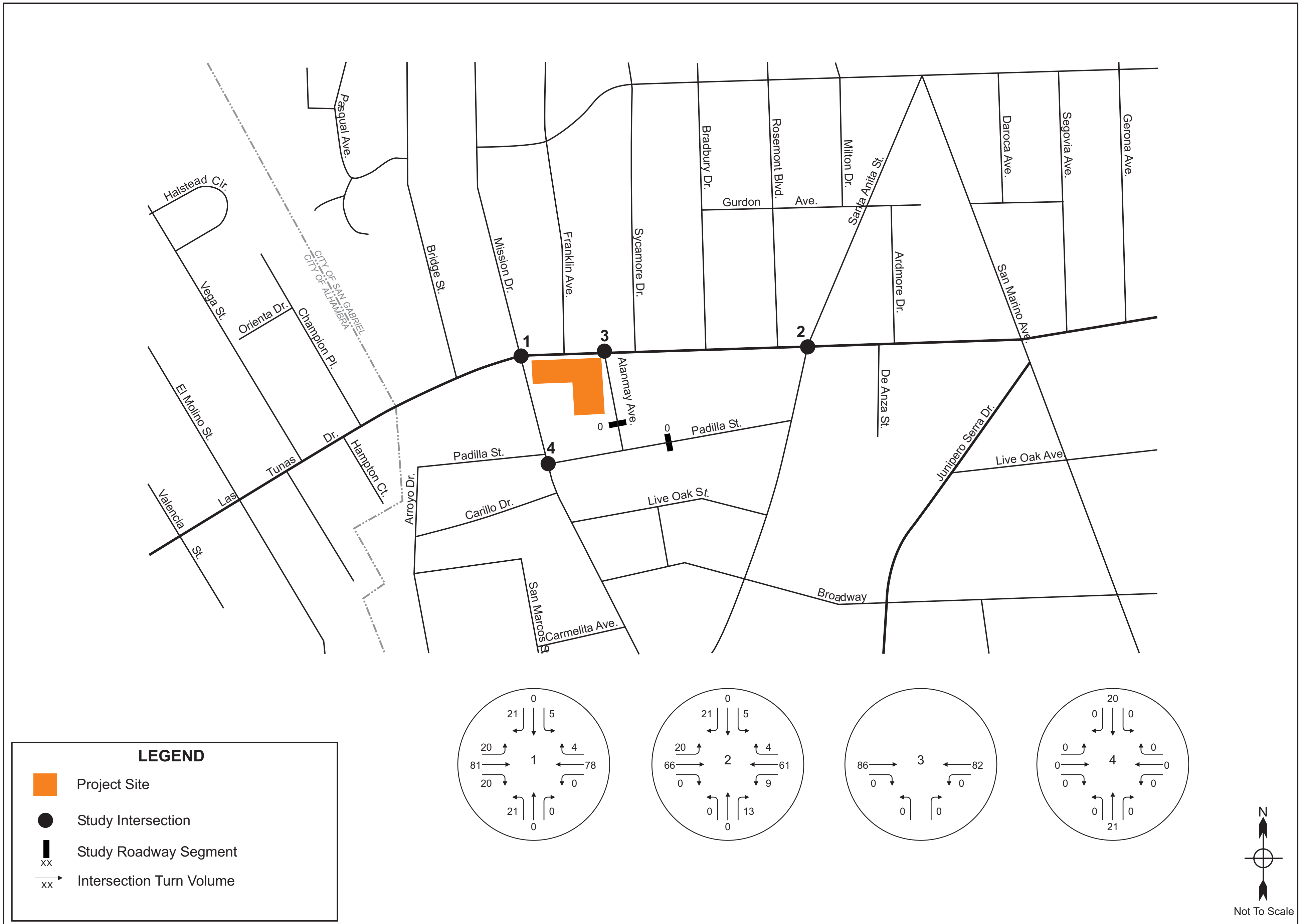

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Figure 12

Area Project Trip Assignment - PM Peak Hour Trips

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C. Peak-Hour Intersection Level of Service

To analyze future conditions without the proposed Project, intersection turn volumes with ambient growth and trips generated by area projects were processed with the ICU method for signalized intersections and the HCM method for unsignalized intersections.

Table 8 summarizes the a.m. and p.m. peak hour results of the analysis for this scenario.

Table 8 – Intersection Level of Service
Future Pre-Project Conditions

Study Intersections		AM Peak		PM Peak	
		ICU (V/C) or HCM (sec.)	LOS	ICU (V/C) or HCM (sec.)	LOS
1	Mission Dr / Las Tunas Dr	0.758	C	0.809	D
2	Santa Anita Ave / Las Tunas Dr	0.701	C	0.742	C
3	Alanmay Ave / Las Tunas Dr *	13.5	B	27.0	D
4	Mission Dr / Padilla St *	15.6	C	16.3	C

** - Unsignalized intersection - This T-intersection operates as a two-way stop controlled intersection. The average delay and corresponding LOS are shown for most constrained movement(s).*

The study intersections would operate at LOS D or better during the analyzed peak hours, but would worsen in operations in the following manner, due to the anticipated ambient traffic growth and trips generated by area/cumulative projects:

- During the a.m. peak hour, Mission Drive/Las Tunas Drive, Santa Anita Avenue/Las Tunas Drive, and Mission Drive and Padilla Street would worsen from LOS B to LOS C;
- During the p.m. peak hour, Santa Anita Avenue/Las Tunas Drive would worsen from LOS B to LOS C;
- During the p.m. peak our, Mission Drive/Las Tunas Drive and Alanmay Avenue/Las Tunas Drive would worsen from LOS C to LOS D, due to ambient traffic growth and trips generated by the included area projects.

D. Roadway Segment Level of Service

The study roadway segments were analyzed to determine future conditions without the proposed Project. This included consideration of ambient growth and trips generated by area projects.

Table 9 summarizes the study roadway segment results of the analysis for this scenario.

Table 9 – Roadway Segment ADT Level of Service
Future Pre-Project Conditions

Segment			Future w/o Project			
			Area Projects	Volume	V/C	LOS
1	Alanmay Avenue	North of Padilla Street	0	700	0.140	A
2	Padilla Street	East of Alanmay Avenue	0	700	0.140	A

The study roadway segments would continue to operate at LOS A.

The peak-hour study intersection turn movement volumes for this scenario, along with the roadway segment volumes, are provided on Figure 13 (a.m. peak) and Figure 14 (p.m. peak).

The level of service worksheets are provided in Appendix D of this report.

LEGEND

- Project Site
- Study Intersection
- Study Roadway Segment (XX)
- Intersection Turn Volume (XX)

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Figure 13

Future Pre-Project - AM Peak Hour Intersection Volumes

LEGEND

- Project Site
- Study Intersection
- Study Roadway Segment (XX)
- Intersection Turn Volume (XX)

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Figure 14

Future Pre-Project - PM Peak Hour Intersection Volumes

4. Project Trip Generation

This section summarizes the proposed Project land uses and the traffic generated by those uses. The technical assumptions including trip distribution patterns and traffic assignment to the study area are also discussed.

A. Project Trip Generation

The Project would be a mixed-use project containing 37 residential condominium units and 5,868 square feet of new commercial space. The commercial space was assumed to be entirely occupied by sit-down restaurant tenants, in order to provide a conservative trip generation analysis.

Trip generation calculations for the proposed Project land uses and the former site land uses included rates established within *Trip Generation*. Application of these rates to the intensities of the former Project site land uses and the proposed land uses are summarized in Table 10.

Table 10 – Project Trip Generation

ITE	Land Use Type	Intensity	Type	WEEKDAY						
				Daily Total	AM Peak			PM Peak		
					Total	In	Out	Total	In	Out
Trip Generation Rates										
150	Warehouse	-	k.s.f.	3.56	0.30	79%	21%	0.32	25%	75%
230	Residential Condominium/Townhouse	-	d.u.	5.81	0.44	17%	83%	0.52	67%	33%
710	General Office	-	k.s.f.	3.32	0.48	88%	12%	0.46	17%	83%
826	Speciality Retail Center	-	k.s.f.	44.32	1.20	60%	40%	2.71	44%	56%
931	Quality Sit-Down Restaurant	-	k.s.f.	89.95	0.81	60%	40%	7.49	67%	33%
Project Trip Generation										
230	Residential Condominium/Townhouse	37	d.u.	**215**	**17**	2	15	**20**	14	6
931	Quality Sit-Down Restaurant	5.868	k.s.f.	**528**	**5**	3	2	**44**	29	15
			SUBTOTAL	**743**	**22**	**5**	**17**	**64**	**43**	**21**
Former Use Trip Credits										
150	Warehouse	-15.372	k.s.f.	**-55**	**-5**	-4	-1	**-5**	-1	-4
826	Speciality Retail Center	-1.620	k.s.f.	**-72**	**-2**	-2	0	**-5**	-2	-3
710	General Office	-1.260	k.s.f.	**-5**	**-1**	-1	0	**-1**	0	-1
931	Quality Sit-Down Restaurant	-3.378	k.s.f.	**-304**	**-3**	-2	-1	**-26**	-18	-8
			SUBTOTAL	**-436**	**-11**	-9	-2	**-37**	-21	-16
			TOTAL	**307**	**11**	**-4**	**15**	**27**	**22**	**5**

Notes:

SANDAG Taffic Generators, May 2003, was used for the a.m. peak for speciality retail. Rates are not defined by ITE for a.m. peak of retail.

Quality Sit-Down Restaurant Use (ITE Land Use 931) AM Peak in/out rates were based on SANDAG Trip Generators.

The proposed Project would generate a net total of 307 daily vehicle trips, with 11 trips (-4 inbound and 15 outbound) occurring during the a.m. peak hour, and 27 trips (22 inbound and 5 outbound) occurring during the p.m. peak hour. These totals include credits for the former use at the Project site. Therefore, some of the sub-totals and net totals are negative.

The post-Project analysis is summarized within Section 5 of this report. The Project impact analysis is summarized within Section 6.

B. Project Trip Distribution

Trip distribution is the process of assigning the directions from which traffic will access a project site. Trip distribution is dependent upon the land use characteristics of the project, the local roadway network, and the general locations of other land uses to which project trips would originate or terminate. Based on assumptions defined within the scoping document provided to the City, a trip distribution pattern was applied to Project trips:

- Northern portion of site – Proposed restaurant trips distributed mainly to Mission, Las Tunas
- Southern portion of site – Proposed residential trips distributed to Alanmay

Figure 15 (inbound) and Figure 16 (outbound) illustrates the trip distribution percentages that were utilized for Project traffic, as a combination of distribution percentages from each portion of the site.

C. Project Trip Assignment

Based on the trip generation and distribution assumptions described above, Project traffic was assigned to the roadway system based on the site driveway locations and the roadways that would likely be used to access the regional highway system.

The peak-hour and daily Project trip assignment is illustrated on Figure 17 (a.m. peak) and Figure 18 (p.m. peak).

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Figure 15

Project Trip Distribution - Inbound Trips

LEGEND

- Project Site
- Study Intersection
- Study Roadway Segment (XX)
- Intersection Turn Volume (XX)

N

Not To Scale

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Figure 16

Project Trip Distribution - Outbound Trips

LEGEND

- Project Site
- Study Intersection
- Study Roadway Segment (XX)
- Intersection Turn Volume (XX)

N

Not To Scale

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Figure 17

Project Trip Assignment - AM Peak Hour Trips

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Figure 18

Project Trip Assignment - PM Peak Hour Trips

5. Future Post-Project Conditions

This section documents future traffic conditions at the study intersections and roadway segments with the addition of Project-generated traffic. Traffic volumes for this post-Project scenario were derived by adding the Project trips to the volumes defined for the future pre-Project scenario.

A. Peak-Hour Intersection Level of Service

Table 11 summarizes the results of the level of service analysis for this scenario.

Table 11 – Intersection Level of Service
Future Post-Project Conditions

Study Intersections		AM Peak		PM Peak	
		ICU (V/C) or HCM (sec.)	LOS	ICU (V/C) or HCM (sec.)	LOS
1	Mission Dr / Las Tunas Dr	0.761	C	0.813	D
2	Santa Anita Ave / Las Tunas Dr	0.701	C	0.745	C
3	Alanmay Ave / Las Tunas Dr *	16.9	C	25.5	D
4	Mission Dr / Padilla St *	15.6	C	16.4	C

** - Unsignalized intersection - This T-intersection operates as a two-way stop controlled intersection. The average delay and corresponding LOS are shown for most constrained movement(s).*

The study intersections would continue to operate at LOS D or better during the analyzed peak hours, with the intersections of Mission Drive/Las Tunas Drive and Alanmay Avenue/Las Tunas Drive operating at LOS D in the p.m. peak hour. Operations would worsen from LOS B to LOS C during the a.m. peak hour at the intersection of Alanmay Avenue/Las Tunas Drive.

The resulting traffic volumes are illustrated on Figures 19 (a.m. peak hour) and Figure 20 (p.m. peak hour). The level of service worksheets are provided in Appendix E of this report.

B. Roadway Segment ADT Level of Service

Table 12 summarizes the results of the level of service analysis for this scenario.

Table 12 – Roadway Segment ADT Level of Service
Future Post-Project Conditions

Segment			Future w/ Project			
			Project Only	Volume	V/C	LOS
1	Alanmay Avenue	North of Padilla Street	27	727	0.145	A
2	Padilla Street	East of Alanmay Avenue	14	714	0.143	A

The two roadway segments would continue to operate at LOS A with the addition of Project-related trips.

The post-Project ADT is illustrated on Figures 19 and 20.

LEGEND

- Project Site
- Study Intersection
- Study Roadway Segment (XX)
- Intersection Turn Volume (XX)

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Figure 19

Future Post-Project - AM Peak Hour Intersection Volumes

LEGEND

- Project Site
- Study Intersection
- Study Roadway Segment (XX)
- Intersection Turn Volume (XX)

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Figure 20

Future Post-Project - PM Peak Hour Intersection Volumes

6. Project Traffic Impacts, Circulation, and Parking

This section discusses potential Project significant traffic impacts, as defined by the City of San Gabriel established analysis methodology, discussed within Section 1 of this report.

A. Determination of Significant Impacts

Table 13 provides a comparison of the a.m. and p.m. peak-hour future pre-Project and post-Project study scenario analysis. Traffic impacts created by the Project were calculated by subtracting the values in the "Future Pre-Project Conditions" column from the values in the "Future Post-Project Conditions" column.

Table 13 – Determination of Project Impacts – AM & PM Peak Hours

Study Intersections		Peak Hour	Existing Conditions		Future Pre-Project Conditions		Future Post-Project Conditions		Change in Value	Sig Impact?
			ICU (V/C) or HCM (sec.)	LOS	ICU (V/C) or HCM (sec.)	LOS	ICU (V/C) or HCM (sec.)	LOS		
1	Mission Dr / Las Tunas Dr	AM	0.646	B	0.758	C	0.761	C	0.003	No
		PM	0.738	C	0.809	D	0.813	D	0.004	No
2	Santa Anita Ave / Las Tunas Dr	AM	0.615	B	0.701	C	0.701	C	0.000	No
		PM	0.688	B	0.742	C	0.745	C	0.003	No
3	Alanmay Ave / Las Tunas Dr *	AM	11.9	B	13.5	B	16.9	C	3.4	No
		PM	22.8	C	27.0	D	25.5	D	-1.5	No
4	Mission Dr / Padilla St *	AM	14.5	B	15.6	C	15.6	C	0.0	No
		PM	15.6	C	16.3	C	16.4	C	0.1	No

** - Unsignalized intersection - This T-intersection operates as a two-way stop controlled intersection. The average delay and corresponding LOS are shown for most constrained movement(s).*

The proposed Project would not create any significant traffic impacts at the study intersections, within both the weekday a.m. and p.m. peak periods. Project mitigation measures, therefore, are not recommended.

For the study roadway segments, the Project would not create any significant traffic impacts per the City of San Gabriel's traffic guidelines.

B. Evaluation of Circulation

The proposed Project would remove vehicular access between existing buildings (Buildings C, D, and E) on the northern portion of the site with that of the proposed Project site, to be developed on the southern portion of the overall site.

With circulation to the site being reconfigured as part of the Project, access to the two sites would be modified with the following driveway configurations:

- Existing Uses and Proposed Restaurant Project (Northern Portion of Site) – Access would remain on Las Tunas Drive, while access on Mission Drive would be reduced from two driveways to one driveway. These driveways would provide access to existing uses as well as for the proposed 5,868 square-foot restaurant. This should not negatively affect the site or traffic on Mission Drive, as the existing driveway can adequately provide ingress/egress to the site. The driveway closest to the adjacent signalized intersection would be removed, reducing conflicts with the approach to that intersection. Additional modifications to parking drive aisle flow should improve overall site circulation.

- Proposed Residential Project (Southern Portion of Site) – Access would only be provided on Alanmay Avenue for the residential portion of the proposed Project.

C. Evaluation of Parking

An evaluation of off-street parking for the Project site and on-street on Alanmay Avenue was conducted to determine proposed parking supplies, Code requirements for the various uses, and parking surpluses/deficits.

Off-Street

The City of San Gabriel's Municipal Code has established off-street parking requirements. However, because the Project is located in the Mission District Specific Plan area, the parking requirements defer to these standards. Per the Plan, which was adopted on December 2004, the parking requirements are as follows:

Land Use	Mission District Parking Requirements
Residential – Mixed-Use	1 covered space/bedroom + 1 guest space for every 3 units
Restaurant	1 space / 300 square feet
General Retail (less than 10,000 square feet)	1 space / 750 square feet of gross floor area

Based on the Plan's requirement, the existing and proposed Project site parking provisions are summarized below:

Land Use	Intensity	Parking Required	Parking Provided
Commercial			
Existing Retail	6,432	9	45 regular 4 handicap 6 electric vehicle
Existing Restaurant	6,522	22	
Proposed Restaurant	5,868	20	
TOTAL		51	55
Residential			
1 Bedroom	10	10	31 regular 41 tandem 3 handicap 3 electric vehicle
2 Bedroom	18	36	
3 Bedroom	9	27	
Guest	-	13	13
TOTAL		86	132

The Project has provided adequate parking to fulfill the City of San Gabriel's Mission District Specific Plan parking requirements.

There is public parking available within a free parking lot accessible directly to the east of the Project site from Alanmay Avenue. Although the Project would provide adequate off-street parking per Code, the presence of the public parking lot would help to offset parking demand for off-street spaces at the site and on-street spaces on Alanmay Avenue.

<u>On-Street</u>

KOA evaluated the existing on-street parking regulations on Alanmay Avenue between Padilla Street and Las Tunas Drive. General parking regulations are as follows:

- Two-hour parking from 6:00 a.m. to 6:00 p.m., excluding Sunday, on the eastern side of Alanmay Avenue
- 20 minute parking from 8:00 a.m. to 6:00 p.m., excluding Saturday and Sunday, on the western side, immediately to the north of the Project driveway
- No parking restriction south of the driveway to Padilla Street

As part of the proposed Project, the existing project site driveway will be relocated to a point farther south of its current location. New driveways will not be added as part of the proposed Project.

The existing parking conditions/regulatory signage are illustrated in Appendix F, and the parking conditions on Alanmay are not anticipated to change after completion of the Project. The City has indicated, however, that it will require a signing and striping plan for Alanmay for the proposed project.

7. Signal Warrant Analysis

This report section summarizes future conditions, analyzed for a traffic signal warrant analysis of the unsignalized intersection of Alanmay Avenue/Las Tunas Drive. This analysis was performed to determine if requirements would be met for a new traffic signal at the intersection based on the future (2015) traffic volumes, pedestrian volumes, and accident history.

KOA compiled new manual intersection vehicle turn movement and supplemental daily vehicle and pedestrian crossing counts for the warrant analysis. Additionally, the City Police Department was contacted regarding accident data. The results of the data collection effort were utilized to conduct a full signal warrant analysis.

A. Signal Warrant Criteria

The analysis was based on the Manual on Uniform Traffic Control Devices (MUTCD) published by the Federal Highway Administration and amended for use in California by Caltrans.

A full traffic signal warrant analysis was conducted to review whether or not the intersection met any of the eight signal warrants. The MUTCD states that engineering judgment must be used for final decisions on implementing new signalization, whether or not warrants are met.

- Warrant 1 - Eight Hour Vehicular Volume – It is intended for application where the volume of intersecting traffic is the principal reason for consideration of a signal installation. This warrant also applies to operating conditions where traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or hazard when entering or crossing the major street. Condition A is used to evaluate minimum vehicle volume. Condition B is intended to evaluate interruption of continuous traffic and the combination of Condition A and Condition B. Warrant 1 would be met if Condition A or Condition B or combination of A and B are satisfied.

- Warrant 2 - Four Hour Vehicular Volume – This is to determine whether, during the four highest hour of the day, minor street traffic suffers undue delay when entering or crossing the major street.

- Warrant 3 - Peak Hour Volume – This is to determine whether, for one hour during the day, minor street traffic suffers undue delay in entering or crossing the major street. Part A, consisting of three sub-sections, examines the total volume and vehicle hours of delay on the minor approach. Part B evaluates the peak hour volumes of both approaches of the major street and the highest approach of the minor street. Warrant 3 would be met if Part A or Part B shows impact on traffic flow.

- Warrant 4 - Pedestrian Volume – The Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street. Part 1 is used to evaluate the pedestrian hourly volumes relative to the vehicular hourly volumes. Part 2 examines the distance to the nearest traffic signal along the major street and the effect of the proposed traffic signal to the major street. Warrant 4 would be met if Part 1 and Part 2 are met.

- Warrant 5 - School Crossing – The School Crossing signal warrant is intended for application where the fact that school children cross the major street is the principal reason to consider installing a traffic control signal. Part A evaluates the number of gaps versus minutes and the number of school age pedestrians crossing the street. Part B examines the distance to the nearest traffic signal along the major street and the effect of the proposed traffic signal to the major street. This warrant is applicable only at intersection where only minor streets are controlled. Warrant 5 would be met if Part A and part B are met.

- Warrant 6 - Coordinated Signal System – Progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections, where they would not otherwise be needed, in order to maintain proper platooning of vehicles.

- Warrant 7 - Crash Experience – The Crash Experience signal warrant conditions are intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.

- Warrant 8 - Roadway Network – Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network.

The installation of a new traffic signal should improve the overall safety and/or operation of an intersection, and should not seriously disrupt progressive traffic flow. Therefore, one warrant category must meet the defined requirements, but engineering judgment needs to be used to determine the final need for the traffic signal.

B. Signal Warrant Analysis Conclusions

The future conditions volumes were based on traffic growth and trips generated by area project trips, as defined within Section 3 of this report. Pedestrian volumes were based on counts as well, plus a five percent walking ratio for Project trips.

The following are the results of the warrant analysis for the intersection of Alanmay Avenue/Las Tunas Drive:

- Warrant 1 – Eight-Hour Vehicle Volume – Not satisfied.
- Warrant 2 – Four-Hour Vehicle Volume – Not satisfied.
- Warrant 3 - Peak Hour Volume – Not satisfied.
- Warrant 4 - Pedestrian Volume – Not satisfied.
- Warrant 5 – School Crossing – Not satisfied.
- Warrant 6 – Coordinated Signal System – Not satisfied.
- Warrant 7 – Crash Experience – Not satisfied.
- Warrant 8 – Roadway Network – Not satisfied.

Traffic signal warrants for a new potential traffic signal at this location would not be satisfied under projected post-Project conditions. Therefore, it is recommended that this intersection remains unsignalized.

The signal warrant analysis calculations are provided in Appendix G.

8. Congestion Management Plan Conformance

This section demonstrates the ways in which this traffic study was prepared to be in conformance with the procedures mandated by the County of Los Angeles Congestion Management Program.

The Congestion Management Program (CMP) was created statewide because of Proposition 111 and was implemented locally by the Los Angeles County Metropolitan Transportation Authority (Metro). The CMP for Los Angeles County requires that the traffic impact of individual development projects of potentially regional significance be analyzed. A specific system of arterial roadways plus all freeways comprises the CMP system. Per CMP Transportation Impact Analysis (TIA) Guidelines, a traffic impact analysis is conducted where:

- At CMP arterial monitoring intersections, including freeway on-ramps or off-ramps, where the proposed project will add 50 or more vehicle trips during either morning or afternoon weekday peak hours.

- At CMP mainline freeway-monitoring locations, where the project will add 150 or more trips, in either direction, during the either the morning or afternoon weekday peak hours.

Impacts to CMP Arterial

The nearest CMP arterial monitoring intersection to the Project site is on Rosemead Boulevard and Las Tunas Drive, located approximately two miles from the site. Based on the Project trip generation and the distance of this CMP location from the study intersections, it is not expected that 50 or more new trips per hour would be added to this location. Therefore, no further analysis of potential CMP impacts is required.

Impacts to CMP Freeway

The nearest CMP mainline freeway-monitoring location to the project site is on the I-10 freeway, at Atlantic Boulevard. Based on the trip distribution and traffic assignment presented, the proposed Project is primarily local traffic rather than regional traffic. The proposed Project is expected to add less than 150 new trips per hour to any freeway segments near the Project site since the project generates local/neighborhood trips than regional trips. Therefore, no further analysis of CMP freeway monitoring stations is required.

9. Analysis Summary

The following summarizes the traffic study results and conclusions:

- Based on the scoping document submitted to the City and discussed and verified with staff, the Project study area included four intersections and two roadway segments. Significant traffic impacts of the proposed Project were analyzed within the a.m. and p.m. peak periods for the intersections and on a daily basis for the roadway segments.

- Under existing conditions, the four study intersections are operating at LOS C or better during the a.m. and p.m. peak hours. The two roadway segments are operating at LOS A.

- The traffic analysis included ambient growth through the Project year, and seven area/cumulative projects within the City of San Gabriel. The opening year of the Project is anticipated to be 2015.

- Under future 2015 pre-Project conditions, the four study intersections are expected to operate at LOS D or better during the morning and afternoon peak hours. The two roadway segments are expected to continue to operate at LOS A.

- The proposed Project land use would consist of 5,868 square-feet of commercial floor area (assumed to be sit-down restaurant space) and 37 residential condominium units.

- The Project would generate 307 daily trips, of which 11 trips (-4 inbound and 15 outbound) during the a.m. peak hour, and 27 trips (22 inbound and 5 outbound) during the p.m. peak hour. These totals include credits for the former use at the site.

- The proposed Project would not create any significant traffic impacts at the study intersections during the a.m. and p.m. peak hour nor to the two roadway segments during an average day. Therefore, project mitigation measures are not necessary.

- Circulation for the site would be reconfigured from its current site with access between the northern site and southern site being eliminated. Access for the proposed residential Project would be provided on Alanmay Avenue, while access to the northern site which includes existing uses and the proposed restaurant Project will be limited to Mission Drive and Las Tunas Drive.

- The Project site is located with the Mission District Specific Plan area. Per an analysis conducted of the Plan requirements and the proposed site parking layout and number of spaces, adequate parking would be provided by the proposed Project site plan.

- As part of the proposed Project, the existing project site driveway will be relocated to a point farther south of its current location. New driveways will not be added as part of the proposed Project.

- The existing parking conditions/regulatory signage were documented for this report, and the parking conditions on Alanmay are not anticipated to change after completion of the Project. The City has indicated, however, that it will require a signing and striping plan for Alanmay for the proposed Project.

- There is public parking available within a free parking lot accessible directly to the east of the Project site from Alanmay Avenue. Although the Project would provide adequate off-street parking per Code, the presence of the public parking lot would help to offset parking demand for off-street spaces at the site and on-street spaces on Alanmay Avenue.

- The analyzed warrants for a new traffic signal at the intersection of Alanmay Avenue/Las Tunas Drive were not satisfied. Signalization of that intersection by the proposed Project is therefore not recommended.

APPENDIX A
Study Scoping Document

This scoping document acknowledges the City of San Gabriel of requirements of traffic impact analysis for the following project:

Project Address: 704-712 West Las Tunas Drive, San Gabriel, CA 91776

Project Description: The proposed mixed-use development is located within the Mission District, at the southeast corner of the Mission Drive and Las Tunas Drive intersection. The proposed project would provide 37 residential condominium units and 4,808 square feet of retail commercial space. Site access would be provided via the roadway at the eastern frontage of the site, Alanmay Avenue. The existing parking/access connection between the northern parcel and the subject southern parcel would be removed.

Geographic Distribution: Determined based on roadway network within the proposed study area.

Primary distribution:

North: 20%	South: 25%
East: 20%	West: 35%

Trip Generation Rate(s) (Source): ITE *Trip Generation (9th edition)*.
A trip generation summary is provided below. Former office, restaurants, retail, and warehouse trip credits are included in the trip generation table.

TABLE 1 – Trip Generation

ITE	Land Use Type	Intensity	Type	WEEKDAY						
				Daily Total	AM Peak			PM Peak		
					Total	In	Out	Total	In	Out
Trip Generation Rates										
150	Warehouse	-	k.s.f.	3.56	0.30	79%	21%	0.32	25%	75%
230	Residential Condominium/Townhouse	-	d.u.	5.81	0.44	17%	83%	0.52	67%	33%
710	General Office	-	k.s.f.	3.32	0.48	88%	12%	0.46	17%	83%
826	Speciality Retail Center	-	k.s.f.	44.32	1.20	60%	40%	2.71	44%	56%
931	Quality Sit-Down Restaurant	-	k.s.f.	89.95	0.81	60%	40%	7.49	67%	33%
Project Trip Generation										
230	Residential Condominium/Townhouse	37	d.u.	**215**	**17**	2	15	**20**	14	6
931	Quality Sit-Down Restaurant	4.808	k.s.f.	**433**	**4**	3	1	**37**	24	13
			SUBTOTAL	**648**	**21**	**5**	**16**	**57**	**38**	**19**
Former Use Trip Credits										
150	Warehouse	-15.372	k.s.f.	**-55**	**-5**	-4	-1	**-5**	-1	-4
826	Speciality Retail Center	-1.620	k.s.f.	**-72**	**-2**	-2	0	**-5**	-2	-3
710	General Office	-1.260	k.s.f.	**-5**	**-1**	-1	0	**-1**	0	-1
931	Quality Sit-Down Restaurant	-3.378	k.s.f.	**-304**	**-3**	-2	-1	**-26**	-18	-8
			SUBTOTAL	**-436**	**-11**	-9	-2	**-37**	-21	-16
			TOTAL	**212**	**10**	**-4**	**14**	**20**	**17**	**3**

Notes:

SANDAG Taffic Generators, May 2003, was used for the a.m. peak for speciality retail. Rates are not defined by ITE for a.m. peak of retail.

Quality Sit-Down Restaurant Use (ITE Land Use 931) AM Peak in/out rates were based on SANDAG Trip Generators.

Proposed Land Use: The mixed-use project will contain 37 residential condominium units, and 4,808 square feet of new retail commercial space, which was assumed to be entirely sit-down restaurant use, in order to be conservative. The site plan is included in Attachment A.

Project Build-out Year: 2014 Ambient Growth Rate: 1%

Area/Cumulative Projects: A list of pending projects from the City of San Gabriel and City of Alhambra will be compiled. Any associated trip generation will be included in the future pre-project and post-project analyses.

Study intersections (Locations are illustrated within Attachment B):

1. Mission Drive/Las Tunas Drive
2. Santa Anita Avenue/Las Tunas Drive
3. Alanmay Avenue/Las Tunas Drive *

**A full signal warrant analysis will be conducted at this unsignalized intersection.*

Intersections counts would be conducted from 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 6:00 p.m. on a typical weekday, once the 2013-2014 school year commences for the San Gabriel Unified School District on August 19, 2013.

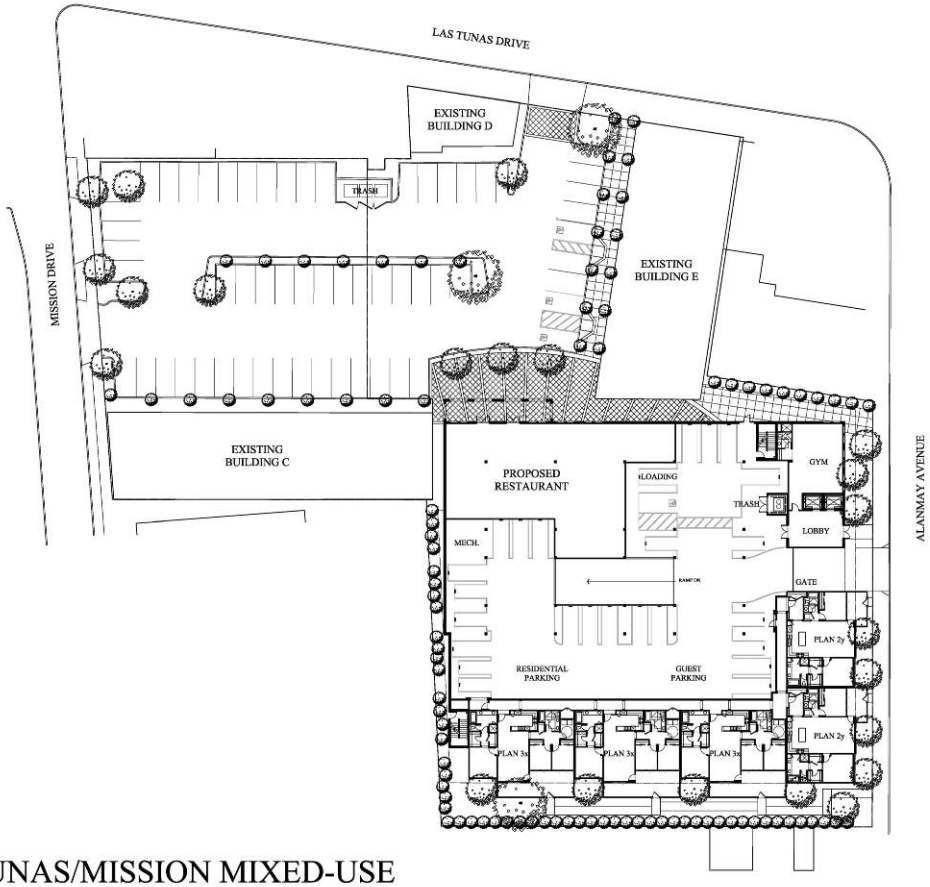
Project Driveway Access:

Access to the Project site will be provided via Alanmay Avenue as the proposed development would eliminate access between the existing uses on the northern portion of the site along with removal of access via Mission Drive. An analysis of the driveway access on Las Tunas Drive will be conducted, and a planned consolidation of existing driveways on Mission Drive will be addressed.

Analysis will be based on the City of San Gabriel traffic study guidelines of 2006.

	Consultant:	**Client:**
Name	KOA Corporation	LSG Las Tunas, LP
Address	1100 Corporate Center Dr., Suite 201 Monterey Park, CA 91754-7642	911 South Garfield Avenue Alhambra, CA 91801
	Brian A. Marchetti, AICP	George Lin
Telephone:	(323) 260-4703	(626) 449-9698

ATTACHMENT A
PROJECT SITE PLAN



Las Tunas/Mission Mixed-Use
Project Data Summary
April 1, 2013

Site

Site Area	1.4 Acres (61,015 S.F.)
Private Drive Space	
Required	3,200 S.F. (5.0 feet)
Provided	3,700 S.F.
F.A.R.	
Maximum	1.00:1.0 (61,015 S.F.)
Proposed	0.99:1.0 (59,515 S.F.)
Lot Coverage	
Maximum Allowed	80% max.
Proposed	55% (33,245 S.F.)

Leasable Area

Retail Leasable Area

Existing Retail to stay (Bldgs.	6,452 S.F.
Building 1	3,000 S.F.
Building 2	0 S.F.
Building 3	2,452 S.F.
Total Retail to Come	**6,452 S.F. Gross**

Restaurant Leasable Area

Existing Restaurant (Excelsior Bldgs.	6,022 S.F.
Building 1	2,790 S.F.
Building 2	3,130 S.F.
Building 3	2,095 S.F.
Proposed Restaurant	8,000 S.F.
Total Restaurant to Come:	**11,200 S.F. Gross**

Total Commercial Leasable Area **17,765 S.F. Gross**
(existing + proposed)

Residential Area

Units	Area	Number	Subtotal
Plan 1 – 1 Bedroom Flat + Den	945sf	6	5,670sf
Plan 1x – 1 Bedroom Flat + Den	945sf	2	1,890sf
Plan 2 – 2 Bedroom Flat	1,215sf	6	7,290sf
Plan 2 – 2 Bedroom Flat	1,215sf	6	7,290sf
Plan 2x – 2 Bedroom Flat	1,225sf	2	2,500sf
Plan 2y – 2 Bedroom Flat	1,234sf	2	2,410sf
Plan 3 – 3 Bedroom Flat	1,496sf	6	8,976sf
Plan 3x – 3 Bedroom Flat	1,496sf	2	2,992sf
Plan 4 – 2 Bedroom + Den/Townhome	1,615sf	4	6,230sf
Plan 5 – 2 Bedroom + Den/Townhome	1,625sf	1	1,625sf
Plan 5x – 2 Bedroom + Den/Townhome	1,666sf	1	1,666sf
Total Residential		**37**	**47,209sf**

Circulation	**Area**
Lobby/Lock Vestibule 1st floor	2,500sf
Lobby/Corridor 2nd floor	1,500sf
Lobby/Corridor 3rd floor	1,625sf
Total Circulation	**5,625sf**

Total Building Residential Area **56,168 S.F. Gross**

Total Proposed Building Area

Proposed Commercial	6,000 S.F.
Proposed Residential	56,168 S.F.
	62,168 S.F. Gross

Parking Garage Area

Level 1	15,317 S.F. Gross
Level B-1	30,158 S.F. Gross
Total Garage	**46,475 S.F. Gross**

Parking Requirements

Commercial: Required

Existing Retail	19 (1/750 based on 6,452 sf)
Existing Restaurant	22 (1/200 based on 6,022 sf)
Proposed Restaurant	40 (1/200 based on 8,000 sf)
Total Parking Required	**81 Spaces**

Provided

Existing Surface Parking	42 Spaces
Total Parking Provided	**50 Spaces**

(note: square footages and parking required for current projects and at-risk and not uncounted for)

Residential: Required

1 Bedroom	19 (1 per 2 bedroom 18 units)
2 Bedroom	30 (1 per 2 bedroom 18 units)
3 Bedroom	27 (1 per 2 bedroom 9 units)
Guest Parking	12 (1 per 3 units based on 37 units)
Total Parking Required	**88 Spaces**

Provided

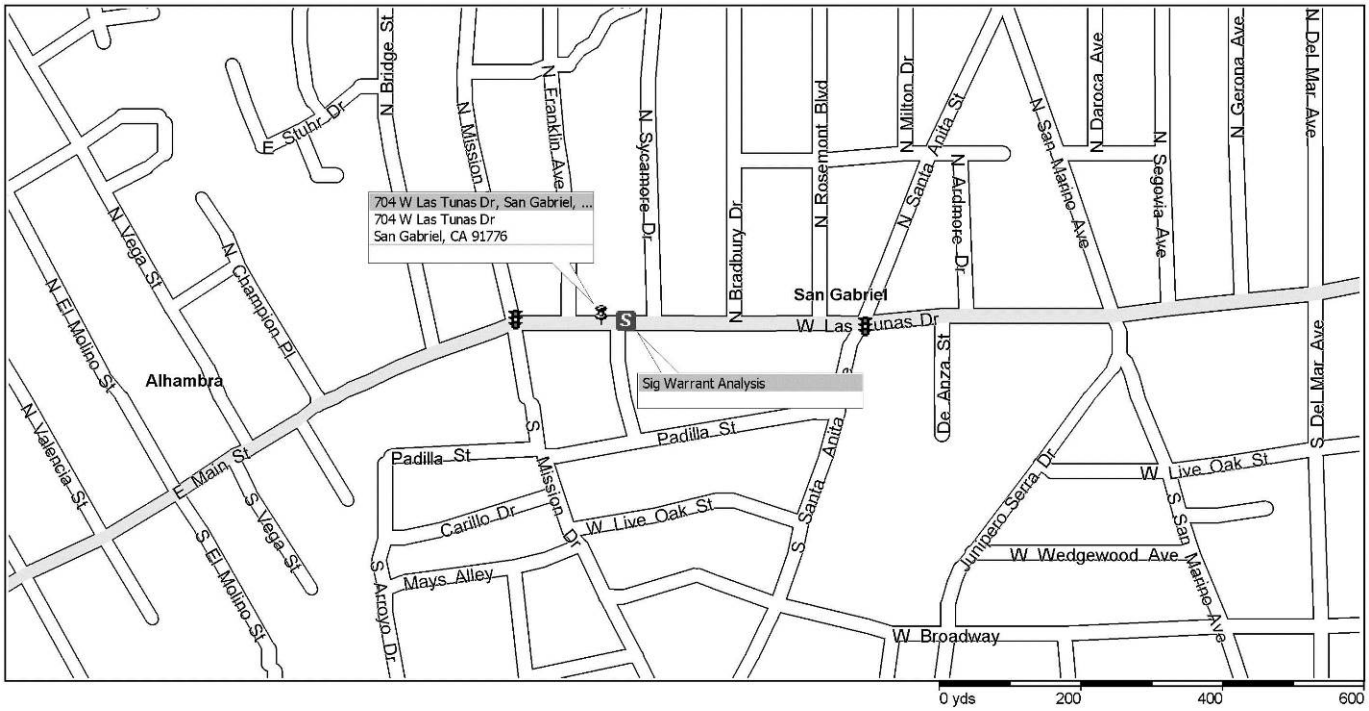
Level 1	20 Spaces
Level B-1	71 Spaces
Total Parking	**91 Spaces**

LAS TUNAS/MISSION MIXED-USE — Conceptual Siteplan

LSG Las Tunas, LP
May 22, 2013

Scale 1/16"=1'
LCRA LIM CHANG ROHLING & ASSOCIATES

ATTACHMENT B
PROJECT STUDY AREA



APPENDIX B1
Traffic Count Data – Study Intersections

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 13-5417-001 **Day:** Thursday

City: San Gabriel **Date:** 8/22/2013

AM

NS/EW Streets:	Mission Dr			Mission Dr			Las Tunas Dr			Las Tunas Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	0.5	0.5	1	2	0	1	2	0	
7:00 AM	13	13	4	7	16	11	2	59	11	2	190	7	335
7:15 AM	23	20	6	7	22	6	4	79	22	8	209	6	412
7:30 AM	22	29	13	10	26	13	3	124	45	6	241	12	544
7:45 AM	51	48	10	9	36	14	7	137	35	12	249	22	630
8:00 AM	32	75	4	10	29	13	1	109	35	6	250	11	575
8:15 AM	28	55	2	7	43	20	7	119	29	10	254	19	593
8:30 AM	33	12	7	17	48	31	3	99	28	10	218	10	516
8:45 AM	36	28	12	8	25	13	4	127	23	9	189	12	486
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	238	280	58	75	245	121	31	853	228	63	1800	99	4091
APPROACH %'s :	41.32%	48.61%	10.07%	17.01%	55.56%	27.44%	2.79%	76.71%	20.50%	3.21%	91.74%	5.05%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	133	207	29	36	134	60	18	489	144	34	994	64	2342
PEAK HR FACTOR :	0.831			0.821			0.909			0.965			0.929

UTURNS

NB	SB	EB	WB
0	0	0	0

CONTROL : 4-Way Signalized (NB/SB/EB/WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 13-5417-001 **Day:** Thursday

City: San Gabriel **Date:** 8/22/2013

PM

NS/EW Streets:	Mission Dr			Mission Dr			Las Tunas Dr			Las Tunas Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	0.5	0.5	1	2	0	1	2	0	
4:00 PM	14	26	14	11	48	32	6	193	23	2	131	10	510
4:15 PM	19	19	11	16	22	11	4	208	32	7	135	6	490
4:30 PM	30	27	13	12	26	8	10	229	35	7	142	8	547
4:45 PM	34	29	14	13	18	11	15	228	35	13	155	11	576
5:00 PM	29	34	18	19	35	7	14	276	44	14	191	14	695
5:15 PM	20	24	13	11	28	10	11	312	30	12	200	6	677
5:30 PM	25	29	17	15	36	10	10	289	42	14	203	10	700
5:45 PM	45	21	11	14	37	13	8	303	40	18	167	15	692
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	216	209	111	111	250	102	78	2038	281	87	1324	80	4887
APPROACH %'s :	40.30%	38.99%	20.71%	23.97%	54.00%	22.03%	3.25%	85.02%	11.72%	5.84%	88.80%	5.37%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	119	108	59	59	136	40	43	1180	156	58	761	45	2764
PEAK HR FACTOR :		0.883			0.918			0.977			0.952		0.987

UTURNS

NB	SB	EB	WB
0	0	0	0

CONTROL : 4-Way Signalized (NB/SB/EB/WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 13-5417-002

Day: Thursday

City: San Gabriel

Date: 8/22/2013

AM

NS/EW Streets:	Santa Anita St			Santa Anita St			Las Tunas Dr			Las Tunas Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0.5	0.5	1	0	1	0	1	2	0	1	2	0	
7:00 AM	7	12	6	0	30	4	3	55	2	18	181	1	319
7:15 AM	8	15	14	2	52	13	3	74	11	19	182	4	397
7:30 AM	12	14	20	5	53	17	8	105	14	23	205	3	479
7:45 AM	11	14	16	3	46	15	5	137	17	44	265	3	576
8:00 AM	19	23	12	4	38	22	6	105	7	33	214	6	489
8:15 AM	13	17	15	8	56	20	13	83	10	39	216	1	491
8:30 AM	9	18	9	9	50	27	5	82	1	25	200	8	443
8:45 AM	7	17	13	4	48	11	5	111	10	32	207	2	467
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	86	130	105	35	373	129	48	752	72	233	1670	28	3661
APPROACH %'s :	26.79%	40.50%	32.71%	6.52%	69.46%	24.02%	5.50%	86.24%	8.26%	12.07%	86.48%	1.45%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	55	68	63	20	193	74	32	430	48	139	900	13	2035
PEAK HR FACTOR :	0.861			0.854			0.802			0.843			0.883

UTURNS

NB	SB	EB	WB
0	0	0	0

CONTROL : 4-Way Signalized (NB/SB/EB/WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 13-5417-002 **Day:** Thursday

City: San Gabriel **Date:** 8/22/2013

PM

NS/EW Streets:	Santa Anita St			Santa Anita St			Las Tunas Dr			Las Tunas Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0.5	0.5	1	0	1	0	1	2	0	1	2	0	
4:00 PM	14	23	33	8	24	13	15	219	10	18	155	2	534
4:15 PM	9	28	35	5	32	8	10	235	9	11	157	1	540
4:30 PM	12	42	31	5	36	17	10	228	11	15	143	3	553
4:45 PM	18	31	24	8	39	14	10	225	8	13	157	7	554
5:00 PM	18	30	27	12	26	10	23	267	9	14	184	3	623
5:15 PM	15	49	21	15	47	17	18	272	5	12	194	3	668
5:30 PM	14	46	20	13	44	12	11	281	5	16	211	3	676
5:45 PM	9	39	30	10	40	15	16	298	9	23	190	3	682
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	109	288	221	76	288	106	113	2025	66	122	1391	25	4830
APPROACH %'s :	17.64%	46.60%	35.76%	16.17%	61.28%	22.55%	5.13%	91.88%	2.99%	7.93%	90.44%	1.63%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	56	164	98	50	157	54	68	1118	28	65	779	12	2649
PEAK HR FACTOR :		0.935			0.826			0.940			0.930		0.971

UTURNS			
NB	SB	EB	WB
0	0	0	0

CONTROL : 4-Way Signalized (NB/SB/EB/WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 13-5417-003 **Day:** Thursday

City: San Gabriel **Date:** 8/22/2013

AM

NS/EW Streets:	Alanmay Ave			Alanmay Ave			Las Tunas Dr			Las Tunas Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	0	0	0	2	0	1	2	0	
7:00 AM	6	0	8	0	0	0	0	68	0	2	199	0	283
7:15 AM	0	0	3	0	0	0	0	96	4	5	221	0	329
7:30 AM	2	0	5	0	0	0	0	134	3	4	252	0	400
7:45 AM	0	0	5	0	0	0	0	154	2	6	301	0	468
8:00 AM	1	0	3	0	0	0	0	121	3	5	262	0	395
8:15 AM	0	0	6	0	0	0	0	114	3	4	251	0	378
8:30 AM	0	0	2	0	0	0	0	112	3	6	236	0	359
8:45 AM	0	0	2	0	0	0	0	141	2	3	227	0	375
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	9	0	34	0	0	0	0	940	20	35	1949	0	2987
APPROACH %'s :	20.93%	0.00%	79.07%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	97.92%	2.08%	1.76%	98.24%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	3	0	19	0	0	0	0	523	11	19	1066	0	1641
PEAK HR FACTOR :		0.786			0.000			0.856			0.884		0.877

UTURNS

NB	SB	EB	WB
0	0	0	0

CONTROL : 1-Way Stop (NB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 13-5417-003 **Day:** Thursday

City: San Gabriel **Date:** 8/22/2013

PM

NS/EW Streets:	Alanmay Ave			Alanmay Ave			Las Tunas Dr			Las Tunas Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	0	0	0	2	0	1	2	0	
4:00 PM	0	0	6	0	0	0	0	223	4	2	160	0	395
4:15 PM	0	0	2	0	0	0	0	237	3	7	162	0	411
4:30 PM	0	0	2	0	0	0	0	244	8	10	173	0	437
4:45 PM	0	0	9	0	0	0	0	246	5	4	182	0	446
5:00 PM	2	0	6	0	0	0	0	293	1	8	219	0	529
5:15 PM	0	0	4	0	0	0	0	316	2	8	223	0	553
5:30 PM	1	0	9	0	0	0	0	302	2	4	228	0	546
5:45 PM	2	0	0	0	0	0	0	316	0	5	203	0	526
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	5	0	38	0	0	0	0	2177	25	48	1550	0	3843
APPROACH %'s :	11.63%	0.00%	88.37%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	98.86%	1.14%	3.00%	97.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	5	0	19	0	0	0	0	1227	5	25	873	0	2154
PEAK HR FACTOR :		0.600			0.000			0.969			0.968		0.974

UTURNS			
NB	SB	EB	WB
NB	SB	EB	WB
0	0	0	0

CONTROL : 1-Way Stop (NB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-5096-001

Day: Wednesday

City: San Gabriel

Date: 2/19/2014

AM

NS/EW Streets:	Mission Dr			Mission Dr			Padilla St			Padilla St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0	1	0	0	1	0	
7:00 AM	1	39	2	2	35	2	6	0	0	4	0	1	92
7:15 AM	1	40	1	1	45	0	6	2	2	3	0	6	107
7:30 AM	2	48	1	0	62	0	9	1	2	5	0	1	131
7:45 AM	4	54	3	1	86	2	14	4	0	2	0	6	176
8:00 AM	2	86	3	4	77	4	8	1	0	5	1	1	192
8:15 AM	1	96	4	5	74	5	13	1	2	3	0	2	206
8:30 AM	6	52	1	3	72	4	4	0	2	3	0	2	149
8:45 AM	7	52	3	6	54	8	7	0	3	2	0	6	148
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	24	467	18	22	505	25	67	9	11	27	1	25	1201
APPROACH %'s :	4.72%	91.75%	3.54%	3.99%	91.49%	4.53%	77.01%	10.34%	12.64%	50.94%	1.89%	47.17%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	13	288	11	13	309	15	39	6	4	13	1	11	723
PEAK HR FACTOR :		0.772			0.947			0.681			0.781		0.877

UTURNS

NB	SB	EB	WB
0			
1			
2			
3			
1			
1			
4			
2			
NB	SB	EB	WB
14	0	0	0

CONTROL : 2-Way Stop (EB/WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-5096-001

Day: Wednesday

City: San Gabriel

Date: 2/19/2014

PM

NS/EW Streets:	Mission Dr			Mission Dr			Padilla St			Padilla St				UTURNS			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND							
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB
LANES:	0	2	0	1	2	0	0	1	0	0	1	0					
4:00 PM	4	53	7	6	72	11	7	2	2	3	0	2	169	0	2		
4:15 PM	5	67	4	5	61	5	6	1	2	1	1	4	162	3	0		
4:30 PM	2	66	1	1	74	6	4	0	3	3	1	3	164	0	0		
4:45 PM	2	70	2	11	75	8	7	1	2	4	2	5	189	1	3		
5:00 PM	9	82	5	17	107	8	3	0	4	13	0	9	257	2	3		
5:15 PM	3	76	0	8	119	8	6	2	0	9	0	8	239	0	1		
5:30 PM	2	62	1	10	96	14	9	0	7	5	2	7	215	0	0		
5:45 PM	2	78	0	3	110	13	2	1	2	6	0	2	219	0	1		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB
TOTAL VOLUMES :	29	554	20	61	714	73	44	7	22	44	6	40	1614	6	10	0	0
APPROACH %'s :	4.81%	91.87%	3.32%	7.19%	84.20%	8.61%	60.27%	9.59%	30.14%	48.89%	6.67%	44.44%					
PEAK HR START TIME :	500 PM												TOTAL				
PEAK HR VOL :	16	298	6	38	432	43	20	3	13	33	2	26	930				
PEAK HR FACTOR :	0.833			0.950			0.563			0.693			0.905				

CONTROL : 2-Way Stop (EB/WB)

APPENDIX B2
Traffic Count Data – Study Roadway Segments

Prepared by NDS/ATD

VOLUME

Alanmay Ave immediately N/o Padilla St

Day: Wednesday
Date: 2/19/2014

City: San Gabriel
Project #: CA14_5095_001

DAILY TOTALS	NB	SB	EB	WB	Total
	255	438	0	0	693

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	0		1						1		12:00	5		10						15	
00:15	1		0						1		12:15	5		7						12	
00:30	1		0						1		12:30	4		9						13	
00:45	0	2	0	1					0	3	12:45	5	19	3	29					8	48
01:00	0		0						0		13:00	3		10						13	
01:15	0		0						0		13:15	7		7						14	
01:30	0		0						0		13:30	4		12						16	
01:45	0		0						0		13:45	0	14	8	37					8	51
02:00	0		0						0		14:00	5		9						14	
02:15	0		1						1		14:15	2		6						8	
02:30	0		0						0		14:30	3		7						10	
02:45	0		0	1					0	1	14:45	8	18	5	27					13	45
03:00	0		0						0		15:00	3		11						14	
03:15	0		0						0		15:15	7		10						17	
03:30	0		0						0		15:30	4		13						17	
03:45	1	1	0						1	1	15:45	6	20	6	40					12	60
04:00	0		0						0		16:00	8		2						10	
04:15	0		0						0		16:15	4		3						7	
04:30	0		0						0		16:30	5		6						11	
04:45	0		0						0		16:45	7	24	7	18					14	42
05:00	0		0						0		17:00	8		14						22	
05:15	0		1						1		17:15	3		12						15	
05:30	0		0						0		17:30	4		7						11	
05:45	0		1	2					1	2	17:45	3	18	8	41					11	59
06:00	0		4						4		18:00	4		10						14	
06:15	0		0						0		18:15	5		17						22	
06:30	1		1						2		18:30	1		9						10	
06:45	1	2	3	8					4	10	18:45	2	12	8	44					10	56
07:00	3		1						4		19:00	3		11						14	
07:15	1		4						5		19:15	2		3						5	
07:30	3		4						7		19:30	4		2						6	
07:45	3	10	6	15					9	25	19:45	3	12	9	25					12	37
08:00	5		5						10		20:00	3		4						7	
08:15	7		1						8		20:15	0		3						3	
08:30	2		3						5		20:30	1		7						8	
08:45	6	20	2	11					8	31	20:45	2	6	2	16					4	22
09:00	3		5						8		21:00	2		11						13	
09:15	3		12						15		21:15	2		4						6	
09:30	4		5						9		21:30	5		4						9	
09:45	6	16	4	26					10	42	21:45	0	9	3	22					3	31
10:00	6		4						10		22:00	6		5						11	
10:15	8		8						16		22:15	0		7						7	
10:30	3		8						11		22:30	0		4						4	
10:45	7	24	6	26					13	50	22:45	1	7	5	21					6	28
11:00	4		8						12		23:00	0		1						1	
11:15	8		3						11		23:15	0		2						2	
11:30	5		6						11		23:30	0		1						1	
11:45	3	20	7	24					10	44	23:45	1	1	0	4					1	5
TOTALS		95		114						**209**	**TOTALS**		160		324						**484**
SPLIT %		45.5%		54.5%						**30.2%**	**SPLIT %**		33.1%		66.9%						**69.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	255	438	0	0	693

AM Peak Hour	09:30	11:45			**10:15**	**PM Peak Hour**	15:15	18:15			**16:30**
AM Pk Volume	24	33			**52**	**PM Pk Volume**	25	45			**62**
Pk Hr Factor	0.750	0.825			**0.813**	**Pk Hr Factor**	0.781	0.662			**0.705**
7 - 9 Volume	30	26	0	0	**56**	**4 - 6 Volume**	42	59	0	0	**101**
7 - 9 Peak Hour	08:00	07:15			**07:30**	**4 - 6 Peak Hour**	16:00	17:00			**16:30**
7 - 9 Pk Volume	20	19	0	0	**34**	**4 - 6 Pk Volume**	24	41	0	0	**62**
Pk Hr Factor	0.714	0.792	0.000	0.000	**0.850**	**Pk Hr Factor**	0.750	0.732	0.000	0.000	**0.705**

Prepared by NDS/ATD

VOLUME

Padilla St E/o Alanmay Ave

Day: Wednesday
Date: 2/19/2014

City: San Gabriel
Project #: CA14_5095_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	366	327	693

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			0		0		0		12:00			9		9		18	
00:15			0		2		2		12:15			6		2		8	
00:30			0		1		1		12:30			6		6		12	
00:45			0		0	3	0	3	12:45			6	27	7	24	13	51
01:00			0		0		0		13:00			5		11		16	
01:15			0		0		0		13:15			8		9		17	
01:30			0		0		0		13:30			9		6		15	
01:45			0		0		0		13:45			8	30	5	31	13	61
02:00			0		0		0		14:00			10		6		16	
02:15			0		0		0		14:15			3		2		5	
02:30			1		1		2		14:30			7		4		11	
02:45			0	1	0	1	0	2	14:45			4	24	6	18	10	42
03:00			0		0		0		15:00			9		8		17	
03:15			0		0		0		15:15			11		10		21	
03:30			0		1		1		15:30			5		3		8	
03:45			0		1	2	1	2	15:45			8	33	6	27	14	60
04:00			0		1		1		16:00			5		5		10	
04:15			1		0		1		16:15			8		5		13	
04:30			0		1		1		16:30			4		4		8	
04:45			1	2	0	2	1	4	16:45			9	26	6	20	15	46
05:00			1		0		1		17:00			10		6		16	
05:15			1		1		2		17:15			10		9		19	
05:30			2		2		4		17:30			7		5		12	
05:45			3	7	1	4	4	11	17:45			5	32	4	24	9	56
06:00			0		0		0		18:00			7		5		12	
06:15			1		1		2		18:15			9		7		16	
06:30			1		1		2		18:30			6		8		14	
06:45			5	7	2	4	7	11	18:45			4	26	3	23	7	49
07:00			3		4		7		19:00			5		1		6	
07:15			2		3		5		19:15			4		4		8	
07:30			2		2		4		19:30			1		5		6	
07:45			5	12	2	11	7	23	19:45			3	13	3	13	6	26
08:00			3		4		7		20:00			3		8		11	
08:15			5		6		11		20:15			1		0		1	
08:30			2		1		3		20:30			3		0		3	
08:45			7	17	9	20	16	37	20:45			1	8	4	12	5	20
09:00			6		2		8		21:00			8		2		10	
09:15			5		6		11		21:15			2		1		3	
09:30			4		7		11		21:30			3		3		6	
09:45			7	22	3	18	10	40	21:45			0	13	1	7	1	20
10:00			6		5		11		22:00			2		6		8	
10:15			13		9		22		22:15			1		2		3	
10:30			8		8		16		22:30			4		1		5	
10:45			6	33	14	36	20	69	22:45			1	8	0	9	1	17
11:00			4		3		7		23:00			1		1		2	
11:15			5		7		12		23:15			1		0		1	
11:30			7		3		10		23:30			1		2		3	
11:45			6	22	2	15	8	37	23:45			0	3	0	3	0	6
TOTALS				123		116		239	TOTALS				243		211		454
SPLIT %				51.5%		48.5%		34.5%	SPLIT %				53.5%		46.5%		65.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	366	327	693

AM Peak Hour			09:45	10:00	10:00	PM Peak Hour			16:45	12:30	16:45
AM Pk Volume			34	36	69	PM Pk Volume			36	33	62
Pk Hr Factor			0.654	0.643	0.784	Pk Hr Factor			0.900	0.750	0.816
7 - 9 Volume	0	0	29	31	60	4 - 6 Volume	0	0	58	44	102
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			16:45	16:45	16:45
7 - 9 Pk Volume	0	0	17	20	37	4 - 6 Pk Volume	0	0	36	26	62
Pk Hr Factor	0.000	0.000	0.607	0.556	0.578	Pk Hr Factor	0.000	0.000	0.900	0.722	0.816

APPENDIX B3
Additional Traffic Count Data – Traffic Signal Warrant

Prepared by NDS/ATD

VOLUME

Las Tunas Dr E/o Alanmay Ave

Day: Tuesday
Date: 9/24/2013

City: San Gabriel
Project #: CA13_5481_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	11,986	12,055	24,041

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			22		11		33		12:00			196		172		368	
00:15			19		16		35		12:15			201		183		384	
00:30			15		20		35		12:30			188		211		399	
00:45			17	73	12	59	29	132	12:45			210	795	211	777	421	1572
01:00			21		9		30		13:00			205		197		402	
01:15			12		10		22		13:15			203		182		385	
01:30			10		6		16		13:30			196		186		382	
01:45			12	55	8	33	20	88	13:45			212	816	157	722	369	1538
02:00			10		9		19		14:00			201		185		386	
02:15			5		6		11		14:15			216		163		379	
02:30			9		4		13		14:30			228		158		386	
02:45			1	25	4	23	5	48	14:45			210	855	199	705	409	1560
03:00			8		6		14		15:00			228		189		417	
03:15			5		8		13		15:15			244		236		480	
03:30			5		5		10		15:30			212		186		398	
03:45			5	23	6	25	11	48	15:45			234	918	200	811	434	1729
04:00			8		6		14		16:00			234		174		408	
04:15			4		10		14		16:15			251		172		423	
04:30			10		10		20		16:30			262		160		422	
04:45			7	29	7	33	14	62	16:45			232	979	171	677	403	1656
05:00			8		14		22		17:00			269		222		491	
05:15			3		19		22		17:15			276		202		478	
05:30			22		30		52		17:30			276		179		455	
05:45			29	62	40	103	69	165	17:45			319	1140	217	820	536	1960
06:00			18		66		84		18:00			251		205		456	
06:15			26		76		102		18:15			283		202		485	
06:30			39		99		138		18:30			272		184		456	
06:45			55	138	200	441	255	579	18:45			227	1033	208	799	435	1832
07:00			73		194		267		19:00			213		202		415	
07:15			101		200		301		19:15			207		169		376	
07:30			145		242		387		19:30			183		131		314	
07:45			151	470	301	937	452	1407	19:45			175	778	145	647	320	1425
08:00			151		280		431		20:00			137		145		282	
08:15			123		326		449		20:15			160		129		289	
08:30			142		249		391		20:30			139		119		258	
08:45			133	549	243	1098	376	1647	20:45			139	575	110	503	249	1078
09:00			129		217		346		21:00			122		104		226	
09:15			145		185		330		21:15			112		101		213	
09:30			130		152		282		21:30			87		90		177	
09:45			127	531	199	753	326	1284	21:45			91	412	86	381	177	793
10:00			144		176		320		22:00			74		80		154	
10:15			146		174		320		22:15			70		65		135	
10:30			137		152		289		22:30			59		46		105	
10:45			140	567	166	668	306	1235	22:45			57	260	36	227	93	487
11:00			164		162		326		23:00			51		39		90	
11:15			170		171		341		23:15			39		46		85	
11:30			198		169		367		23:30			32		28		60	
11:45			217	749	171	673	388	1422	23:45			32	154	27	140	59	294
TOTALS				3271		4846		8117	TOTALS				8715		7209		15924
SPLIT %				40.3%		59.7%		33.8%	SPLIT %				54.7%		45.3%		66.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	11,986	12,055	24,041

AM Peak Hour			11:30	07:45	07:45	PM Peak Hour			17:00	17:00	17:00
AM Pk Volume			812	1156	1723	PM Pk Volume			1140	820	1960
Pk Hr Factor			0.935	0.887	0.953	Pk Hr Factor			0.893	0.923	0.914
7 - 9 Volume	0	0	1019	2035	3054	4 - 6 Volume	0	0	2119	1497	3616
7 - 9 Peak Hour			07:30	07:45	07:45	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	570	1156	1723	4 - 6 Pk Volume	0	0	1140	820	1960
Pk Hr Factor	0.000	0.000	0.944	0.887	0.953	Pk Hr Factor	0.000	0.000	0.893	0.923	0.914

Prepared by NDS/ATD

VOLUME

Las Tunas Dr W/o Alanmay Ave

Day: Wednesday
Date: 9/18/2013

City: San Gabriel
Project #: CA13_5481_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	12,169	11,748	23,917

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			38		31		69		12:00			224		195		419	
00:15			27		20		47		12:15			188		171		359	
00:30			24		11		35		12:30			224		198		422	
00:45			17	106	18	80	35	186	12:45			187	823	185	749	372	1572
01:00			15		10		25		13:00			221		184		405	
01:15			23		14		37		13:15			225		185		410	
01:30			16		14		30		13:30			225		181		406	
01:45			19	73	16	54	35	127	13:45			224	895	184	734	408	1629
02:00			14		10		24		14:00			201		204		405	
02:15			13		7		20		14:15			222		175		397	
02:30			5		8		13		14:30			194		164		358	
02:45			9	41	6	31	15	72	14:45			205	822	179	722	384	1544
03:00			2		7		9		15:00			215		179		394	
03:15			6		6		12		15:15			222		178		400	
03:30			6		9		15		15:30			234		189		423	
03:45			1	15	3	25	4	40	15:45			190	861	166	712	356	1573
04:00			4		4		8		16:00			224		155		379	
04:15			8		14		22		16:15			222		163		385	
04:30			9		8		17		16:30			239		169		408	
04:45			11	32	12	38	23	70	16:45			229	914	173	660	402	1574
05:00			9		11		20		17:00			251		170		421	
05:15			4		15		19		17:15			332		215		547	
05:30			21		31		52		17:30			299		211		510	
05:45			17	51	28	85	45	136	17:45			291	1173	184	780	475	1953
06:00			22		45		67		18:00			275		213		488	
06:15			18		61		79		18:15			289		185		474	
06:30			41		106		147		18:30			242		172		414	
06:45			56	137	139	351	195	488	18:45			259	1065	191	761	450	1826
07:00			57		143		200		19:00			219		200		419	
07:15			93		209		302		19:15			202		178		380	
07:30			130		223		353		19:30			207		167		374	
07:45			159	439	269	844	428	1283	19:45			183	811	144	689	327	1500
08:00			150		279		429		20:00			155		152		307	
08:15			160		317		477		20:15			151		115		266	
08:30			135		234		369		20:30			155		110		265	
08:45			126	571	231	1061	357	1632	20:45			101	562	126	503	227	1065
09:00			124		175		299		21:00			137		113		250	
09:15			163		174		337		21:15			116		107		223	
09:30			157		179		336		21:30			104		105		209	
09:45			165	609	171	699	336	1308	21:45			80	437	83	408	163	845
10:00			128		191		319		22:00			120		79		199	
10:15			129		159		288		22:15			81		74		155	
10:30			145		156		301		22:30			61		51		112	
10:45			155	557	164	670	319	1227	22:45			58	320	47	251	105	571
11:00			163		171		334		23:00			48		50		98	
11:15			164		162		326		23:15			36		48		84	
11:30			189		178		367		23:30			32		35		67	
11:45			189	705	159	670	348	1375	23:45			34	150	38	171	72	321
TOTALS				3336		4608		**7944**	**TOTALS**				8833		7140		**15973**
SPLIT %				42.0%		58.0%		**33.2%**	**SPLIT %**				55.3%		44.7%		**66.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	12,169	11,748	23,917

AM Peak Hour			11:45	07:45	**07:45**	**PM Peak Hour**			17:15	17:15	**17:15**
AM Pk Volume			825	1099	**1703**	**PM Pk Volume**			1197	823	**2020**
Pk Hr Factor			0.921	0.867	**0.893**	**Pk Hr Factor**			0.901	0.957	**0.923**
7 - 9 Volume	0	0	1010	1905	**2915**	**4 - 6 Volume**	0	0	2087	1440	**3527**
7 - 9 Peak Hour			07:45	07:45	**07:45**	**4 - 6 Peak Hour**			17:00	17:00	**17:00**
7 - 9 Pk Volume	0	0	604	1099	**1703**	**4 - 6 Pk Volume**	0	0	1173	780	**1953**
Pk Hr Factor	0.000	0.000	0.944	0.867	**0.893**	**Pk Hr Factor**	0.000	0.000	0.883	0.907	**0.893**

Prepared by NDS/ATD

VOLUME

Alanmay Ave S/o Las Tunas Dr

Day: Wednesday
Date: 9/18/2013

City: San Gabriel
Project #: CA13_5481_003

DAILY TOTALS	NB	SB	EB	WB	Total
	384	484	0	0	868

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	0		0						0		12:00	3		4						7	
00:15	0		0						0		12:15	4		12						16	
00:30	0		0						0		12:30	7		10						17	
00:45	0		0						0		12:45	10	24	13	39					23	63
01:00	0		2						2		13:00	12		5						17	
01:15	0		1						1		13:15	3		9						12	
01:30	0		0						0		13:30	11		11						22	
01:45	0		0	3					0	3	13:45	7	33	9	34					16	67
02:00	0		0						0		14:00	4		6						10	
02:15	0		0						0		14:15	3		9						12	
02:30	0		0						0		14:30	8		14						22	
02:45	0		0						0		14:45	6	21	12	41					18	62
03:00	0		2						2		15:00	7		8						15	
03:15	1		2						3		15:15	6		8						14	
03:30	0		1						1		15:30	8		7						15	
03:45	0	1	0	5					0	6	15:45	4	25	3	26					7	51
04:00	0		0						0		16:00	7		6						13	
04:15	0		0						0		16:15	2		10						12	
04:30	2		0						2		16:30	9		9						18	
04:45	2	4	1	1					3	5	16:45	7	25	14	39					21	64
05:00	0		0						0		17:00	11		9						20	
05:15	0		0						0		17:15	7		12						19	
05:30	1		2						3		17:30	6		12						18	
05:45	0	1	1	3					1	4	17:45	9	33	11	44					20	77
06:00	0		0						0		18:00	15		18						33	
06:15	0		0						0		18:15	13		10						23	
06:30	1		2						3		18:30	17		10						27	
06:45	3	4	3	5					6	9	18:45	4	49	18	56					22	105
07:00	1		3						4		19:00	10		15						25	
07:15	1		2						3		19:15	12		7						19	
07:30	2		3						5		19:30	10		5						15	
07:45	7	11	8	16					15	27	19:45	12	44	4	31					16	75
08:00	8		7						15		20:00	2		5						7	
08:15	2		2						4		20:15	4		4						8	
08:30	6		10						16		20:30	3		1						4	
08:45	5	21	4	23					9	44	20:45	2	11	3	13					5	24
09:00	7		9						16		21:00	7		2						9	
09:15	5		5						10		21:15	4		2						6	
09:30	3		4						7		21:30	5		5						10	
09:45	2	17	3	21					5	38	21:45	6	22	3	12					9	34
10:00	5		12						17		22:00	0		4						4	
10:15	1		7						8		22:15	0		2						2	
10:30	5		3						8		22:30	0		1						1	
10:45	6	17	9	31					15	48	22:45	1	1	0	7					1	8
11:00	4		5						9		23:00	0		0						0	
11:15	2		8						10		23:15	0		0						0	
11:30	5		9						14		23:30	0		1						1	
11:45	9	20	10	32					19	52	23:45	0		1	2					1	2
TOTALS		96		140						236	TOTALS		288		344						632
SPLIT %		40.7%		59.3%						27.2%	SPLIT %		45.6%		54.4%						72.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	384	484	0	0	868

AM Peak Hour	07:45	11:45			11:45	PM Peak Hour	17:45	18:00			18:00
AM Pk Volume	23	36			59	PM Pk Volume	54	56			105
Pk Hr Factor	0.719	0.750			0.776	Pk Hr Factor	0.794	0.778			0.795
7 - 9 Volume	32	39	0	0	71	4 - 6 Volume	58	83	0	0	141
7 - 9 Peak Hour	07:45	07:45			07:45	4 - 6 Peak Hour	16:30	16:45			16:30
7 - 9 Pk Volume	23	27	0	0	50	4 - 6 Pk Volume	34	47	0	0	78
Pk Hr Factor	0.719	0.675	0.000	0.000	0.781	Pk Hr Factor	0.773	0.839	0.000	0.000	0.929

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 13-5482-001
N/S Street: S Alanmay Ave
E/W Street: W Las Tunas Dr
DATE: 9/18/2013 DAY: Wednesday
CITY: San Gabriel

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	1	2	0	0	0	0
7:15 AM	1	0	0	3	0	0	0	0
7:30 AM	0	3	2	2	0	0	0	0
7:45 AM	0	0	1	0	0	0	0	0
8:00 AM	2	0	0	0	0	0	0	0
8:15 AM	0	0	7	2	0	0	1	0
8:30 AM	0	0	4	1	0	0	0	0
8:45 AM	1	2	10	3	0	0	0	0
TOTALS	**4**	**5**	**25**	**13**	**0**	**0**	**1**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	2	0	0	2	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	3	3	1	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	1	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	1	2	1	2	0	0	0	0
5:45 PM	1	0	2	1	0	1	0	0
TOTALS	**5**	**5**	**6**	**6**	**0**	**1**	**0**	**0**

APPENDIX C
Study Intersection Analysis Worksheets – Existing Conditions

704-712 West Las Tunas Dr- Mixed Use Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Mission Dr & Las Tunas Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.657
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	B

Street Name:	Mission Dr							Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	T	R	L	T	R	L	T	R	L	T	R	
Control:	Protected			Protected			Permitted			Permitted			
Rights:	Include			Include			Include			Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0	
Volume Module:													
Base Vol:	133	207	29	36	134	60	18	489	144	34	994	64	
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	
Initial Bse:	136	211	30	37	137	61	18	499	147	35	1014	65	
User 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	
PHF 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	
PHF Volume:	136	211	30	37	137	61	18	499	147	35	1014	65	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	136	211	30	37	137	61	18	499	147	35	1014	65	
PCE 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	
MLF 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	
FinalVolume:	136	211	30	37	137	61	18	499	147	35	1014	65	
Saturation Flow Module:													
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00	1.00	0.69	0.31	1.00	1.55	0.45	1.00	1.88	0.12	
Final Sat.:	1600	1600	1600	1600	1105	495	1600	2472	728	1600	3006	194	
Capacity Analysis Module:													
Vol/Sat:	0.08	0.13	0.02	0.02	0.12	0.12	0.01	0.20	0.20	0.02	0.34	0.34	
Crit Moves:	****				****		****				****		

704-712 West Las Tunas Dr- Mixed Use Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Santa Anita St & Las Tunas Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.625
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	B

Street Name:	Santa Anita St						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	55	68	63	20	193	74	32	430	48	139	900	13
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	56	69	64	20	197	75	33	439	49	142	918	13
User 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
PHF 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
PHF Volume:	56	69	64	20	197	75	33	439	49	142	918	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	69	64	20	197	75	33	439	49	142	918	13
PCE 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
MLF 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
FinalVolume:	56	69	64	20	197	75	33	439	49	142	918	13
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.45	0.55	1.00	0.07	0.67	0.26	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	715	885	1600	111	1076	413	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.04	0.08	0.04	0.01	0.18	0.18	0.02	0.14	0.03	0.09	0.29	0.01
Crit Moves:	****				****		****				****	

704-712 West Las Tunas Dr- Mixed Use Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Alanmay Ave & Las Tunas Dr

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: B[12.0]

Street Name:	Alanmay Ave						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	3	0	19	0	0	0	0	523	11	19	1066	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	3	0	19	0	0	0	0	533	11	19	1087	0
User 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
PHF 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
PHF Volume:	3	0	19	0	0	0	0	533	11	19	1087	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	3	0	19	0	0	0	0	533	11	19	1087	0
Critical Gap Module:												
Critical Gp:	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1121	1665	272	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	545	xxxx	xxxxx
Potent Cap.:	203	98	731	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1035	xxxx	xxxxx
Move Cap.:	200	96	731	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1035	xxxx	xxxxx
Volume/Cap:	0.02	0.00	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	537	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	12.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	*	*	*	*	*	*	*	*
ApproachDel:	12.0			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	B			*			*			*		

Note: Queue reported is the number of cars per lane.

704-712 West Las Tunas Dr- Mixed Use Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 Mission Dr & Padilla St

Average Delay (sec/veh): 1.8 Worst Case Level Of Service: B[14.6]

Street Name:	Mission Dr						Padilla St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	1 0		1 0	1 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	22	288	11	13	309	15	39	6	4	13	1	11
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	22	291	11	13	312	15	39	6	4	13	1	11
User 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
PHF 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
PHF Volume:	22	291	11	13	312	15	39	6	4	13	1	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	22	291	11	13	312	15	39	6	4	13	1	11
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	327	xxxx	xxxxx	302	xxxx	xxxxx	536	692	164	526	694	151
Potent Cap.:	1244	xxxx	xxxxx	1270	xxxx	xxxxx	432	370	859	439	369	875
Move Cap.:	1244	xxxx	xxxxx	1270	xxxx	xxxxx	416	359	859	422	358	875
Volume/Cap:	0.02	xxxx	xxxx	0.01	xxxx	xxxx	0.09	0.02	0.00	0.03	0.00	0.01
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	426	xxxxx	xxxx	541	xxxxx
SharedQueue:	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	14.6	xxxxx	xxxxx	12.0	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			14.6			12.0		
ApproachLOS:	*			*			B			B		

Note: Queue reported is the number of cars per lane.

704-712 West Las Tunas Dr- Mixed Use Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Mission Dr & Las Tunas Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.751
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	57	Level Of Service:	C

Street Name:	Mission Dr						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	119	108	59	59	136	40	43	1180	156	58	761	45
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	121	110	60	60	139	41	44	1204	159	59	776	46
User 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
PHF 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
PHF Volume:	121	110	60	60	139	41	44	1204	159	59	776	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	121	110	60	60	139	41	44	1204	159	59	776	46
PCE 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
MLF 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
FinalVolume:	121	110	60	60	139	41	44	1204	159	59	776	46
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.77	0.23	1.00	1.77	0.23	1.00	1.89	0.11
Final Sat.:	1600	1600	1600	1600	1236	364	1600	2826	374	1600	3021	179
Capacity Analysis Module:												
Vol/Sat:	0.08	0.07	0.04	0.04	0.11	0.11	0.03	0.43	0.43	0.04	0.26	0.26
Crit Moves:	****				****			****		****		

704-712 West Las Tunas Dr- Mixed Use Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Santa Anita St & Las Tunas Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.700
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	B

Street Name:	Santa Anita St						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	56	164	98	50	157	54	68	1118	28	65	779	12
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	57	167	100	51	160	55	69	1140	29	66	795	12
User 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
PHF 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
PHF Volume:	57	167	100	51	160	55	69	1140	29	66	795	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	57	167	100	51	160	55	69	1140	29	66	795	12
PCE 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
MLF 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
FinalVolume:	57	167	100	51	160	55	69	1140	29	66	795	12
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.25	0.75	1.00	0.19	0.60	0.21	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	407	1193	1600	307	962	331	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.04	0.14	0.06	0.03	0.17	0.17	0.04	0.36	0.02	0.04	0.25	0.01
Crit Moves:	****				****			****		****		

704-712 West Las Tunas Dr- Mixed Use Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Alanmay Ave & Las Tunas Dr

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: C[23.6]

Street Name:	Alanmay Ave						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 0	1 1	0	1 0	2 0	0
Volume Module:												
Base Vol:	5	0	19	0	0	0	0	1227	5	25	873	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	5	0	19	0	0	0	0	1252	5	26	890	0
User 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
PHF 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
PHF Volume:	5	0	19	0	0	0	0	1252	5	26	890	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	5	0	19	0	0	0	0	1252	5	26	890	0
Critical Gap Module:												
Critical Gp:	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1750	2196	628	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1257	xxxx	xxxxx
Potent Cap.:	78	46	430	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	560	xxxx	xxxxx
Move Cap.:	76	44	430	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	560	xxxx	xxxxx
Volume/Cap:	0.07	0.00	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.7	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	218	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	23.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	*	*	*	*	*	*	*	*
ApproachDel:		23.6			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		C			*			*			*	

Note: Queue reported is the number of cars per lane.

704-712 West Las Tunas Dr- Mixed Use Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 Mission Dr & Padilla St

Average Delay (sec/veh): 2.1 Worst Case Level Of Service: C[15.8]

Street Name:	Mission Dr						Padilla St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	1 0		1 0	1 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	18	298	6	43	432	43	20	3	13	33	2	26
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	18	301	6	43	436	43	20	3	13	33	2	26
User 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
PHF 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
PHF Volume:	18	301	6	43	436	43	20	3	13	33	2	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	18	301	6	43	436	43	20	3	13	33	2	26
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	480	xxxx	xxxxx	307	xxxx	xxxxx	733	888	240	647	907	154
Potent Cap.:	1093	xxxx	xxxxx	1265	xxxx	xxxxx	312	285	767	360	278	871
Move Cap.:	1093	xxxx	xxxxx	1265	xxxx	xxxxx	290	270	767	337	264	871
Volume/Cap:	0.02	xxxx	xxxx	0.03	xxxx	xxxx	0.07	0.01	0.02	0.10	0.01	0.03
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.3	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	371	xxxxx	xxxx	451	xxxxx
SharedQueue:	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	0.5	xxxxx
Shrd ConDel:	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	15.8	xxxxx	xxxxx	14.2	xxxxx
Shared LOS:	A	*	*	*	*	*	*	C	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			15.8			14.2		
ApproachLOS:	*			*			C			B		

Note: Queue reported is the number of cars per lane.

APPENDIX D
Study Intersection Analysis Worksheets – Future Pre-Project Conditions

704-712 West Las Tunas Dr- Mixed Use Project
Future No Project Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Mission Dr & Las Tunas Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.758
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	C

Street Name:	Mission Dr						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	133	207	29	36	134	60	18	489	144	34	994	64
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	136	211	30	37	137	61	18	499	147	35	1014	65
Added Vol:	31	0	0	5	0	31	38	137	38	0	119	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	167	211	30	42	137	92	56	636	185	35	1133	70
User 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
PHF 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
PHF Volume:	167	211	30	42	137	92	56	636	185	35	1133	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	167	211	30	42	137	92	56	636	185	35	1133	70
PCE 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
MLF 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
FinalVolume:	167	211	30	42	137	92	56	636	185	35	1133	70
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.60	0.40	1.00	1.55	0.45	1.00	1.88	0.12
Final Sat.:	1600	1600	1600	1600	955	645	1600	2479	721	1600	3013	187
Capacity Analysis Module:												
Vol/Sat:	0.10	0.13	0.02	0.03	0.14	0.14	0.04	0.26	0.26	0.02	0.38	0.38
Crit Moves:	****				****		****				****	

704-712 West Las Tunas Dr- Mixed Use Project
Future No Project Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Santa Anita St & Las Tunas Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.701
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	C

Street Name:	Santa Anita St						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	55	68	63	20	193	74	32	430	48	139	900	13
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	56	69	64	20	197	75	33	439	49	142	918	13
Added Vol:	0	0	13	5	0	31	38	104	0	13	94	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	69	77	25	197	106	71	543	49	155	1012	18
User 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
PHF 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
PHF Volume:	56	69	77	25	197	106	71	543	49	155	1012	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	69	77	25	197	106	71	543	49	155	1012	18
PCE 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
MLF 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
FinalVolume:	56	69	77	25	197	106	71	543	49	155	1012	18
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.45	0.55	1.00	0.08	0.60	0.32	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	715	885	1600	124	958	518	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.04	0.08	0.05	0.02	0.21	0.21	0.04	0.17	0.03	0.10	0.32	0.01
Crit Moves:	****				****		****				****	

704-712 West Las Tunas Dr- Mixed Use Project
Future No Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 Alanmay Ave & Las Tunas Dr

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: B[13.5]

Street Name:	Alanmay Ave						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 0	1 1	0	1 0	2 0	0
Volume Module:												
Base Vol:	3	0	19	0	0	0	0	523	11	19	1066	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	3	0	19	0	0	0	0	533	11	19	1087	0
Added Vol:	0	0	0	0	0	0	0	142	0	0	124	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	0	19	0	0	0	0	675	11	19	1211	0
User 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
PHF 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
PHF Volume:	3	0	19	0	0	0	0	675	11	19	1211	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	3	0	19	0	0	0	0	675	11	19	1211	0
Critical Gap Module:												
Critical Gp:	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1325	1931	343	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	687	xxxx	xxxxx
Potent Cap.:	150	67	658	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	917	xxxx	xxxxx
Move Cap.:	147	66	658	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	917	xxxx	xxxxx
Volume/Cap:	0.02	0.00	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.0	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	447	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	13.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	*	*	*	*	*	*	*	*
ApproachDel:		13.5			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		B			*			*			*	

Note: Queue reported is the number of cars per lane.

704-712 West Las Tunas Dr- Mixed Use Project
Future No Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 Mission Dr & Padilla St

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: C[15.6]

Street Name:	Mission Dr						Padilla St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	1 0		1 0	1 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	22	288	11	13	309	15	39	6	4	13	1	11
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	22	291	11	13	312	15	39	6	4	13	1	11
Added Vol:	0	31	0	0	38	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	322	11	13	350	15	39	6	4	13	1	11
User 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
PHF 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
PHF Volume:	22	322	11	13	350	15	39	6	4	13	1	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	22	322	11	13	350	15	39	6	4	13	1	11
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	365	xxxx	xxxxx	333	xxxx	xxxxx	590	761	183	576	763	166
Potent Cap.:	1204	xxxx	xxxxx	1238	xxxx	xxxxx	396	337	835	404	336	855
Move Cap.:	1204	xxxx	xxxxx	1238	xxxx	xxxxx	381	327	835	388	327	855
Volume/Cap:	0.02	xxxx	xxxx	0.01	xxxx	xxxx	0.10	0.02	0.00	0.03	0.00	0.01
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.0	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	390	xxxxx	xxxx	506	xxxxx
SharedQueue:	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	0.2	xxxxx
Shrd ConDel:	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	15.6	xxxxx	xxxxx	12.5	xxxxx
Shared LOS:	A	*	*	*	*	*	*	C	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			15.6			12.5		
ApproachLOS:	*			*			C			B		

Note: Queue reported is the number of cars per lane.

704-712 West Las Tunas Dr- Mixed Use Project
Future No Project Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Mission Dr & Las Tunas Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.809
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	69	Level Of Service:	D

Street Name:	Mission Dr						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	119	108	59	59	136	40	43	1180	156	58	761	45
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	121	110	60	60	139	41	44	1204	159	59	776	46
Added Vol:	21	0	0	5	0	21	20	81	20	0	78	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	142	110	60	65	139	62	64	1285	179	59	854	50
User 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
PHF 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
PHF Volume:	142	110	60	65	139	62	64	1285	179	59	854	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	142	110	60	65	139	62	64	1285	179	59	854	50
PCE 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
MLF 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
FinalVolume:	142	110	60	65	139	62	64	1285	179	59	854	50
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.69	0.31	1.00	1.76	0.24	1.00	1.89	0.11
Final Sat.:	1600	1600	1600	1600	1107	493	1600	2808	392	1600	3023	177
Capacity Analysis Module:												
Vol/Sat:	0.09	0.07	0.04	0.04	0.13	0.13	0.04	0.46	0.46	0.04	0.28	0.28
Crit Moves:	****				****			****		****		

704-712 West Las Tunas Dr- Mixed Use Project
Future No Project Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Santa Anita St & Las Tunas Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.742
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	56	Level Of Service:	C

Street Name:	Santa Anita St						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	56	164	98	50	157	54	68	1118	28	65	779	12
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	57	167	100	51	160	55	69	1140	29	66	795	12
Added Vol:	0	0	13	5	0	21	20	66	0	9	61	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	57	167	113	56	160	76	89	1206	29	75	856	16
User 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
PHF 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
PHF Volume:	57	167	113	56	160	76	89	1206	29	75	856	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	57	167	113	56	160	76	89	1206	29	75	856	16
PCE 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
MLF 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
FinalVolume:	57	167	113	56	160	76	89	1206	29	75	856	16
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.25	0.75	1.00	0.19	0.55	0.26	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	407	1193	1600	307	877	417	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.04	0.14	0.07	0.04	0.18	0.18	0.06	0.38	0.02	0.05	0.27	0.01
Crit Moves:	****				****			****		****		

704-712 West Las Tunas Dr- Mixed Use Project
Future No Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 Alanmay Ave & Las Tunas Dr

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: D[27.0]

Street Name:	Alanmay Ave						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 0	1 1	0	1 0	2 0	0
Volume Module:												
Base Vol:	5	0	19	0	0	0	0	1227	5	25	873	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	5	0	19	0	0	0	0	1252	5	26	890	0
Added Vol:	0	0	0	0	0	0	0	86	0	0	82	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	0	19	0	0	0	0	1338	5	26	972	0
User 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
PHF 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
PHF Volume:	5	0	19	0	0	0	0	1338	5	26	972	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	5	0	19	0	0	0	0	1338	5	26	972	0
Critical Gap Module:												
Critical Gp:	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1877	2364	671	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1343	xxxx	xxxxx
Potent Cap.:	65	36	403	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	520	xxxx	xxxxx
Move Cap.:	62	34	403	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	520	xxxx	xxxxx
Volume/Cap:	0.08	0.00	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	12.3	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	188	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	27.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	D	*	*	*	*	*	*	*	*	*	*
ApproachDel:		27.0			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		D			*			*			*	

Note: Queue reported is the number of cars per lane.

704-712 West Las Tunas Dr- Mixed Use Project
Future No Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 Mission Dr & Padilla St

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: C[16.3]

Street Name:	Mission Dr						Padilla St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	1 0		1 0	1 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	18	298	6	43	432	43	20	3	13	33	2	26
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	18	301	6	43	436	43	20	3	13	33	2	26
Added Vol:	0	21	0	0	20	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	18	322	6	43	456	43	20	3	13	33	2	26
User 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
PHF 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
PHF Volume:	18	322	6	43	456	43	20	3	13	33	2	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	18	322	6	43	456	43	20	3	13	33	2	26
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	500	xxxx	xxxxx	328	xxxx	xxxxx	763	929	250	678	948	164
Potent Cap.:	1075	xxxx	xxxxx	1243	xxxx	xxxxx	297	270	756	342	263	858
Move Cap.:	1075	xxxx	xxxxx	1243	xxxx	xxxxx	275	256	756	320	249	858
Volume/Cap:	0.02	xxxx	xxxx	0.03	xxxx	xxxx	0.07	0.01	0.02	0.10	0.01	0.03
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.4	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	354	xxxxx	xxxx	431	xxxxx
SharedQueue:	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	0.5	xxxxx
Shrd ConDel:	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	16.3	xxxxx	xxxxx	14.7	xxxxx
Shared LOS:	A	*	*	*	*	*	*	C	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			16.3			14.7		
ApproachLOS:	*			*			C			B		

Note: Queue reported is the number of cars per lane.

APPENDIX E
Study Intersection Analysis Worksheets – Future Post-Project Conditions

704-712 West Las Tunas Dr- Mixed Use Project
Future With Project Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Mission Dr & Las Tunas Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.761
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	C

Street Name:	Mission Dr						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	133	207	29	36	134	60	18	489	144	34	994	64
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	136	211	30	37	137	61	18	499	147	35	1014	65
Added Vol:	32	0	0	5	0	31	38	136	38	0	123	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	168	211	30	42	137	92	56	635	185	35	1137	72
User 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
PHF 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
PHF Volume:	168	211	30	42	137	92	56	635	185	35	1137	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	168	211	30	42	137	92	56	635	185	35	1137	72
PCE 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
MLF 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
FinalVolume:	168	211	30	42	137	92	56	635	185	35	1137	72
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.60	0.40	1.00	1.55	0.45	1.00	1.88	0.12
Final Sat.:	1600	1600	1600	1600	955	645	1600	2478	722	1600	3009	191
Capacity Analysis Module:												
Vol/Sat:	0.10	0.13	0.02	0.03	0.14	0.14	0.04	0.26	0.26	0.02	0.38	0.38
Crit Moves:	****				****		****				****	

704-712 West Las Tunas Dr- Mixed Use Project
Future With Project Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Santa Anita St & Las Tunas Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.701
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	C

Street Name:	Santa Anita St						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	55	68	63	20	193	74	32	430	48	139	900	13
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	56	69	64	20	197	75	33	439	49	142	918	13
Added Vol:	0	0	13	5	0	30	39	107	0	13	93	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	69	77	25	197	105	72	546	49	155	1011	18
User 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
PHF 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
PHF Volume:	56	69	77	25	197	105	72	546	49	155	1011	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	69	77	25	197	105	72	546	49	155	1011	18
PCE 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
MLF 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
FinalVolume:	56	69	77	25	197	105	72	546	49	155	1011	18
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.45	0.55	1.00	0.08	0.60	0.32	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	715	885	1600	124	961	515	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.04	0.08	0.05	0.02	0.20	0.20	0.04	0.17	0.03	0.10	0.32	0.01
Crit Moves:	****				****		****				****	

704-712 West Las Tunas Dr- Mixed Use Project
Future With Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 Alanmay Ave & Las Tunas Dr

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: C[16.9]

Street Name:	Alanmay Ave						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 0	1 1	0	1 0	2 0	0
Volume Module:												
Base Vol:	3	0	19	0	0	0	0	523	11	19	1066	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	3	0	19	0	0	0	0	533	11	19	1087	0
Added Vol:	6	0	4	0	0	0	0	143	-2	-1	125	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	0	23	0	0	0	0	676	9	18	1212	0
User 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
PHF 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
PHF Volume:	9	0	23	0	0	0	0	676	9	18	1212	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	9	0	23	0	0	0	0	676	9	18	1212	0
Critical Gap Module:												
Critical Gp:	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1324	1930	343	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	686	xxxx	xxxxx
Potent Cap.:	150	67	659	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	917	xxxx	xxxxx
Move Cap.:	148	66	659	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	917	xxxx	xxxxx
Volume/Cap:	0.06	0.00	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.0	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	335	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	16.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	*	*	*	*	*	*	*	*
ApproachDel:		16.9		xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:		C			*			*			*	

Note: Queue reported is the number of cars per lane.

704-712 West Las Tunas Dr- Mixed Use Project
Future With Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 Mission Dr & Padilla St

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: C[15.6]

Street Name:	Mission Dr						Padilla St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	1 0		1 0	1 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	22	288	11	13	309	15	39	6	4	13	1	11
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	22	291	11	13	312	15	39	6	4	13	1	11
Added Vol:	0	31	-1	0	38	0	0	0	0	2	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	322	10	13	350	15	39	6	4	15	1	12
User 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
PHF 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
PHF Volume:	22	322	10	13	350	15	39	6	4	15	1	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	22	322	10	13	350	15	39	6	4	15	1	12
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	365	xxxx	xxxxx	332	xxxx	xxxxx	590	760	183	576	763	166
Potent Cap.:	1204	xxxx	xxxxx	1239	xxxx	xxxxx	396	338	835	405	337	856
Move Cap.:	1204	xxxx	xxxxx	1239	xxxx	xxxxx	380	328	835	388	327	856
Volume/Cap:	0.02	xxxx	xxxx	0.01	xxxx	xxxx	0.10	0.02	0.00	0.04	0.00	0.01
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.0	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	390	xxxxx	xxxx	503	xxxxx
SharedQueue:	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	0.2	xxxxx
Shrd ConDel:	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	15.6	xxxxx	xxxxx	12.6	xxxxx
Shared LOS:	A	*	*	*	*	*	*	C	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			15.6			12.6		
ApproachLOS:	*			*			C			B		

Note: Queue reported is the number of cars per lane.

704-712 West Las Tunas Dr- Mixed Use Project
Future With Project Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Mission Dr & Las Tunas Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.813
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	70	Level Of Service:	D

Street Name:	Mission Dr						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	119	108	59	59	136	40	43	1180	156	58	761	45
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	121	110	60	60	139	41	44	1204	159	59	776	46
Added Vol:	22	0	1	6	1	21	20	85	23	1	78	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	143	110	61	66	140	62	64	1289	182	60	854	50
User 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
PHF 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
PHF Volume:	143	110	61	66	140	62	64	1289	182	60	854	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	110	61	66	140	62	64	1289	182	60	854	50
PCE 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
MLF 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
FinalVolume:	143	110	61	66	140	62	64	1289	182	60	854	50
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.69	0.31	1.00	1.75	0.25	1.00	1.89	0.11
Final Sat.:	1600	1600	1600	1600	1109	491	1600	2804	396	1600	3023	177
Capacity Analysis Module:												
Vol/Sat:	0.09	0.07	0.04	0.04	0.13	0.13	0.04	0.46	0.46	0.04	0.28	0.28
Crit Moves:	****				****			****		****		

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Future With Project Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Santa Anita St & Las Tunas Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.745
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	56	Level Of Service:	C

Street Name:	Santa Anita St						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	56	164	98	50	157	54	68	1118	28	65	779	12
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	57	167	100	51	160	55	69	1140	29	66	795	12
Added Vol:	1	0	13	5	0	23	20	68	0	9	67	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	58	167	113	56	160	78	89	1208	29	75	862	16
User 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
PHF 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
PHF Volume:	58	167	113	56	160	78	89	1208	29	75	862	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	167	113	56	160	78	89	1208	29	75	862	16
PCE 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
MLF 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
FinalVolume:	58	167	113	56	160	78	89	1208	29	75	862	16
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.26	0.74	1.00	0.19	0.54	0.27	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	413	1187	1600	305	871	425	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.04	0.14	0.07	0.04	0.18	0.18	0.06	0.38	0.02	0.05	0.27	0.01
Crit Moves:	****				****			****		****		

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PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 Alanmay Ave & Las Tunas Dr

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: D[25.5]

Street Name:	Alanmay Ave						Las Tunas Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 0	1 1	0	1 0	2 0	0
Volume Module:												
Base Vol:	5	0	19	0	0	0	0	1227	5	25	873	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	5	0	19	0	0	0	0	1252	5	26	890	0
Added Vol:	-1	0	-1	0	0	0	0	89	4	3	87	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	0	18	0	0	0	0	1341	9	29	977	0
User 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
PHF 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
PHF Volume:	4	0	18	0	0	0	0	1341	9	29	977	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	4	0	18	0	0	0	0	1341	9	29	977	0
Critical Gap Module:												
Critical Gp:	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1891	2380	675	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1350	xxxx	xxxxx
Potent Cap.:	63	35	401	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	517	xxxx	xxxxx
Move Cap.:	61	33	401	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	517	xxxx	xxxxx
Volume/Cap:	0.07	0.00	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	12.4	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	198	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	25.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	D	*	*	*	*	*	*	*	*	*	*
ApproachDel:		25.5			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		D			*			*			*	

Note: Queue reported is the number of cars per lane.

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PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

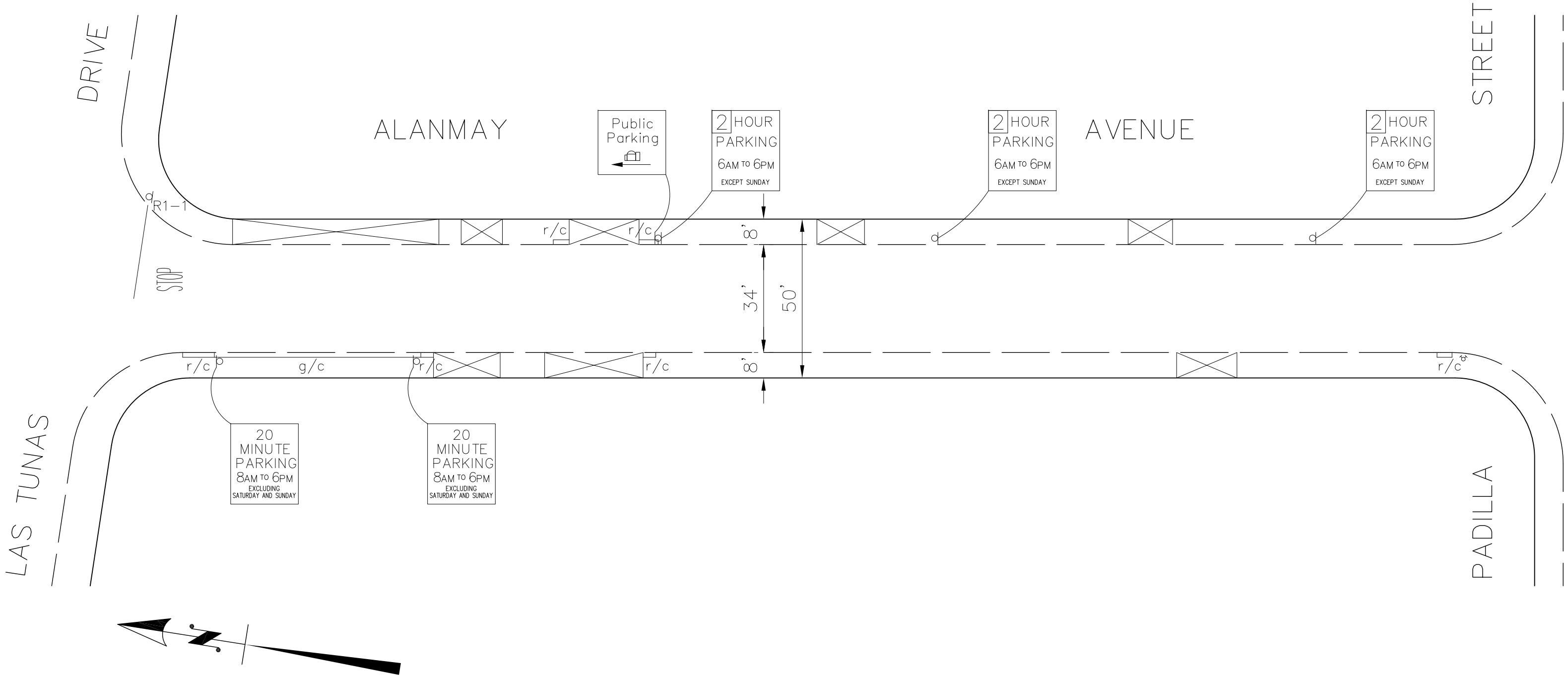
Intersection #4 Mission Dr & Padilla St

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: C[16.4]

Street Name:	Mission Dr						Padilla St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	1 0		1 0	1 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	18	298	6	43	432	43	20	3	13	33	2	26
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	18	301	6	43	436	43	20	3	13	33	2	26
Added Vol:	0	22	1	1	20	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	18	323	7	44	456	43	20	3	13	33	2	26
User 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
PHF 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
PHF Volume:	18	323	7	44	456	43	20	3	13	33	2	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	18	323	7	44	456	43	20	3	13	33	2	26
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	500	xxxx	xxxxx	330	xxxx	xxxxx	766	933	250	681	951	165
Potent Cap.:	1075	xxxx	xxxxx	1241	xxxx	xxxxx	296	268	756	340	262	857
Move Cap.:	1075	xxxx	xxxxx	1241	xxxx	xxxxx	274	254	756	318	248	857
Volume/Cap:	0.02	xxxx	xxxx	0.04	xxxx	xxxx	0.07	0.01	0.02	0.10	0.01	0.03
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.4	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	353	xxxxx	xxxx	429	xxxxx
SharedQueue:	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	0.5	xxxxx
Shrd ConDel:	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	16.4	xxxxx	xxxxx	14.8	xxxxx
Shared LOS:	A	*	*	*	*	*	*	C	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			16.4			14.8		
ApproachLOS:	*			*			C			B		

Note: Queue reported is the number of cars per lane.

APPENDIX F
Existing Parking Regulations Diagram – Alanmay Avenue, between Las Tunas Drive and Padilla Street



704-712 WEST LAS TUNAS DRIVE, SAN GABRIEL

- EXISTING STREET PARKING RESTRICTIONS ON ALANMAY AVE. BETWEEN LAS TUNAS DR AND PADILLA ST.

KOA CORPORATION
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1100 Corporate Center Drive, Suite 201
Monterey Park, California 91754-7632
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APPENDIX G
Signal Warrant Analysis Worksheets – Alanmay Avenue/Las Tunas Drive

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street:	Las Tunas Drive
Minor Street:	Alanmay Avenue
Scenario:	Future without Project

SUMMARY OF RESULTS

		Warrant Satisfy?
Warrant 1	Eight-Hour Vehicle Volume	No
Warrant 2	Four-Hour Vehicle Volume	No
Warrant 3	Peak Hour	No
Warrant 4	Pedestrian Volume	No
Warrant 5	School Crossing	No
Warrant 6	coordinated Signal System	No
Warrant 7	Crash Experience	No
Warrant 8	Roadway Network	No

Figure 4C-101 (CA). Traffic Signal Warrants Worksheets (Sheet 1 of 5)

Future without Project

DIST	CO	RTE	PM

COUNT DATE 9/18/2013
CALC _____ DATE _____
CHK _____ DATE _____

Major Street: **Las Tunas Drive** — Critical Approach Speed 30 mph
Minor Street: **Alanmay Avenue** — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) ☐
or
In built up area of isolated community of < 10,000 population ☐
} RURAL - R

☒ URBAN - U

WARRANT 1 - Eight Hour Vehicular Volume — SATISFIED YES ☐ NO ☒

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☐
80% SATISFIED YES ☐ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	17:00	18:00	13:00	8:00	16:00	15:00	12:00	14:00	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	1,993 (1,594)	1,863 (1,490)	1,661 (1,329)	1,665 (1,332)	1,606 (1,285)	1,605 (1,284)	1,603 (1,282)	1,575 (1,260)	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	33 (26)	49 (39)	33 (26)	21 (17)	25 (20)	25 (20)	24 (19)	21 (17)	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☐
80% SATISFIED YES ☐ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	17:00	18:00	13:00	8:00	16:00	15:00	12:00	14:00	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	1,993 (1,594)	1,863 (1,490)	1,661 (1,329)	1,665 (1,332)	1,606 (1,285)	1,605 (1,284)	1,603 (1,282)	1,575 (1,260)	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	33 (26)	49 (39)	33 (26)	21 (17)	25 (20)	25 (20)	24 (19)	21 (17)	

Combination of Conditions A & B — SATISFIED YES ☐ NO ☒

REQUIREMENT	CONDITION	X	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME		YES ☐ NO ☒
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC		
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			YES ☐ NO ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

INTERSECTION: Las Tunas Drive & Alanmay Avenue — Future without Project

Figure 4C-101 (CA). Traffic Signal Warrants Worksheets (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume

SATISFIED* **YES** ☐ **NO** ☒

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	17:00	18:00	13:00	8:00	Hour
Both Approaches - Major Street		x	1,993	1,863	1,661	1,665	
Higher Approach - Minor Street	x		33	49	33	21	

*All plotted points fall above the curves in Figure 4C-1. (Urban Areas)	YES ☐	NO ☐
OR, All plotted points fall above the curves in Figure 4C-2. (Rural Areas)	YES ☐	NO ☒

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied)

SATISFIED **YES** ☐ **NO** ☒

PART A

SATISFIED **YES** ☐ **NO** ☒

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1	The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND *25.8 seconds in delay & 0 vehicle-hours of delay*	YES ☐	NO ☒
2	The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	YES ☐	NO ☒
3	The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	YES ☒	NO ☐

PART B

SATISFIED **YES** ☐ **NO** ☒

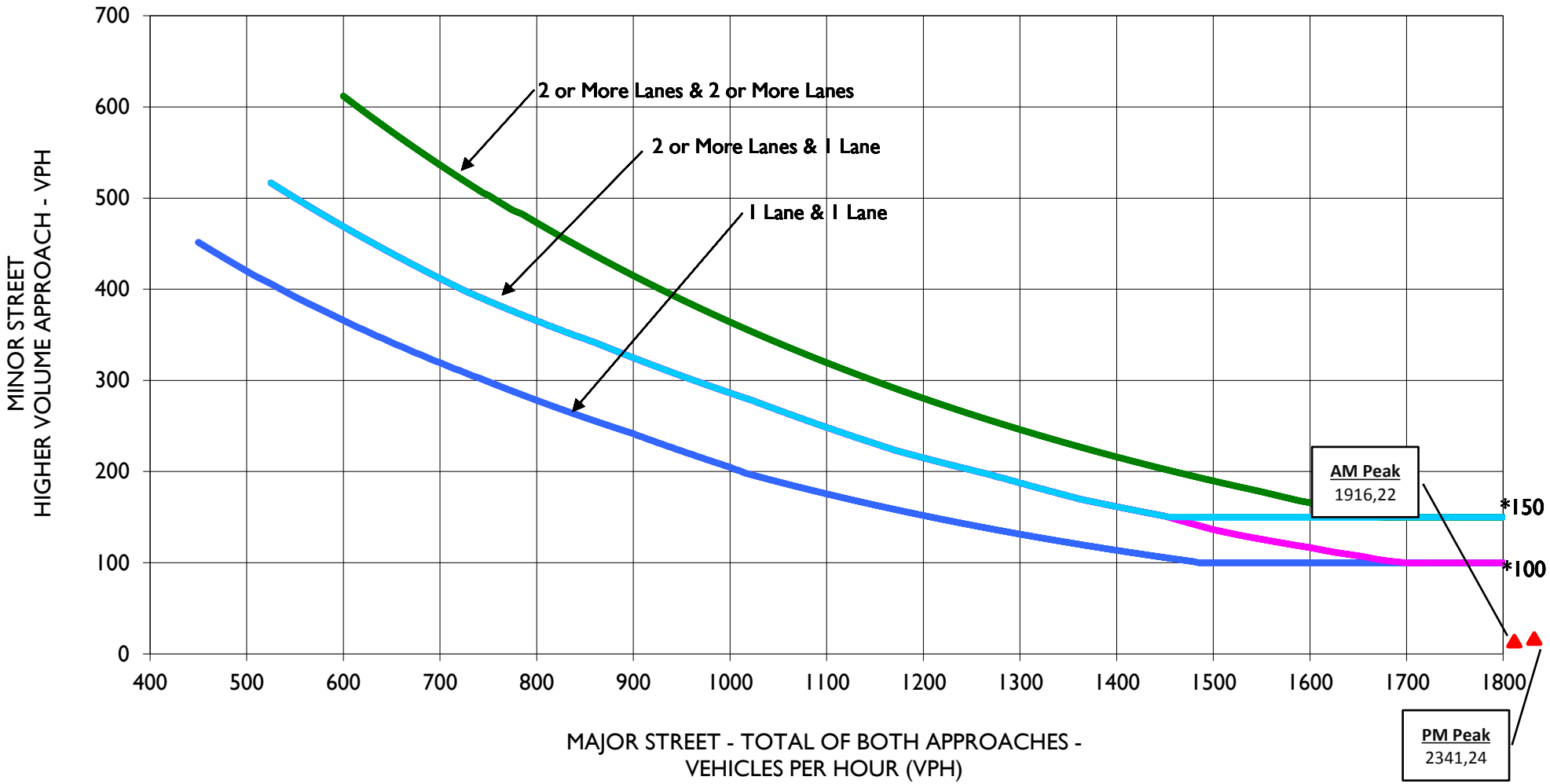
APPROACH LANES	One	2 or More	am peak	pm peak
Both Approaches - Major Street		x	1,916	2,341
Higher Approach - Minor Street	x		22	24

The plotted point falls above the curve in Figure 4C-3.	YES ☐	NO ☒
OR, The plotted point falls above the curve in Figure 4C-4.	YES ☐	NO ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

KOA CORPORATION
PLANNING & ENGINEERING

Alanmay Avenue & Las Tunas Drive
AM (PM) Peak hour Traffic Signal Warrant Based on California Manual on Uniform Traffic Control Devices, 2013
Future without Projects Conditions



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

LEGEND
▲ Las Tunas Drive (2 Lane Major Street): 1916 (2341) VPH
▲ Alanmay Avenue (1 Lane Minor Street): 22 (24) VPH

Peak Hour Volumes Satify Warrants? NO

INTERSECTION: Las Tunas Drive & Alanmay Avenue — Future without Project

Figure 4C-101 (CA). Traffic Signal Warrants Worksheets (Sheet 3 of 5)

WARRANT 4 - Pedestrian Volume
(Parts 1 and 2 Must be Satisfied)

SATISFIED YES [ ] NO [X]

PART 1 (Parts A or B must be satisfied)

A

Hours - - ->	7:00 AM	8:00 AM	4:00 PM	3:00 PM
Vehicles per hour for any 4 hours	1,480	1,523	1,703	2,173
Pedestrians per hour for any 4 hours	0	1	0	1

FIGURE 4C-5 OR FIGURE 4C-6
SATISFIED YES [ ] NO [ ]

B

Hours - - ->	7:00 AM	8:00 AM	4:00 PM	3:00 PM
Vehicles per hour for any 1 hour	1,480	1,523	1,703	2,173
Pedestrians per hour for any 1 hour	0	1	0	1

FIGURE 4C-7 OR FIGURE 4C-8
SATISFIED YES [ ] NO [X]

PART 2 — SATISFIED YES [X] NO [ ]

AND, The distance to the nearest traffic signal along the major street is greater than 90m (300 ft).	Approx. 440 Feet	Yes [X]	[ ]
OR, The proposed traffic signal will not restrict progressive traffic flow along the major street.		Yes [ ]	[ ]

WARRANT 5 - School Crossing
(Parts A and B, or Part C Must Be Satisfied)

SATISFIED YES [ ] NO [X]

PART A — SATISFIED YES [ ] NO [X]

Gap/Minutes and # of Children

		Hour		
Gaps vs. Minutes	Minutes Children Using Crossing	0		
	Number of Adequate Gaps	0	Gaps < Minutes	Yes [ ] No [ ]
Schools Age Pedestrian Crossing Street / hr		0	AND Children > 20 / hr	Yes [ ] No [ ]

AND, Consideration has been given to less restrictive remedial measures	Yes [ ]	No [ ]

PART B — SATISFIED YES [X] NO [ ]

The distance to the nearest traffic signal along the major street is greater than 90 m (300ft).	Approx. 440 Feet	Yes [X]	No [ ]
OR, The proposed signal will not restrict the progressive movement of traffic.		Yes [ ]	No [ ]

PART C (All Parts 1, 2, and 3 below must be satisfied) — SATISFIED YES [ ] NO [ ]

		U	Ry*	AM Peak	PM Peak		
1	Vehicles / hr	500	350	0	0	Yes [ ]	No [ ]
	AND, School Age Pedestrians Crossing Street / hr	100	70	0	0	Yes [ ]	No [ ]
	OR, School Age Pedestrians Crossing Street / day	500	350	0	0	Yes [ ]	No [ ]

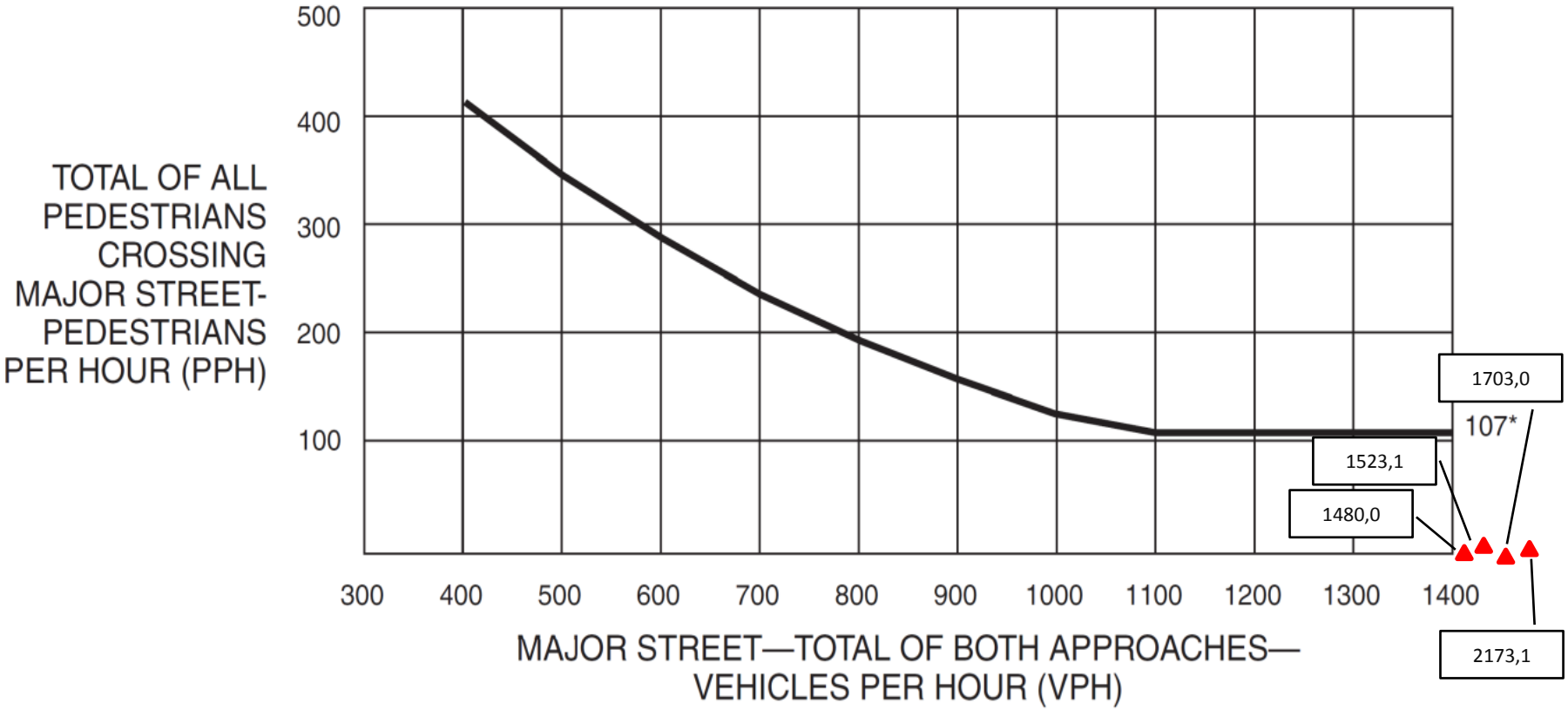
* When the critical (85th percentile) approach speed exceeds 55km/h (35mph) or the sight distance to the intersection is less than the required stopping distance, rural criteria should be used.

2	Other signal warrants are met.	Approx.	Yes [ ]	No [ ]
3	The distance to the nearest controlled crossing is greater than 180 m (600ft).	440 Feet	Yes [ ]	No [ ]

The satisfaction of a traffic signal warrant or warrants shall not in itself required the installation of a traffic control signal.

KOA CORPORATION
PLANNING & ENGINEERING

Alanmay Avenue & Las Tunas Drive
Pedestiran Four Hour Traffic Signal Warrant Based on
California Manual on Uniform Traffic Control Devices, 2013
Future without Projects Conditions
Warrant 4



*Note: 107 pph applies as the lower threshold volume.

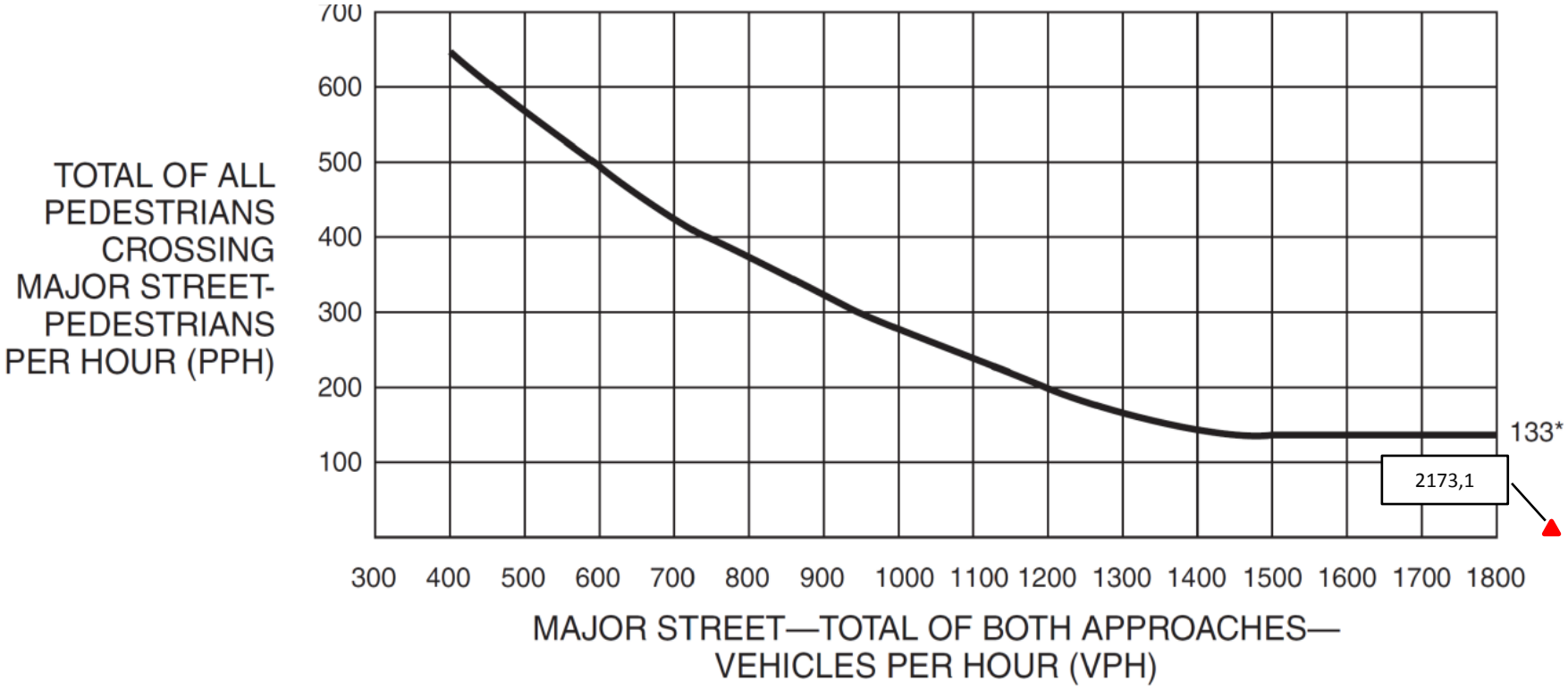
LEGEND

▲ Pedestrian volume (VPH, PPH)

Satisfy Peak Hour Pedestrian Warrants? NO

KOA CORPORATION
PLANNING & ENGINEERING

Alanmay Avenue & Las Tunas Drive
Pedestrian Peak Hour Traffic Signal Warrant Based on
California Manual on Uniform Traffic Control Devices, 2013
Future without Projects Conditions
Warrant 4



*Note: 133 pph applies as the lower threshold volume.

LEGEND
▲ Pedestrian volume (VPH, PPH)

Satisfy Peak Hour Pedestrian Warrants? NO

INTERSECTION: Las Tunas Drive & Alanmay Avenue — Future without Project

Figure 4C-101 (CA). Traffic Signal Warrants Worksheets (Sheet 4 of 5)

WARRANT 6 - Coordinated Signal System (All Parts Must be Satisfied)

SATISFIED YES ☐ NO ☒

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	
≥ 300 M (1,000 FT)	N ____ FT, S ____ F E 1,043 FT, W 440 FT,	YES ☒ NO ☐
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning. OR, On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.		YES ☐ NO ☒

WARRANT 7 - Crash Experience Warrant (All Parts Must be Satisfied)

SATISFIED YES ☐ NO ☒

Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency.			YES ☐ NO ☒
REQUIREMENTS	Number of crashes within a 12 month period susceptible to correction by a and involving injury or damage exceeding the requirements for a reportable crash.		YES ☐ NO ☒
5 OR MORE			
REQUIREMENTS	CONDITIONS	X	
ONE CONDITION SATISFIED 80%	Warrant 1, Condition A - Minimum Vehicular Volume		YES ☐ NO ☒
	OR, Warrant 1, Condition B - Interruption of Continuous Traffic		
	OR, Warrant 4, Pedestrian Volume Condition Ped Vol ≥ 152 for any hour OR, Ped Vol ≥ 80 for any 4 hours		

WARRANT 8 - Roadway Network (All Parts Must be Satisfied)

SATISFIED YES ☐ NO ☒

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES	X	FULFILLED
1,000 Vehicle / Hour	During Typical Weekday Peak Hour 2,335 Veh / Hr and has 5-year projected traffic volumes that meet one or more of Warrants 1, 2, and 3 during an average weekday.		YES ☐ NO ☒
	OR		
	During Each of Any 5 Hours of a Saturday and/or Sunday ____ Veh / Hr		

CHARACTERISTICS OF MAJOR ROUTES	MAJOR ROUTE A	MAJOR ROUTE B
Highway System Serving as Principle Network for Through Traffic		
Rural or Suburban Highway Outside Of, Entering, or Traversing a City		
Appears as Major route on an Official Plan		
Any Major Route Characteristics Met, Both Streets		YES ☐ NO ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street:	Las Tunas Drive
Minor Street:	Alanmay Avenue
Scenario:	Future with Project

SUMMARY OF RESULTS

		Warrant Satisfy?
Warrant 1	Eight-Hour Vehicle Volume	No
Warrant 2	Four-Hour Vehicle Volume	No
Warrant 3	Peak Hour	No
Warrant 4	Pedestrian Volume	No
Warrant 5	School Crossing	No
Warrant 6	coordinated Signal System	No
Warrant 7	Crash Experience	No
Warrant 8	Roadway Network	No

Figure 4C-101 (CA). Traffic Signal Warrants Worksheets (Sheet 1 of 5)

Future with Project

DIST	CO	RTE	PM

COUNT DATE 9/18/2013
CALC _____ DATE _____
CHK _____ DATE _____

Major Street: **Las Tunas Drive** — Critical Approach Speed 30 mph
Minor Street: **Alanmay Avenue** — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) ☐
or
In built up area of isolated community of < 10,000 population ☐
} RURAL - R

☒ URBAN - U

WARRANT 1 - Eight Hour Vehicular Volume — SATISFIED YES ☐ NO ☒

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)											
	U	R	U	R								
APPROACH LANES	1		2 or More		17:00	18:00	13:00	8:00	16:00	15:00	12:00	14:00
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	1,993 (1,594)	1,863 (1,490)	1,661 (1,329)	1,930 (1,544)	1,789 (1,431)	1,605 (1,284)	1,603 (1,282)	1,575 (1,260)
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	33 (26)	49 (39)	33 (26)	31 (25)	23 (18)	25 (20)	24 (19)	21 (17)

Hour

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)											
	U	R	U	R								
APPROACH LANES	1		2 or More		17:00	18:00	13:00	8:00	16:00	15:00	12:00	14:00
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	1,993 (1,594)	1,863 (1,490)	1,661 (1,329)	1,930 (1,544)	1,789 (1,431)	1,605 (1,284)	1,603 (1,282)	1,575 (1,260)
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	33 (26)	49 (39)	33 (26)	31 (25)	23 (18)	25 (20)	24 (19)	21 (17)

Hour

Combination of Conditions A & B — SATISFIED YES ☐ NO ☒

REQUIREMENT	CONDITION	X	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME		YES ☐ NO ☒
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC		
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			YES ☐ NO ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

INTERSECTION: Las Tunas Drive & Alanmay Avenue — Future with Project

Figure 4C-101 (CA). Traffic Signal Warrants Worksheets (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume

SATISFIED* **YES** ☐ **NO** ☒

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	17:00	18:00	13:00	8:00	Hour
Both Approaches - Major Street		x	1,993	1,863	1,661	1,930	
Higher Approach - Minor Street	x		33	49	33	31	

*All plotted points fall above the curves in Figure 4C-1. (Urban Areas)	YES ☐	NO ☐
OR, All plotted points fall above the curves in Figure 4C-2. (Rural Areas)	YES ☐	NO ☒

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied)

SATISFIED **YES** ☐ **NO** ☒

PART A

SATISFIED **YES** ☐ **NO** ☒

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1	The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND *30.1 seconds in delay & 0 vehicle-hours of delay*	YES ☐	NO ☒
2	The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	YES ☐	NO ☒
3	The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	YES ☒	NO ☐

PART B

SATISFIED **YES** ☐ **NO** ☒

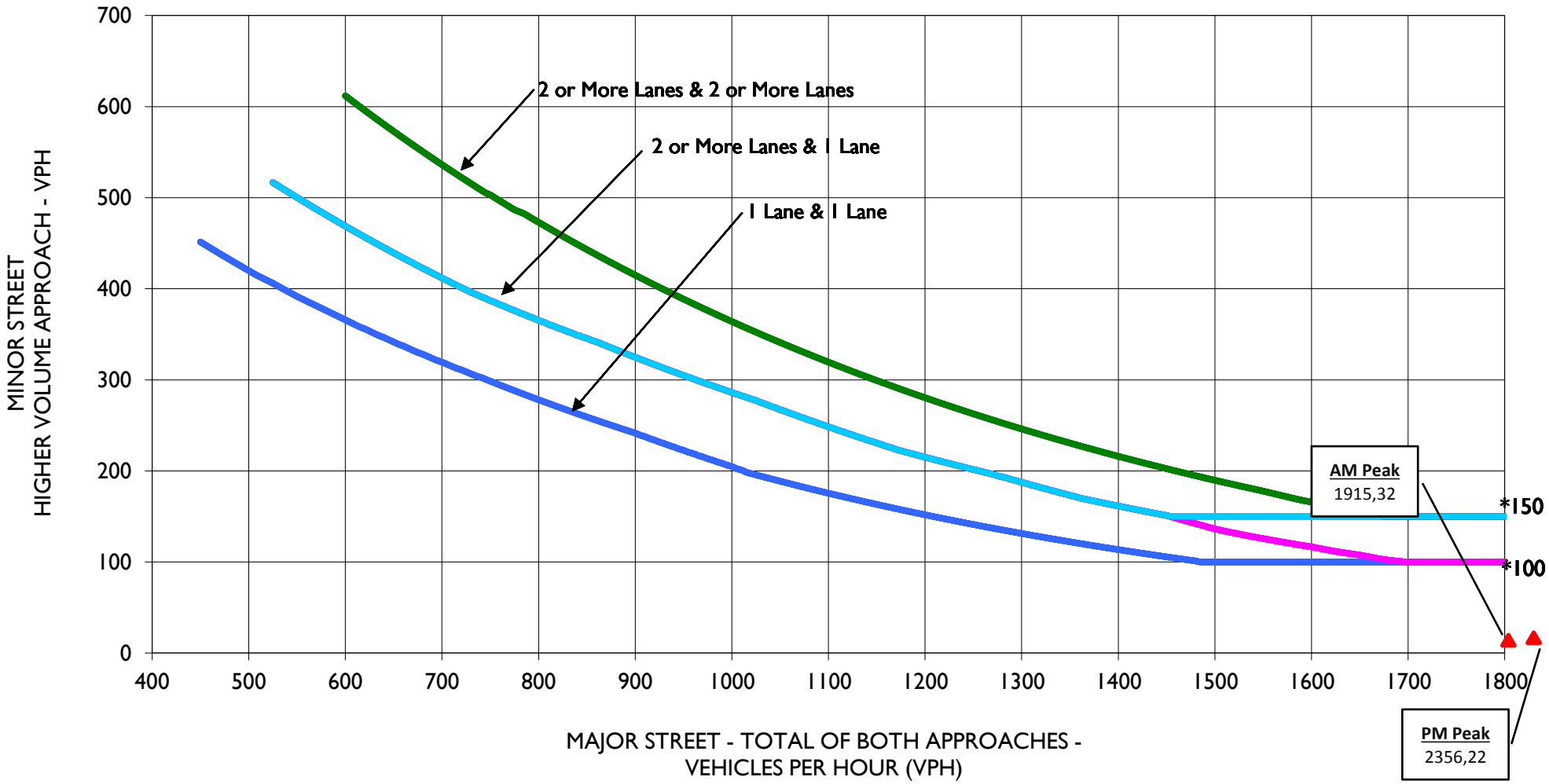
APPROACH LANES	One	2 or More	am peak	pm peak
Both Approaches - Major Street		x	1,915	2,356
Higher Approach - Minor Street	x		32	22

The plotted point falls above the curve in Figure 4C-3.	YES ☐	NO ☒
OR, The plotted point falls above the curve in Figure 4C-4.	YES ☐	NO ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

KOA CORPORATION
PLANNING & ENGINEERING

Alanmay Avenue & Las Tunas Drive
AM (PM) Peak hour Traffic Signal Warrant Based on California Manual on Uniform Traffic Control Devices, 2013
Future with Projects Conditions



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

LEGEND
▲ Las Tunas Drive (2 Lane Major Street): 1915 (2356) VPH
Alanmay Avenue (1 Lane Minor Street): 32 (22) VPH

Peak Hour Volumes Satify Warrants? NO

INTERSECTION: Las Tunas Drive & Alanmay Avenue — Future with Project

Figure 4C-101 (CA). Traffic Signal Warrants Worksheets (Sheet 3 of 5)

WARRANT 4 - Pedestrian Volume
(Parts 1 and 2 Must be Satisfied)

SATISFIED YES [ ] NO [X]

PART 1 (Parts A or B must be satisfied)

A

Hours - - ->	7:00 AM	8:00 AM	4:00 PM	3:00 PM
Vehicles per hour for any 4 hours	1,480	1,523	1,703	2,173
Pedestrians per hour for any 4 hours	0	1	0	1

FIGURE 4C-5 OR FIGURE 4C-6
SATISFIED YES [ ] NO [ ]

B

Hours - - ->	7:00 AM	8:00 AM	4:00 PM	3:00 PM
Vehicles per hour for any 1 hour	1,480	1,523	1,703	2,173
Pedestrians per hour for any 1 hour	0	1	0	1

FIGURE 4C-7 OR FIGURE 4C-8
SATISFIED YES [ ] NO [X]

PART 2 — SATISFIED YES [X] NO [ ]

AND, The distance to the nearest traffic signal along the major street is greater than 90m (300 ft).	Approx. 440 Feet	Yes [X]	[ ]
OR, The proposed traffic signal will not restrict progressive traffic flow along the major street.		Yes [ ]	[ ]

WARRANT 5 - School Crossing
(Parts A and B, or Part C Must Be Satisfied)

SATISFIED YES [ ] NO [X]

PART A — SATISFIED YES [ ] NO [X]

Gap/Minutes and # of Children

		Hour		
Gaps vs. Minutes	Minutes Children Using Crossing	0		
	Number of Adequate Gaps	0	Gaps < Minutes	Yes [ ] No [ ]
Schools Age Pedestrian Crossing Street / hr		0	AND Children > 20 / hr	Yes [ ] No [ ]

AND, Consideration has been given to less restrictive remedial measures	Yes [ ]	No [ ]

PART B — SATISFIED YES [X] NO [ ]

The distance to the nearest traffic signal along the major street is greater than 90 m (300ft).	Approx. 440 Feet	Yes [X]	No [ ]
OR, The proposed signal will not restrict the progressive movement of traffic.		Yes [X]	No [ ]

PART C (All Parts 1, 2, and 3 below must be satisfied) — SATISFIED YES [ ] NO [ ]

		U	Ry*	AM Peak	PM Peak		
1	Vehicles / hr	500	350	0	0	Yes [ ]	No [ ]
	AND, School Age Pedestrians Crossing Street / hr	100	70	0	0	Yes [ ]	No [ ]
	OR, School Age Pedestrians Crossing Street / day	500	350	0	0	Yes [ ]	No [ ]

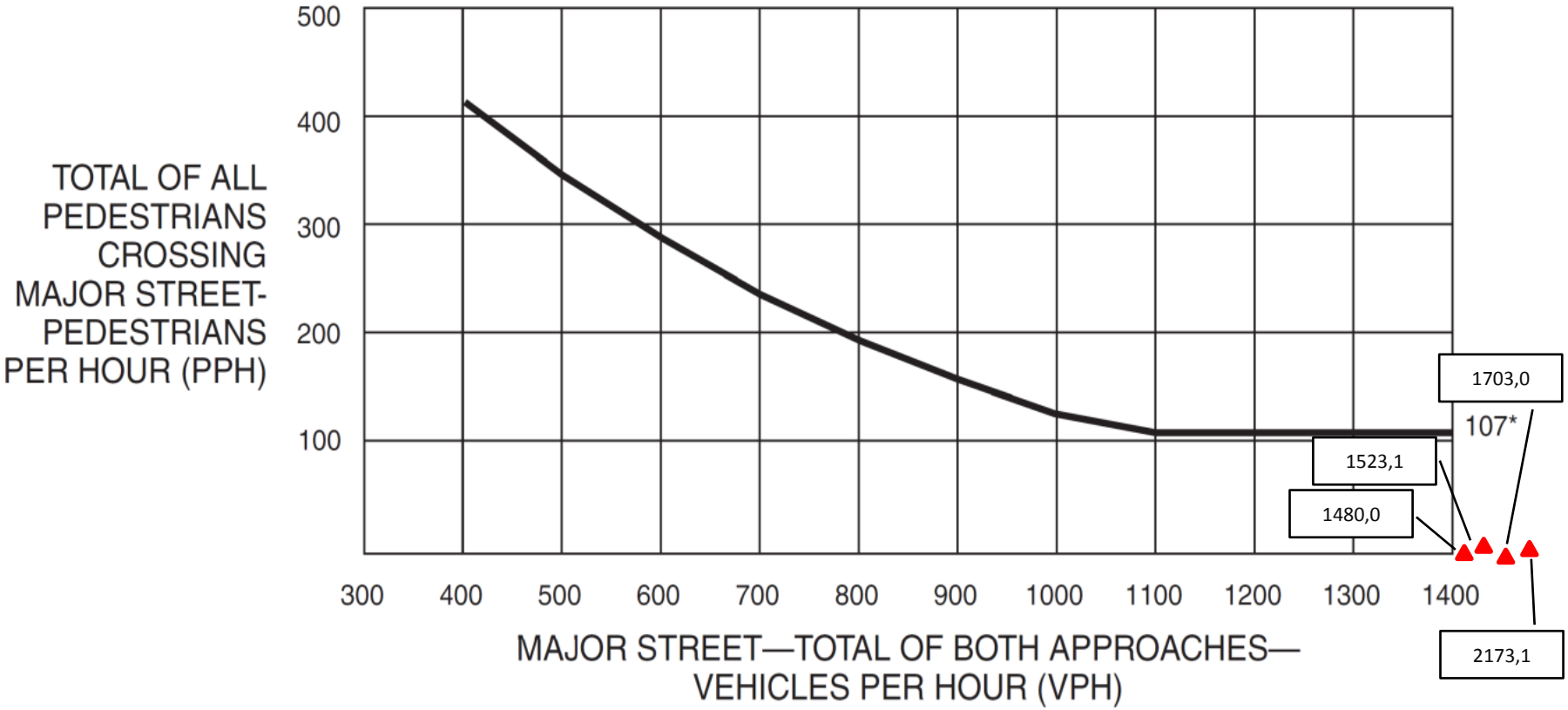
* When the critical (85th percentile) approach speed exceeds 55km/h (35mph) or the sight distance to the intersection is less than the required stopping distance, rural criteria should be used.

2	Other signal warrants are met.	Approx.	Yes [ ]	No [ ]
3	The distance to the nearest controlled crossing is greater than 180 m (600ft).	440 Feet	Yes [ ]	No [ ]

The satisfaction of a traffic signal warrant or warrants shall not in itself required the installation of a traffic control signal.

KOA CORPORATION
PLANNING & ENGINEERING

Alanmay Avenue & Las Tunas Drive
Pedestiran Four Hour Traffic Signal Warrant Based on
California Manual on Uniform Traffic Control Devices, 2013
Future with Projects Conditions
Warrant 4



*Note: 107 pph applies as the lower threshold volume.

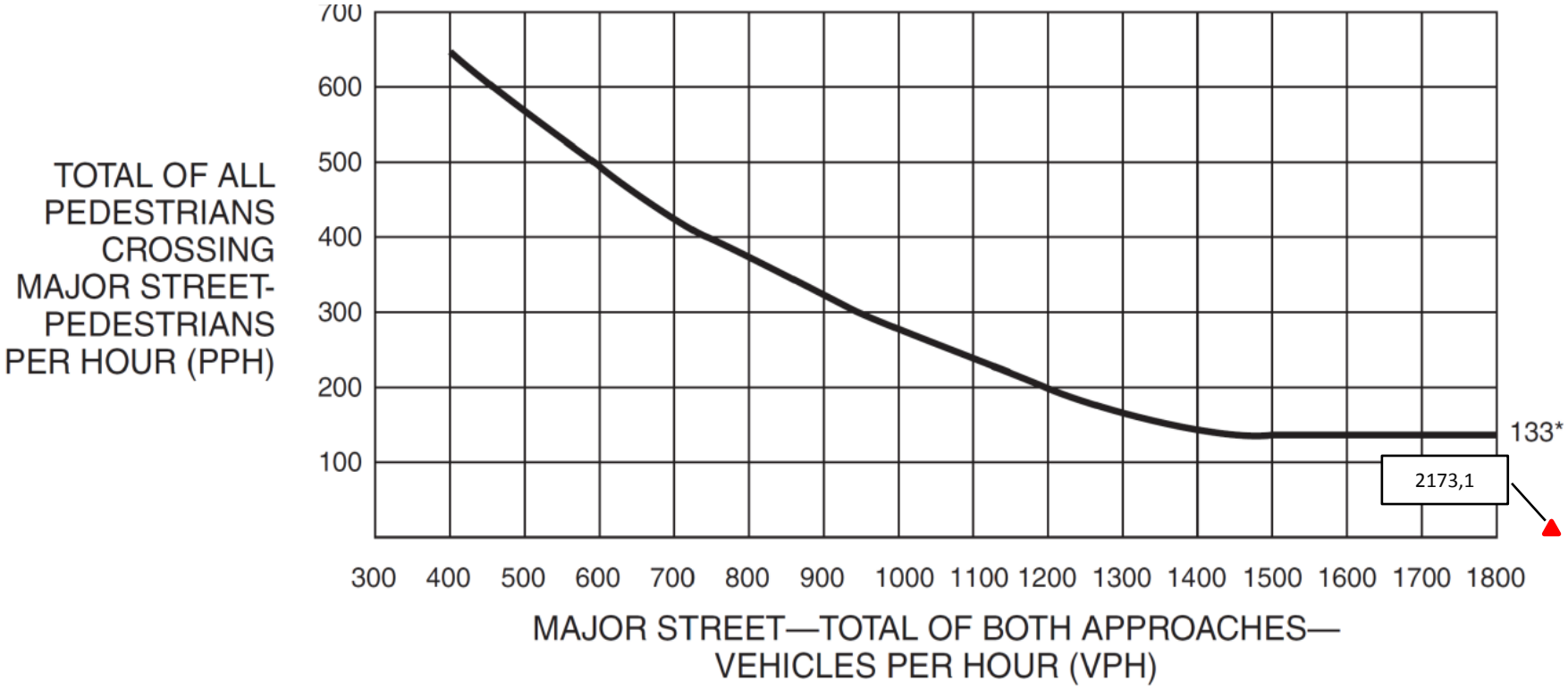
LEGEND

▲ Pedestrian volume (VPH, PPH)

Satisfy Peak Hour Pedestrian Warrants? NO

KOA CORPORATION
PLANNING & ENGINEERING

Alanmay Avenue & Las Tunas Drive
Pedestrian Peak Hour Traffic Signal Warrant Based on
California Manual on Uniform Traffic Control Devices, 2013
Future with Projects Conditions
Warrant 4



*Note: 133 pph applies as the lower threshold volume.

LEGEND

▲ Pedestrian volume (VPH, PPH)

Satisfy Peak Hour Pedestrian Warrants? NO

INTERSECTION: Las Tunas Drive & Alanmay Avenue — Future with Project

Figure 4C-101 (CA). Traffic Signal Warrants Worksheets (Sheet 4 of 5)

WARRANT 6 - Coordinated Signal System (All Parts Must be Satisfied)

SATISFIED YES ☐ NO ☒

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	
≥ 300 M (1,000 FT)	N ____ FT, S ____ F E 1,043 FT, W 440 FT,	YES ☒ NO ☐
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning. OR, On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.		YES ☐ NO ☒

WARRANT 7 - Crash Experience Warrant (All Parts Must be Satisfied)

SATISFIED YES ☐ NO ☒

Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency.			YES ☐ NO ☒
REQUIREMENTS	Number of crashes within a 12 month period susceptible to correction by a and involving injury or damage exceeding the requirements for a reportable crash.		YES ☐ NO ☒
5 OR MORE			
REQUIREMENTS	CONDITIONS	X	YES ☐ NO ☒
ONE CONDITION SATISFIED 80%	Warrant 1, Condition A - Minimum Vehicular Volume		
	OR, Warrant 1, Condition B - Interruption of Continuous Traffic		
	OR, Warrant 4, Pedestrian Volume Condition Ped Vol ≥ 152 for any hour OR, Ped Vol ≥ 80 for any 4 hours		

WARRANT 8 - Roadway Network (All Parts Must be Satisfied)

SATISFIED YES ☐ NO ☒

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES	X	FULFILLED
1,000 Vehicle / Hour	During Typical Weekday Peak Hour 2,335 Veh / Hr and has 5-year projected traffic volumes that meet one or more of Warrants 1, 2, and 3 during an average weekday.		YES ☐ NO ☒
	OR		
	During Each of Any 5 Hours of a Saturday and/or Sunday ____ Veh / Hr		

CHARACTERISTICS OF MAJOR ROUTES	MAJOR ROUTE A	MAJOR ROUTE B
Highway System Serving as Principle Network for Through Traffic		
Rural or Suburban Highway Outside Of, Entering, or Traversing a City		
Appears as Major route on an Official Plan		
Any Major Route Characteristics Met, Both Streets		YES ☐ NO ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.