SJMR PUD

Transportation Impact Analysis

Prepared for:
Neal Communities
5800 Lakewood Ranch Boulevard
Sarasota, Florida 34240

Prepared by:
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November 2017

SJMR Property
Transportation Impact Analysis

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Professional Engineer's Certification

I hereby certify that I am a Licensed Professional Engineer in the State of Florida practicing with Stantec Consulting Services Inc. and that I have supervised the preparation of and approve the evaluations, findings, opinions, conclusions, and technical advice hereby reported for:

PROJECT: SJMR PUD
Transportation Impact Analysis
215810708

LOCATION: East of the Jacaranda Boulevard Extension between Border Road and Laurel Road in Venice, Florida

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Prepared by:

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Date

Introduction

The purpose of this study is to determine the transportation impacts of the proposed SJMR PUD located east of the Jacaranda Boulevard Extension between Border Road and Laurel Road in Venice, Florida. The proposed development is shown in Figure 1.

The property is currently vacant. The petitioner proposes to construct a total of 539 dwelling units: 370 single-family detached dwelling units and 169 single-family attached dwelling units (paired villas). The development will utilize two new connections, one to Laurel Road and one to Border Road. The build-out year for the development is 2024. Prior to undertaking the study, a methodology statement was submitted to the City of Venice on October 3, 2017. A copy of the proposed methodology is attached in Appendix A. The unit mix and number of units used in the analysis differ slightly from what was assumed in the methodology, but result in essentially the same trip generation.

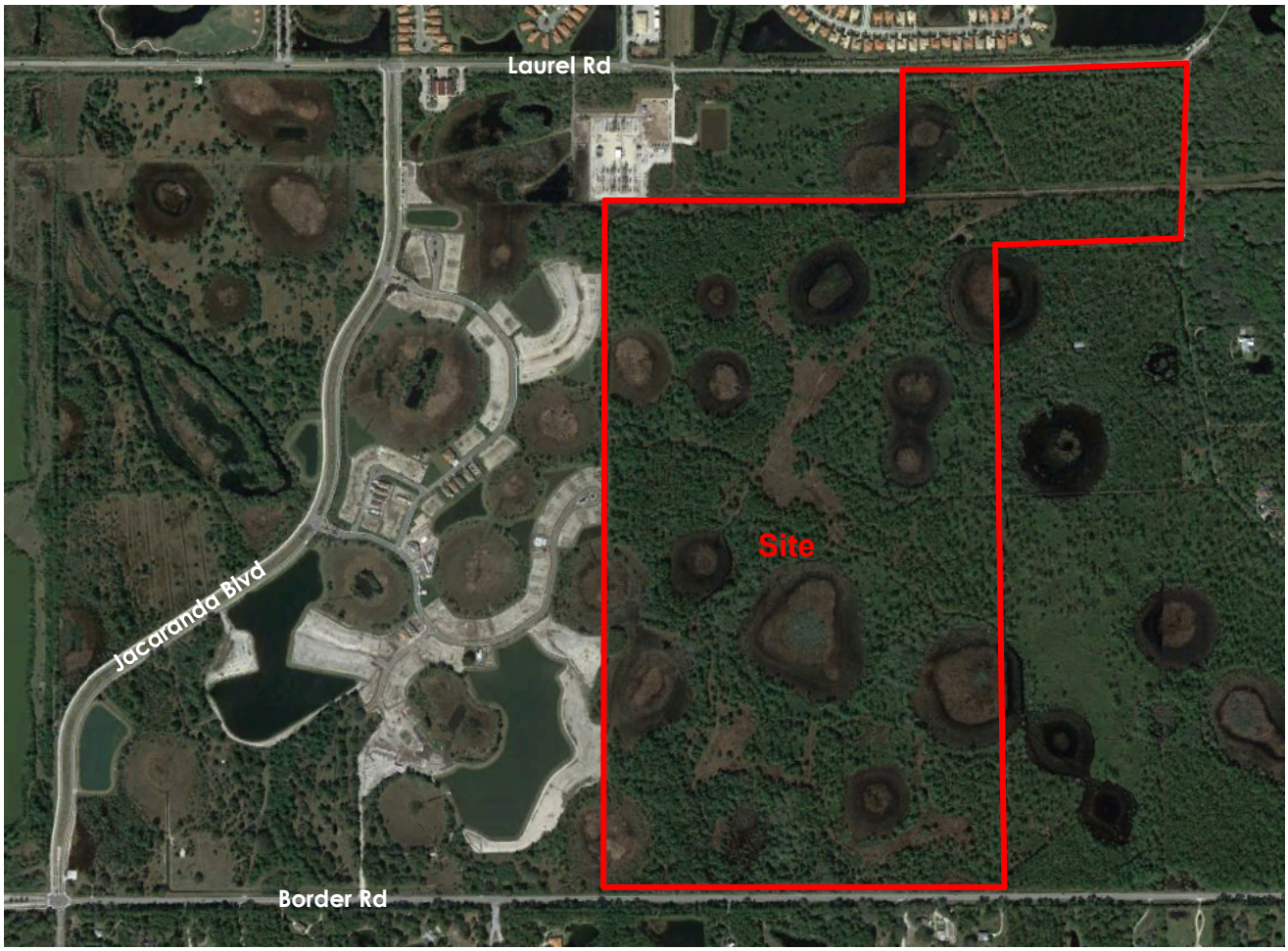

Figure 1: Project Location

Trip Generation

Traffic volumes generated by the project were estimated using the Institute of Transportation Engineers (ITE), Trip Generation Manual – the 9th Edition (2012). Land Use 210 Code (Single-Family Detached Housing) and Land Use Code 230 (Condominium/Townhouse) were used to estimate the PM peak-hour trip generation potential. The estimated external trips generated by the development are 433 PM peak-hour two-way trip ends (277 entering; 156 exiting). The trip generation results are summarized in Table 1.

Table 1: PM Peak-Hour Trip Generation

ITE Land Use Category	Variable	Size	PM Peak Trip Rate/ Equation	PM Enter Split	PM Exit Split	PM Peak Total Trips		
						Total	Enter	Exit
Single-Family Detached Housing - 210	Per Unit	370	ln(T) = 0.90ln(x) + 0.51	63%	37%	341	215	126
Condominium/Townhouse - 230	Per Unit	169	ln(T) = 0.82ln(x) + 0.32	67%	33%	92	62	30
				TOTAL		**433**	**277**	**156**

Project Traffic Distribution/Assignment

The traffic generated by the proposed project was distributed and assigned to the adjacent roadway network using the FDOT D1 Districtwide 2018 Existing plus Committed travel demand model with 2040 socioeconomic data. Based on discussions with City staff, a manual adjustment to the travel demand model distribution was made to remove north-south project traffic assigned to Auburn Road and shift those trips onto Jacaranda Boulevard, a more likely north-south route. Additionally, the model assigns 4.8% of the project traffic to TAZ 4908, a primarily residential TAZ. The majority of that traffic was reassigned onto Jackson Road and Venice Avenue.

The project traffic distribution is shown in Figure 2. Once the distribution was determined, project traffic was assigned to all functionally classified roadways listed in Sarasota County's 2015 *Generalized Level of Service Analysis Table*. The project traffic assignment on functionally classified roadways is shown in Figure 3.

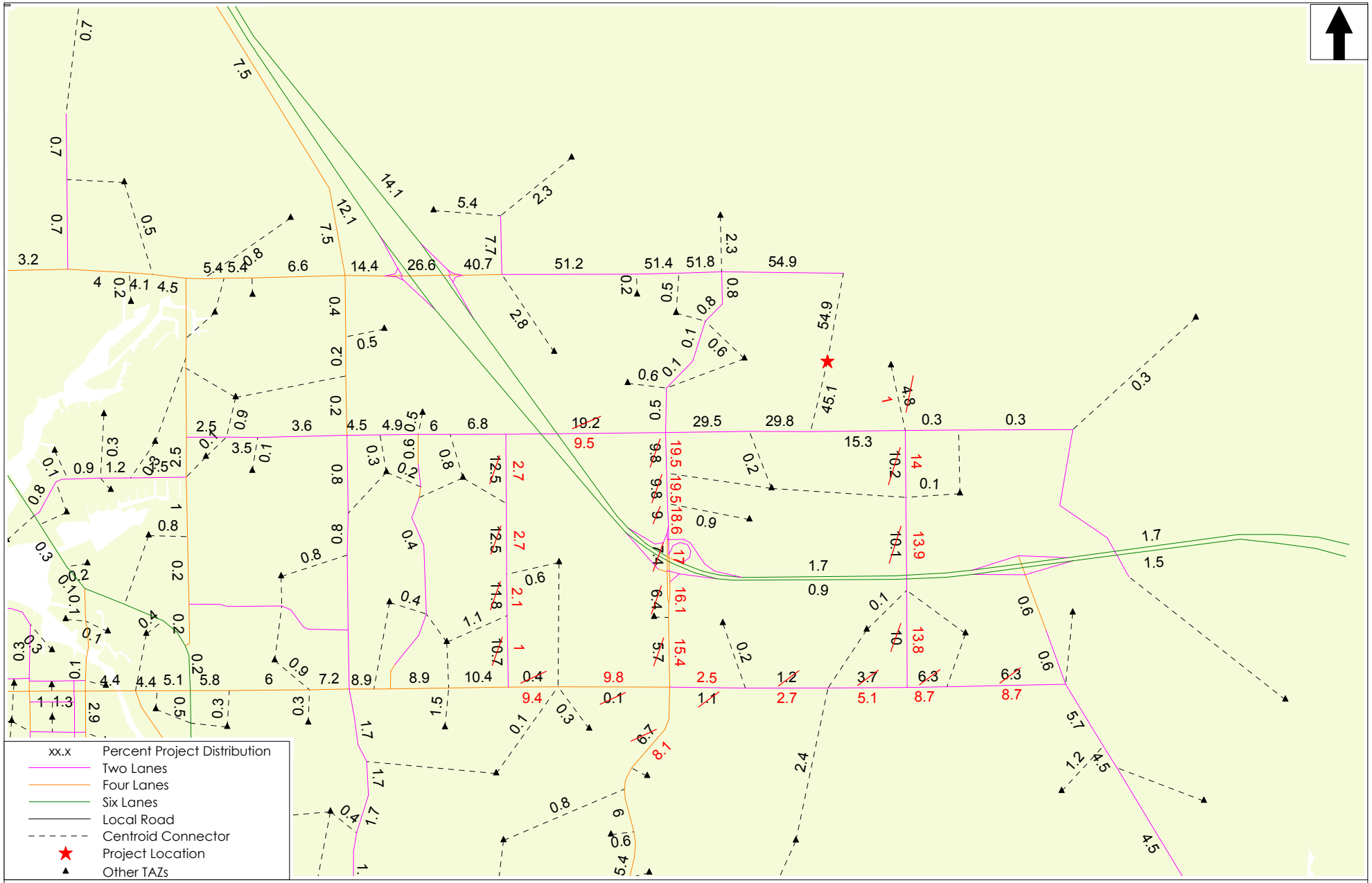

Figure 2: Project Traffic Distribution
2018 Existing Plus Committed Network
Hurt Property

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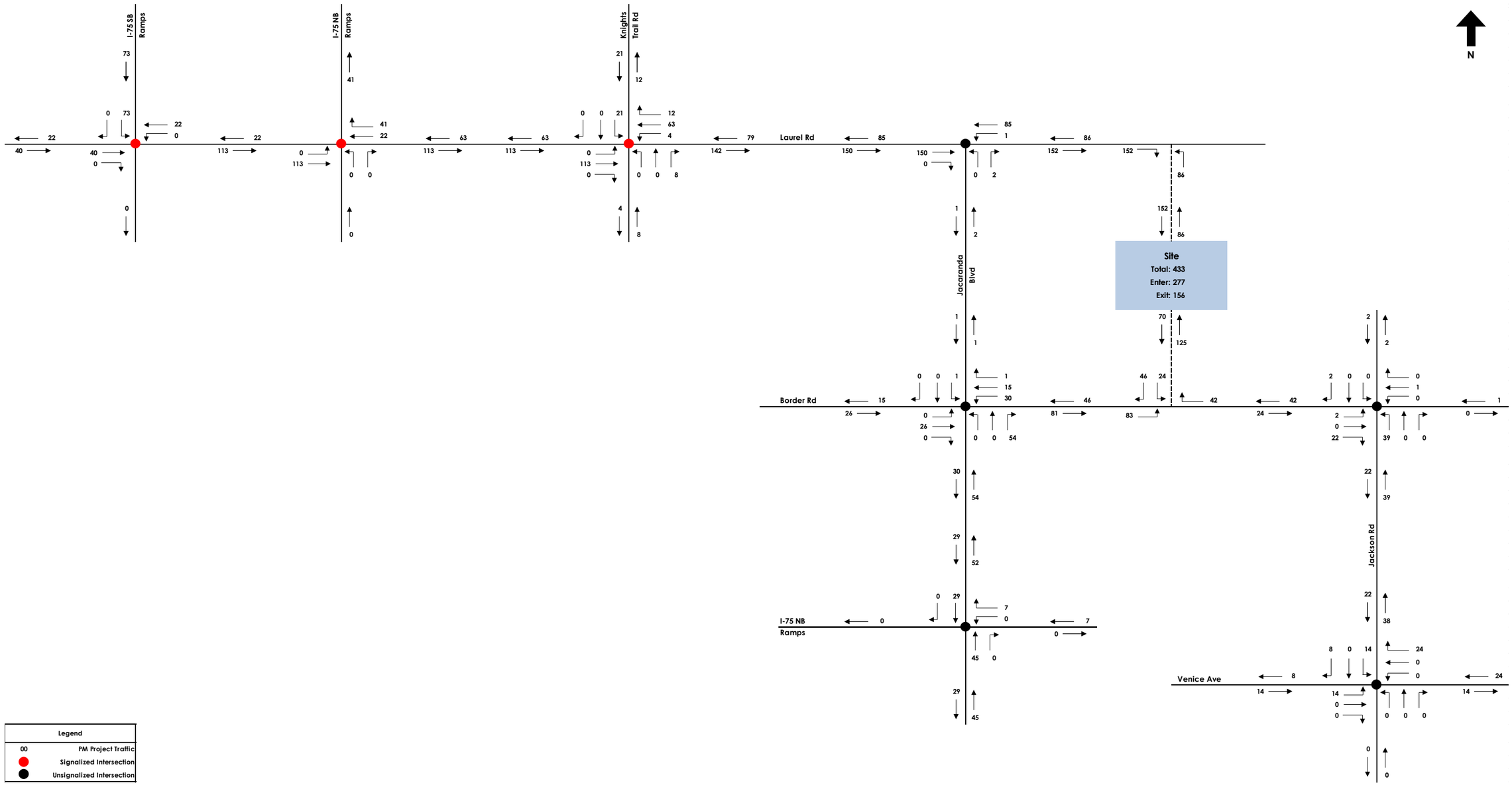


Figure 3: Project Traffic Assignment

Study Area

The study area consists of arterial and collector roads in which project traffic is expected to consume at least five percent of the peak-hour two-way level-of-service standard or any roadway segment to which the development has direct access or which the development accesses via local and private roads.

The results of the study area determination are provided in Table 2. Per the City of Venice's criteria, eight regulated roadway segments meet the significance threshold and were evaluated as part of this analysis.

Table 2: Study Area Determination

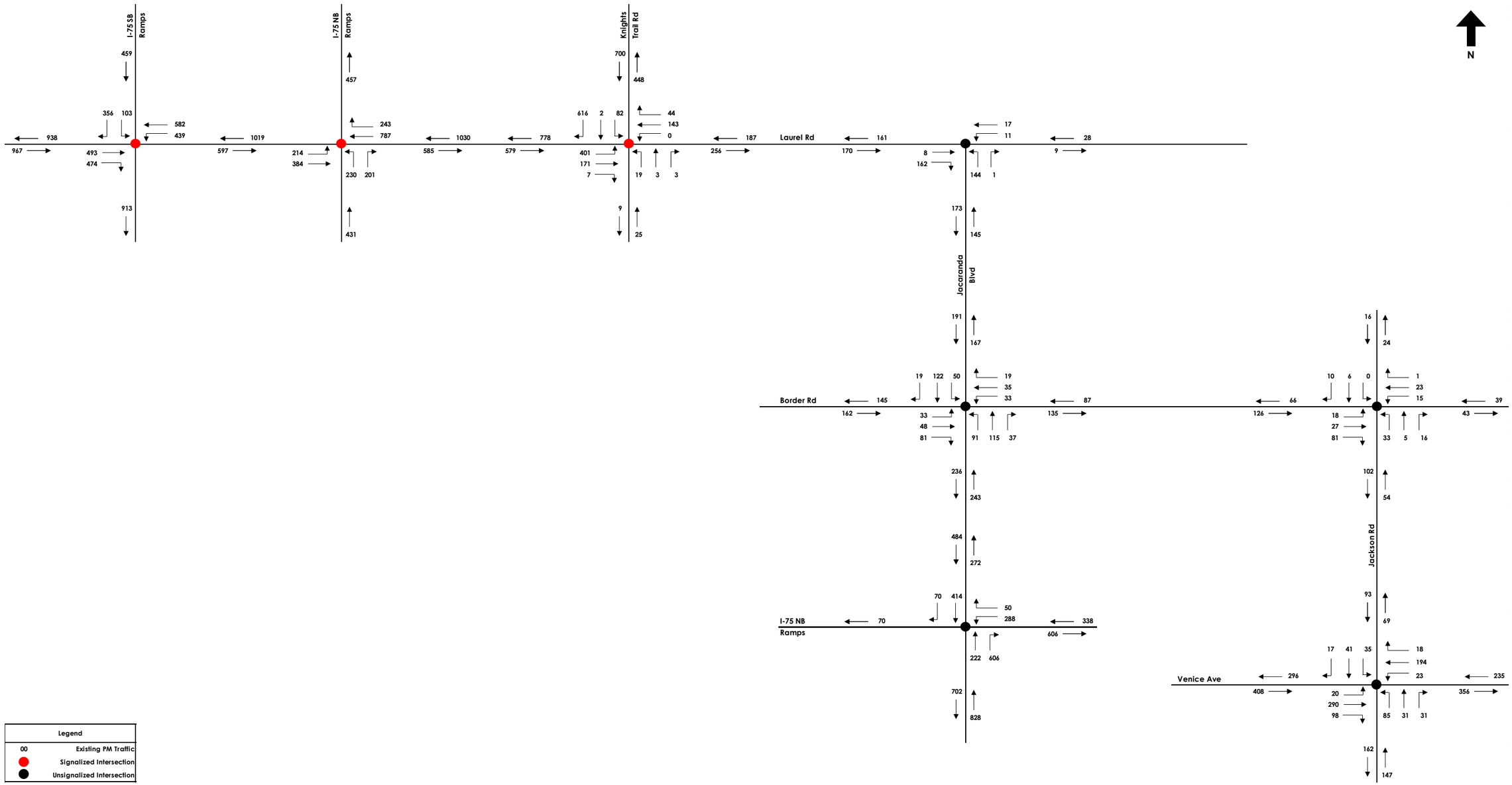
Road Name and Segment	Adopted LOS			Percent Project Traffic	New Project Traffic		Significant Impact? (>5%)	Direct Access?
	LOS Standard	Number of Lanes	Service Volume		Trips	% Impact		
Auburn Road								
Border Rd to Venice Ave	C	2	1,400	1.9%	8	0.6%	No	No
Border Road								
Auburn Rd to Jacaranda Blvd	C	2	1,220	9.5%	41	3.4%	No	No
Jacaranda Blvd to Site	C	2	1,400	29.7%	129	9.2%	**Yes**	**Yes**
Site to Jackson Rd	C	2	1,400	15.3%	66	4.7%	No	**Yes**
Jackson Rd to South Moon Dr.	C	2	1,300	0.3%	1	0.1%	No	No
Edmondson Road								
Capri Isles Blvd to Auburn Rd	C	2	1,120	6.4%	28	2.5%	No	No
I-75								
SR 681 to Laurel Rd	B	6	5,870	26.2%	113	1.9%	No	No
Laurel Rd to Jacaranda Blvd	B	6	5,870	0.0%	0	0.0%	No	No
Jacaranda Blvd to River Rd	B	6	5,870	2.6%	11	0.2%	No	No
Jacaranda Boulevard								
Laurel Rd to Border Rd	C	2	1,720	0.7%	3	0.2%	No	No
Border Rd to I-75 NB	C	2	1,620	19.1%	83	5.1%	**Yes**	No
I-75 NB to I-75 SB	C	4	2,540	17.0%	74	2.9%	No	No
Jackson Road								
Border Rd to Venice Ave	C	2	880	13.9%	60	6.8%	**Yes**	No
Venice Ave to Hughey Kimel Dr	C	2	880	0.0%	0	0.0%	No	No
Knights Trail								
Laurel Rd to Rustic Rd	C	2	1,720	7.7%	33	1.9%	No	No
Laurel Road								
Pinebrook Rd to I-75 SB	C	4	2,540	14.4%	62	2.4%	No	No
I-75 SB to I-75 NB	C	4	2,540	26.6%	135	5.3%	**Yes**	No
I-75 NB to Knights Trail Rd	C	4	2,540	40.7%	176	6.9%	**Yes**	No
Knights Trail Rd to Jacaranda Blvd	C	2	1,720	52.7%	228	13.3%	**Yes**	No
Jacaranda Blvd to Citadella Dr	C	2	1,720	54.9%	238	13.8%	**Yes**	**Yes**
Venice Ave								
Jacaranda Blvd to Jackson Rd	C	2	1,840	3.8%	16	0.9%	No	No
Jackson Rd to River Rd	C	2	880	8.7%	38	4.3%	No	No

In addition to the roadway segments evaluated in the study area, intersections of regulated roadways within the study area as well as the two site access connections were evaluated. The eight regulated roadway intersections that were studied are listed below.

- I-75 SB Ramps/Laurel Rd
- I-75 NB Ramps/Laurel Rd
- Knights Trail Rd/Laurel Rd
- Jacaranda Blvd/Laurel Rd
- Jacaranda Blvd/Border Rd
- Jacaranda Blvd/I-75 NB Ramps
- Jackson Rd/Border Rd
- Jackson Rd/Venice Ave

2017 Existing Traffic Conditions

Vehicle turning movement counts were conducted at the study area intersections on Thursday September 21, 2017. The turning movement counts were taken during the PM peak period (4:00 PM to 6:00 PM) to quantify existing PM peak-hour conditions. The turning movement counts then were adjusted by Sarasota County's seasonal adjustment factor of 1.134 for the month of September. The existing PM peak-hour peak-season traffic volumes are shown in Figure 4. The peak-season factors, turning movement counts, and signal timing information are attached in Appendix B.



Legend	
00	Existing PM Traffic
	Signalized Intersection
	Unsignalized Intersection

Figure 4: Existing PM Peak-Hour Peak-Season Traffic

ROADWAY ANALYSIS

Roadway segmentation and maximum service volumes were taken from Sarasota County's *2015 Generalized Level of Service Analysis Table*. Existing segment volumes were obtained from the peak-season volumes entering/exiting the intersections during the peak-hour. The results of the 2017 existing level-of-service analysis are summarized in Table 3 and indicate that all segments within the study area are operating at acceptable level-of-service standards.

Table 3: 2017 Existing Segment Conditions

Road Name and Segment	Adopted LOS			Existing Traffic	Exceeds LOS?
	LOS Standard	Number of Lanes	Service Volume		
Border Road					
Jacaranda Blvd to Site	C	2	1,400	222	No
Site to Jackson Rd	C	2	1,400	192	No
Jacaranda Boulevard					
Border Rd to I-75 NB	C	2	1,620	618	No
Jackson Road					
Border Rd to Venice Ave	C	2	880	159	No
Laurel Road					
I-75 SB to I-75 NB	C	4	2,540	1,616	No
I-75 NB to Knights Trail Rd	C	4	2,540	1,486	No
Knights Trail Rd to Jacaranda Blvd	C	2	1,720	387	No
Jacaranda Blvd to Citadella Dr	C	2	1,720	37	No

INTERSECTION ANALYSIS

The intersection analysis was performed using Trafficware's Synchro 9 Software (using HCM 2010 methodology). If the HCM 2010 methodology could not be applied at a signalized intersection, the HCM 2000 methodology was used. As part of the analysis, existing lane geometry was used at the study intersections. The City of Venice has adopted an overall intersection level-of-service standard of C for signalized intersections of county roads and an overall intersection level-of-service standard of D for signalized intersections of county and state roads or of two state roads. In addition to the overall delay, each intersection movement must have a v/c ratio less than 1.0. The results of the Synchro intersection analysis are summarized in Table 4 and indicate that all intersections currently operate at acceptable level-of-service standards.

Table 4: 2017 Existing Intersection Conditions

Intersection	Type	Overall Intersection LOS		Delay (sec/veh)	Max v/c Ratio	Approach LOS			
		Standard	Existing			EB	WB	NB	SB
I-75 SB Ramps & Laurel Rd	Signalized	C	C	21.4	0.92	C	A		D
I-75 NB Ramps & Laurel Rd	Signalized	C	B	11.7	0.69	A	B	D	
Knights Trail Rd & Laurel Rd	Signalized	C	B	12.1	0.48	A	D	D	A
Jacaranda Blvd & Laurel Rd	TWSC	C	n/a	10.4[1]	0.19	--[2]	A[3]	B	
Jacaranda Blvd & Border Rd	AWSC	C	B	10.9	0.37	B	A	B	B
Jacaranda Blvd & I-75 NB Ramps	TWSC	C	n/a	16.3[1]	0.52		C	--[2]	--[2]
Jackson Rd & Border Rd	TWSC	C	n/a	10.0[1]	0.08	A[3]	A[3]	B	A
Jackson Rd & Venice Ave	TWSC	C	n/a	23.1[1]	0.44	A[3]	A[3]	C	C

1. Delay shown for the worst approach.

2. No left-turn movement for approach.

3. Left-turn movement level-of-service.

The intersection volume tables are provided in Appendix C. The 2017 existing Synchro intersection worksheets are provided in Appendix D and electronic versions of the files are attached on the accompanying DVD.

Scheduled Improvements

The current Sarasota County and City of Venice Capital Improvement Programs (CIPs) and the FDOT Five Year Work Program were reviewed to identify any improvements scheduled in the first three years to be included in the analysis. No improvements were identified in the study area.

In addition, improvements that will be completed with the vested projects were included for the future traffic conditions. Four improvements were identified:

- Add a second westbound left-turn lane along Laurel Road at the I-75 SB Ramps. (Triple Diamond Commerce Park mitigation)
- Widening of Laurel Road to 4-lanes along the site boundary. (The Bridges mitigation)
- Extend the eastbound left-turn lanes along Laurel Road at Knights Trail Road. (Portofino mitigation)
- Restripe the northbound approach at the Jacaranda Boulevard/Border Road intersection from a shared left-turn/through lane and exclusive right-turn lane to an exclusive left-turn lane and a shared through/right-turn lane. (VICA mitigation)

2024 Background Traffic Conditions

The background traffic conditions were analyzed for the build-out year of 2024. The background traffic conditions consist of the existing PM peak-hour peak-season traffic volumes, an annual background growth rate, and vested traffic volumes from approved projects.

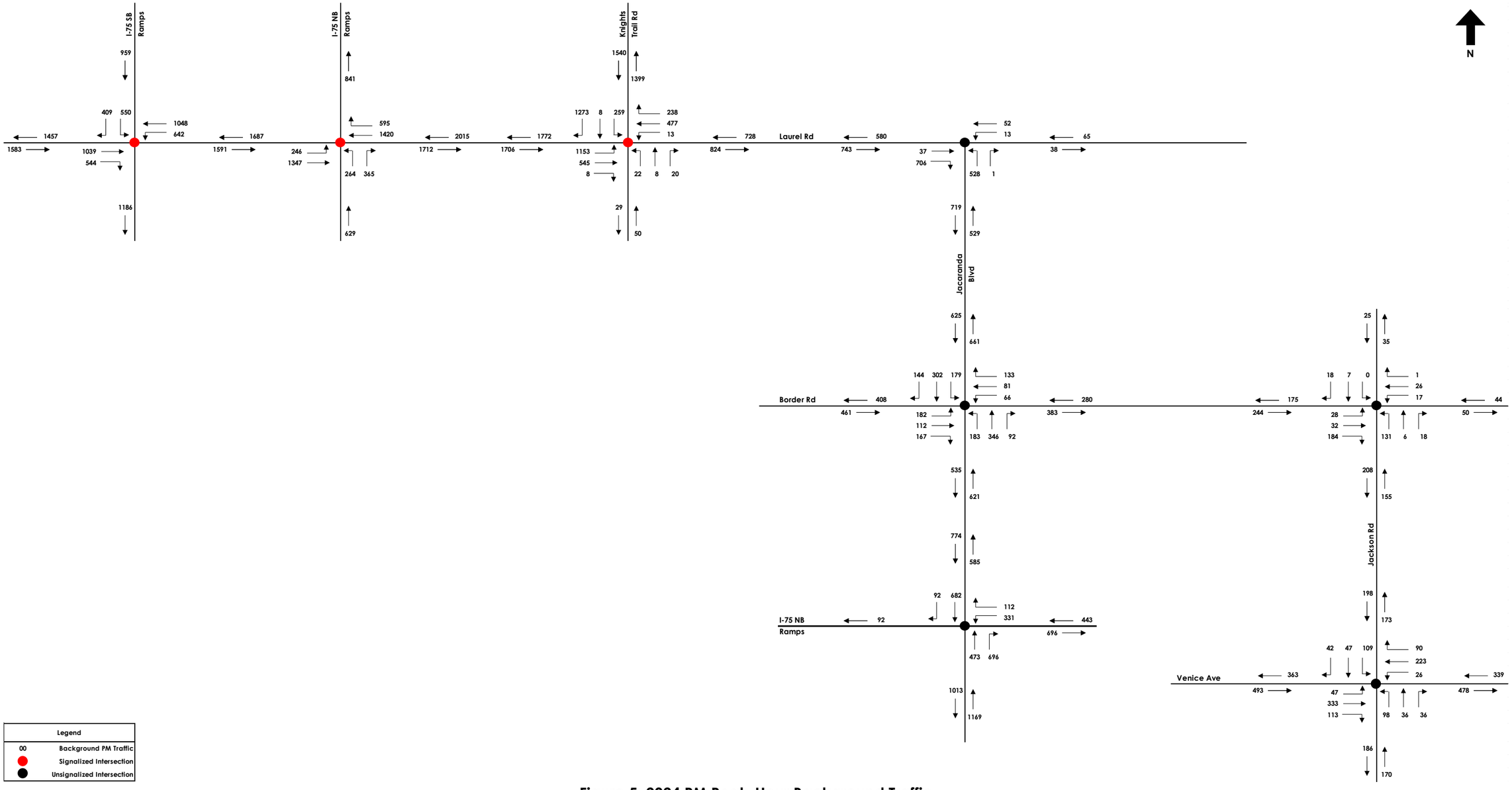
- Annual Average Daily Traffic (AADT) volumes, obtained from the Sarasota County *Generalized Level of Service Tables* for roadway segments in the vicinity of the project, indicate a historic annual growth rate of 2.57% for the last five years and a negative growth rate for the last ten years. The historic growth rates are shown in Table 5. A two percent annual growth rate was used to forecast future background traffic.

Table 5: Historic Growth Rates

Road Name and Segment	2005 AADT	2010 AADT	2015 AADT	5-YR Growth Rate	10-YR Growth Rate
Border Road					
Auburn Rd to Jacaranda Blvd	--	2,406	2,349	-0.48%	--
Jacaranda Blvd to Jackson Rd	--	1,477	1,477	0.00%	--
Jackson Rd to South Moon Dr.	--	1,477	1,477	0.00%	--
Jacaranda Boulevard					
Border Rd to I-75	--	2,193	4,530	15.61%	--
I-75 to Executive/Commercial	28,634	23,655	23,113	-0.46%	-2.12%
Jackson Road					
Border Rd to Venice Ave	819	970	1,093	2.42%	2.93%
Laurel Road					
Pinebrook Rd to I-75	16,093	14,020	16,327	3.09%	0.14%
I-75 to Knights Trail Rd	26,137	11,403	15,334	6.10%	-5.19%
Knights Trail Rd to Citadella Dr	--	11,403	15,334	6.10%	--
Venice Ave					
Jacaranda Blvd to Jackson Rd	7,760	6,580	7,125	1.60%	-0.85%
Jackson Rd to River Rd	4,734	4,095	4,817	3.30%	0.17%
TOTAL	**109,902**	**105,409**	**119,658**	**2.57%**	**-1.25%**

- Vested traffic from Toscana Isles, the Bridges, Portofino, the Woods at Venice, and the Milano PUD were added as part of the background traffic. The applicable pages from the traffic studies showing the volumes at the study area intersections are attached in Appendix E.

The 2024 PM peak-hour background traffic volumes are shown in Figure 5 as well as in Appendix C.



Legend	
00	Background PM Traffic
●	Signalized Intersection
●	Unsignalized Intersection

Figure 5: 2024 PM Peak-Hour Background Traffic

ROADWAY ANALYSIS

Roadway segmentation and maximum service volumes were again taken from Sarasota County's *2015 Generalized Level of Service Analysis Table*. The results of the 2024 background traffic level-of-service analysis are summarized in Table 6 and indicate that all segments within the study area are anticipated to continue to operate at acceptable level-of-service standards except for Laurel Road from the I-75 SB Ramps to Knights Trail Road. The failure on Laurel Road is due to the large amount of background growth, the majority of which is vested traffic.

Table 6: 2024 Background Traffic Segment Conditions

Road Name and Segment	Adopted LOS			Existing Traffic	Bkgd Growth	Vested Traffic[1]						2024 Bkgd Traffic	Exceeds LOS?
	LOS Standard	Number of Lanes	Service Volume			Toscana Isles	The Bridges	Porto fino	Woods at Venice	Milano PUD (VICA East of Jacaranda)	Milano PUD (Laurel Lakes West of Jacaranda)		
Border Road													
Jacaranda Blvd to Site	C	2	1,400	222	33	0	31	138	190	12	37	663	No
Site to Jackson Rd	C	2	1,400	192	29	0	0	138	61	0	0	420	No
Jacaranda Boulevard													
Border Rd to I-75 NB	C	2	1,620	618	92	0	143	133	39	60	174	1,259	No
Jackson Road													
Border Rd to Venice Ave	C	2	880	159	24	0	0	127	57	0	0	367	No
Laurel Road													
I-75 SB to I-75 NB	C	4	2,540	1,616	240	477	171	470	0	86	219	3,279	**Yes**
I-75 NB to Knights Trail Rd	C	4	2,540	1,486	221	593	231	670	0	119	283	3,603	**Yes**
Knights Trail Rd to Jacaranda Blvd	C	2	1,720	387	58	152	122	259	0	131	331	1,440	No
Jacaranda Blvd to Citadella Dr	C	2	1,720	37	6	25	0	35	0	0	0	103	No

1. Volumes obtained from individual movements at the intersections; see Appendix C for additional detail.

INTERSECTION ANALYSIS

The intersection analysis was again performed using Trafficware's Synchro 9 Software. The 2024 background traffic analysis used the same geometry as the existing conditions, except for the identified vested project improvements. Signal timing adjustments were also made along the Laurel Road corridor in conjunction with the geometric improvements.

The results of the Synchro intersection analysis are summarized in Table 7 and indicate that the I-75 SB Ramps/Laurel Road, Jacaranda Boulevard/Laurel Road, and Jacaranda Boulevard/Border Road intersections are anticipated to operate at unacceptable level-of-service standards and have v/c ratios greater than 1.0. The other five intersections are anticipated to operate at acceptable level-of-service standards.

Table 7: 2024 Background Traffic Intersection Conditions

Intersection	Type	Overall Intersection LOS		Delay (sec/veh)	Max v/c Ratio	Approach LOS			
		Standard	Bkgd			EB	WB	NB	SB
I-75 SB Ramps & Laurel Rd	Signalized	C	**F**	**124.0**	**2.20**	**F**	A		**F**
I-75 NB Ramps & Laurel Rd	Signalized	C	**E**	**55.3**	**1.23**	A	**F**	D	
Knights Trail Rd & Laurel Rd	Signalized	C	**E**	**64.4**	**1.30**	**F**	D	D	B
Jacaranda Blvd & Laurel Rd	TWSC	C	n/a	**120.3**[1]	**1.16**	--[2]	A[3]	**F**	
Jacaranda Blvd & Border Rd	AWSC	C	**F**	**138.4**	**1.54**	**F**	E	**F**	**F**
Jacaranda Blvd & I-75 NB Ramps	TWSC	C	n/a	41.5[1]	0.88		E	--[2]	--[2]
Jackson Rd & Border Rd	TWSC	C	n/a	12.8[1]	0.28	A[3]	A[3]	B	A
Jackson Rd & Venice Ave	TWSC	C	n/a	59.1[1]	0.81	A[3]	A[3]	F	F

1. Delay shown for the worst approach.

2. No left-turn movement for approach.

3. Left-turn movement level-of-service.

The intersection volume tables are provided in Appendix C. The 2024 background traffic Synchro intersection worksheets are provided in Appendix F, and electronic versions of the files are attached on the accompanying DVD.

IMPROVED BACKGROUND TRAFFIC ANALYSIS

The large amount of background traffic creates arterial deficiencies on Laurel Road between the I-75 SB Ramps and Knights Trail Road and intersection deficiencies at three of the study area intersections causing them to operate at an unacceptable level-of-service with v/c ratios greater than 1.0. The failures on Laurel Road and at the three study area intersections are preexisting conditions and not caused by the addition of this project's traffic.

Chapter 2011-139, Laws of Florida; and Chapter 163.3180 of the Florida Statutes as amended by HB 319, exempt developers from contributing proportionate-share monies to correct preexisting transportation deficiencies. Because the identified failures are preexisting conditions and not caused by the addition of this project's traffic, improvements to correct the deficiencies can be considered in place. The improvements needed to correct the preexisting deficiencies are:

<u>I-75 SB Ramps/Laurel Road Intersection</u>

- Increase the cycle length from 80 second to 110 seconds.
- Add a second southbound left-turn lane to accommodate the projected 550 vehicles.

<u>I-75 NB Ramps/Laurel Road Intersection</u>

- Increase the cycle length from 80 second to 110 seconds.

<u>Knights Trail Road/Laurel Road Intersection</u>

- Increase the cycle length from 80 second to 110 seconds.

Jacaranda Boulevard/Laurel Road Intersection

- Add an eastbound right-turn lane to accommodate the projected 706 vehicles.

Jacaranda Boulevard/Border Road Intersection

- Signalize and restripe the southbound approach from a shared left-turn/through lane and exclusive right-turn lane to an exclusive left-turn lane and a shared through/right-turn lane so that left-turn traffic will not block through traffic on green.

The improvements to the intersections are anticipated to allow the arterial segment of Laurel Road to operate at acceptable level-of-service standards without widening Laurel Road from four to six lanes. Table 8 shows results of the detailed Synchro arterial analysis by direction accounting for the improvements to the intersection and Table 9 shows the results of the improved intersection analysis for the background traffic conditions. The tables demonstrate that the identified improvements will correct the preexisting deficiencies and allow the arterial and intersections to operate at acceptable level-of-service standards.

Table 8: Improved 2024 Background Traffic Arterial Conditions

Arterial	Direction	Adopted LOS	Number of Lanes / Direction	Arterial Speed (mph)	Arterial LOS
Laurel Road					
I-75 SB to I-75 NB	EB	C	2	32.6	B
	WB		2	31.1	B
I-75 NB to Knights Trail Rd	EB	C	2	29.8	B
	WB		2	23.3	C

Table 9: Improved 2024 Background Traffic Intersection Conditions

Intersection	Type	Overall Intersection LOS		Delay (sec/veh)	Max v/c Ratio	Approach LOS			
		Standard	Bkgd Imp			EB	WB	NB	SB
I-75 SB Ramps & Laurel Rd	Signalized	C	C	28.4	0.89	D	A		D
I-75 NB Ramps & Laurel Rd	Signalized	C	B	16.1	0.81	A	C	D	
Knights Trail Rd & Laurel Rd	Signalized	C	C	29.3	0.95	C	E	D	B
Jacaranda Blvd & Laurel Rd	TWSC	C	n/a	17.9[1]	0.69	--[2]	A[3]	C	
Jacaranda Blvd & Border Rd	Signalized	C	B	18.8	0.78	C	B	B	B

1. Delay shown for the worst approach.

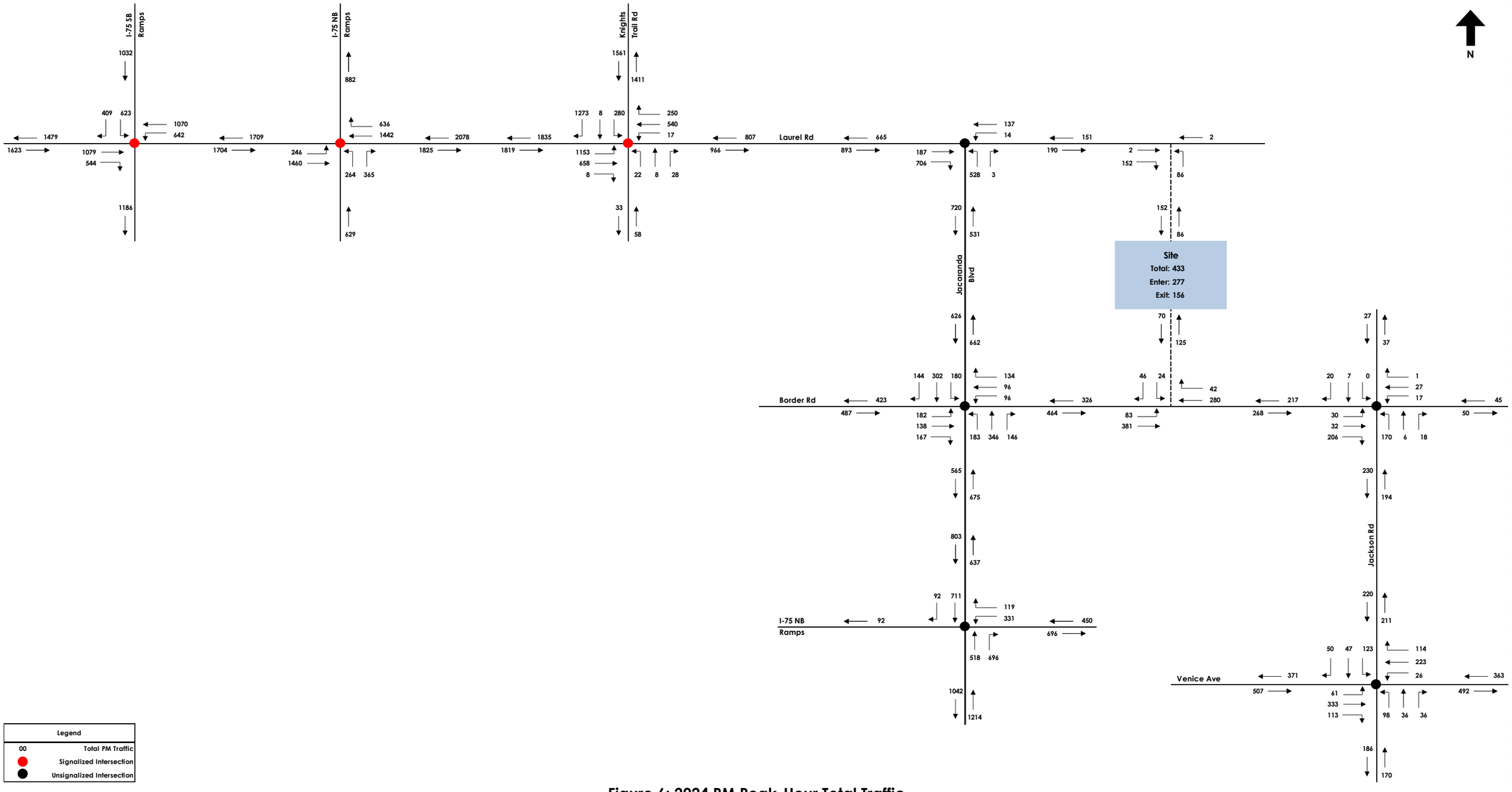
2. No left-turn movement for approach.

3. Left-turn movement level-of-service.

The intersection volume tables are provided in Appendix C. The 2024 improved background traffic Synchro arterial and intersection worksheets are provided in Appendix G and electronic versions of the files are attached on the accompanying DVD.

2024 Total Traffic Conditions

The total traffic conditions were analyzed for 2024. The total traffic conditions consist of the existing PM peak-hour peak-season traffic volumes, annual background growth, vested traffic from approved developments, and project traffic. The 2024 total traffic PM peak-hour peak-season total traffic volumes are shown in Figure 6.



Legend	
00	Total PM Traffic
	Signalized Intersection
	Unsignalized Intersection

Figure 6: 2024 PM Peak-Hour Total Traffic

ROADWAY ANALYSIS

Roadway segmentation and maximum service volumes were again taken from Sarasota County's *2015 Generalized Level of Service Analysis Table*. The results of the 2024 total traffic level-of-service analysis are summarized in Table 10 and indicate that all segments in the study area will operate at acceptable level-of-service standards with the exception of Laurel Road from the I-75 SB Ramps to Knights Trail Road. Because Laurel Road exceeds its generalized adopted level-of-service standard (as identified in the background traffic conditions), a detailed analysis of the arterial was performed using the Synchro Software. Based on the detailed Synchro analysis, both segments will operate at acceptable level-of-service standards. The 2024 traffic conditions Synchro analysis is attached in Appendix H. No roadway improvements are required in conjunction with this project.

Table 10: 2024 Total Traffic Segment Conditions

Road Name and Segment	Adopted LOS			Bkgd Traffic	Project Traffic	2024 Total Traffic	Exceeds LOS?
	LOS Standard	Number of Lanes	Service Volume				
Border Road							
Jacaranda Blvd to Site	C	2	1,400	663	129	792	No
Site to Jackson Rd	C	2	1,400	420	66	486	No
Jacaranda Boulevard							
Border Rd to I-75 NB	C	2	1,620	1,259	83	1,342	No
Jackson Road							
Border Rd to Venice Ave	C	2	880	367	60	427	No
Laurel Road							
I-75 SB to I-75 NB	C	4	2,540	3,279	135	3,414	Yes[1]
I-75 NB to Knights Trail Rd	C	4	2,540	3,603	176	3,779	Yes[2]
Knights Trail Rd to Jacaranda Blvd	C	2	1,720	1,440	228	1,668	No
Jacaranda Blvd to Citadella Dr	C	2	1,720	103	238	341	No

1. *The Synchro analysis indicates that the arterial is operating at level-of-service B with an average travel speed of 32.2 mph for the eastbound direction and operating at level-of-service B with an average travel speed of 30.5 mph for the westbound direction.*
2. *The Synchro analysis indicates that the arterial is operating at level-of-service B with an average travel speed of 29.3 mph for the eastbound direction and operating at level-of-service C with an average travel speed of 23.1 mph for the westbound direction.*

INTERSECTION ANALYSIS

The intersection analysis was again performed using Trafficware's Synchro 9 Software. The 2024 total traffic intersection analysis used the same geometry as the improved background traffic analysis. The geometric improvements identified at the three study area intersections needed to correct the background traffic deficiencies were assumed to be in place. The results of the Synchro intersection analysis are summarized in Table 11 and indicate all intersections are anticipated to continue to operate at acceptable level-of-service standards with the addition of project traffic.

Table 11: 2024 Total Traffic Intersection Conditions

Intersection	Type	Overall Intersection LOS		Delay (sec/veh)	Max v/c Ratio	Approach LOS			
		Standard	Total			EB	WB	NB	SB
I-75 SB Ramps & Laurel Rd	Signalized	C	C	30.3	0.91	D	B		D
I-75 NB Ramps & Laurel Rd	Signalized	C	B	15.6	0.83	A	C	D	
Knights Trail Rd & Laurel Rd	Signalized	C	C	33.3	0.98	C	E	D	C
Jacaranda Blvd & Laurel Rd	TWSC	C	n/a	56.9[1]	0.98	--[2]	A[3]	F	
Jacaranda Blvd & Border Rd	Signalized	C	C	21.8	0.85	C	B	C	C
Jacaranda Blvd & I-75 NB Ramps	TWSC	C	n/a	49.9[1]	0.93		E	--[2]	--[2]
Jackson Rd & Border Rd	TWSC	C	n/a	14.2[1]	0.37	A[3]	A[3]	B	A
Jackson Rd & Venice Ave	TWSC	C	n/a	93.2[1]	0.96	A[3]	A[3]	F	F

1. Delay shown for the worst approach.

2. No left-turn movement for approach.

3. Left-turn movement level-of-service.

The intersection volume tables are provided in Appendix C. The 2024 total traffic Synchro intersection worksheets are provided in Appendix H and electronic versions of the files are attached on the accompanying DVD.

SITE ACCESS ANALYSIS

The site access analysis evaluated the need for right- and left-turn lanes at the site access points as well as the level-of-service for turn lanes into the site and the v/c ratio for the driveway approaches. The development will utilize two new connections, one to Laurel Road and one to Border Road. Figure 6 shows the project traffic at the proposed access points.

Driveway 1/Laurel Road Site Access Connection

Laurel Road dead-ends into the Venice Myakka River Park approximately 1,400 feet east of the proposed driveway connection. Of the 38 non-project traffic vehicles on Laurel Road east of Jacaranda Boulevard, it was assumed that 10% of that traffic travel east of Citadella Drive, all the way to the park. Because there are so few trips continuing past the project driveway, a right-turn lane is not needed.

It is not anticipated that any traffic will access the site from the east. There may be the occasional trip coming from the Venice Myakka River Park, but the infrequency of those left-turning trips in conjunction with the minimal through traffic will not warrant a westbound left-turn lane.

Driveway 2/Border Road Site Access Connection

The right-turn lane warrant was performed based on the FDOT *Driveway Information Guide*. The report identifies the threshold of right turns requiring an exclusive turn lane for speeds above and below 45 mph. The posted speed on Border Road is 45 mph. For speeds 45 mph or less, a maximum of 80 right turns per hour on two-lane roads is allowed. During the PM peak-hour it is estimated that 42 vehicles will make a westbound right from Border Road at Driveway 2. Given that there are less than 80 right-turning vehicles, the right-turn-lane warrant threshold volume is not satisfied at the site access point. A westbound right-turn lane does not need to be constructed in conjunction with this project.

The need for an eastbound left-turn lane at Driveway 2 was based on the M.D. Harmelink Study and the National Cooperative Highway Research Program (NCHRP) Report 279. The left-turn lane warrant analysis is summarized below:

	Driveway 1
Advancing Volume (Va) =	464 vph
Opposing Volume (Vo) =	326 vph
Left-turn Volume =	83 vph
Laurel Road Speed Limit =	45 mph
Percent Left Turns =	18% ≈ 20%

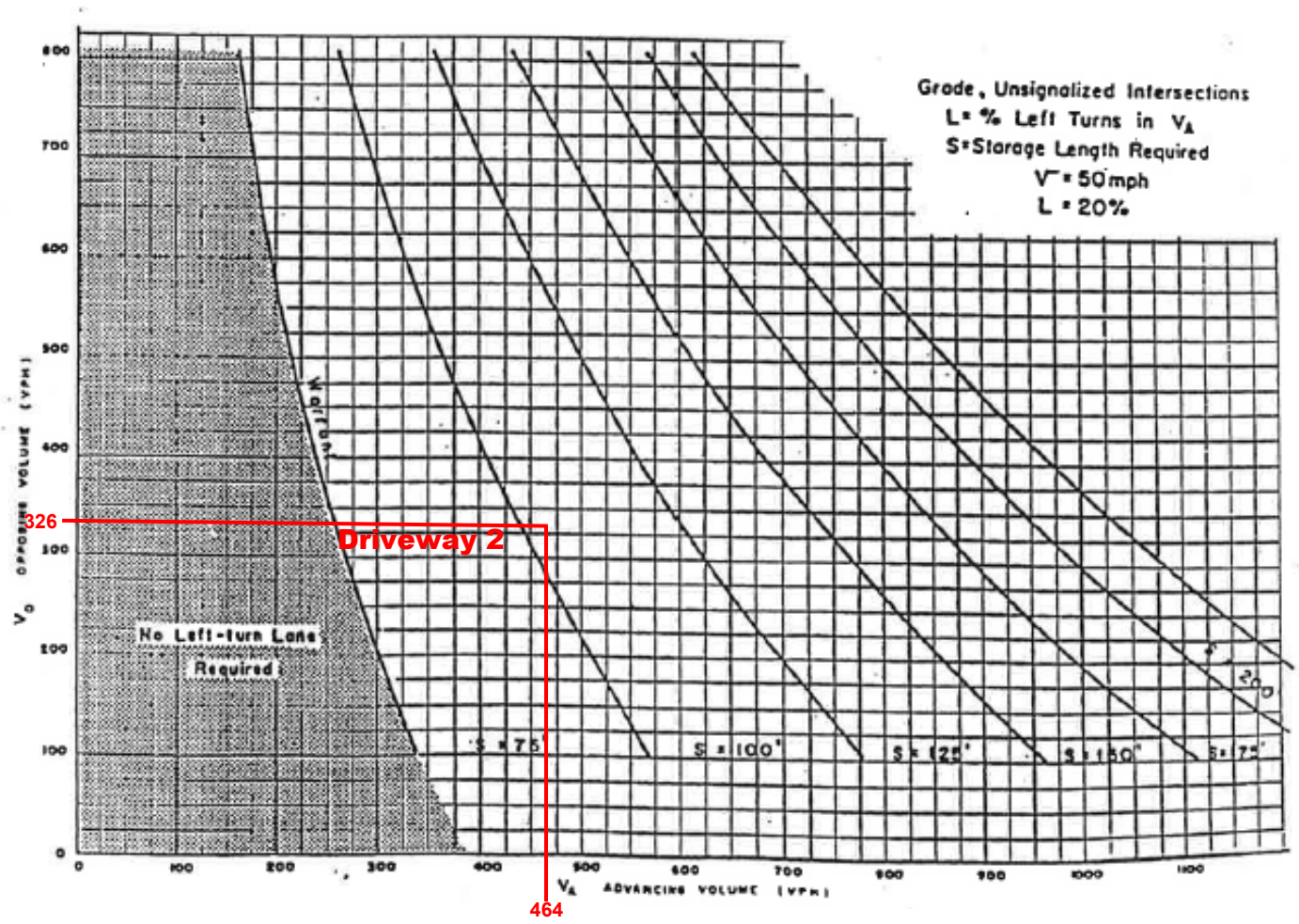


Figure 7: Driveway 2/Border Road Left-Turn Lane Warrant

Based on the trip generation and assignment, Driveway 2 warrants a left-turn lane. FDOT *Standard Index 301* specifies a deceleration length of 185 feet for a speed of 45 mph. The required unsignalized queue length for the left-turn lane was calculated using procedures outlined in the AASHTO *Green Book*. The AASHTO *Green Book* specifies that at a minimum, queue storage for at least two vehicles (50 feet) be provided. The 83 eastbound left-turning vehicles will require 75 feet of queue; therefore, the left-turn lane should be 260 feet (185 + 75). The queue length calculation is shown below:

Driveway 2 Eastbound Left-turn Lane Queue Length:

$$83\frac{veh}{hr}\left(\frac{1\ hr}{60\ min}\right)\left(\frac{2\ min}{}\right)\left(\frac{25\ ft}{veh}\right) \approx 69\ ft = 75\ ft$$

Level-of-Service Analysis

A Synchro analysis was performed to ensure that the turn lanes into the site operate at acceptable level-of-service. The City of Venice has not adopted level-of-service standards for driveways. The driveway approaches were checked to ensure that the v/c ratio did not exceed 1.0. Table 12 demonstrates that the turn lanes into the site will operate at acceptable level-of-service standards and the driveway approaches will have v/c ratios less than 1.0.

Table 12: Site Access Level-of-Service Analysis

Intersection	Type	Delay (sec/veh)	Max v/c Ratio	Left Turn Queue (ft)[1]	Approach LOS			
					EB	WB	NB	SB
Driveway 1 & Laurel Rd	TWSC	9.4[2]	0.11	0	--[3]	A[4]	A	
Driveway 2 & Border Rd	TWSC	14.5[2]	0.17	5	A[4]	--[3]		B

1. Queue for the inbound left-turn movement to the site.
2. Delay shown for the worst site-related approach.
3. No left-turn movement for approach
4. Left-turn movement level-of-service.

The site access analysis Synchro intersection worksheets are provided in Appendix I and electronic versions of the files are attached on the accompanying DVD.

Conclusion

The SJMR Property consists of 539 single-family dwelling units and is estimated to generate 433 PM peak-hour trip ends (277 entering; 156 exiting). The analysis evaluated a build-out year of 2024. A transportation concurrency analysis and site access analysis were both performed for the project for the PM peak-hour.

All study area roadway segments and intersections are currently operating at acceptable level-of-service standards. Several deficiencies were identified in the study area for the background traffic conditions in 2024. Laurel Road between the I-75 SB Ramps and Knights Trail Road is anticipated to exceed the City of Venice's generalized adopted level-of-service standards. However, a detailed arterial analysis demonstrates that the improvements to the adjacent intersections alleviate the deficiency without widening the road from four to six lanes. In addition, the I-75 SB Ramps/Laurel Road, I-75 NB Ramps/Laurel Road, Knights Trail Road/Laurel Road, Jacaranda Boulevard/Laurel Road, and Jacaranda Boulevard/Border Road intersections were identified as having deficiencies. The improvements needed to correct the preexisting deficiencies at each intersection (as well as the arterial segment of Laurel Road between the I-75 SB Ramps and Knights Trail Road) are:

I-75 SB Ramps/Laurel Road Intersection

- Increase the cycle length from 80 second to 110 seconds.
- Add a second southbound left-turn lane to accommodate the projected 550 vehicles.

I-75 NB Ramps/Laurel Road Intersection

- Increase the cycle length from 80 second to 110 seconds.

Knights Trail Road/Laurel Road Intersection

- Increase the cycle length from 80 second to 110 seconds.

Jacaranda Boulevard/Laurel Road Intersection

- Add an eastbound right-turn lane

Jacaranda Boulevard/Border Road Intersection

- Signalize and restripe the southbound approach.

Because the failures identified above are preexisting conditions and not caused by the addition of this project's traffic, improvements to correct the deficiencies can be considered in place. Once the aforementioned improvements are made, all intersections will operate at acceptable level-of-service standards. The addition of project traffic does not create any additional deficiencies in the study area.

The site access analysis evaluated the two new driveway connections to Laurel Road and Border Road. The need for right- and left-turn lanes as well as the operating conditions of the driveway approaches was evaluated. The following site access improvements are required in

conjunctions with this project. All turn lanes should be constructed in accordance with the FDOT *Plans Preparation Manual* and *Standard Index 301*.

Driveway 1/Laurel Road

- none

Driveway 2/Border Road

- Construct a 260-foot eastbound left-turn lane

APPENDIX A

METHODOLOGY STATEMENT

Stantec Consulting Services Inc.
6900 Professional Parkway East
Sarasota FL 34240-8414
Tel: (941) 907-6900
Fax: (941) 907-6910

October 3, 2017

Jeff Shrum, AICP
Community Development Director
City of Venice
401 W. Venice Avenue
Venice, Florida 34285

Via email: jshrum@venicegov.com

Reference: Hurt Property
Transportation Methodology Statement

Dear Mr. Shrum:

This letter serves to summarize the Transportation Methodology for the subject project for your approval. The proposed development is located east of the Jacaranda Boulevard Extension between Border Road and Laurel Road in Venice, Florida. The petitioner proposes to construct a maximum of 524 dwelling units; 381 single-family detached dwelling units and 143 single-family attached dwelling units. The development will have two access points, one to Laurel Road and one to Border Road. The build-out year for the development is 2024. The analysis is for transportation concurrency approval from the City of Venice. The following is a summary of the methodology:

Trip Generation

The transportation analysis will be based on the PM peak-hour. Traffic volumes generated by the proposed development will be estimated using the Institute of Transportation Engineers (ITE), *Trip Generation – the 9th Edition (2012)*. Land Use Code 210 (Single-Family Detached Housing) and Land Use Code 230 (Condominium/Townhouse) will be used to estimate the trip generation potential. No Internal Capture or Pass-by Capture trips will be used in the analysis. The PM peak-hour trip generation is summarized in Table 1.

Table 1: PM Peak-Hour Trip Generation

ITE Land Use Category	Variable	Size	PM Peak Trip Rate/ Equation	PM Enter Split	PM Exit Split	PM Peak Total Trips		
						Total	Enter	Exit
Single-Family Detached Housing - 210	Per Unit	381	ln(T) = 0.90ln(x) + 0.51	63%	37%	350	221	129
Condominium/Townhouse - 230	Per Unit	143	ln(T) = 0.82ln(x) + 0.32	67%	33%	81	54	27
				TOTAL		431	275	156

Reference: Hurt Property
Transportation Methodology Statement

Trip Distribution

The FDOT D1 Districtwide 2018 Existing plus Committed travel demand model will be used to distribute project traffic from the site. Similar to the manual adjustments requested by the City of Venice during previous transportation methodologies, project traffic will be manually adjusted to remove north-south project traffic assigned to Auburn Road and shift those trips onto Jacaranda Boulevard, a more likely north-south route. Additionally, the model assigns 4.8% of the project traffic to TAZ 4908, a primarily residential TAZ. The majority or that traffic was reassigned onto Jackson Road and Venice Avenue. The distribution of project traffic from the site is shown in the attached Figure.

Study Area

The study area will consist of arterial and collector roads that:

- Project traffic equals or exceeds five percent of the adopted two-way peak-hour service volume, as specified by Sarasota County's 2015 Generalized Level of Service Table, for all applicable county and state roads.
- Any road segment to which the development has a direct access or which the development accesses via local and private roads.

It is anticipated that eight regulated roadway segments will exceed five percent of the adopted two-way peak-hour service volume or have direct access and will be included in the study area. A preliminary study area determination is shown in Table 2 and shown in the attached graphic.

Reference: Hurt Property
Transportation Methodology Statement

Table 2: Study Area Determination

Road Name and Segment	Adopted LOS			Percent Project Traffic	New Project Traffic		Significant Impact? (>5%)	Direct Access?
	LOS Standard	Number of Lanes	Service Volume		Trips	% Impact		
Auburn Road								
Border Rd to Venice Ave	C	2	1,400	1.9%	8	0.6%	No	No
Border Road								
Auburn Rd to Jacaranda Blvd	C	2	1,220	9.5%	41	3.4%	No	No
Jacaranda Blvd to Site	C	2	1,400	29.7%	128	9.1%	**Yes**	**Yes**
Site to Jackson Rd	C	2	1,400	15.3%	66	4.7%	No	**Yes**
Jackson Rd to South Moon Dr.	C	2	1,300	0.3%	1	0.1%	No	No
Edmondson Road								
Capri Isles Blvd to Auburn Rd	C	2	1,120	6.4%	28	2.5%	No	No
I-75								
SR 681 to Laurel Rd	B	6	5,870	26.2%	113	1.9%	No	No
Laurel Rd to Jacaranda Blvd	B	6	5,870	0.0%	0	0.0%	No	No
Jacaranda Blvd to River Rd	B	6	5,870	2.6%	11	0.2%	No	No
Jacaranda Boulevard								
Laurel Rd to Border Rd	C	2	1,720	0.7%	3	0.2%	No	No
Border Rd to I-75 NB	C	2	1,620	19.1%	82	5.1%	**Yes**	No
I-75 NB to I-75 SB	C	4	2,540	17.0%	73	2.9%	No	No
Jackson Road								
Border Rd to Venice Ave	C	2	880	13.9%	60	6.8%	**Yes**	No
Venice Ave to Hughey Kimel Dr	C	2	880	0.0%	0	0.0%	No	No
Knights Trail								
Laurel Rd to Rustic Rd	C	2	1,720	7.7%	33	1.9%	No	No
Laurel Road								
Pinebrook Rd to I-75 SB	C	4	2,540	14.4%	62	2.4%	No	No
I-75 SB to I-75 NB	C	4	2,540	26.6%	134	5.3%	**Yes**	No
I-75 NB to Knights Trail Rd	C	4	2,540	40.7%	175	6.9%	**Yes**	No
Knights Trail Rd to Jacaranda Blvd	C	2	1,720	51.5%	222	12.9%	**Yes**	No
Jacaranda Blvd to Citadella Dr	C	2	1,720	54.9%	237	13.8%	**Yes**	**Yes**
Venice Ave								
Jacaranda to Jackson	C	2	1,840	2.8%	12	0.7%	No	No
Jackson to River Rd	C	2	880	8.7%	38	4.3%	No	No

In addition, intersections at the termini of study area roadway segments as well as the project access points will be evaluated. The eight off-site intersections that will be studied are listed below. The study area roadway segments and intersections are shown in the attached graphic.

1. I-75 SB/Laurel Rd
2. I-75 NB/Laurel Rd
3. Knights Trail/Laurel Rd
4. Jacaranda Blvd/Laurel Rd
5. Jacaranda Blvd/Border Rd
6. Jacaranda Blvd/I-75 NB
7. Jackson Rd/Border Rd
8. Jackson Rd/Venice Ave

Reference: Hurt Property
Transportation Methodology Statement

Scheduled/Planned Improvements

Improvements scheduled for construction in the current Sarasota County and City of Venice Capital Improvement Programs (CIPs) or the FDOT Five Year Work Program will be included in the analysis. Improvements scheduled in the first three years will be assumed to be in place for the future traffic conditions. In addition, any improvements that will be completed with the vested projects will be included for the future traffic conditions as well.

Existing and Future Traffic

1. Existing Traffic:

   Will be based on PM peak-hour turning movement counts collected at the study area intersections. The intersection counts will be adjusted to peak-season conditions based upon Sarasota County's peak-season correction factors.

2. Future Traffic (Non Project):

   Annual Average Daily Traffic (AADT) volumes obtained from the Sarasota County Generalized Level of Service Tables for roadway segments in the vicinity of the project indicates a historical annual growth rate of 2.57% for the last five years and a negative growth rate for the last ten years. The historical growth rate is shown in Table 3. It is proposed that a 2.0% annual growth rate be used to forecast future background traffic. In addition to the background growth, any vested traffic within the study area will be provided by the City of Venice. It is anticipated that the following project will be included as part of the background traffic:

   - Toscana Isles
   - The Bridges
   - Portofino
   - Woods of Venice
   - Milano PUD
     - Villages of Milano (VICA)[1]
     - Laurel Lakes[2]

[1] *The 455 units (329 single-family detached dwelling units and 126 single-family attached dwelling units) which are platted or have construction plan approval east of the Jacaranda Boulevard Extension. 186 units have COs, the remaining 269 units will be used as vested.*

[2] *The 895 units (329 single-family detached dwelling units and 126 single-family attached dwelling units) west of the Jacaranda Boulevard Extention.*

Reference: Hurt Property
Transportation Methodology Statement

Table 3: Historical Growth Rates

Road Name and Segment	2005 AADT	2010 AADT	2015 AADT	5-YR Growth Rate	10-YR Growth Rate
Border Road					
Auburn Rd to Jacaranda Blvd	--	2,406	2,349	-0.48%	--
Jacaranda Blvd to Jackson Rd	--	1,477	1,477	0.00%	--
Jackson Rd to South Moon Dr.	--	1,477	1,477	0.00%	--
Jacaranda Boulevard					
Border Rd to I-75	--	2,193	4,530	15.61%	--
I-75 to Executive/Commercial	28,634	23,655	23,113	-0.46%	-2.12%
Jackson Road					
Border Rd to Venice Ave	819	970	1,093	2.42%	2.93%
Laurel Road					
Pinebrook Rd to I-75	16,093	14,020	16,327	3.09%	0.14%
I-75 to Knights Trail Rd	26,137	11,403	15,334	6.10%	-5.19%
Knights Trail Rd to Citadella Dr	--	11,403	15,334	6.10%	--
Venice Ave					
Jacaranda to Jackson	7,760	6,580	7,125	1.60%	-0.85%
Jackson to River Rd	4,734	4,095	4,817	3.30%	0.17%
TOTAL	**109,902**	**105,409**	**119,658**	**2.57%**	**-1.25%**

Analysis Scenarios

The analysis will be undertaken for the PM Peak-Hour, and will include the following scenarios:

1. Existing traffic will be evaluated within the established study area (2017 conditions).
2. Existing traffic plus Future traffic will be evaluated for 2024.
3. Existing traffic plus Future traffic plus Project traffic will be evaluated for 2024.

Proportionate Fair Share Analysis

Consistent with Chapter 2011-139, Laws of Florida and Chapter 163.3180 of the Florida Statutes, as amended by HB 319, a proportionate fair share calculation will be provided for only those transportation deficiencies created by project traffic. If transportation improvements are needed to maintain the adopted level of service standards for Scenario 2 (Existing plus Future traffic), the necessary improvements will be identified and will be considered in place for Scenario 3 (Existing plus Future plus Project traffic). The project's proportionate fair share will be calculated only for any needed transportation improvements greater than those improvements required to remedy any deficiencies identified in Scenario 2. If a deficiency is created by project traffic in Scenario 3, the proportionate fair share will be calculated based upon the PM peak-hour trip generation and the following formula:

Proportionate Fair Share = σ**[**[(Development Trips$_i$)/(SV Increase$_i$)]*Cost$_i$**]**

Reference: Hurt Property
Transportation Methodology Statement

Turn Lane Analysis

A review of the turn lane requirements at the site access connections will be performed. Right turn lane warrants will be based on the FDOT *Driveway Information Guide*. The left turn lane warrants will be based on the M.D. Harmelink Study and the National Cooperative Highway Research Program (NCHRP) Report 279. If turn lanes are required, design requirements in the FDOT *Design Standards Index No. 301* will be used.

Analysis Procedures

All analyses will be conducted in a manner consistent with the procedures and assumptions utilized by the City of Venice. Intersection capacity analysis for the study area intersections will be conducted using Synchro Version 9. The Synchro output will utilize the HCM 2010 reports. Roadway segment capacity analysis will be conducted using the Sarasota County adopted level of service volumes, the FDOT's Generalized Level of Service Volume Tables, ARTPLAN and/or Synchro. The findings of the study will be summarized in a signed and sealed report.

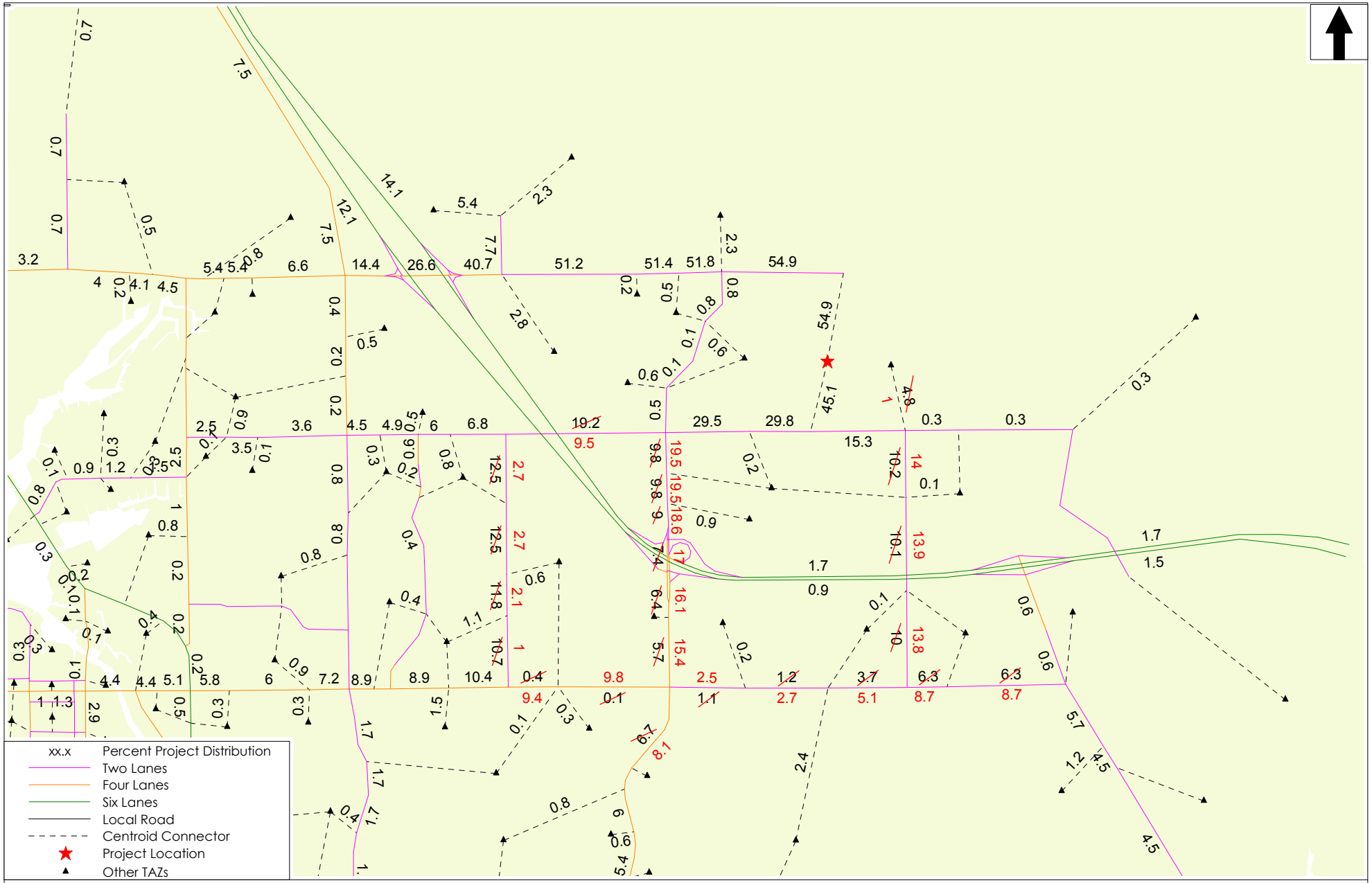
If the above methodology is acceptable, please send written confirmation so we can proceed with the study. Should you have any questions, please feel free to contact me.

Sincerely,

Stantec Consulting Services Inc.

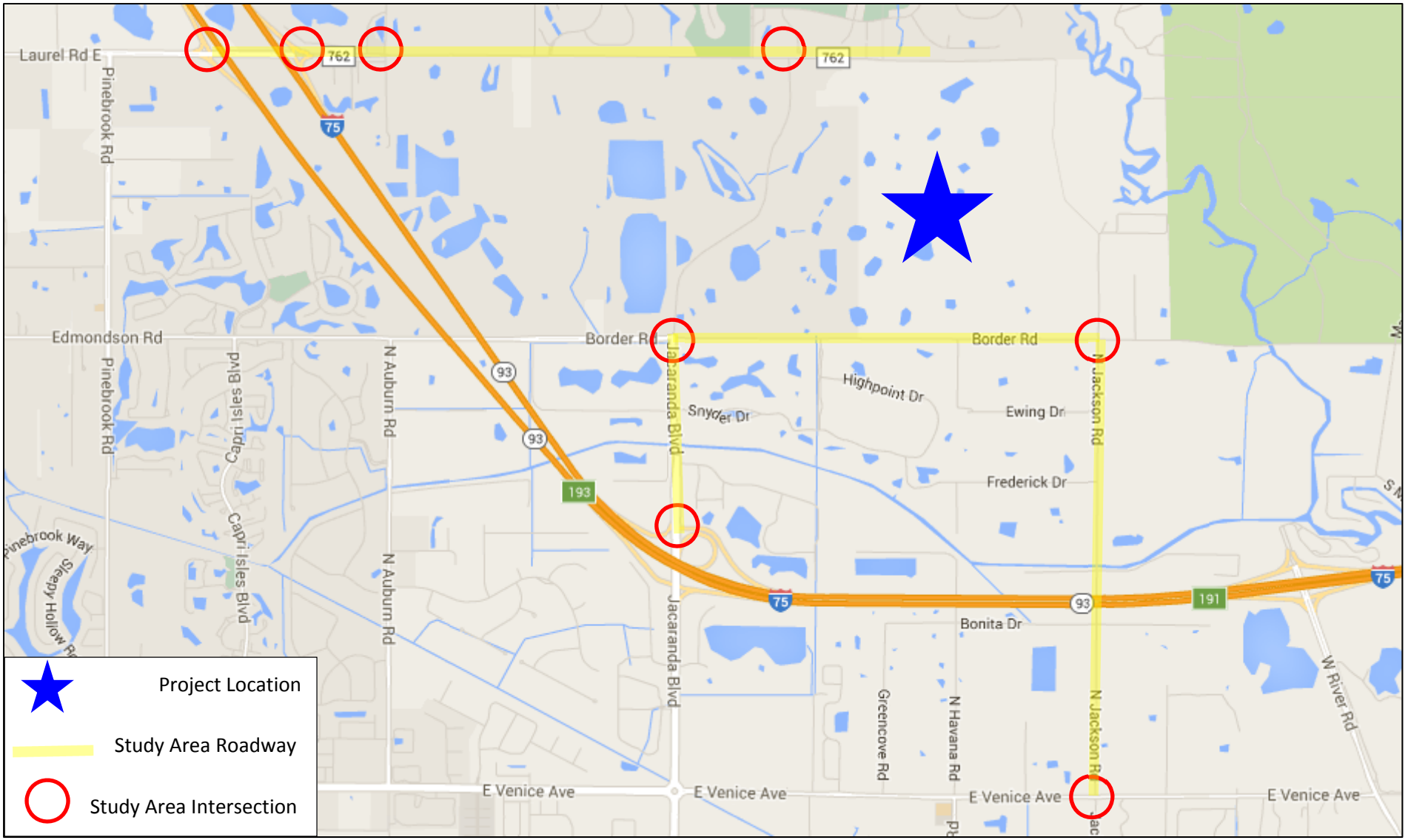
Matthew R. Crim, P.E., PTOE
Transportation Engineer
Ph: 832-523-9111
matt.crim@stantec.com

Attachments: Project Traffic Distribution
Study Area



Project Traffic Distribution
2018 Existing Plus Committed Network
Hurt Property

cube


Laurel Rd E
762
762
75
Pinebrook Rd
Edmondson Rd
Pinebrook Rd
Border Rd
Border Rd
93
93
193
Jacaranda Blvd
Snyder Dr
Highpoint Dr
Ewing Dr
N Jackson Rd
Frederick Dr
Capri Isles Blvd
N Auburn Rd
N Auburn Rd
Capri Isles Blvd
Pinebrook Way
Sleepy Hollow Rd
75
93
191
75
Bonita Dr
Jacaranda Blvd
Greencove Rd
N Havana Rd
N Jackson Rd
W River Rd
E Venice Ave
E Venice Ave
E Venice Ave
E Venice Ave
Project Location
Study Area Roadway
Study Area Intersection

STUDY AREA

APPENDIX B

SARASOTA COUNTY SEASONAL ADJUSTMENT FACTORS

TURNING MOVEMENT COUNTS

EXISTING SIGNAL TIMING

FACTORS FOR ADJUSTING PEAK HOUR TRAFFIC VOLUMES TO THE 100TH DESIGN HOURLY VOLUME, BASED ON THE DAY OF THE WEEK AND THE MONTH OF THE YEAR

Month	M,T,W,&Th	F
January	1.034	0.938
February	1.004	0.936
March	1.025	0.937
April	1.057	0.948
May	1.104	0.991
June	1.138	1.028
July	1.160	1.033
August	1.141	1.032
September	1.134	1.000
October	1.080	0.989
November	1.061	0.974
December	1.017	0.963

These factors are multipliers.

Source: Sarasota County Transportation Department
July, 1991

file: PK100FAC.WP

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: I-75 SB -- Laurel Rd

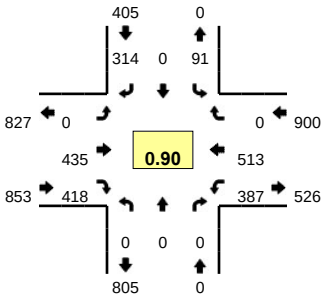
CITY/STATE: Nokomis, FL

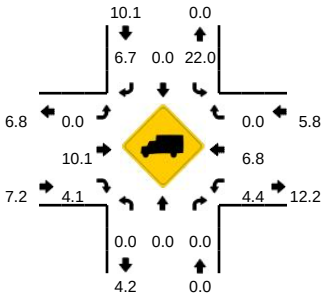
QC JOB #: 14516501

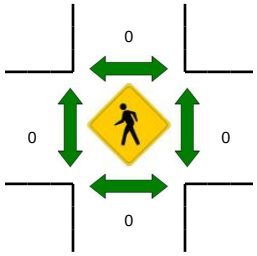
DATE: Thu, Sep 21 2017

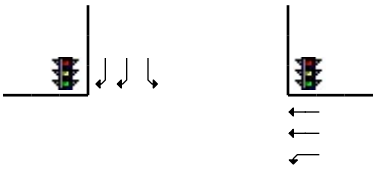
Peak-Hour: 4:30 PM -- 5:30 PM

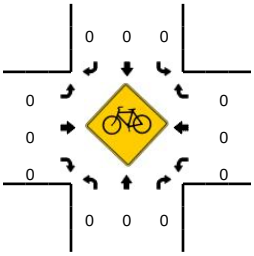
Peak 15-Min: 5:00 PM -- 5:15 PM

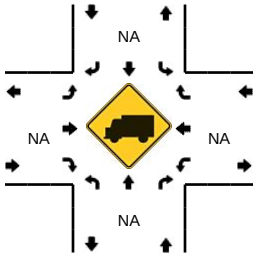


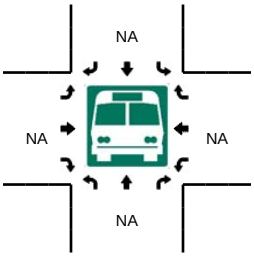












R* = RTOR

15-Min Count Period Beginning At	I-75 SB (Northbound)					I-75 SB (Southbound)					Laurel Rd (Eastbound)					Laurel Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	0	0	0	0	0	29	0	62	0	0	0	111	90	0	0	76	130	0	0	0	498	
4:15 PM	0	0	0	0	0	38	0	74	0	0	0	110	100	0	0	63	115	0	0	0	500	
4:30 PM	0	0	0	0	0	30	0	62	0	1	0	117	85	0	0	73	116	0	0	0	484	
4:45 PM	0	0	0	0	0	19	0	81	0	0	0	107	107	0	0	88	119	0	0	0	521	2003
5:00 PM	0	0	0	0	0	17	0	85	0	1	0	97	114	0	0	129	157	0	0	0	600	2105
5:15 PM	0	0	0	0	0	25	0	84	0	0	0	114	112	0	0	97	121	0	0	0	553	2158
5:30 PM	0	0	0	0	0	25	0	79	0	0	0	112	99	0	0	62	94	0	0	0	471	2145
5:45 PM	0	0	0	0	0	16	0	64	0	0	0	77	76	0	0	42	84	0	0	0	359	1983

Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	0	0	0	0	0	68	0	340	0	4	0	388	456	0	0	516	628	0	0	0	2400
Heavy Trucks	0	0	0			24	0	20			0	36	32			16	40	0			168
Pedestrians		0					0					0					0				0
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0
Railroad																					
Stopped Buses																					

Comments:

Report generated on 9/27/2017 3:07 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: I-75 NB -- Laurel Rd

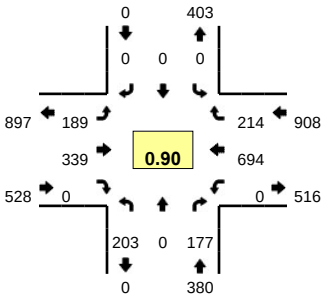
CITY/STATE: Nokomis, FL

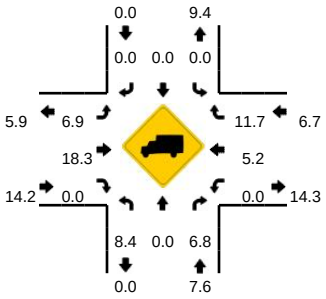
QC JOB #: 14516502

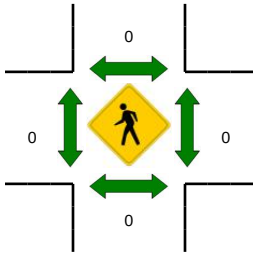
DATE: Thu, Sep 21 2017

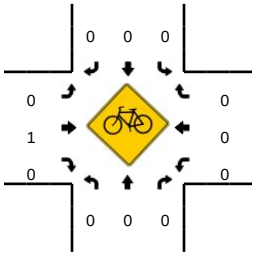
Peak-Hour: 4:15 PM -- 5:15 PM

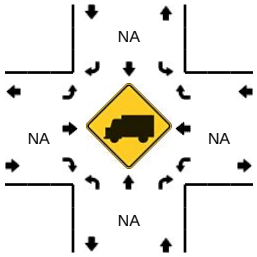
Peak 15-Min: 5:00 PM -- 5:15 PM

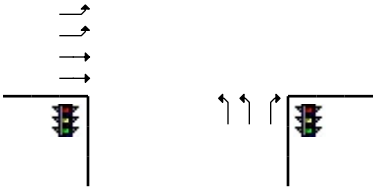


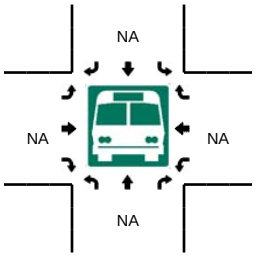












R* = RTOR

15-Min Count Period Beginning At	I-75 NB (Northbound)					I-75 NB (Southbound)					Laurel Rd (Eastbound)					Laurel Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	57	0	47	0	0	0	0	0	0	0	39	99	0	0	0	0	135	48	0	0	425	
4:15 PM	52	0	59	0	0	0	0	0	0	0	36	107	0	0	0	0	130	36	0	0	420	
4:30 PM	47	0	69	0	0	0	0	0	0	0	56	81	0	0	0	0	156	53	0	0	462	
4:45 PM	49	0	37	0	0	0	0	0	0	0	43	85	0	0	0	0	163	51	0	0	428	1735
5:00 PM	55	0	12	0	0	0	0	0	0	0	54	66	0	0	0	0	245	74	0	0	506	1816
5:15 PM	54	0	16	0	0	0	0	0	0	0	53	80	0	1	0	0	124	51	0	0	379	1775
5:30 PM	56	0	19	0	0	0	0	0	0	0	49	85	0	0	0	0	102	36	0	0	347	1660
5:45 PM	44	0	17	0	0	0	0	0	0	0	25	80	0	0	0	0	84	20	0	0	270	1502

Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	220	0	48	0	0	0	0	0	0	0	216	264	0	0	0	0	980	296	0	0	2024
Heavy Trucks	16	0	12			0	0	0			16	48	0			0	36	32			160
Pedestrians		0					0					0					0				0
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0
Railroad																					
Stopped Buses																					

Comments:

Report generated on 9/27/2017 3:07 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

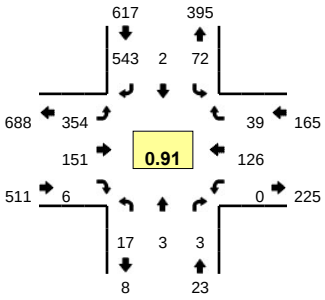
Type of peak hour being reported: Intersection Peak

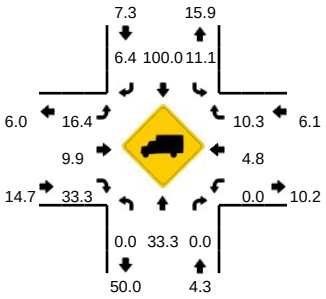
Method for determining peak hour: Total Entering Volume

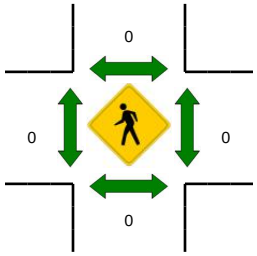
LOCATION: Knights Trl -- Laurel Rd
CITY/STATE: Nokomis, FL

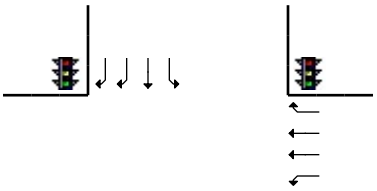
QC JOB #: 14516503
DATE: Thu, Sep 21 2017

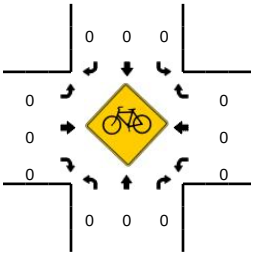
Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

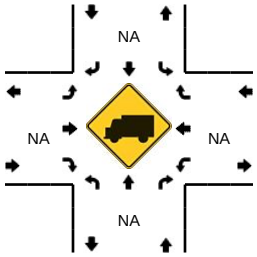


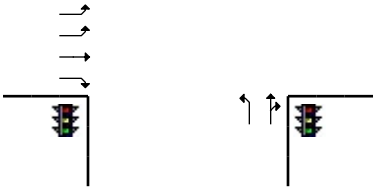


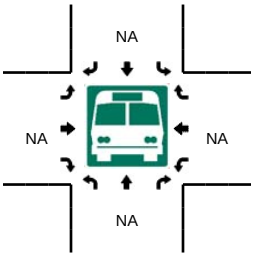












R* = RTOR

15-Min Count Period Beginning At	Knights Trl (Northbound)					Knights Trl (Southbound)					Laurel Rd (Eastbound)					Laurel Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	7	0	0	0	10	10	0	82	0	29	88	48	6	1	1	1	34	6	0	5	328	
4:15 PM	4	0	0	0	0	15	0	67	0	20	118	43	3	1	0	0	27	5	0	5	308	
4:30 PM	7	3	0	0	0	15	1	92	1	27	113	32	1	1	0	0	33	3	0	5	334	
4:45 PM	4	0	0	0	1	15	0	93	0	34	85	44	0	0	0	0	28	3	0	5	312	1282
5:00 PM	2	0	1	0	1	26	1	162	0	48	36	32	2	0	0	0	38	3	0	10	362	1316
5:15 PM	6	0	0	0	0	19	0	83	0	20	44	57	3	0	0	1	27	2	0	6	268	1276
5:30 PM	0	0	0	0	0	7	0	49	0	28	65	42	0	0	0	0	29	1	0	3	224	1166
5:45 PM	1	0	0	0	0	6	0	31	0	23	48	31	1	0	0	0	25	4	0	4	174	1028

Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	8	0	4	0	4	104	4	648	0	192	144	128	8	0	0	0	152	12	0	40	1448
Heavy Trucks	0	0	0			4	4	40			48	12	4			0	8	4			124
Pedestrians		0					0					0					0				0
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0
Railroad Stopped Buses																					

Comments:

Report generated on 9/27/2017 3:07 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Jacaranda Blvd -- Laurel Rd

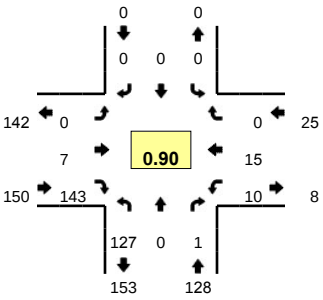
CITY/STATE: Nokomis, FL

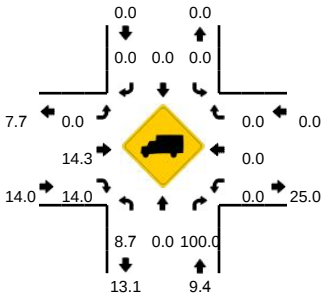
QC JOB #: 14516504

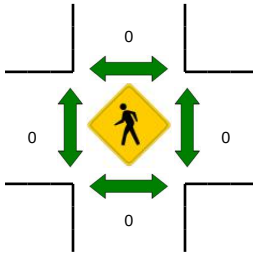
DATE: Thu, Sep 21 2017

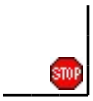
Peak-Hour: 4:30 PM -- 5:30 PM

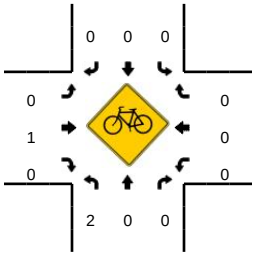
Peak 15-Min: 5:00 PM -- 5:15 PM

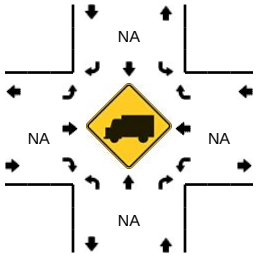


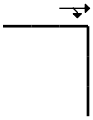


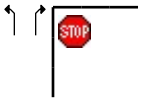


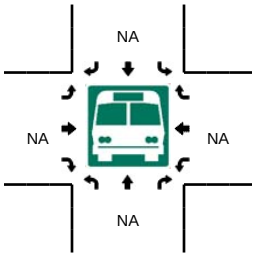












R* = RTOR

15-Min Count Period Beginning At	Jacaranda Blvd (Northbound)					Jacaranda Blvd (Southbound)					Laurel Rd (Eastbound)					Laurel Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	33	0	1	0	0	0	0	0	0	0	0	1	41	0	0	2	2	0	0	0	80	
4:15 PM	34	0	1	1	0	0	0	0	0	0	0	2	24	0	0	4	5	0	0	0	71	
4:30 PM	31	0	0	0	0	0	0	0	0	0	0	1	28	0	0	4	2	0	0	0	66	
4:45 PM	31	0	0	0	0	0	0	0	0	0	0	4	32	0	0	1	5	0	0	0	73	290
5:00 PM	33	0	1	0	0	0	0	0	0	0	0	0	43	0	0	1	6	0	0	0	84	294
5:15 PM	32	0	0	0	0	0	0	0	0	0	0	2	40	0	0	4	2	0	0	0	80	303
5:30 PM	22	0	0	0	0	0	0	0	0	0	0	0	31	0	0	7	2	0	0	0	62	299
5:45 PM	20	0	0	1	0	0	0	0	0	0	0	1	29	0	0	4	5	0	0	0	60	286

Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	132	0	4	0	0	0	0	0	0	0	0	0	172	0	0	4	24	0	0	0	336
Heavy Trucks	20	0	4			0	0	0			0	0	24			0	0	0			48
Pedestrians		0					0					0					0				0
Bicycles	0	0	0			0	0	0			0	1	0			0	0	0			1
Railroad																					
Stopped Buses																					

Comments:

Report generated on 9/27/2017 3:07 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Jacaranda Blvd -- Border Rd

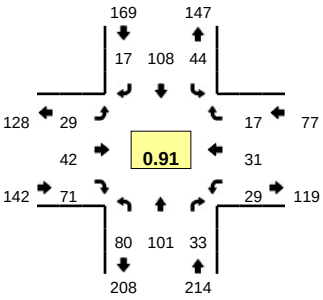
CITY/STATE: Venice, FL

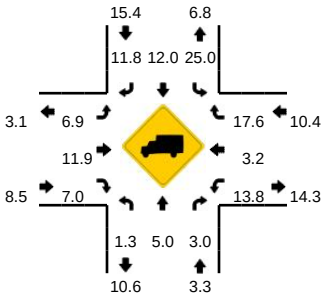
QC JOB #: 14516505

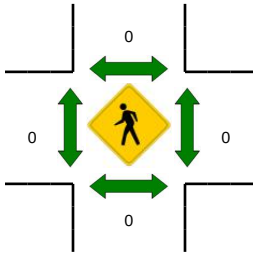
DATE: Thu, Sep 21 2017

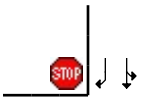
Peak-Hour: 4:30 PM -- 5:30 PM

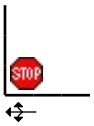
Peak 15-Min: 5:00 PM -- 5:15 PM

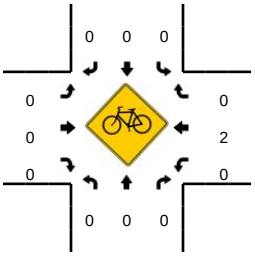


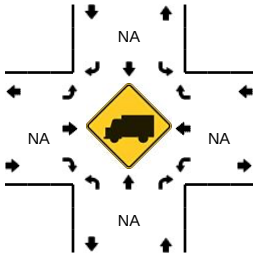


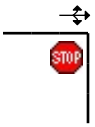


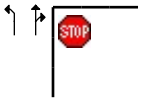


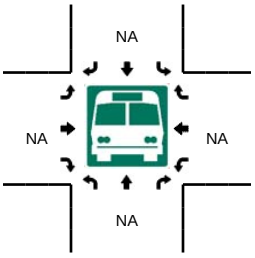












R* = RTOR

15-Min Count Period Beginning At	Jacaranda Blvd (Northbound)					Jacaranda Blvd (Southbound)					Border Rd (Eastbound)					Border Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	11	24	7	0	0	6	32	5	0	0	14	12	9	0	0	5	9	3	0	0	137	
4:15 PM	18	32	3	0	0	8	21	4	0	0	12	13	10	0	0	3	11	4	0	0	139	
4:30 PM	21	32	5	0	0	8	20	2	0	0	5	11	16	0	0	5	10	4	0	0	139	
4:45 PM	14	30	5	0	0	9	31	5	0	0	10	9	14	0	0	9	5	4	0	0	145	560
5:00 PM	34	19	11	0	0	11	28	4	0	0	5	13	18	0	0	10	5	7	0	0	165	588
5:15 PM	11	20	12	0	0	16	29	6	0	0	9	9	23	0	0	5	11	2	0	0	153	602
5:30 PM	13	15	5	0	0	11	20	3	0	0	3	9	17	0	0	6	2	3	0	0	107	570
5:45 PM	13	17	7	0	0	10	22	5	0	0	4	13	11	0	0	11	7	2	0	0	122	547

Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	136	76	44	0	0	44	112	16	0	0	20	52	72	0	0	40	20	28	0	0	660
Heavy Trucks	0	4	0			12	12	0			4	0	8			12	0	0			52
Pedestrians		0					0					0					0				0
Bicycles	0	0	0			0	0	0			0	0	0			0	2	0			2
Railroad																					
Stopped Buses																					

Comments:

Report generated on 9/27/2017 3:07 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

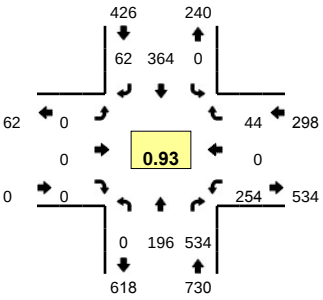
LOCATION: Jacaranda Blvd -- I-75 NB

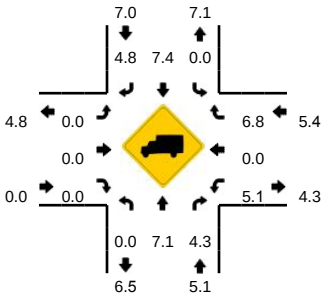
CITY/STATE: Sarasota, FL

QC JOB #: 14516508

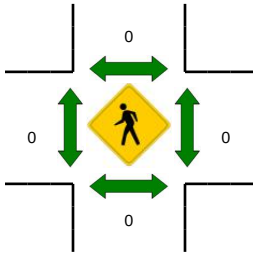
DATE: Thu, Sep 21 2017

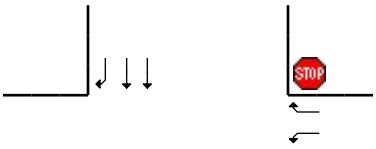
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

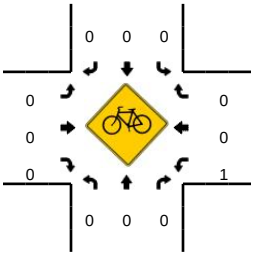


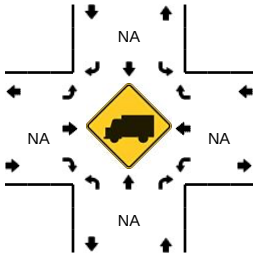


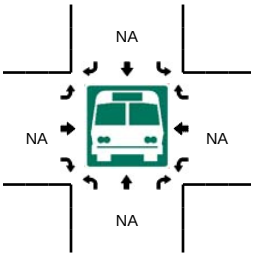
Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES











R* = RTOR

15-Min Count Period Beginning At	Jacaranda Blvd (Northbound)					Jacaranda Blvd (Southbound)					I-75 NB (Eastbound)					I-75 NB (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	0	52	140	1	0	0	84	20	0	0	0	0	0	0	0	53	0	13	0	0	363	
4:15 PM	0	56	117	0	0	0	71	8	0	0	0	0	0	0	0	53	0	12	0	0	317	
4:30 PM	0	50	135	0	0	0	82	17	0	0	0	0	0	0	0	52	0	18	0	0	354	
4:45 PM	0	52	118	0	0	0	88	14	0	0	0	0	0	0	0	68	0	7	0	0	347	1381
5:00 PM	0	48	145	0	0	0	107	16	0	0	0	0	0	0	0	62	0	14	0	0	392	1410
5:15 PM	0	46	136	0	0	0	87	15	0	0	0	0	0	0	0	72	0	5	0	0	361	1454
5:30 PM	0	33	122	1	0	0	69	15	0	0	0	0	0	0	0	66	0	5	0	0	311	1411
5:45 PM	0	44	100	1	0	0	49	9	0	0	0	0	0	0	0	69	0	6	0	0	278	1342

Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	0	192	580	0	0	0	428	64	0	0	0	0	0	0	0	248	0	56	0	0	1568
Heavy Trucks	0	20	16			0	36	4			0	0	0			16	0	4			96
Pedestrians		0					0					0					0				0
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0
Railroad																					
Stopped Buses																					

Comments:

Report generated on 9/29/2017 12:55 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

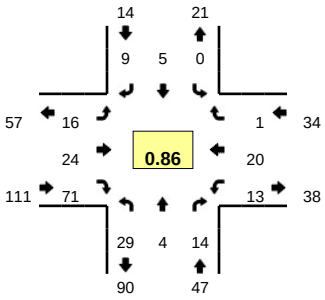
Type of peak hour being reported: Intersection Peak

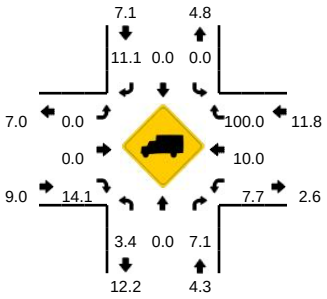
Method for determining peak hour: Total Entering Volume

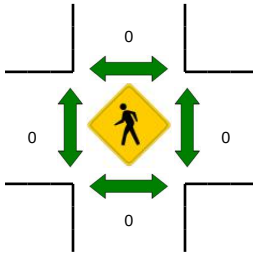
LOCATION: Jackson Rd -- Border Rd
CITY/STATE: Venice, FL

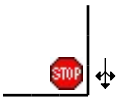
QC JOB #: 14516506
DATE: Thu, Sep 21 2017

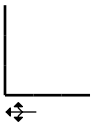
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

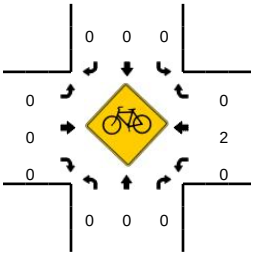


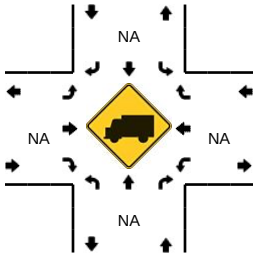


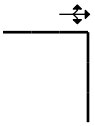


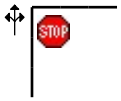


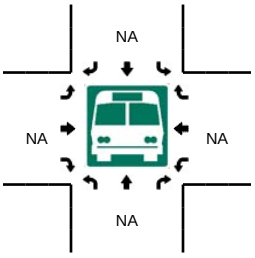












R* = RTOR

15-Min Count Period Beginning At	Jackson Rd (Northbound)					Jackson Rd (Southbound)					Border Rd (Eastbound)					Border Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	5	3	3	0	0	0	0	0	0	0	2	4	15	0	0	0	7	0	0	0	39	
4:15 PM	16	1	1	0	0	0	2	2	0	0	3	6	15	0	0	1	8	1	0	0	56	
4:30 PM	8	0	4	0	0	0	0	2	0	0	0	6	14	0	0	5	3	0	0	0	42	
4:45 PM	10	2	3	1	0	0	1	2	0	0	5	4	9	0	0	4	8	0	0	0	49	186
5:00 PM	7	0	2	0	0	0	1	2	0	0	4	7	22	0	0	2	6	1	0	0	54	201
5:15 PM	5	0	7	0	0	0	1	3	0	0	6	8	21	0	0	5	4	0	0	0	60	205
5:30 PM	6	2	2	0	0	0	2	2	0	0	1	5	19	0	0	2	2	0	0	0	43	206
5:45 PM	5	1	6	0	0	0	0	5	0	0	4	7	12	0	0	2	6	0	0	0	48	205

Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	20	0	28	0	0	0	4	12	0	0	24	32	84	0	0	20	16	0	0	0	240
Heavy Trucks	0	0	0			0	0	0			0	0	12			4	0	0			16
Pedestrians		0					0					0					0				0
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0
Railroad																					
Stopped Buses																					

Comments:

Report generated on 9/27/2017 3:07 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Jackson Rd -- Venice Ave

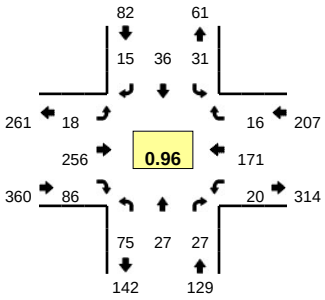
CITY/STATE: Sarasota, FL

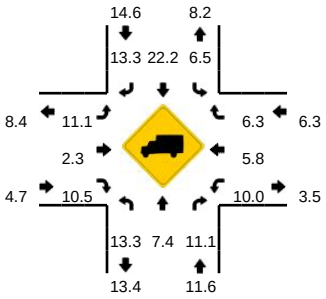
QC JOB #: 14516507

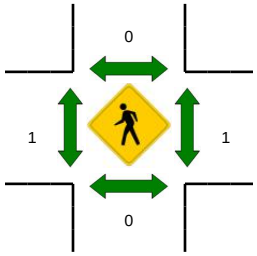
DATE: Thu, Sep 21 2017

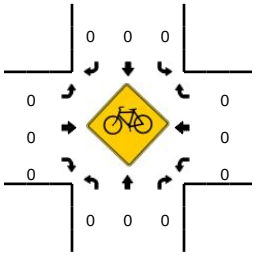
Peak-Hour: 4:15 PM -- 5:15 PM

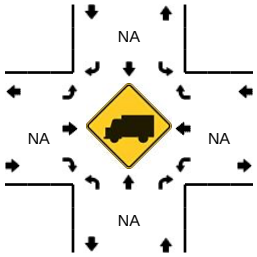
Peak 15-Min: 4:30 PM -- 4:45 PM

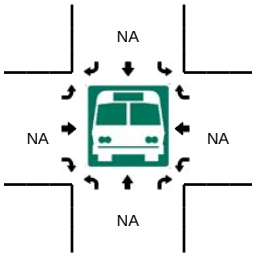












R* = RTOR

15-Min Count Period Beginning At	Jackson Rd (Northbound)					Jackson Rd (Southbound)					Venice Ave (Eastbound)					Venice Ave (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	17	7	3	0	0	10	7	2	0	0	6	58	13	0	0	4	27	6	0	0	160	
4:15 PM	16	10	9	0	0	8	8	7	0	0	1	53	23	0	0	9	41	4	0	0	189	
4:30 PM	22	5	8	0	0	8	12	1	0	0	4	77	20	0	0	4	37	4	0	0	202	
4:45 PM	14	6	5	0	0	8	6	3	0	0	5	66	22	0	0	2	46	4	0	0	187	738
5:00 PM	23	6	5	0	0	7	10	4	0	0	8	60	21	0	0	5	47	4	0	0	200	778
5:15 PM	16	2	4	0	0	7	3	4	0	0	8	54	7	0	0	2	24	0	0	0	131	720
5:30 PM	18	2	5	0	0	2	7	6	0	0	5	43	12	0	0	0	27	3	0	0	130	648
5:45 PM	11	3	2	0	0	4	1	5	0	0	6	38	12	0	0	1	31	5	0	0	119	580

Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	88	20	32	0	0	32	48	4	0	0	16	308	80	0	0	16	148	16	0	0	808
Heavy Trucks	12	0	4			0	16	0			0	4	8			4	12	0			60
Pedestrians		0					0					0					0				0
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0
Railroad																					
Stopped Buses																					

Comments:

Report generated on 9/27/2017 3:07 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Intersection Name: Laurel Road & I-75 W SB Ramp(#5664) **Date:** 11/30/2010

Interval	Phase (On/Off)							
	1	2	3	4	5	6	7	8
	WBLT	EB		SB				
Memory								
Ext Recall		On						
Max Recall								
Ped Recall								
CNA I		On						
CNA II								
FL Walk								
Soft Recall								
Walk Rest								
Cond Ped								
FWTPCL								

OLA-WBT to overlap with Phase 1 and Phase 2

SOP Special, Min Recall on Ph.1 during coordination

WBLT: Protected

Interval	Phase Timings							
	1	2	3	4	5	6	7	8
	WBLT	EB		SB				
Min Green	7	20		7				
Passage	3	5		5				
Yellow	4.5	4.5		4				
Red	1	1		2				
Max I	50	40		20				
Max II	50	25		25				
Walk		2						
Ped Clear								
S/A								
TBR								
TTR								
Min Gap								
Max VI								
Max Ext								
Auto Max								
AMR								

Phases and Sequence Used								
Phases	1	2	3	4	5	6	7	8
	On	On		On				
Sequence	8	1=Seq, 2=Dual ring, 3-7=Spec, 8=Lead/Lag						
Lead/Lag codes (only used if "8" was entered for sequence)								
Pairs	1 and 2		3 and 4		5 and 6		7 and 8	
Code								
Lead/lag Codes: 1=No Rev, 2=Always Rev, 3=Rev by C/S/O or Clock/Input								

Initialize / Flash				
	Initialize	Enter Flash	Exit Flash	Interval Codes: 1=Red 2=Yellow 3=Green
Ring 1 Phase	2	1	2	
Ring 2 Phase	0	0	0	
Interval	3	1	3	
Power Up / Restart Timings				
Minimum Flash	0	(0-127 Seconds)		
1st All Red After Flash	0	(0-127 Seconds)		

FDOT - DISTRICT 1

Signal System Timing Report

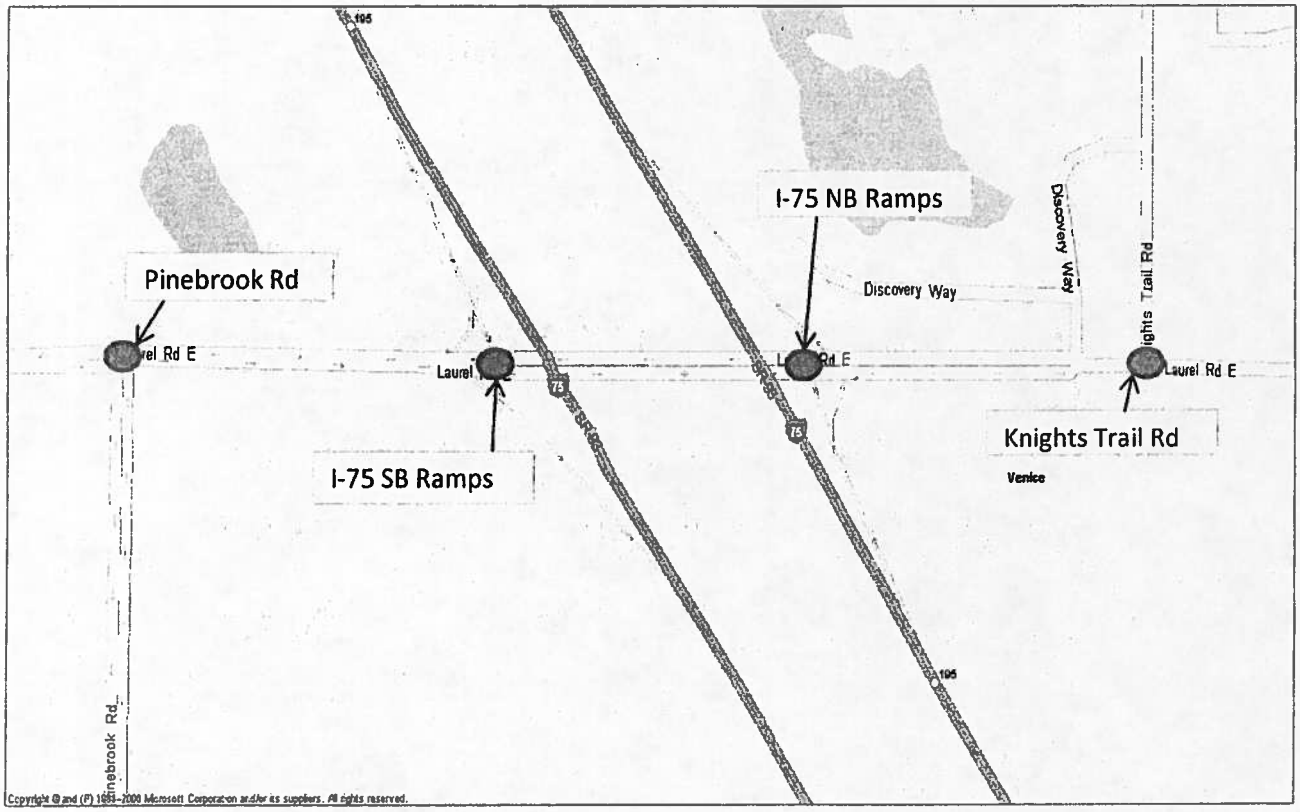
System ID: ***17075 A***

Section: **-** Arterial: ***Laurel Rd***

From: ***Pinebrook Rd*** MP: **-**

To: ***Knights Trail Rd*** MP: **-**

County: ***Sarasota***



ORIGINAL

Name		Date
Designed By:	RJ	03/2010
Checked By:	ELH	3/2010
Drawn By:	RJ	03/2010
Checked By:	ELH	3/2010

Approved By:

Renjan Joseph, P.E. # 68284

Date: 03/15/2010

Time of Day Plan

Designed By:	RJ
Date:	03/2010
Checked By:	ELH
Date:	3/2010

System ID: ***17075 A***
Section: -
From: ***Pinebrook Rd***
To: ***Knights Trail Rd***

ALL SEASON PLAN

Day	Time	Pattern (C/S/O)	Cycle Length
Monday Thru Friday	0000 - 0700	-	FREE
	0700 - 0900	1-1-1	80
	0900 - 1300	2-1-1	75
	1300 - 1545	3-1-1	80
	1545 - 1625	4-1-1	100
	1625 - 1800	3-1-1	80
	1800 - 0000	-	FREE
Saturday & Sunday	0000 - 0000	-	FREE

Designed By:	RS
Date:	03/2010
Checked By:	ELH
Date:	3/2010

SOP: *Special*

Location Details			
Section:	-	Mile Post:	-
Major Street:	*Laurel Rd*	Orientation:	*E-W*
Minor Street:	*I-75 SB Ramps*	Orientation:	*N-S*
Sig ID:	*970*	System ID:	*17075 A*

Controller Timings (seconds)

Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	*WBL*	*EB*		*SB*					
Turn Type	*Protected*								
Min Green	*7*	*20*		*7*					See Note 3
Ext	*3.0*	*5.0*		*5.0*					
Yellow	*4.5*	*4.5*		*4.0*					Program Overlap A as WBT to overlap with phases 1 and 2
All Red	*1.0*	*1.0*		*2.0*					
Max I	*50*	*40*		*20*					
Max II	*50*	*25*		*25*					
Walk		*2*							
Flashing Don't Walk									
Detector Memory	*OFF*			*OFF*					
Det. Cross Switch.									
Recall		*MIN*							
CNA		*ON*							
Coord Phase		*YES*							
Service Plan 1 'Min Green'	*8*	*20*		*7*					See Note 4
Service Plan 2 'Min Green'	*10*	*20*		*7*					
Service Plan 3 'Min Green'	*25*	*20*		*7*					
Service Plan 4 'Min Green'	*30*	*20*		*7*					

Coordination Timings (seconds)

Pattern	C-O-S	Cycle Length	Splits								Offset A	Offset B
1	*1-1-1*	*80*	*16*	*41*		*23*					*12*	*12*
2	*2-1-1*	*75*	*18*	*36*		*21*					*1*	*1*
3	*3-1-1*	*80*	*33*	*29*		*18*					*77*	*77*
4	*4-1-1*	*100*	*52*	*26*		*22*					*94*	*94*

Offset Reference Point	
Offset A	*End of Main Street Green (phase 2)*
Offset B	*End of Main Street Walk (phase P2:CNA Offset)*

SOP Special

Ring - 1	2	1	4
Ring - 2	OL-A		

Notes:

1) Use Max II and CNA during coordination

2) Use Fixed Force Offs.

3) Use Service plan 1 'Min Green' for pattern 1, Service Plan 2 'Min Green' for pattern 2, Service Plan 3 'Min Green' for pattern 3 and Service plan 4 Min Green' for pattern 4.

4) "Min" recall phase 1 during coordination through Service Plans.

5) Use 4 second extension for phase 1 during pattern 4 using service plan.

Designed By:	RJ	Checked By:	ELH	Major Street:	*Laurel Rd*
Date:	03/2010	Date:	3/2010	Minor Street:	*I-75 SB Ramps*

Coordination Timings (seconds) - Continued...

Pattern	C-O-S	Cycle Length	Force Offs - CNA Inactive							
			1	2	3	4	5	6	7	8
			WBL	EB		SB				
1	*1-1-1*	*80*	*16*	*0*		*39*				
2	*2-1-1*	*75*	*18*	*0*		*39*				
3	*3-1-1*	*80*	*33*	*0*		*51*				
4	*4-1-1*	*100*	*52*	*0*		*74*				

Coordination Timings (seconds) - Continued...

Pattern	C-O-S	Cycle Length	Force Offs- CNA Active							
			1	2	3	4	5	6	7	8
			WBL	EB		SB				
1	*1-1-1*	*80*	*16*	*0*		*39*				
2	*2-1-1*	*75*	*18*	*0*		*39*				
3	*3-1-1*	*80*	*33*	*0*		*51*				
4	*4-1-1*	*100*	*52*	*0*		*74*				

Coordination Timings (seconds) - Continued...

Pattern	C-O-S	Cycle Length	End of Permissives							
			1	2	3	4	5	6	7	8
			WBL	EB		SB				
1	*1-1-1*	*80*	*1*	*0*		*20*				
2	*2-1-1*	*75*	*1*	*0*		*21*				
3	*3-1-1*	*80*	*1*	*0*		*35*				
4	*4-1-1*	*100*	*1*	*0*		*40*				

Coordination Timings (seconds) - Continued...

Pattern	C-O-S	Cycle Length	Start of Permissives							
			1	2	3	4	5	6	7	8
			WBL	EB		SB				
1	*1-1-1*	*80*	*0*	*0*		*12*				
2	*2-1-1*	*75*	*0*	*0*		*14*				
3	*3-1-1*	*80*	*0*	*0*		*29*				
4	*4-1-1*	*100*	*0*	*0*		*34*				

Intersection Name: Laurel Road & I-75 East (#5665) **Date:** 11/30/2010

Interval	Phase (On/Off)							
	1	2	3	4	5	6	7	8
	EBLT	WB		NB				
Memory								
Ext Recall								
Max Recall		On						
Ped Recall								
CNA I		On						
CNA II								
FL Walk								
Soft Recall								
Walk Rest								
Cond Ped								
FWTPCL								

OLA: EBT to overlap with Phase 1 and Phase 2
SOP Special, Min Recall on Phase 1 during Coordination
EBLT: Protected

Interval	Phase Timings							
	1	2	3	4	5	6	7	8
	EBLT	WB		NB				
Min Green	7	20		7				
Passage	3	5		4				
Yellow	4.5	4.5		4				
Red	1	1		2				
Max I	30	40		35				
Max II	30	40		35				
Walk		2						
Ped Clear								
S/A								
TBR								
TTR								
Min Gap								
Max VI								
Max Ext								
Auto Max								
AMR								

Phases and Sequence Used								
Phases	1	2	3	4	5	6	7	8
	On	On		On				
Sequence	8	1=Seq, 2=Dual ring, 3-7=Spec, 8=Lead/Lag						
Lead/Lag codes (only used if "8" was entered for sequence)								
Pairs	1 and 2		3 and 4		5 and 6		7 and 8	
Code								
Lead/lag Codes: 1=No Rev, 2=Always Rev, 3=Rev by C/S/O or Clock/Input								

Initialize / Flash				
	Initialize	Enter Flash	Exit Flash	Interval Codes: 1=Red 2=Yellow 3=Green
Ring 1 Phase	2	1	2	
Ring 2 Phase	0	0	0	
Interval	3	1	3	
Power Up / Restart Timings				
Minimum Flash	0	(0-127 Seconds)		
1st All Red After Flash	0	(0-127 Seconds)		

FDOT - DISTRICT 1

Signal System Timing Report

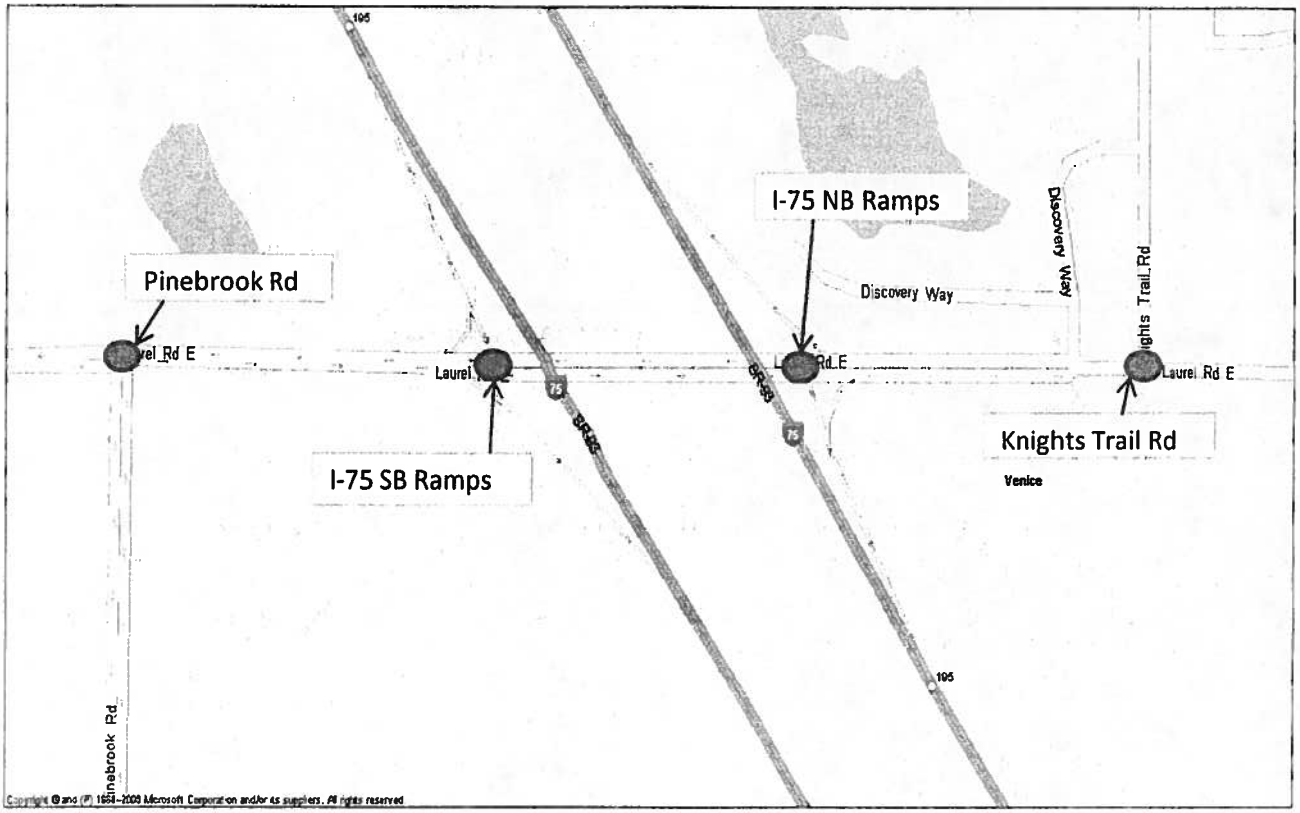
System ID: ***17075 A***

Section: **-** Arterial: ***Laurel Rd***

From: ***Pinebrook Rd*** MP: **-**

To: ***Knights Trail Rd*** MP: **-**

County: ***Sarasota***



ORIGINAL

Name		Date
Designed By:	RJ	03/2010
Checked By:	ELH	3/2010
Drawn By:	RJ	03/2010
Checked By:	ELH	3/2010

Approved By:

Renjan Joseph, P.E. # 68284

Date: 03/15/2010

Time of Day Plan

Designed By:	RJ
Date:	03/2010
Checked By:	ELH
Date:	3/2010

System ID: ***17075 A***
Section: -
From: ***Pinebrook Rd***
To: ***Knights Trail Rd***

ALL SEASON PLAN

Day	Time	Pattern (C/S/O)	Cycle Length
Monday Thru Friday	0000 - 0700	-	FREE
	0700 - 0900	1-1-1	80
	0900 - 1300	2-1-1	75
	1300 - 1545	3-1-1	80
	1545 - 1625	4-1-1	100
	1625 - 1800	3-1-1	80
	1800 - 0000	-	FREE
Saturday & Sunday	0000 - 0000	-	FREE

Designed By:	RJ
Date:	03/2010
Checked By	ELH
Date:	3/2010

SOP: *Special*

Location Details			
Section:	-	Mile Post:	-
Major Street:	*Laurel Rd*	Orientation:	*E-W*
Minor Street:	*I-75 NB Ramps*	Orientation:	*N-S*
Sig ID:	*969*	System ID:	*17075 A*

Controller Timings (seconds)

Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	*EBL*	*WB*		*NB*					
Turn Type	*Protected*								
Min Green	*7*	*20*		*7*					See Note 3
Ext	*3.0*	*5.0*		*4.0*					
Yellow	*4.5*	*4.5*		*4.0*					Program Overlap A as EBT to overlap with phases 1 and 2
All Red	*1.0*	*1.0*		*2.0*					
Max I	*30*	*40*		*35*					
Max II	*30*	*40*		*35*					
Walk		*2*							
Flashing Don't Walk									
Detector Memory	*OFF*			*OFF*					
Det. Cross Switch.									
Recall		*MAX*							
CNA		*ON*							
Coord Phase		*YES*							
Service Plan 1 'Min Green'	*20*	*15*		*7*					See Note 4
Service Plan 2 'Min Green'	*15*	*20*		*7*					
Service Plan 3 'Min Green'	*19*	*20*		*7*					
Service Plan 4 'Min Green'	*20*	*20*		*7*					

Coordination Timings (seconds)

Pattern	C-O-S	Cycle Length	Splits								Offset A	Offset B
1	*1-1-1*	*80*	*29*	*22*		*29*					*79*	*79*
2	*2-1-1*	*75*	*23*	*32*		*20*					*73*	*73*
3	*3-1-1*	*80*	*26*	*34*		*20*					*75*	*75*
4	*4-1-1*	*100*	*27*	*50*		*23*					*6*	*6*

Offset Reference Point	
Offset A	*End of Main Street Green (phase 2)*
Offset B	*End of Main Street Walk (phase P2:CNA Offset)*

SOP Special

Ring - 1	2	1	4
Ring - 2	OL-A		

Notes:

1) Use Max II and CNA during coordination

2) Use Fixed Force Offs

3) Use Service plan 1 'Min Green' for pattern 1, Service Plan 2 'Min Green' for pattern 2, Service Plan 3 'Min Green' for pattern 3 and Service plan 4 Min Green' for pattern 4.

4) "Min" recall phase 1 during coordination through Service Plans.

Designed By:	RS
Date:	03/2010

Checked By:	ELH
Date:	3/2010

Major Street: *Laurel Rd*

Minor Street: *I-75 NB Ramps*

Coordination Timings (seconds) - Continued...

Pattern	C-O-S	Cycle Length	Force Offs - CNA inactive							
			1	2	3	4	5	6	7	8
			EBL	WB		NB				
1	1-1-1	80	29	0		58				
2	2-1-1	75	23	0		43				
3	3-1-1	80	26	0		46				
4	4-1-1	100	27	0		50				

Coordination Timings (seconds) - Continued...

Pattern	C-O-S	Cycle Length	Force Offs- CNA Active							
			1	2	3	4	5	6	7	8
			EBL	WB		NB				
1	1-1-1	80	29	0		58				
2	2-1-1	75	23	0		43				
3	3-1-1	80	26	0		46				
4	4-1-1	100	27	0		50				

Coordination Timings (seconds) - Continued...

Pattern	C-O-S	Cycle Length	End of Permissives							
			1	2	3	4	5	6	7	8
			EBL	WB		NB				
1	1-1-1	80	1	0		30				
2	2-1-1	75	1	0		25				
3	3-1-1	80	1	0		30				
4	4-1-1	100	1	0		30				

Coordination Timings (seconds) - Continued...

Pattern	C-O-S	Cycle Length	Start of Permissives							
			1	2	3	4	5	6	7	8
			EBL	WB		NB				
1	1-1-1	80	0	0		24				
2	2-1-1	75	0	0		19				
3	3-1-1	80	0	0		23				
4	4-1-1	100	0	0		24				

Intersection Name: Laurel Rd. & Knights Trl. (# 5743) **Date:** 11/30/2010

Interval	1 EBL	2 WB	3 NB	4 SB	5 WBL	6 EB	7	8
Memory								
Ext Recall		On				On		
Max Recall								
Ped Recall								
CNA I								
CNA II								
FL Walk								
Soft Recall								
Walk Rest								
Cond Ped								
FWTPCL								

SOP 9 modified
EBLT and WBLT: Protected
OLA: SBRT to overlap with Phase 1 and Phase 4

Interval	Phase Timings 1 EBL	2 WB	3 NB	4 SB	5 WBL	6 EB	7	8
Min Green	7	10	7	10	7	20		
Passage	5	5	3	3	3	5		
Yellow	4.5	4.5	4	4.5	4.5	4.5		
Red	1	1	2	1.5	1	1		
Max I	40	40	15	35	10	40		
Max II	50	25	15	25	15	25		
Walk		10	10					
Ped Clear		29	28					
S/A								
TBR								
TTR								
Min Gap								
Max VI								
Max Ext								
Auto Max								
AMR								

Phases Used	1	2	3	4	5	6	7	8
On/Off	On	On	On	On	On	On		
Sequence	2	1=Seq, 2=Dual ring, 3-7=Spec, 8=Lead/Lag						
Lead/Lag codes (only used if "8" was entered for sequence)								
Pairs	1 and 2		3 and 4		5 and 6		7 and 8	
Code								
Lead/lag Codes: 1=No Rev, 2=Always Rev, 3=Rev by C/S/O or Clock/Input								

Initialize / Flash	Initialize	Enter Flash	Exit Flash	Interval Codes: 1=Red 2=Yellow 3=Green
Ring 1 Phase	2	4	2	
Ring 2 Phase	6	0	6	
Interval	3	1	3	

Power Up / Restart Timings		
Minimum Flash	0	(0-127 Seconds)
1st All Red After Flash	0	(0-127 Seconds)

FDOT - DISTRICT 1

Signal System Timing Report

System ID: ***17075 A***

Section: -

Arterial: ***Laurel Rd***

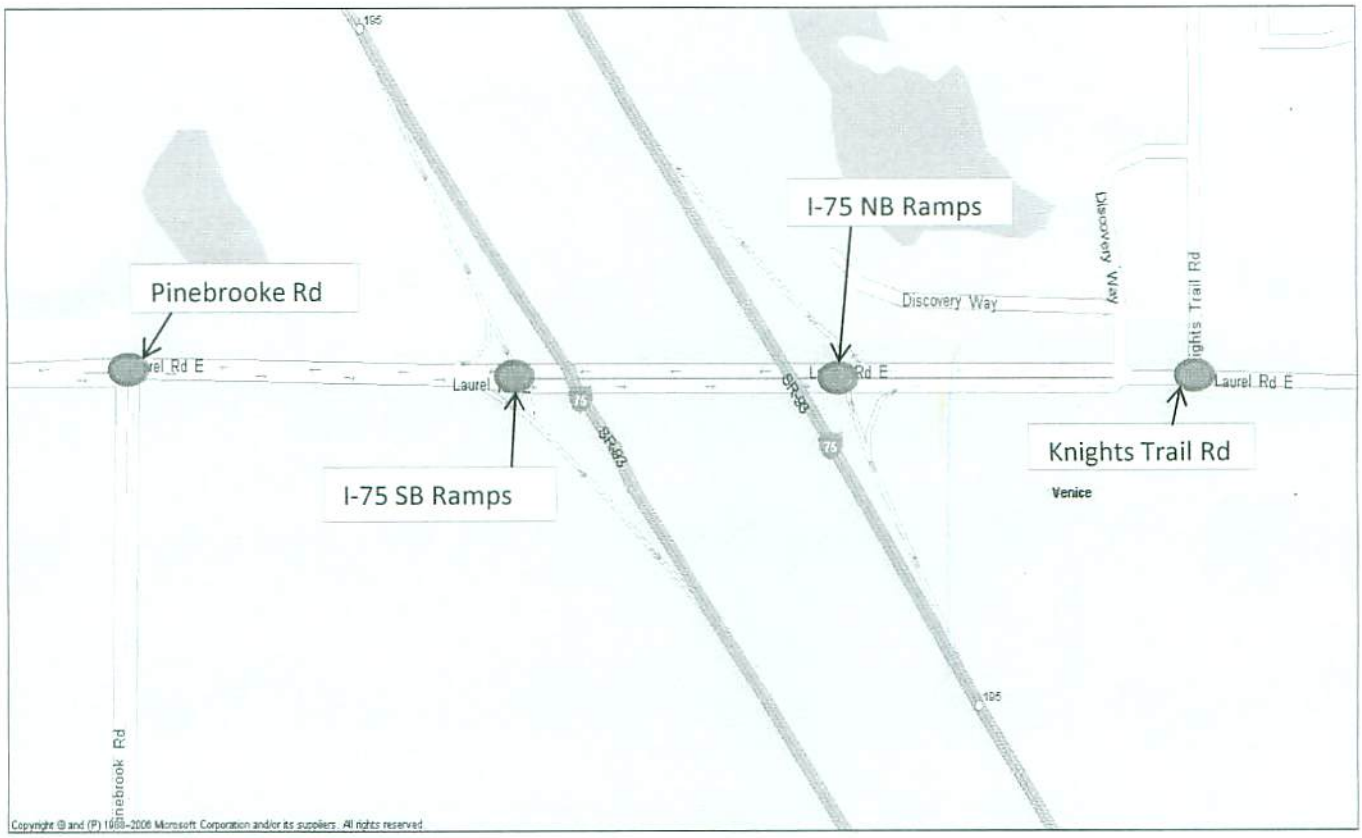
From: ***Pinebrook Rd***

MP: -

To: ***Knights Trail Rd***

MP: -

County: ***Sarasota***



REVISION
See Attached Revision Dated: ***03/2011***

Name		Date
Designed By:	RJ	03/2011
Checked By:	JNB	06/2011
Drawn By:	RJ	03/2011
Checked By:	JNB	06/2011

Approved By:

Renjan Joseph, P.E. # 68284

Date: 06/22/2011

Signal System Timings

System ID: ***17075 A***

Section: **-**

From: ***Pinebrook Rd*** MP: **-**

To: ***Knights Trail Rd*** MP: **-**

Revisions		Date:	*03/2011*
Location	**Page**	**Revision Description**	
Knights Trail Rd	*11 & 12*	*Adjusted Splits and Offset for pattern 4-1-1.*	
Time Space Diagrams	*17*	*Adjusted the diagram to accommodate the above changes.*	

Designed By:	RJ
Date:	03/2011
Checked By:	JNB
Date:	06/2011

Time of Day Plan

Designed By:	RJ
Date:	03/2010
Checked By:	ELH
Date:	3/2010

System ID: ***17075 A***
Section: **-**
From: ***Pinebrook Rd***
To: ***Knights Trail Rd***

ALL SEASON PLAN

Day	Time	Pattern (C/S/O)	Cycle Length
Monday Thru Friday	0000 - 0700	-	FREE
	0700 - 0900	1-1-1	80
	0900 - 1300	2-1-1	75
	1300 - 1545	3-1-1	80
	1545 - 1625	4-1-1	100
	1625 - 1800	3-1-1	80
	1800 - 0000	-	FREE
Saturday & Sunday	0000 - 0000	-	FREE

Designed By:	RJ
Date:	08/2011
Checked By:	JNB
Date:	06/2011

SOP: *9 (Modified)*

Location Details			
Section:	-	Mile Post:	-
Major Street:	*Laurel Rd*	Orientation:	*E-W*
Minor Street:	*Knights Trail Rd*	Orientation:	*N-S*
Sig ID:	*1111*	System ID:	*17075 A*

Controller Timings (seconds)

Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	*EBL*	*WB*	*NB*	*SB*	*WBL*	*EB*			
Turn Type	*Protected*				*Protected*				
Min Green	*7*	*10*	*7*	*10*	*7*	*20*			Phase '1' is a dual left phase.
Ext	*5.0*	*5.0*	*3.0*	*3.0*	*3.0*	*5.0*			
Yellow	*4.5*	*4.5*	*4.0*	*4.5*	*4.5*	*4.5*			
All Red	*1.0*	*1.0*	*2.0*	*1.5*	*1.0*	*1.0*			
Max I	*40*	*40*	*15*	*35*	*10*	*40*			
Max II	*50*	*25*	*15*	*25*	*15*	*25*			Program Overlap 'A' as 'SBR' to overlap with phases '1' and '4'.
Walk		*10*	*10*						
Flashing Don't Walk		*29*	*28*						
Detector Memory	*OFF*		*OFF*	*OFF*	*OFF*				
Det. Cross Switch.									
Recall		*MIN*				*MIN*			
CNA									
Coord Phase		*YES*				*YES*			

Coordination Timings (seconds)

Pattern	C-O-S	Cycle Length	Splits								Offset A	Offset B
1	*1-1-1*	*80*	*34*	*17*	13	16	*13*	*38*			*5*	-
2	*2-1-1*	*75*	*24*	*20*	13	*18*	*13*	*31*			*70*	-
3	*3-1-1*	*80*	*28*	*21*	13	*18*	*13*	*36*			*70*	-
4	*4-1-1*	*100*	*40*	*20*	*17*	*23*	*13*	*47*			*86*	-

Offset Reference Point	
Offset A	*End of Main Street Green (phases 2 & 6)*
Offset B	*End of Main Street Walk (phases P2 & P6:CNA Offset)*

SOP 9 (Modified)

Ring - 1	1 & 'OL-A'	2	3	4 & 'OL-A'
Ring - 2	5	6		

Notes:

1) Use Max II during coordination
2) Use Fixed Force Offs.
3) 'Max' recall phase 1 during coordination using Service Plan.

Designed By:	RJ
Date:	03/2011

Checked By:	JRB
Date:	06/204

Major Street: ***Laurel Rd***

Minor Street: ***Knights Trail Rd***

Coordination Timings (seconds) - Continued...

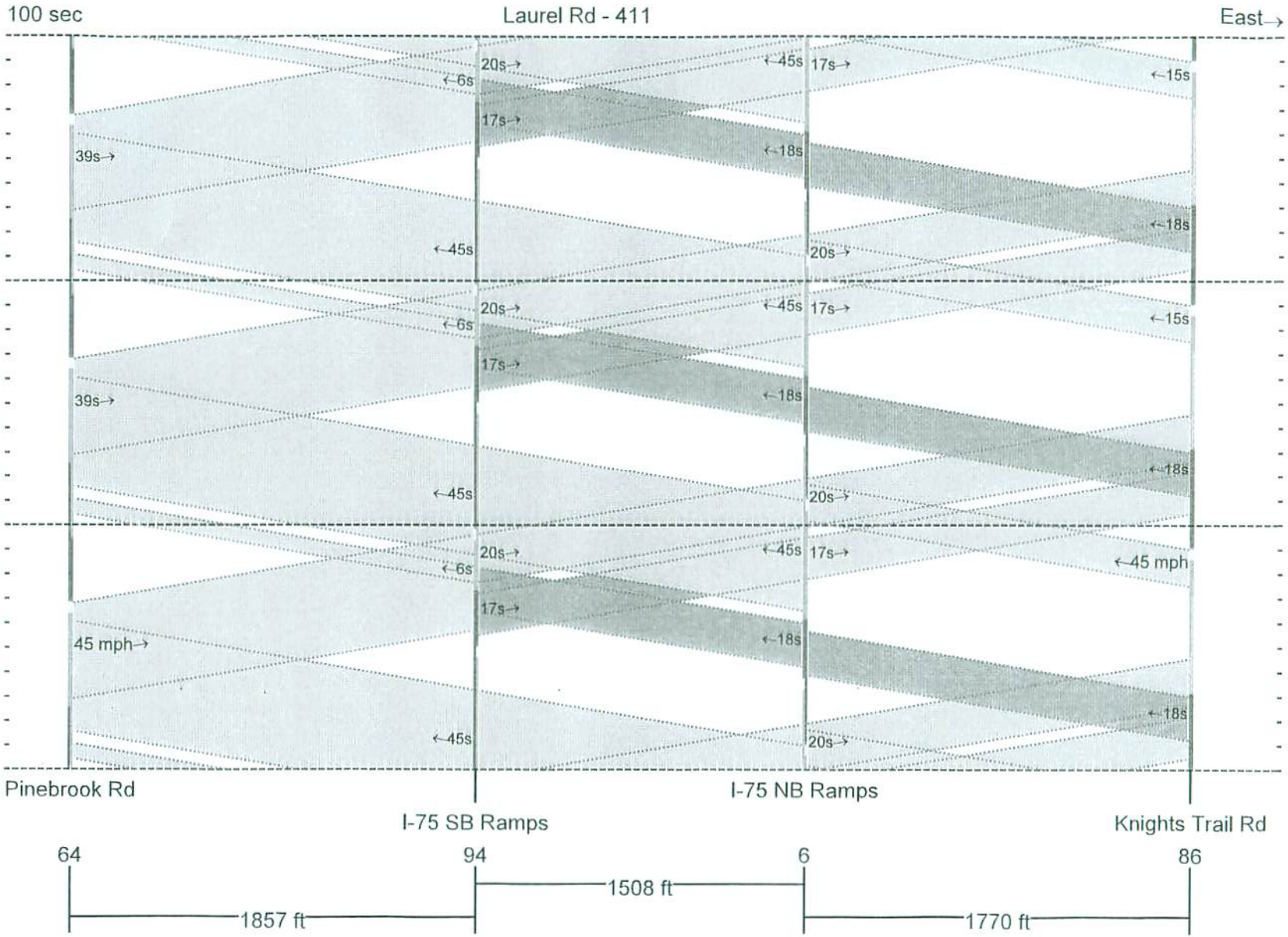
Pattern	C-O-S	Cycle Length	Force Offs - CNA Inactive							
			1	2	3	4	5	6	7	8
			EBL	WB	NB	SB	WBL	EB		
1	*1-1-1*	*80*	*63*	*0*	*13*	*29*	*42*	*0*		
2	*2-1-1*	*75*	*55*	*0*	*13*	*31*	*44*	*0*		
3	*3-1-1*	*80*	*59*	*0*	*13*	*31*	*44*	*0*		
4	*4-1-1*	*100*	*80*	*0*	*17*	*40*	*53*	*0*		

Coordination Timings (seconds) - Continued...

Pattern	C-O-S	Cycle Length	Force Offs- CNA Active							
			1	2	3	4	5	6	7	8
			EBL	WB	NB	SB	WBL	EB		
1	*1-1-1*	*80*	-	-	-	-	-	-		
2	*2-1-1*	*75*	-	-	-	-	-	-		
3	*3-1-1*	*80*	-	-	-	-	-	-		
4	*4-1-1*	*100*	-	-	-	-	-	-		

Coordination Timings (seconds) - Continued...

Pattern	C-O-S	Cycle Length	End of Permissives							
			1	2	3	4	5	6	7	8
			EBL	WB	NB	SB	WBL	EB		
1	*1-1-1*	*80*	*10*	*0*	*1*	*10*	*10*	*0*		
2	*2-1-1*	*75*	*10*	*0*	*1*	*10*	*10*	*0*		
3	*3-1-1*	*80*	*10*	*0*	*1*	*10*	*10*	*0*		
4	*4-1-1*	*100*	*10*	*0*	*1*	*10*	*10*	*0*		


100 sec
Laurel Rd - 411
East→
20s→
←6s
←45s
17s→
←15s
17s→
←18s
39s→
←18s
←45s
20s→
Pinebrook Rd
I-75 SB Ramps
I-75 NB Ramps
Knights Trail Rd
45 mph→
←45 mph
64
94
6
86
1857 ft
1508 ft
1770 ft

RJ 03/2011

APPENDIX C

EXISTING AND FUTURE INTERSECTION VOLUMES

TRAFFIC VOLUME AT STUDY INTERSECTIONS

Intersection: I-75 SB Ramps & Laurel Road
Count Date: 09/21/17
P.M. Peak Time Period: 4:30 - 5:30 PM
Peak Hour Factor: 0.90

	Laurel Rd			Laurel Rd						I-75 SB Ramp		
Existing Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Raw Turning Movement Counts	0	435	418	387	513	0	0	0	0	91	0	314
Peak Season Factor	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134
2017 Existing Conditions	**0**	**493**	**474**	**439**	**582**	**0**	**0**	**0**	**0**	**103**	**0**	**356**

Future Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Existing Conditions	0	493	474	439	582	0	0	0	0	103	0	356
Years to Build-out	7	7	7	7	7	7	7	7	7	7	7	7
Annual Growth Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Background Traffic Growth	0	73	70	65	87	0	0	0	0	15	0	53
Toscana Isles		193		15	114					154		
The Bridges		56		15	53					47		
Portofino		130		108	159					73		
Milano PUD (VICA East of Jacaranda)		24			14					48		
Milano PUD (Laurel Lakes West of Jacaranda)		70			39					110		
2024 Future Conditions	**0**	**1039**	**544**	**642**	**1048**	**0**	**0**	**0**	**0**	**550**	**0**	**409**

Project Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Project Trips	0	40	0	0	22	0	0	0	0	73	0	0
Total Project Traffic	**0**	**40**	**0**	**0**	**22**	**0**	**0**	**0**	**0**	**73**	**0**	**0**

Total Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Future Traffic	0	1039	544	642	1048	0	0	0	0	550	0	409
Project Traffic	0	40	0	0	22	0	0	0	0	73	0	0
2024 Total Conditions	**0**	**1079**	**544**	**642**	**1070**	**0**	**0**	**0**	**0**	**623**	**0**	**409**

TRAFFIC VOLUME AT STUDY INTERSECTIONS

Intersection: I-75 NB Ramps & Laurel Road
Count Date: 09/21/17
P.M. Peak Time Period: 4:15 - 5:15 PM
Peak Hour Factor: 0.90

	Laurel Rd			Laurel Rd			I-75 NB Ramp					
Existing Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Raw Turning Movement Counts	189	339	0	0	694	214	203	0	177	0	0	0
Peak Season Factor	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134
2017 Existing Conditions	**214**	**384**	**0**	**0**	**787**	**243**	**230**	**0**	**201**	**0**	**0**	**0**

Future Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Existing Conditions	214	384	0	0	787	243	230	0	201	0	0	0
Years to Build-out	7	7	7	7	7	7	7	7	7	7	7	7
Annual Growth Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Background Traffic Growth	32	57	0	0	117	36	34	0	30	0	0	0
Toscana Isles		348			129	91			25			
The Bridges		103			68	44			16			
Portofino		203			266	89			88			
Milano PUD (VICA East of Jacaranda)		72			14	29			4			
Milano PUD (Laurel Lakes West of Jacaranda)		180			39	63			1			
2024 Future Conditions	**246**	**1347**	**0**	**0**	**1420**	**595**	**264**	**0**	**365**	**0**	**0**	**0**

Project Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Project Trips	0	113	0	0	22	41	0	0	0	0	0	0
Total Project Traffic	**0**	**113**	**0**	**0**	**22**	**41**	**0**	**0**	**0**	**0**	**0**	**0**

Total Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Future Traffic	246	1347	0	0	1420	595	264	0	365	0	0	0
Project Traffic	0	113	0	0	22	41	0	0	0	0	0	0
2024 Total Conditions	**246**	**1460**	**0**	**0**	**1442**	**636**	**264**	**0**	**365**	**0**	**0**	**0**

TRAFFIC VOLUME AT STUDY INTERSECTIONS

Intersection: Knights Trail Road & Laurel Road
Count Date: 09/21/17
P.M. Peak Time Period: 4:15 - 5:15 PM
Peak Hour Factor: 0.91

	Laurel Rd			Laurel Rd			Knights Trail Rd			Knights Trail Rd		
Existing Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Raw Turning Movement Counts	354	151	6	0	126	39	17	3	3	72	2	543
Peak Season Factor	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134
2017 Existing Conditions	**401**	**171**	**7**	**0**	**143**	**44**	**19**	**3**	**3**	**82**	**2**	**616**

Future Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Existing Conditions	401	171	7	0	143	44	19	3	3	82	2	616
Years to Build-out	7	7	7	7	7	7	7	7	7	7	7	7
Annual Growth Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Background Traffic Growth	60	25	1	0	21	7	3	0	0	12	0	92
Toscana Isles	374					160				93		219
The Bridges		119			112	6				6		
Portofino	318	-27		6	56	0		5	5	29	6	346
Milano PUD (VICA East of Jacaranda)		76			43	4			1	6		
Milano PUD (Laurel Lakes West of Jacaranda)		181		7	102	17			11	31		
2024 Future Conditions	**1153**	**545**	**8**	**13**	**477**	**238**	**22**	**8**	**20**	**259**	**8**	**1273**

Project Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Project Trips	0	113	0	4	63	12	0	0	8	21	0	0
Total Project Traffic	**0**	**113**	**0**	**4**	**63**	**12**	**0**	**0**	**8**	**21**	**0**	**0**

Total Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Future Traffic	1153	545	8	13	477	238	22	8	20	259	8	1273
Project Traffic	0	113	0	4	63	12	0	0	8	21	0	0
2024 Total Conditions	**1153**	**658**	**8**	**17**	**540**	**250**	**22**	**8**	**28**	**280**	**8**	**1273**

TRAFFIC VOLUME AT STUDY INTERSECTIONS

Intersection: Jacaranda Boulevard & Laurel Road
Count Date: 09/21/17
P.M. Peak Time Period: 4:30 - 5:30 PM
Peak Hour Factor: 0.90

	Laurel Rd			Laurel Rd			Jacaranda Blvd					
Existing Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Raw Turning Movement Counts	0	7	143	10	15	0	127	0	1	0	0	0
Peak Season Factor	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134
2017 Existing Conditions	**0**	**8**	**162**	**11**	**17**	**0**	**144**	**0**	**1**	**0**	**0**	**0**

Future Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Existing Conditions	0	8	162	11	17	0	144	0	1	0	0	0
Years to Build-out	7	7	7	7	7	7	7	7	7	7	7	7
Annual Growth Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Background Traffic Growth	0	1	24	2	3	0	21	0	0	0	0	0
Toscana Isles		9	9		16		16					
Portofino		19	228		16		186					
Milano PUD (VICA East of Jacaranda)			84				48					
Milano PUD (Laurel Lakes West of Jacaranda)			199				113					
2024 Future Conditions	**0**	**37**	**706**	**13**	**52**	**0**	**528**	**0**	**1**	**0**	**0**	**0**

Project Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Project Trips	0	150	0	1	85	0	0	0	2	0	0	0
Total Project Traffic	**0**	**150**	**0**	**1**	**85**	**0**	**0**	**0**	**2**	**0**	**0**	**0**

Total Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Future Traffic	0	37	706	13	52	0	528	0	1	0	0	0
Project Traffic	0	150	0	1	85	0	0	0	2	0	0	0
2024 Total Conditions	**0**	**187**	**706**	**14**	**137**	**0**	**528**	**0**	**3**	**0**	**0**	**0**

TRAFFIC VOLUME AT STUDY INTERSECTIONS

Intersection: Jacaranda Boulevard & Border Road
Count Date: 09/21/17
P.M. Peak Time Period: 4:30 - 5:30 PM
Peak Hour Factor: 0.91

	Border Rd			Border Rd			Jacaranda Blvd			Jacaranda Blvd		
Existing Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Raw Turning Movement Counts	29	42	71	29	31	17	80	101	33	44	108	17
Peak Season Factor	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134
2017 Existing Conditions	**33**	**48**	**81**	**33**	**35**	**19**	**91**	**115**	**37**	**50**	**122**	**19**

Future Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Existing Conditions	33	48	81	33	35	19	91	115	37	50	122	19
Years to Build-out	7	7	7	7	7	7	7	7	7	7	7	7
Annual Growth Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Background Traffic Growth	5	7	12	5	5	3	14	17	6	7	18	3
The Bridges		15	74		16		78					
Portofino	62					62		62		76	76	76
The Woods at Venice		42		28	25	17			49	29		
Milano PUD (VICA East of Jacaranda)	23					8		39		4	22	13
Milano PUD (Laurel Lakes West of Jacaranda)	59					24		113		13	64	33
2024 Future Conditions	**182**	**112**	**167**	**66**	**81**	**133**	**183**	**346**	**92**	**179**	**302**	**144**

Project Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Project Trips	0	26	0	30	15	1	0	0	54	1	0	0
Total Project Traffic	**0**	**26**	**0**	**30**	**15**	**1**	**0**	**0**	**54**	**1**	**0**	**0**

Total Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Future Traffic	182	112	167	66	81	133	183	346	92	179	302	144
Project Traffic	0	26	0	30	15	1	0	0	54	1	0	0
2024 Total Conditions	**182**	**138**	**167**	**96**	**96**	**134**	**183**	**346**	**146**	**180**	**302**	**144**

TRAFFIC VOLUME AT STUDY INTERSECTIONS

Intersection: Jacaranda Boulevard & I-75 NB Ramps
Count Date: 09/21/17
P.M. Peak Time Period: 4:30 - 5:30 PM
Peak Hour Factor: 0.93

				I-75 NB Ramp			Jacaranda Blvd			Jacaranda Blvd		
Existing Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Raw Turning Movement Counts	0	0	0	254	0	44	0	196	534	0	364	62
Peak Season Factor	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134
2017 Existing Conditions	**0**	**0**	**0**	**288**	**0**	**50**	**0**	**222**	**606**	**0**	**413**	**70**

Future Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Existing Conditions	0	0	0	288	0	50	0	222	606	0	413	70
Years to Build-out	7	7	7	7	7	7	7	7	7	7	7	7
Annual Growth Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Background Traffic Growth	0	0	0	43	0	7	0	33	90	0	61	10
The Bridges						16		53			65	
Portofino								57			70	
Milano PUD (VICA East of Jacaranda)						7		30			17	4
Milano PUD (Laurel Lakes West of Jacaranda)						32		78			54	8
2024 Future Conditions	**0**	**0**	**0**	**331**	**0**	**112**	**0**	**473**	**696**	**0**	**680**	**92**

Project Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Project Trips	0	0	0	0	0	7	0	45	0	0	29	0
Total Project Traffic	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**45**	**0**	**0**	**29**	**0**

Total Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Future Traffic	0	0	0	331	0	112	0	473	696	0	680	92
Project Traffic	0	0	0	0	0	7	0	45	0	0	29	0
2024 Total Conditions	**0**	**0**	**0**	**331**	**0**	**119**	**0**	**518**	**696**	**0**	**709**	**92**

TRAFFIC VOLUME AT STUDY INTERSECTIONS

Intersection: Jackson Road & Border Road
Count Date: 09/21/17
P.M. Peak Time Period: 4:45 - 5:45 PM
Peak Hour Factor: 0.86

	Border Rd			Border Rd			Jackson Rd			Jackson Rd		
Existing Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Raw Turning Movement Counts	16	24	71	13	20	1	29	4	14	0	5	9
Peak Season Factor	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134
2017 Existing Conditions	**18**	**27**	**81**	**15**	**23**	**1**	**33**	**5**	**16**	**0**	**6**	**10**

Future Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Existing Conditions	18	27	81	15	23	1	33	5	16	0	6	10
Years to Build-out	7	7	7	7	7	7	7	7	7	7	7	7
Annual Growth Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Background Traffic Growth	3	4	12	2	3	0	5	1	2	0	1	1
Portofino	6		70				57					5
The Woods at Venice	1	1	21		0		36					2
2024 Future Conditions	**28**	**32**	**184**	**17**	**26**	**1**	**131**	**6**	**18**	**0**	**7**	**18**

Project Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Project Trips	2	0	22	0	1	0	39	0	0	0	0	2
Total Project Traffic	**2**	**0**	**22**	**0**	**1**	**0**	**39**	**0**	**0**	**0**	**0**	**2**

Total Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Future Traffic	28	32	184	17	26	1	131	6	18	0	7	18
Project Traffic	2	0	22	0	1	0	39	0	0	0	0	2
2024 Total Conditions	**30**	**32**	**206**	**17**	**27**	**1**	**170**	**6**	**18**	**0**	**7**	**20**

TRAFFIC VOLUME AT STUDY INTERSECTIONS

Intersection: Jackson Road & Venice Avenue
Count Date: 09/21/17
P.M. Peak Time Period: 4:15 - 5:15 PM
Peak Hour Factor: 0.96

	Venice Ave			Venice Ave			Jackson Rd			Jackson Rd		
Existing Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Raw Turning Movement Counts	18	256	86	20	171	16	75	27	27	31	36	15
Peak Season Factor	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134
2017 Existing Conditions	**20**	**290**	**98**	**23**	**194**	**18**	**85**	**31**	**31**	**35**	**41**	**17**

Future Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Existing Conditions	20	290	98	23	194	18	85	31	31	35	41	17
Years to Build-out	7	7	7	7	7	7	7	7	7	7	7	7
Annual Growth Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Background Traffic Growth	3	43	15	3	29	3	13	5	5	5	6	3
Portofino	10					47				57		13
The Woods at Venice	14					22				12		9
2024 Future Conditions	**47**	**333**	**113**	**26**	**223**	**90**	**98**	**36**	**36**	**109**	**47**	**42**

Project Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Project Trips	14	0	0	0	0	24	0	0	0	14	0	8
Total Project Traffic	**14**	**0**	**0**	**0**	**0**	**24**	**0**	**0**	**0**	**14**	**0**	**8**

Total Traffic	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Future Traffic	47	333	113	26	223	90	98	36	36	109	47	42
Project Traffic	14	0	0	0	0	24	0	0	0	14	0	8
2024 Total Conditions	**61**	**333**	**113**	**26**	**223**	**114**	**98**	**36**	**36**	**123**	**47**	**50**

APPENDIX D

2017 EXISTING TRAFFIC SYNCHRO SUMMARY WORKSHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	493	474	439	582	0	0	0	0	103	0	356
Future Volume (veh/h)	0	493	474	439	582	0	0	0	0	103	0	356
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1727	1827	1827	1776	0				1557	0	1776
Adj Flow Rate, veh/h	0	548	0	488	647	0				114	0	396
Adj No. of Lanes	0	2	1	1	2	0				1	0	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	0	10	4	4	7	0				22	0	7
Cap, veh/h	0	861	408	696	2425	0				241	0	432
Arrive On Green	0.00	0.26	0.00	0.80	1.00	0.00				0.16	0.00	0.16
Sat Flow, veh/h	0	3368	1553	1740	3463	0				1483	0	2656
Grp Volume(v), veh/h	0	548	0	488	647	0				114	0	396
Grp Sat Flow(s),veh/h/ln	0	1641	1553	1740	1687	0				1483	0	1328
Q Serve(g_s), s	0.0	11.8	0.0	10.2	0.0	0.0				5.6	0.0	11.7
Cycle Q Clear(g_c), s	0.0	11.8	0.0	10.2	0.0	0.0				5.6	0.0	11.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	861	408	696	2425	0				241	0	432
V/C Ratio(X)	0.00	0.64	0.00	0.70	0.27	0.00				0.47	0.00	0.92
Avail Cap(c_a), veh/h	0	1005	476	696	2425	0				241	0	432
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.86	0.86	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.1	0.0	5.8	0.0	0.0				30.4	0.0	33.0
Incr Delay (d2), s/veh	0.0	3.6	0.0	3.0	0.1	0.0				1.4	0.0	24.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	9.7	0.0	8.3	0.0	0.0				4.3	0.0	9.7
LnGrp Delay(d),s/veh	0.0	29.7	0.0	8.8	0.1	0.0				31.8	0.0	57.3
LnGrp LOS		C		A	A					C		E
Approach Vol, veh/h		548			1135						510	
Approach Delay, s/veh		29.7			3.8						51.6	
Approach LOS		C			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	36.5	25.5		18.0		62.0		
Change Period (Y+Rc), s	5.5	5.5		6.0		5.5		
Max Green Setting (Gmax), s	27.5	23.5		12.0		56.5		
Max Q Clear Time (g_c+I1), s	12.2	13.8		13.7		2.0		
Green Ext Time (p_c), s	5.9	2.3		0.0		8.3		

Intersection Summary	
HCM 2010 Ctrl Delay	21.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	384	0	0	787	243	230	0	201	0	0	0
Future Volume (veh/h)	214	384	0	0	787	243	230	0	201	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1776	1610	0	0	1810	1696	1759	0	1776			
Adj Flow Rate, veh/h	238	427	0	0	874	0	256	0	0			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	7	18	0	0	5	12	8	0	7			
Cap, veh/h	1110	2336	0	0	1268	532	383	0	178			
Arrive On Green	0.68	1.00	0.00	0.00	0.74	0.00	0.12	0.00	0.00			
Sat Flow, veh/h	3281	3140	0	0	3529	1442	3250	0	1509			
Grp Volume(v), veh/h	238	427	0	0	874	0	256	0	0			
Grp Sat Flow(s),veh/h/ln	1640	1530	0	0	1719	1442	1625	0	1509			
Q Serve(g_s), s	2.2	0.0	0.0	0.0	10.9	0.0	6.0	0.0	0.0			
Cycle Q Clear(g_c), s	2.2	0.0	0.0	0.0	10.9	0.0	6.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	1110	2336	0	0	1268	532	383	0	178			
V/C Ratio(X)	0.21	0.18	0.00	0.00	0.69	0.00	0.67	0.00	0.00			
Avail Cap(c_a), veh/h	1110	2336	0	0	1268	532	609	0	283			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.84	0.84	0.00	0.00	0.95	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	8.9	0.0	0.0	0.0	8.1	0.0	33.8	0.0	0.0			
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	2.9	0.0	2.0	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	1.8	0.0	0.0	0.0	9.1	0.0	5.1	0.0	0.0			
LnGrp Delay(d),s/veh	9.0	0.0	0.0	0.0	11.0	0.0	35.8	0.0	0.0			
LnGrp LOS	A	A			B		D					
Approach Vol, veh/h		665			874			256				
Approach Delay, s/veh		3.2			11.0			35.8				
Approach LOS		A			B			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	31.6	34.0		14.4		65.6		
Change Period (Y+Rc), s	5.5	5.5		6.0		5.5		
Max Green Setting (Gmax), s	20.5	28.5		14.0		54.5		
Max Q Clear Time (g_c+I1), s	4.2	12.9		8.0		2.0		
Green Ext Time (p_c), s	3.1	5.0		0.4		3.7		

Intersection Summary	
HCM 2010 Ctrl Delay	11.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	401	171	7	0	143	44	19	3	3	82	2	616
Future Volume (vph)	401	171	7	0	143	44	19	3	3	82	2	616
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	0.97	1.00	1.00		0.95	1.00	1.00	1.00		1.00	1.00	0.88
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3019	1727	1214		3438	1468	1805	1509		1626	950	2682
Flt Permitted	0.95	1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3019	1727	1214		3438	1468	1805	1509		1626	950	2682
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	441	188	8	0	157	48	21	3	3	90	2	677
RTOR Reduction (vph)	0	0	3	0	0	43	0	3	0	0	0	217
Lane Group Flow (vph)	441	188	5	0	157	5	21	3	0	90	2	460
Heavy Vehicles (%)	16%	10%	33%	0%	5%	10%	0%	33%	0%	11%	100%	6%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA		Split	NA	pt+ov
Protected Phases	1	6		5	2		3	3		4	4	4 1
Permitted Phases			6			2						
Actuated Green, G (s)	35.0	47.1	47.1		6.6	6.6	3.0	3.0		12.4	12.4	53.4
Effective Green, g (s)	36.0	48.1	48.1		7.6	7.6	4.0	4.0		13.4	13.4	54.4
Actuated g/C Ratio	0.45	0.60	0.60		0.09	0.09	0.05	0.05		0.17	0.17	0.68
Clearance Time (s)	5.5	5.5	5.5		5.5	5.5	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1358	1038	729		326	139	90	75		272	159	1823
v/s Ratio Prot	c0.15	0.11			c0.05		c0.01	0.00		c0.06	0.00	0.17
v/s Ratio Perm			0.00			0.00						
v/c Ratio	0.32	0.18	0.01		0.48	0.03	0.23	0.04		0.33	0.01	0.25
Uniform Delay, d1	14.2	7.1	6.4		34.3	32.9	36.5	36.2		29.3	27.8	4.9
Progression Factor	0.57	0.64	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.6	0.4	0.0		5.0	0.4	1.3	0.2		0.7	0.0	0.1
Delay (s)	8.7	5.0	6.4		39.4	33.3	37.9	36.4		30.1	27.8	5.0
Level of Service	A	A	A		D	C	D	D		C	C	A
Approach Delay (s)		7.6			37.9			37.5			8.0	
Approach LOS		A			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	8	162	11	17	144	1
Future Vol, veh/h	8	162	11	17	144	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	300	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	14	14	0	0	9	100
Mvmt Flow	9	180	12	19	160	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	189	0	142	99
Stage 1	-	-	-	-	99	-
Stage 2	-	-	-	-	43	-
Critical Hdwy	-	-	4.1	-	6.49	7.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	-	-	2.2	-	3.581	4.2
Pot Cap-1 Maneuver	-	-	1397	-	835	745
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	962	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1397	-	827	745
Mov Cap-2 Maneuver	-	-	-	-	827	-
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	953	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	827	745	-	-	1397	-
HCM Lane V/C Ratio	0.193	0.001	-	-	0.009	-
HCM Control Delay (s)	10.4	9.8	-	-	7.6	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0.7	0	-	-	0	-

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	33	48	81	0	33	35	19	0	91	115	37
Future Vol, veh/h	0	33	48	81	0	33	35	19	0	91	115	37
Peak Hour Factor	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	7	12	7	2	14	3	18	2	1	5	3
Mvmt Flow	0	36	53	89	0	36	38	21	0	100	126	41
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	1
HCM Control Delay	10.2	9.8	11.3
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	44%	0%	20%	38%	29%	0%
Vol Thru, %	56%	0%	30%	40%	71%	0%
Vol Right, %	0%	100%	50%	22%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	206	37	162	87	172	19
LT Vol	91	0	33	33	50	0
Through Vol	115	0	48	35	122	0
RT Vol	0	37	81	19	0	19
Lane Flow Rate	226	41	178	96	189	21
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.365	0.056	0.262	0.152	0.326	0.03
Departure Headway (Hd)	5.809	4.946	5.3	5.735	6.2	5.12
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	620	725	682	625	580	700
Service Time	3.535	2.672	3.3	3.771	3.926	2.846
HCM Lane V/C Ratio	0.365	0.057	0.261	0.154	0.326	0.03
HCM Control Delay	11.9	8	10.2	9.8	11.9	8
HCM Lane LOS	B	A	B	A	B	A
HCM 95th-tile Q	1.7	0.2	1	0.5	1.4	0.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↑	↱
Traffic Vol, veh/h	0	50	122	19
Future Vol, veh/h	0	50	122	19
Peak Hour Factor	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	25	12	12
Mvmt Flow	0	55	134	21
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	11.5
HCM LOS	B

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	288	0	50	0	222	606	0	413	70
Future Vol, veh/h	0	0	0	288	0	50	0	222	606	0	413	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	Free
Storage Length	-	-	-	0	-	800	-	-	800	-	-	300
Veh in Median Storage, #	-	-	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	5	0	7	0	7	4	0	7	5
Mvmt Flow	0	0	0	310	0	54	0	239	652	0	444	75

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	461	-	119	-	0	-	-	-	0
Stage 1	239	-	-	-	-	-	-	-	-
Stage 2	222	-	-	-	-	-	-	-	-
Critical Hdwy	6.9	-	7.04	-	-	-	-	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	-	3.37	-	-	-	-	-	-
Pot Cap-1 Maneuver	522	0	894	0	-	0	0	-	0
Stage 1	769	0	-	0	-	0	0	-	0
Stage 2	785	0	-	0	-	0	0	-	0
Platoon blocked, %					-			-	
Mov Cap-1 Maneuver	522	0	894	-	-	-	-	-	-
Mov Cap-2 Maneuver	593	0	-	-	-	-	-	-	-
Stage 1	769	0	-	-	-	-	-	-	-
Stage 2	785	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBT
Capacity (veh/h)	-	593	894	-
HCM Lane V/C Ratio	-	0.522	0.06	-
HCM Control Delay (s)	-	17.5	9.3	-
HCM Lane LOS	-	C	A	-
HCM 95th %tile Q(veh)	-	3	0.2	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	27	81	15	23	1	33	5	16	0	6	10
Future Vol, veh/h	18	27	81	15	23	1	33	5	16	0	6	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	14	8	10	100	3	0	7	0	0	11
Mvmt Flow	21	31	94	17	27	1	38	6	19	0	7	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	126	0	0	192	183	78	195	229	27
Stage 1	-	-	-	-	-	-	120	120	-	62	62	-
Stage 2	-	-	-	-	-	-	72	63	-	133	167	-
Critical Hdwy	4.1	-	-	4.18	-	-	7.13	6.5	6.27	7.1	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.272	-	-	3.527	4	3.363	3.5	4	3.399
Pot Cap-1 Maneuver	1599	-	-	1424	-	-	766	715	969	769	674	1023
Stage 1	-	-	-	-	-	-	882	800	-	954	847	-
Stage 2	-	-	-	-	-	-	935	846	-	875	764	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1599	-	-	1424	-	-	736	697	969	735	657	1023
Mov Cap-2 Maneuver	-	-	-	-	-	-	736	697	-	735	657	-
Stage 1	-	-	-	-	-	-	870	789	-	941	837	-
Stage 2	-	-	-	-	-	-	906	836	-	840	753	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	2.9	10	9.4
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	788	1599	-	-	1424	-	-	846
HCM Lane V/C Ratio	0.08	0.013	-	-	0.012	-	-	0.022
HCM Control Delay (s)	10	7.3	0	-	7.6	0	-	9.4
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	290	98	23	194	18	85	31	31	35	41	17
Future Vol, veh/h	20	290	98	23	194	18	85	31	31	35	41	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	11	2	11	10	6	6	13	7	11	7	22	13
Mvmt Flow	21	302	102	24	202	19	89	32	32	36	43	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	221	0	0	404	0	0	685	664	353	686	705	211
Stage 1	-	-	-	-	-	-	395	395	-	259	259	-
Stage 2	-	-	-	-	-	-	290	269	-	427	446	-
Critical Hdwy	4.21	-	-	4.2	-	-	7.23	6.57	6.31	7.17	6.72	6.33
Critical Hdwy Stg 1	-	-	-	-	-	-	6.23	5.57	-	6.17	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.23	5.57	-	6.17	5.72	-
Follow-up Hdwy	2.299	-	-	2.29	-	-	3.617	4.063	3.399	3.563	4.198	3.417
Pot Cap-1 Maneuver	1297	-	-	1113	-	-	348	375	671	355	337	802
Stage 1	-	-	-	-	-	-	609	596	-	735	658	-
Stage 2	-	-	-	-	-	-	695	678	-	596	541	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1297	-	-	1113	-	-	295	358	671	304	322	802
Mov Cap-2 Maneuver	-	-	-	-	-	-	295	358	-	304	322	-
Stage 1	-	-	-	-	-	-	596	583	-	720	642	-
Stage 2	-	-	-	-	-	-	619	661	-	525	530	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.8	23.1	19
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	349	1297	-	-	1113	-	-	353
HCM Lane V/C Ratio	0.439	0.016	-	-	0.022	-	-	0.274
HCM Control Delay (s)	23.1	7.8	0	-	8.3	0	-	19
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	2.2	0	-	-	0.1	-	-	1.1

APPENDIX E

VESTED TRAFFIC VOLUMES

Toscana Isles

TABLE F-2

Toscana Isles

Phase 2 Scenario: 1,000 Single Family Dwelling Unit, 638 Multi-Family Dwelling Units, Retail = 110,000 Square Feet

April 11, 2011

PROPOSED PM PEAK HOUR TRIP GENERATION

ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			INTERNAL CAPTURE		PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
					Percent											
Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	IC Trips	Percent	PB Trips	In	Out	Total
Single-Family Detached Housing	8	210	1,000	du	63%	37%	526	309	835	3.5%	29	0.0%	0	511	294	805
Residential Condominium / Townhouse	8	230	628	du	67%	33%	182	89	271	11.1%	30	0.0%	0	163	78	241
Specialty Retail Center	8	814	110	ksf	44%	56%	125	160	285	21.1%	60	29.0%	66	70	89	159
						Total:	833	558	1,391		119		66	744	461	1,205
							103 Single-Famliy C.O. =		68	40	108					

108/1,391 = 7.5%; reduced Toscana Isles traffic by 7.5%

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TABLE 1

TOSCANA ISLES
Phase 1, Add 342 Renaissance Trips, including Bridges Project, Add New N/S Roadway
1,107 Single Family Dwelling Units

PM Peak Roadway Link Analysis

Revised July 18, 2011

Roadway	Number of Lanes	LOS Standard	Service Volume[1]	2009 Traffic Volumes [1]	Reserved Traffic From Other Projects: Laurel Med. Center	Bridges	CVS	Renaissance: 892 Trips	Venice Hotel	2020 Total Background Traffic	Project Traffic %	Project Traffic	2020 Total Traffic	2020 Total % Service Vol.	Project Traffic % Service Vol.	Is Project Traffic Signif.?	Roadway LOS OK?
Laurel Road																	
US 41 to Mission Valley	4LD	C	3,000	1,564	63	0	0	36	0	1,749	11.5%	105	1,854	61.8%	3.5%	No	N/A
Mission Valley to Albee Farm Road	4LD	C	3,180	1,492	90	0	0	80	0	1,744	12.8%	117	1,861	58.5%	3.7%	No	N/A
Albee Farm Road to Pinebrook Road	4LD	C	3,180	1,787	106	79	0	138	0	2,208	34.3%	314	2,522	79.3%	9.9%	Yes	Yes
Pinebrook Road to I-75	*4LD*	*C*	*2,540*	*1,515*	*212*	*109*	*48*	*241*	*0*	2,208	*36.3%*	*332*	*2,540*	*100.0%*	*13.1%*	*Yes*	*Yes*
I-75 to Knights Trail Road	4LD	C	2,540	718	53	231	64	321	38	1,442	70.0%	641	2,083	82.0%	25.2%	Yes	Yes
East of Knights Trail Road	4LD	C	2,540	218	26	243	67	36	21	822	30.0%	275	897	35.3%	10.8%	Yes	Yes
I-75																	
Jacaranda Road to Laurel Road	6LF	B	5,970	5,852	79	30	0	45	0	6,328	4.7%	43	6,371	106.5%	0.7%	No	N/A
Laurel Road to SR 681	6LF	B	5,970	5,852	79	91	0	71	0	6,416	29.0%	265	6,680	111.9%	4.4%	No	N/A
Albee Farm Road																	
Laurel Road to Edmonson Road	4LD	C	3,180	899	26	0	0	27	0	1,001	23.3%	213	1,214	38.2%	6.7%	Yes	Yes
Pinebrook Road																	
Laurel Road to Edmonson Road	4LD	C	2,420	788	186	30	25	49	0	1,120	3.1%	28	1,148	47.4%	1.2%	No	N/A
Knights Trail Road																	
Laurel Road north to Technology Drive/South Project Dwy	2LU	C	1,720	629	16	12	0	89	4	781	100.0%	915	1,696	98.6%	53.2%	Yes	Yes
Technology Drive/South Project Dwy to North Project Dwy	2LU	C	1,720	629	16	12	0	89	4	781	33.3%	305	1,086	63.1%	17.7%	Yes	Yes

NOTES:

1 :Source: Fruitville Initiative Comprehensive Plan, Amended Traffic Analysis, October 2010, Post Buckley Schuh & Jernigan, pages I-26 through I-29. Knight's Trail Road and Laurel Road west and east of Knight's Trail Road based on actual 2010 traffic counts.

File Name = C:\Users\Public\Venice, Swanson, 102210\Final_041811\Scenario B\Add 342 Trips to Renaissance, Final_071111\[FINAL TABLE 1_Add 342 to Renaissance, SF = 1,107, Roadway Networ
Print Date = July 18, 2011
Print Time = 7:10 PM

Table D-2

TOSCANA ISLES: Phase 1 = 1,107 single Family dwelling Units

Laurel Road & Knight's Trail Road: Intersection Traffic Analysis

Intersection: Laurel Road & Knight's Trail Road (Counted December 1, 2010)
Analysis Date: July 11, 2011
Scenario: Scenario B: Renaissance = 892 Trips, Add Bridges Project, Add N/S Roadway
Peak Season Factor: 1.017
PHF: 0.838
2020 Growth Factor: 1.0500 [Assume 0.5% growth per year, 2010 to 2020, simple growth rate]

PM Peak Period (4:30 PM - 5:30 PM)

Movement	2010		Reserved Trips From Other Developments					2020 Total Background	Toscana Isles					Total Traffic 2020
	Raw Counts	Exist Counts, Pk Season	Laurel Road Med.	Bridges	CVS	Renaissance: 892 Trips	Venice Hotel		% Inbound	% Outbound	Inbound	Outbound	Total	
Southbound: Trucks = 5.37%														
Left	11	11	0	6	0	22	0	40	0.00%	30.00%	0	101	101	141
Through	2	2	0	0	0	0	2	4	0.00%	0.00%	0	0	0	4
Right	179	182	9	0	0	0	0	200	0.00%	47.00%	0	159	159	359
RTOR	162	165	0	0	0	0	0	173	0.00%	23.00%	0	78	78	251
Total =	354	360	9	6	0	22	2	417			0	338	338	754
Westbound: Trucks = 3.95%				0	0									
Left	0	0	0	0	1	0	11	12	0.00%	0.00%	0	0	0	12
Through	73	74	22	113	0	122	0	336	0.00%	0.00%	0	0	0	336
Right	1	1	0	6	0	0	0	7	1.00%	0.00%	6	0	6	13
RTOR	2	2	0	0	0	2	0	4	29.00%	0.00%	167	0	167	171
Total =	76	77	22	119	1	124	11	358			173	0	173	531
Northbound: Trucks = 0.00%														
Left	11	11	0	0	34	0	18	64	0.00%	0.00%	0	0	0	64
Through	1	1	0	0	0	0	2	3	0.00%	0.00%	0	0	0	3
Right	1	1	0	0	1	0	10	12	0.00%	0.00%	0	0	0	12
RTOR	0	0	0	0	0	0	0	0	0.00%	0.00%	0	0	0	0
Total =	13	13	0	0	35	0	30	79			0	0	0	79
Eastbound: Trucks = 6.30%														
Left	134	136	9	0	0	0	0	152	70.00%	0.00%	404	0	404	556
Through	127	129	21	118	0	0	0	274	0.00%	0.00%	0	0	0	274
Right	2	2	0	0	31	199	20	252	0.00%	0.00%	0	0	0	252
RTOR	1	1	0	0	0	0	0	1	0.00%	0.00%	0	0	0	1
Total =	264	268	30	118	31	199	20	679			404	0	404	1,083
TOTAL =	707	718	61	243	67	345	63	1,532	100.00%	100.00%	577	338	915	2,447

File Name = C:\Users\Public\Venice, Swanson, 102210\Final_041811\Scenario B\Add 342 Trips to Renaissance, Final_071111\[Toscana Isles_2010 TMC, Factored Traffic Counts_Scenario B, 1,107 SF_071111.xlsx]KTR, North DWY
Print Date = July 18, 2011
Print Time = 4:46 PM

The Bridges

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

Laurel Road & I-75 West Ramps (SB)

TRAFFIC CONTROL: Signalized
COUNT DATE: April 22, 2009
TIME PERIOD: 4:00 p.m. - 5:00 p.m.
PEAK HOUR FACTOR: 0.85

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts		435	226	321	452					86		314
Peak-Season Correction Factor		1.057	1.057	1.057	1.057					1.057		1.057
2009 PEAK-SEASON VOLUMES		**460**	**239**	**339**	**478**					**91**		**332**

"NON-PROJECT TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Venetian G&R Club		78		14	45					30		
Triple Diamond Plaza		34		104	126					12		
Renaissance		295		59	267					70		
Laurel Road Medical Center		175	105		66							40
Venice Hotel				9						10		
CVS		21		5	25					4		
Shoppes of Laurel		2		4	4					2		
Laurel-to-Border Diversion		-87		-87	-87							
TOTAL VESTED TRAFFIC		518	105	108	446					128		40
Years To Buildout (2015)		6	6	6	6					6		6
Yearly Growth Rate		1.0%	1.0%	1.0%	1.0%					1.0%		1.0%
BACKGROUND TRAFFIC GROWTH		28	15	21	29					6		20
2015 NON-PROJECT TRAFFIC		**1,006**	**359**	**468**	**953**					**225**		**392**

"PROJECT TRAFFIC"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
The Bridges	**New**		56		15	53					47		
TOTAL PROJECT TRAFFIC			**56**	**0**	**15**	**53**					**47**		**0**

"TOTAL TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2015 TOTAL TRAFFIC		**1,062**	**359**	**483**	**1,006**					**272**		**392**
Buildout Percentage: 85%		972	341	461	927					245		383

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

Laurel Road & I-75 East Ramps (NB)

TRAFFIC CONTROL: Signalized
COUNT DATE: April 22, 2009
TIME PERIOD: 4:00 p.m. - 5:00 p.m.
PEAK HOUR FACTOR: 0.79

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	202	325		1	578	135	195		167			
Peak-Season Correction Factor	1.057	1.057		1.057	1.057	1.057	1.057		1.057			
2009 PEAK-SEASON VOLUMES	**214**	**344**		**1**	**611**	**143**	**206**		**177**			

"NON-PROJECT TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Venetian G&R Club		108			59	17			24			
Triple Diamond Plaza		45			229	45			28			
Renaissance		365			326	64			66			
Laurel Road Medical Center	105	70			26		40					
Venice Hotel		10			9	9			10			
CVS		25			30	4			5			
Shoppes of Laurel		5			8	4			2			
Laurel-to-Border Diversion		-87			-174				-87			
TOTAL VESTED TRAFFIC	105	541		0	513	143	40		48			
Years To Buildout (2015)	6	6		6	6	6	6		6			
Yearly Growth Rate	1.0%	1.0%		1.0%	1.0%	1.0%	1.0%		1.0%			
BACKGROUND TRAFFIC GROWTH	13	21		0	38	9	13		11			
2015 NON-PROJECT TRAFFIC	**332**	**906**		**1**	**1,162**	**295**	**259**		**236**			

"PROJECT TRAFFIC"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
The Bridges	New		103			68	44			16			
TOTAL PROJECT TRAFFIC		**0**	**103**		**0**	**68**	**44**	**0**		**16**			

"TOTAL TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2015 TOTAL TRAFFIC	**332**	**1,009**		**1**	**1,230**	**339**	**259**		**252**			

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

Laurel Road & Knights Trail Road

TRAFFIC CONTROL: Two-way STOP
COUNT DATE: October 28, 2008
TIME PERIOD: 4:00 p.m. - 5:00 p.m.
PEAK HOUR FACTOR: 0.81

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	199	102	12	0	91	8	24	2	1	9	1	352
Peak-Season Correction Factor	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080
2008 PEAK-SEASON VOLUMES	**215**	**110**	**13**	**0**	**98**	**9**	**26**	**2**	**1**	**10**	**1**	**380**

"NON-PROJECT TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Venetian G&R Club		133			76	10				18		
Triple Diamond Plaza	73					5				18		274
Renaissance	108	323			292							98
Laurel Road Medical Center	21	35	14		13		5					8
Venice Hotel			20	11			18	2	10		2	
CVS	-7	21	17		30	2	17	5		10	4	-13
Shoppes of Laurel	18	-11			7					23		
Laurel-to-Border Diversion	-87	-87			-87	87				87		-87
TOTAL VESTED TRAFFIC	126	414	51	11	331	104	40	7	10	156	6	280
Years To Buildout (2015)	7	7	7	7	7	7	7	7	7	7	7	7
Yearly Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
BACKGROUND TRAFFIC GROWTH	16	8	1	0	7	1	2	0	0	1	0	27
2015 NON-PROJECT TRAFFIC	**357**	**532**	**65**	**11**	**436**	**114**	**68**	**9**	**11**	**167**	**7**	**687**

"PROJECT TRAFFIC"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
The Bridges	New		119			112	6				6		
TOTAL PROJECT TRAFFIC		**0**	**119**	**0**	**0**	**112**	**6**	**0**	**0**	**0**	**6**	**0**	**0**

"TOTAL TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2015 TOTAL TRAFFIC	**357**	**651**	**65**	**11**	**548**	**120**	**68**	**9**	**11**	**173**	**7**	**687**

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

Border Road & Jacaranda Boulevard

TRAFFIC CONTROL: Two-way STOP
COUNT DATE: February 5, 2009
TIME PERIOD: 4:45 p.m. - 5:45 p.m.
PEAK HOUR FACTOR: 0.85

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts		52	60	43	33		94		29			
Peak-Season Correction Factor		1.004	1.004	1.004	1.004		1.004		1.004			
2009 PEAK-SEASON VOLUMES		52	60	43	33		94		29			

"NON-PROJECT TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Venetian G&R Club		1	1		1		1					
Triple Diamond Plaza												
Renaissance		8	9		10		9					
Laurel Road Medical Center		8	24		3		9					
SCIBC			23	28			32		28			
Laurel-to-Border Diversion			87				87					
TOTAL VESTED TRAFFIC		17	144	28	14		138		28			
Years To Buildout (2015)		6	6	6	6		6		6			
Yearly Growth Rate		1.0%	1.0%	1.0%	1.0%		1.0%		1.0%			
BACKGROUND TRAFFIC GROWTH		3	4	3	2		6		2			
2015 NON-PROJECT TRAFFIC		72	208	74	49		238		59			

"PROJECT TRAFFIC"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
The Bridges	New		15	74		16		78					
TOTAL PROJECT TRAFFIC			15	74	0	16		78		0			

"TOTAL TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2015 TOTAL TRAFFIC		87	282	74	65		316		59			

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

Jacaranda Boulevard & I-75 North Ramps (NB)

TRAFFIC CONTROL: Two-way STOP
COUNT DATE: February 5, 2009
TIME PERIOD: 4:30 p.m. - 5:30 p.m.
PEAK HOUR FACTOR: 0.95

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts				237		32	5	147	557		220	57
Peak-Season Correction Factor				1.004		1.004	1.004	1.004	1.004		1.004	1.004
2009 PEAK-SEASON VOLUMES				**238**		**32**	**5**	**148**	**559**		**221**	**57**

"NON-PROJECT TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Venetian G&R Club												
Triple Diamond Plaza												
Renaissance								9	14		9	
Laurel Road Medical Center												
SCIBC				42				52	67		76	
Laurel-to-Border Diversion						87					87	
TOTAL VESTED TRAFFIC				42		87	0	61	81		172	0
Years To Buildout (2015)				6		6	6	6	6		6	6
Yearly Growth Rate				1.0%		1.0%	1.0%	1.0%	1.0%		1.0%	1.0%
BACKGROUND TRAFFIC GROWTH				15		2	0	9	34		14	4
2015 NON-PROJECT TRAFFIC				**295**		**121**	**5**	**218**	**674**		**407**	**61**

"PROJECT TRAFFIC"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
The Bridges	New						16		53			65	
TOTAL PROJECT TRAFFIC					**0**		**16**	**0**	**53**	**0**		**65**	**0**

"TOTAL TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2015 TOTAL TRAFFIC				**295**		**137**	**5**	**271**	**674**		**472**	**61**

Portofino

TRAFFIC VOLUMES
AT STUDY INTERSECTION

INTERSECTION: Laurel Road & I-75 Southbound Ramps
COUNT DATE: June 20, 2013
TIME PERIOD: 4:30 p.m. - 5:30 p.m.
PEAK HOUR FACTOR: 0.75

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movements		275	252	342	377					50		273
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
EXISTING CONDITIONS		**303**	**277**	**376**	**415**					**55**		**300**

"BACKGROUND DIVERTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Diverted Traffic from North-South Connector		**-21**		**-41**	**-16**					**5**		**-5**

"VESTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Plaza Venezia												
Toscana Isles		209		16	123					167		
The Bridges		56		15	53					47		
TOTAL "VESTED" TRAFFIC		265	0	31	176					214		0

-or-

"BACKGROUND TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Years To Buildout	7	7	7	7	7	7	7	7	7	7	7	7
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
BACKGROUND TRAFFIC GROWTH		42	39	53	58					8		42

GROWTH METHOD USED: "VESTED TRAFFIC"		**265**	**0**	**31**	**176**					**214**		**0**

TOTAL NON-PROJECT TRAFFIC		**547**	**277**	**366**	**575**					**274**		**295**

"PROJECT DISTRIBUTION"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pass-By Distribution	Entering												
	Exiting												
Net New Distribution	Entering		25.0%								14.0%		
	Exiting				17.0%	25.0%							

"PROJECT TRAFFIC"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Project Trips	Pass - By												
	Net New		130		108	159					73		
TOTAL PROJECT TRAFFIC			**130**	**0**	**108**	**159**					**73**		**0**

TOTAL TRAFFIC		**677**	**277**	**474**	**734**					**347**		**295**

TRAFFIC VOLUMES
AT STUDY INTERSECTION

INTERSECTION: Laurel Road & I-75 Northbound Ramps
COUNT DATE: June 20, 2013
TIME PERIOD: 4:30 p.m. - 5:30 p.m.
PEAK HOUR FACTOR: 0.75

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movements	141	188			584	202	125		57			
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
EXISTING CONDITIONS	**155**	**207**			**642**	**222**	**138**		**63**			

"BACKGROUND DIVERTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Diverted Traffic from North-South Connector	-3	-13			-57	3			-11			

"VESTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Plaza Venezia												
Toscana Isles		376			139	98			27			
The Bridges		103			68	44			16			
TOTAL "VESTED" TRAFFIC	0	479			207	142	0		43			

-or-

"BACKGROUND TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Years To Buildout	7	7	7	7	7	7	7	7	7	7	7	7
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
BACKGROUND TRAFFIC GROWTH	22	29			90	31	19		9			

GROWTH METHOD USED: "VESTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	0	**479**			**207**	**142**	**0**		**43**			

TOTAL NON-PROJECT TRAFFIC	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	152	**673**			**792**	**367**	**138**		**95**			

"PROJECT DISTRIBUTION"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pass-By Distribution	Entering												
	Exiting												
Net New Distribution	Entering		39.0%							17.0%			
	Exiting					42.0%	14.0%						

"PROJECT TRAFFIC"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Project Trips	Pass - By												
	Net New		203			266	89			88			
TOTAL PROJECT TRAFFIC		**0**	**203**			**266**	**89**	**0**		**88**			

TOTAL TRAFFIC	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	152	**876**			**1,058**	**456**	**138**		**183**			

TRAFFIC VOLUMES
AT STUDY INTERSECTION

INTERSECTION: Laurel Road & Knights Trail/ Haul Road
COUNT DATE: June 20, 2013
TIME PERIOD: 4:15 p.m. - 5:15 p.m.
PEAK HOUR FACTOR: 0.68

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movements	137	97	17	2	97	13	27	0	1	15	2	469
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
EXISTING CONDITIONS	**151**	**107**	**19**	**2**	**107**	**14**	**30**	**0**	**1**	**17**	**2**	**516**

"BACKGROUND DIVERTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Diverted Traffic from North-South Connector	-23	-1			-11	20				43		-43

"VESTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Plaza Venezia												
Toscana Isles	403					173				102		237
The Bridges		119			112	6				6		
TOTAL "VESTED" TRAFFIC	403	119	0	0	112	179	0	0	0	108	0	237

-or-

"BACKGROUND TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Years To Buildout	7	7	7	7	7	7	7	7	7	7	7	7
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
BACKGROUND TRAFFIC GROWTH	21	15	3	0	15	2	4	0	0	2	0	72

GROWTH METHOD USED: "VESTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	403	**119**	**0**	**0**	**112**	**179**	**0**	**0**	**0**	**108**	**0**	**237**

TOTAL NON-PROJECT TRAFFIC	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	531	**225**	**19**	**2**	**208**	**213**	**30**	**0**	**1**	**168**	**2**	**710**

"PROJECT DISTRIBUTION"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pass-By	Entering	41.0%	-41.0%										
Distribution	Exiting										2.0%		59.0%
Net New	Entering	47.0%	9.0%						1.0%	1.0%			
Distribution	Exiting				1.0%	9.0%					4.0%	1.0%	36.0%

"PROJECT TRAFFIC"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Project	Pass - By	74	-74								4		117
Trips	Net New	244	47		6	56			5	5	25	6	229
TOTAL PROJECT TRAFFIC		**318**	**-27**	**0**	**6**	**56**	**0**	**0**	**5**	**5**	**29**	**6**	**346**

TOTAL TRAFFIC	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	849	**198**	**19**	**8**	**264**	**213**	**30**	**5**	**6**	**197**	**8**	**1,056**

TRAFFIC VOLUMES
AT STUDY INTERSECTION

INTERSECTION: Laurel Road & Jacaranda Boulevard Extension
COUNT DATE: June 20, 2013
TIME PERIOD:
PEAK HOUR FACTOR: 0.95

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movements		113			112							
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
EXISTING CONDITIONS		**124**			**123**							

"BACKGROUND DIVERTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Diverted Traffic from North-South Connector		**-6**	**48**	**14**	**-14**		**23**		**9**			

"VESTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Plaza Venezia												
Toscana Isles		0			98							
The Bridges		15			16							
TOTAL "VESTED" TRAFFIC		15			114							

-or-

"BACKGROUND TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Years To Buildout	7	7	7	7	7	7	7	7	7	7	7	7
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
BACKGROUND TRAFFIC GROWTH		17			17							

GROWTH METHOD USED: "VESTED TRAFFIC"		**15**			**114**							

TOTAL NON-PROJECT TRAFFIC		**133**	**48**	**14**	**223**		**23**		**9**			

"PROJECT DISTRIBUTION"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pass-By Distribution	Entering												
	Exiting												
Net New Distribution	Entering					3.0%		36.0%					
	Exiting		3.0%	36.0%									

"PROJECT TRAFFIC"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Project Trips	Pass - By												
	Net New		19	228		16		186					
TOTAL PROJECT TRAFFIC			**19**	**228**	**0**	**16**		**186**		**0**			

TOTAL TRAFFIC		**152**	**276**	**14**	**239**		**209**		**9**			

TRAFFIC VOLUMES
AT STUDY INTERSECTION

INTERSECTION: Jacaranda Boulevard & Border Road
COUNT DATE: June 20, 2013
TIME PERIOD: 4:30 p.m. - 5:30 p.m.
PEAK HOUR FACTOR: 0.97

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movements		37	54	21	27		66		25		5	
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
EXISTING CONDITIONS		**41**	**59**	**23**	**30**		**73**		**28**		**6**	

"BACKGROUND DIVERTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Diverted Traffic from North-South Connector	**3**	**-6**	**-15**		**-5**	**5**	**-16**	**24**		**11**	**39**	**12**

"VESTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Plaza Venezia												
Toscana Isles			17				10					
The Bridges		15	74		16		78					
TOTAL "VESTED" TRAFFIC		15	91	0	16		88		0		0	

-or-

"BACKGROUND TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Years To Buildout	7	7	7	7	7	7	7	7	7	7	7	7
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
BACKGROUND TRAFFIC GROWTH		6	8	3	4		10		4		1	

GROWTH METHOD USED: "VESTED TRAFFIC"		**15**	**91**	**0**	**16**		**88**		**0**		**0**	

TOTAL NON-PROJECT TRAFFIC	**3**	**50**	**135**	**23**	**41**	**5**	**145**	**24**	**28**	**11**	**45**	**12**

"PROJECT DISTRIBUTION"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pass-By Distribution	Entering												
	Exiting												
Net New Distribution	Entering	12.0%					12.0%		12.0%				
	Exiting										12.0%	12.0%	12.0%

"PROJECT TRAFFIC"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Project Trips	Pass - By												
	Net New	62					62		62		76	76	76
TOTAL PROJECT TRAFFIC		**62**	**0**	**0**	**0**	**0**	**62**	**0**	**62**	**0**	**76**	**76**	**76**

TOTAL TRAFFIC	**65**	**50**	**135**	**23**	**41**	**67**	**145**	**86**	**28**	**87**	**121**	**88**

TRAFFIC VOLUMES
AT STUDY INTERSECTION

INTERSECTION: Jacaranda Boulevard & I-75 Northbound Ramps
COUNT DATE: January 18, 2013
TIME PERIOD: 4:45 p.m. - 5:45 p.m.
PEAK HOUR FACTOR: 0.91

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movements				208		21		102	479		222	66
Peak Season Correction Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
EXISTING CONDITIONS				**198**		**20**		**97**	**455**		**211**	**63**

"BACKGROUND DIVERTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Diverted Traffic from North-South Connector						**11**		**-2**			**35**	

"VESTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Plaza Venezia												
Toscana Isles												
The Bridges						16		53			65	
TOTAL "VESTED" TRAFFIC				0		16		53	0		65	0

-or-

"BACKGROUND TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Years To Buildout	7	7	7	7	7	7	7	7	7	7	7	7
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
BACKGROUND TRAFFIC GROWTH				28		3		14	64		30	9

GROWTH METHOD USED: "BACKGROUND TRAFFIC"				**28**		**3**		**14**	**64**		**30**	**9**

TOTAL NON-PROJECT TRAFFIC				**226**		**34**		**109**	**519**		**276**	**72**

"PROJECT DISTRIBUTION"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pass-By Distribution	Entering												
	Exiting												
Net New Distribution	Entering								11.0%				
	Exiting											11.0%	

"PROJECT TRAFFIC"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Project Trips	Pass - By												
	Net New								57			70	
TOTAL PROJECT TRAFFIC					**0**		**0**		**57**	**0**		**70**	**0**

TOTAL TRAFFIC				**226**		**34**		**166**	**519**		**346**	**72**

TRAFFIC VOLUMES
AT STUDY INTERSECTION

INTERSECTION: Border Road & Jackson Road
COUNT DATE: June 20, 2013
TIME PERIOD: 4:45 p.m. - 5:45 p.m.
PEAK HOUR FACTOR: 0.68

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movements	8	22	25	8	27	0	14	3	11	0	3	3
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
EXISTING CONDITIONS	**9**	**24**	**28**	**9**	**30**	**0**	**15**	**3**	**12**	**0**	**3**	**3**

"BACKGROUND DIVERTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Diverted Traffic from North-South Connector												

"VESTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Plaza Venezia												
Toscana Isles												
The Bridges	3		12				12					3
TOTAL "VESTED" TRAFFIC	3	0	12	0	0	0	12	0	0	0	0	3

-or-

"BACKGROUND TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Years To Buildout	7	7	7	7	7	7	7	7	7	7	7	7
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
BACKGROUND TRAFFIC GROWTH	1	3	4	1	4	0	2	0	2	0	0	0

GROWTH METHOD USED: "VESTED TRAFFIC"	**3**	**0**	**12**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**3**

TOTAL NON-PROJECT TRAFFIC	**12**	**24**	**40**	**9**	**30**	**0**	**27**	**3**	**12**	**0**	**3**	**6**

"PROJECT DISTRIBUTION"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pass-By Distribution	Entering												
	Exiting												
Net New Distribution	Entering							11.0%					1.0%
	Exiting	1.0%		11.0%									

"PROJECT TRAFFIC"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Project Trips	Pass - By												
	Net New	6		70				57					5
TOTAL PROJECT TRAFFIC		**6**	**0**	**70**	**0**	**0**	**0**	**57**	**0**	**0**	**0**	**0**	**5**

TOTAL TRAFFIC	**18**	**24**	**110**	**9**	**30**	**0**	**84**	**3**	**12**	**0**	**3**	**11**

TRAFFIC VOLUMES
AT STUDY INTERSECTION

INTERSECTION: Venice Avenue & Jackson Road
COUNT DATE: June 20, 2013
TIME PERIOD: 5:00 p.m. - 6:00 p.m.
PEAK HOUR FACTOR: 0.96

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movements	24	191	6	5	116	17	8	3	17	22	3	19
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
EXISTING CONDITIONS	**26**	**210**	**7**	**6**	**128**	**19**	**9**	**3**	**19**	**24**	**3**	**21**

"BACKGROUND DIVERTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Diverted Traffic from North-South Connector												

"VESTED TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Plaza Venezia												
Toscana Isles												
The Bridges	3					9				9		3
TOTAL "VESTED" TRAFFIC	3	0	0	0	0	9	0	0	0	9	0	3

-or-

"BACKGROUND TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Years To Buildout	7	7	7	7	7	7	7	7	7	7	7	7
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
BACKGROUND TRAFFIC GROWTH	4	29	1	1	18	3	1	0	3	3	0	3

GROWTH METHOD USED: "BACKGROUND TRAFFIC"	**4**	**29**	**1**	**1**	**18**	**3**	**1**	**0**	**3**	**3**	**0**	**3**

TOTAL NON-PROJECT TRAFFIC	**30**	**239**	**8**	**7**	**146**	**22**	**10**	**3**	**22**	**27**	**3**	**24**

"PROJECT DISTRIBUTION"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pass-By Distribution	Entering												
	Exiting												
Net New Distribution	Entering	2.0%					9.0%						
	Exiting										9.0%		2.0%

"PROJECT TRAFFIC"

LAND USE	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Project Trips	Pass - By												
	Net New	10					47				57		13
TOTAL PROJECT TRAFFIC		**10**	**0**	**0**	**0**	**0**	**47**	**0**	**0**	**0**	**57**	**0**	**13**

TOTAL TRAFFIC	**40**	**239**	**8**	**7**	**146**	**69**	**10**	**3**	**22**	**84**	**3**	**37**

The Woods of Venice

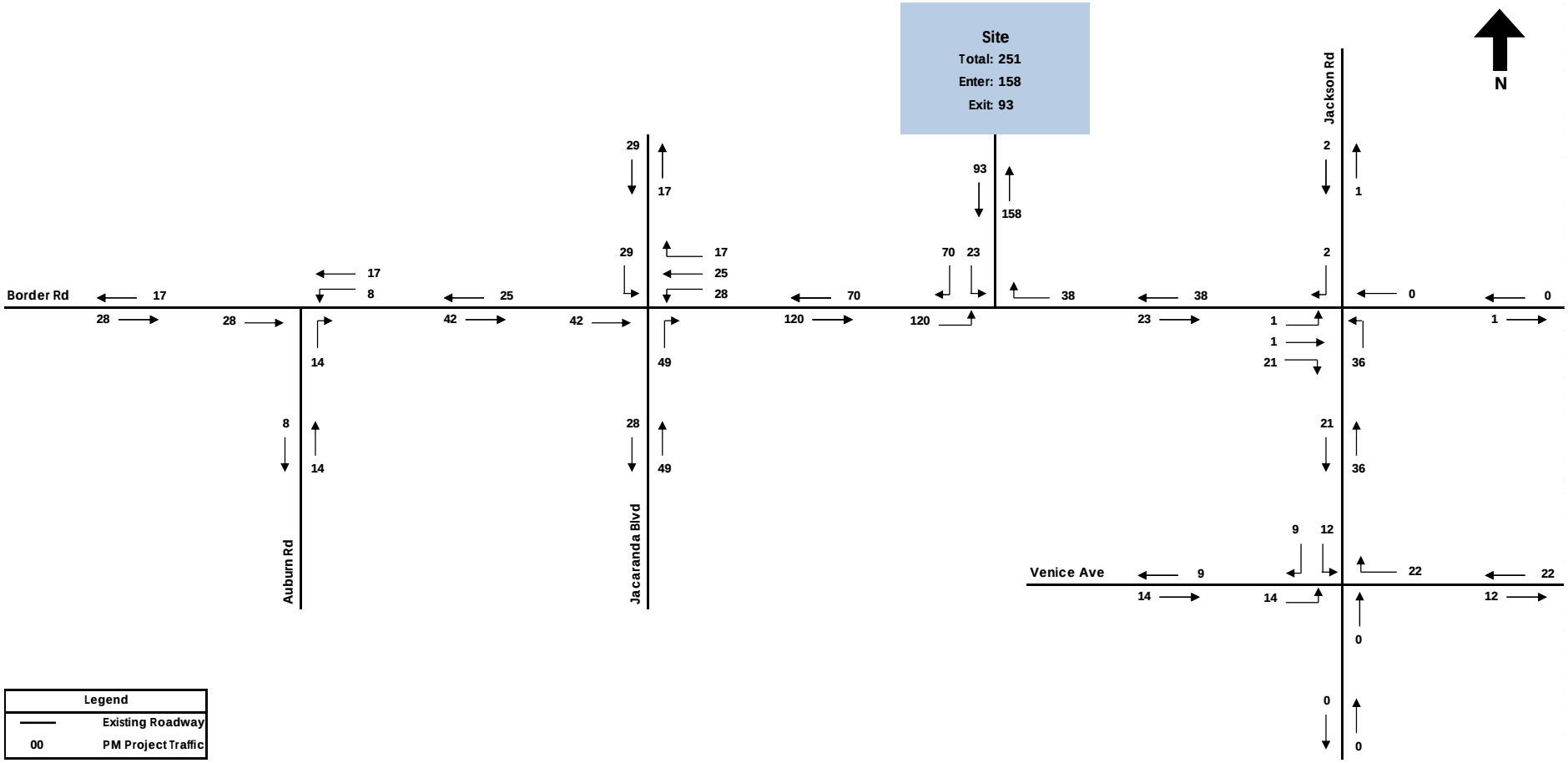


Figure 3: Project Traffic Assignment

Milano PUD

Villages of Milano (VICA) - East of the Jacaranda Blvd Extension

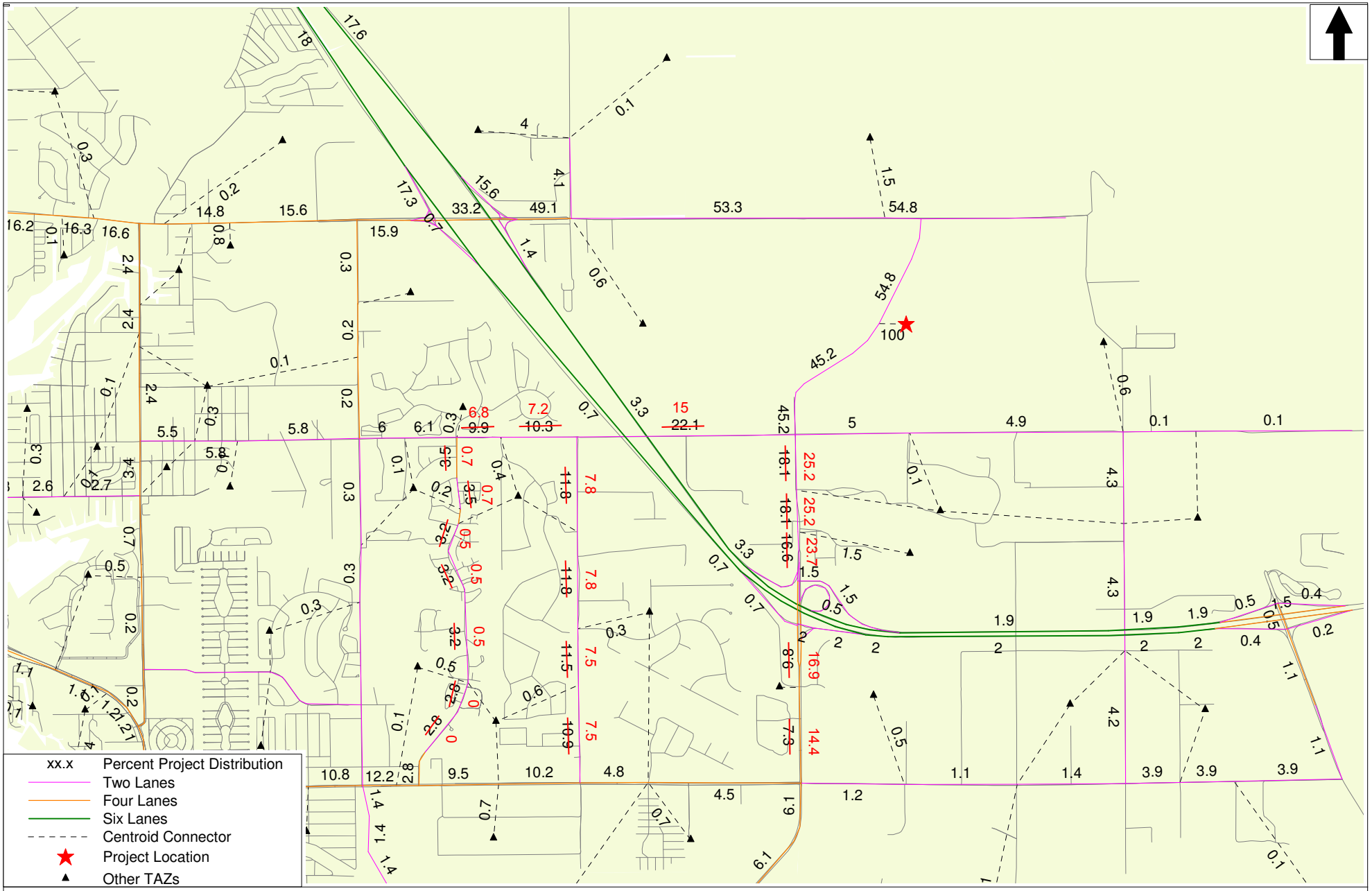
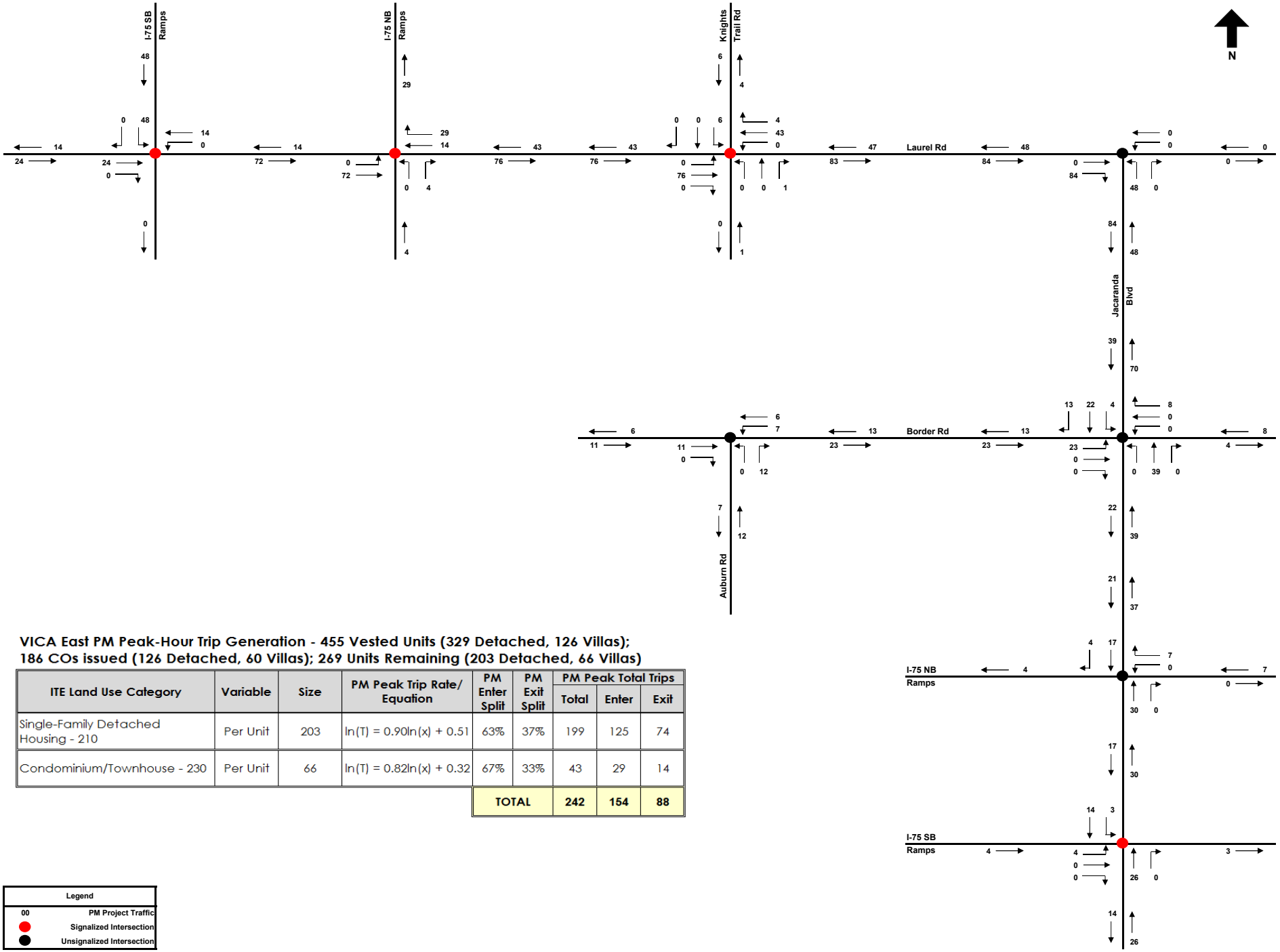


Figure 2: Project Traffic Distribution
2014 Existing Plus Committed Network
VICA

cube



VICA East PM Peak-Hour Trip Generation - 455 Vested Units (329 Detached, 126 Villas); 186 COs issued (126 Detached, 60 Villas); 269 Units Remaining (203 Detached, 66 Villas)

ITE Land Use Category	Variable	Size	PM Peak Trip Rate/ Equation	PM Enter Split	PM Exit Split	PM Peak Total Trips		
						Total	Enter	Exit
Single-Family Detached Housing - 210	Per Unit	203	ln(T) = 0.90ln(x) + 0.51	63%	37%	199	125	74
Condominium/Townhouse - 230	Per Unit	66	ln(T) = 0.82ln(x) + 0.32	67%	33%	43	29	14
				TOTAL		242	154	88

Legend	
00	PM Project Traffic
	Signalized Intersection
	Unsignalized Intersection

Lot ID		Address	CO Date
VM Amenities	218	Acerno Drive	8/12/16
VM30-133	312	Acerno Drive	5/25/16
VM40-095	245	Acerno Drive	5/25/16
VM40-116	244	Acerno Drive	5/25/16
VM40-115	240	Acerno Drive	5/25/16
VM30-132	308	Acerno Drive	5/25/16
VM30-129	296	Acerno Drive	6/15/16
VM30-128	292	Acerno Drive	6/15/16
VM40-096	241	Acerno Drive	6/21/16
VM30-135	320	Acerno Drive	6/24/16
VM30-131	304	Acerno Drive	6/24/16
VM30-130	300	Acerno Drive	6/29/16
VM30-134	316	Acerno Drive	7/1/16
VM30-126	284	Acerno Drive	7/15/16
VM30-127	288	Acerno Drive	7/15/16
VM30-125	280	Acerno Drive	7/25/16
VM30-124	276	Acerno Drive	7/27/16
VM30-122	268	Acerno Drive	8/12/16
VM40-114	236	Acerno Drive	8/16/16
VM40-113	232	Acerno Drive	8/18/16
VM40-111	224	Acerno Drive	8/26/16
VM30-123	272	Acerno Drive	9/2/16
VM30-137	328	Acerno Drive	9/13/16
VM30-136	324	Acerno Drive	9/13/16
VM40-112	228	Acerno Drive	9/16/16
VM40-097	237	Acerno Drive	9/16/16
VM30-152	325	Acerno Drive	9/23/16
VM30-153	321	Acerno Drive	9/23/16
VM40-118	252	Acerno Drive	9/29/16
VM40-117	248	Acerno Drive	10/7/16
VM30-139	336	Acerno Drive	10/10/16
VM30-138	332	Acerno Drive	10/11/16
VM30-154	317	Acerno Drive	10/24/16
VM30-142	348	Acerno Drive	10/24/16
VM30-143	352	Acerno Drive	10/24/16
VM40-098	233	Acerno Drive	10/31/16
VM40-094	249	Acerno Drive	10/31/16
VM30-148	341	Acerno Drive	10/31/16
VM30-155	313	Acerno Drive	11/3/16
VM30-149	337	Acerno Drive	11/3/16
VM30-141	344	Acerno Drive	11/14/16
VM30-140	340	Acerno Drive	11/14/16
VM30-150	333	Acerno Drive	11/28/16
VM30-151	329	Acerno Drive	11/28/16
VM30-145	360	Acerno Drive	12/6/16
VM30-144	356	Acerno Drive	12/6/16
VM40-119	256	Acerno Drive	12/13/16
VM40-120	260	Acerno Drive	12/13/16

Lot ID		Address	CO Date
VM33-091	213	Carlino Drive	10/14/16
VM33-092	209	Carlino Drive	10/24/16
VM33-087	229	Carlino Drive	11/28/16
VM40-030	315	Carlino Drive	1/11/17
VM40-003	343	Carlino Drive	1/11/17
VM40-025	318	Carlino Drive	1/26/17
VM40-024	322	Carlino Drive	1/26/17
VM40-001	351	Carlino Drive	1/27/17
VM40-002	347	Carlino Drive	1/27/17
VM40-029	319	Carlino Drive	2/2/17
VM40-007	327	Carlino Drive	2/14/17
VM40-032	307	Carlino Drive	2/14/17
VM40-033	303	Carlino Drive	3/1/17
VM40-006	331	Carlino Drive	3/7/17
VM40-031	311	Carlino Drive	3/7/17
VM40-004	339	Carlino Drive	4/5/17
VM40-027	310	Carlino Drive	4/5/17
VM40-035	295	Carlino Drive	4/19/17
VM40-034	299	Carlino Drive	5/15/17
VM40-028	323	Carlino Drive	5/22/17
VM40-036	291	Carlino Drive	6/8/17
VM40-005	335	Carlino Drive	6/16/17
VM30-061M	243	Carlino Drive	6/8/17
VM40-047S	252	Carlino Drive	6/8/17
VM30-060M	247	Carlino Drive	6/8/17
VM40-048M	248	Carlino Drive	6/8/17
VM33-049M	244	Carlino Drive	6/8/17
VM33-050M	240	Carlino Drive	6/8/17
VM40-038	283	Carlino Drive	7/7/17
VM40-037	287	Carlino Drive	7/18/17
VM40-040	275	Carlino Drive	7/24/17
VM40-026	314	Carlino Drive	8/22/17
VM30-461	212	Casalino Drive	8/29/17
VM30-457	228	Casalino Drive	9/6/17
VM30-462	208	Casalino Drive	9/7/17
VM30-464	200	Casalino Drive	9/19/17
VM30-463	204	Casalino Drive	9/21/17
VM30-456	232	Casalino Drive	9/25/17
VM40-109	323	Cassano Drive	5/2/16
VM40-108	319	Cassano Drive	6/10/16
VM40-102	312	Cassano Drive	6/22/16
VM40-101	316	Cassano Drive	7/27/16
VM40-107	315	Cassano Drive	9/16/16
VM40-100	320	Cassano Drive	11/1/16
VM40-106	311	Cassano Drive	11/10/16
VM40-099	324	Cassano Drive	11/21/16
VM40-103	308	Cassano Drive	12/5/16
VM40-104	304	Cassano Drive	12/16/16

Lot ID		Address	CO Date
VM30-146	364	Acerno Drive	12/20/16
VM30-147	368	Acerno Drive	12/21/16
VM40-121	264	Acerno Drive	12/21/16
VM30-011	221	Alento Court	1/11/17
VM30-014	236	Alento Court	1/11/17
VM30-010	217	Alento Court	1/11/17
VM30-015	232	Alento Court	1/11/17
VM30-012	225	Alento Court	2/14/17
VM30-013	229	Alento Court	2/14/17
VM30-016	228	Alento Court	3/7/17
VM30-017F	224	Alento Court	3/7/17
VM30-020	212	Alento Court	4/19/17
VM30-018	220	Alento Court	4/28/17
VM30-008	209	Alento Court	6/19/17
VM30-021	208	Alento Court	7/7/17
VM30-022	204	Alento Court	8/2/17
VM30-023	200	Alento Court	8/2/17
VM30-009	213	Alento Court	8/9/17
VM30-019	216	Alento Court	9/20/17
VM33-83	216	Alfero Way	2/24/16
VM33-085	224	Alfero Way	3/17/16
VM33-084	220	Alfero Way	4/5/16
VM33-064	265	Alfero Way	4/29/16
VM33-082	212	Alfero Way	5/4/16
VM33-072	233	Alfero Way	6/9/16
VM33-070	241	Alfero Way	7/1/16
VM33-069	245	Alfero Way	8/3/16
VM33-065	261	Alfero Way	8/26/16
VM33-074	225	Alfero Way	9/2/16
VM33-086	228	Alfero Way	9/2/16
VM33-068	249	Alfero Way	9/13/16
VM33-073	229	Alfero Way	9/29/16
VM33-071	237	Alfero Way	10/11/16
VM33-081	208	Alfero Way	10/14/16
VM33-067	253	Alfero Way	10/27/16
VM33-080	204	Alfero Way	11/14/16
VM33-066	257	Alfero Way	11/28/16
VM33-076	217	Alfero Way	11/29/16
VM33-078	209	Alfero Way	12/5/16
VM33-079	205	Alfero Way	12/12/16
VM33-075	221	Alfero Way	12/16/16
VM33-077	213	Alfero Way	12/20/16
VM33-088	225	Carlino Drive	5/10/16
VM33-089	221	Carlino Drive	5/26/16
VM33-093	205	Carlino Drive	7/11/16
VM33-090	217	Carlino Drive	9/22/16

Lot ID		Address	CO Date
VM40-110	327	Cassano Drive	12/16/16
VM40-105	300	Cassano Drive	12/21/16
VM33-338	280	Cassano Drive	3/24/17
VM33-341	292	Cassano Drive	3/24/17
VM33-339	284	Cassano Drive	3/27/17
VM33-340	288	Cassano Drive	3/27/17
VM33-208	283	Cassano Drive	4/5/17
VM33-342	296	Cassano Drive	4/5/17
VM33-337	276	Cassano Drive	4/14/17
VM33-205	295	Cassano Drive	4/14/17
VM33-203	303	Cassano Drive	4/19/17
VM33-216	251	Cassano Drive	4/24/17
VM33-212	267	Cassano Drive	4/27/17
VM33-332	256	Cassano Drive	5/12/17
VM33-207	287	Cassano Drive	5/12/17
VM33-330	248	Cassano Drive	5/15/17
VM33-213	263	Cassano Drive	5/18/17
VM33-210	275	Cassano Drive	5/18/17
VM33-204	299	Cassano Drive	5/18/17
VM33-215	255	Cassano Drive	5/18/17
VM33-331	252	Cassano Drive	5/25/17
VM33-333	260	Cassano Drive	6/8/17
VM33-336	272	Cassano Drive	6/13/17
VM33-335	268	Cassano Drive	6/30/17
VM33-202	307	Cassano Drive	7/3/17
VM33-334	264	Cassano Drive	7/3/17
VM33-211	271	Cassano Drive	7/25/17
VM33-329	244	Cassano Drive	8/9/17
VM33-214	259	Cassano Drive	8/9/17
VM33-206	291	Cassano Drive	8/11/17
VM33-209	279	Cassano Drive	8/28/17
VM40-192	236	Rosolina Court	6/9/17
VM40-183	201	Rosolina Court	6/16/17
VM40-198	212	Rosolina Court	7/5/17
VM40-193	232	Rosolina Court	7/18/17
VM40-199	208	Rosolina Court	7/18/17
VM40-195	224	Rosolina Court	7/31/17
VM40-194	228	Rosolina Court	8/4/17
VM40-197	216	Rosolina Court	8/4/17
VM40-196	220	Rosolina Court	8/11/17
VM40-191	233	Rosolina Court	8/11/17
VM40-185	209	Rosolina Court	8/16/17
VM40-184	205	Rosolina Court	8/21/17
VM40-200	204	Rosolina Court	9/1/17
VM40-190	229	Rosolina Court	9/15/17

Milano PUD

Laurel Lakes - West of the Jacaranda Blvd Extension

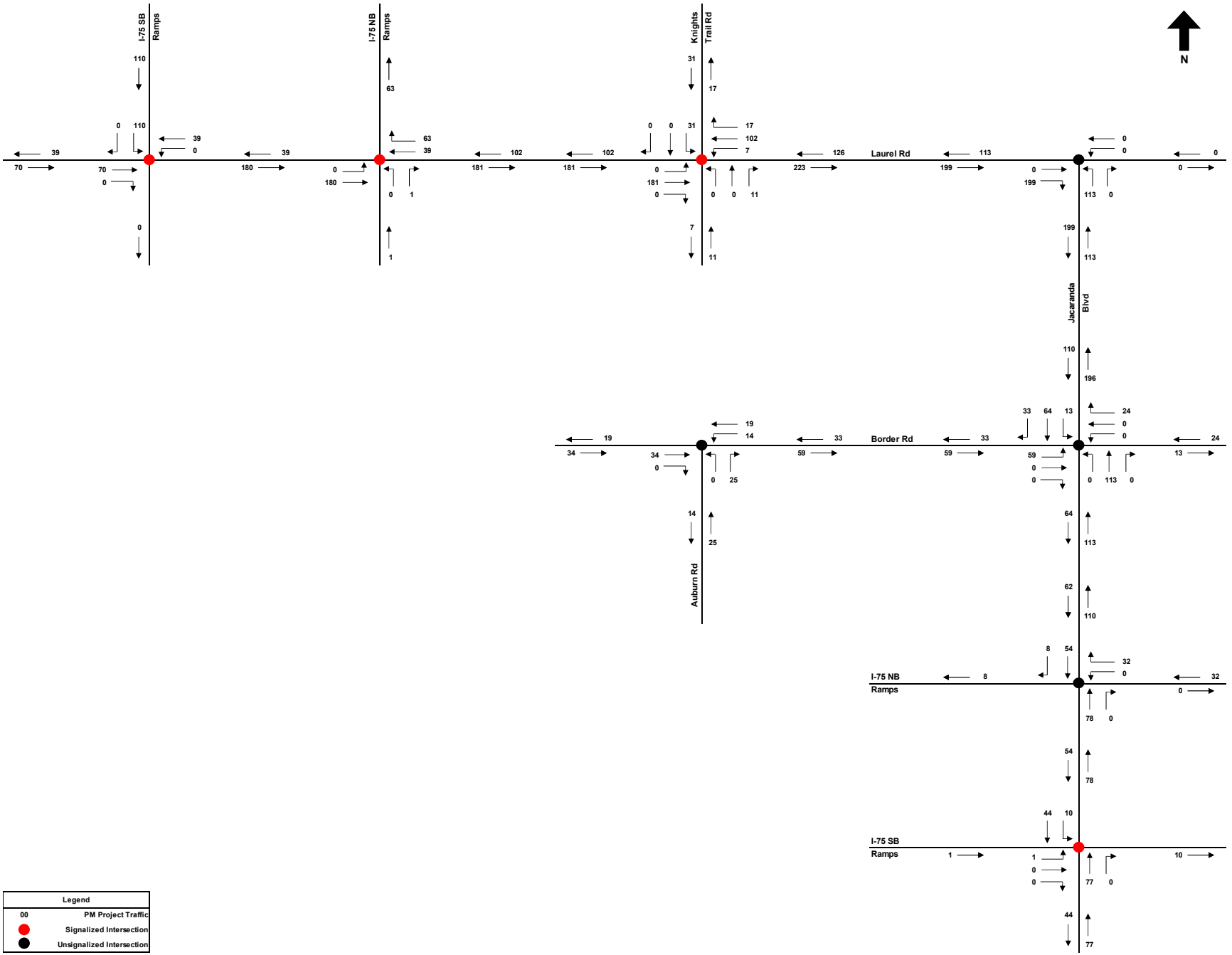


Figure 3: Project Traffic Assignment

APPENDIX F

2024 BACKGROUND TRAFFIC SYNCHRO SUMMARY WORKSHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1039	544	642	1048	0	0	0	0	550	0	409
Future Volume (veh/h)	0	1039	544	642	1048	0	0	0	0	550	0	409
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1792	1827	1845	1810	0				1792	0	1792
Adj Flow Rate, veh/h	0	1154	0	713	1164	0				611	0	454
Adj No. of Lanes	0	2	1	2	2	0				1	0	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	0	6	4	3	5	0				6	0	6
Cap, veh/h	0	1043	476	1214	2471	0				277	0	436
Arrive On Green	0.00	0.31	0.00	0.71	1.00	0.00				0.16	0.00	0.16
Sat Flow, veh/h	0	3495	1553	3408	3529	0				1707	0	2682
Grp Volume(v), veh/h	0	1154	0	713	1164	0				611	0	454
Grp Sat Flow(s),veh/h/ln	0	1703	1553	1704	1719	0				1707	0	1341
Q Serve(g_s), s	0.0	24.5	0.0	8.3	0.0	0.0				13.0	0.0	13.0
Cycle Q Clear(g_c), s	0.0	24.5	0.0	8.3	0.0	0.0				13.0	0.0	13.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1043	476	1214	2471	0				277	0	436
V/C Ratio(X)	0.00	1.11	0.00	0.59	0.47	0.00				2.20	0.00	1.04
Avail Cap(c_a), veh/h	0	1043	476	1214	2471	0				277	0	436
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.37	0.37	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	27.7	0.0	8.6	0.0	0.0				33.5	0.0	33.5
Incr Delay (d2), s/veh	0.0	61.8	0.0	0.3	0.1	0.0				552.8	0.0	54.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	36.7	0.0	5.8	0.0	0.0				87.6	0.0	14.5
LnGrp Delay(d),s/veh	0.0	89.6	0.0	8.9	0.1	0.0				586.3	0.0	87.9
LnGrp LOS		F		A	A					F		F
Approach Vol, veh/h		1154			1877						1065	
Approach Delay, s/veh		89.6			3.4						373.8	
Approach LOS		F			A						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	33.0	29.0		18.0		62.0		
Change Period (Y+Rc), s	5.5	5.5		6.0		5.5		
Max Green Setting (Gmax), s	27.5	23.5		12.0		56.5		
Max Q Clear Time (g_c+I1), s	10.3	26.5		15.0		2.0		
Green Ext Time (p_c), s	11.0	0.0		0.0		19.3		

Intersection Summary	
HCM 2010 Ctrl Delay	124.0
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	1347	0	0	1420	595	264	0	365	0	0	0
Future Volume (veh/h)	246	1347	0	0	1420	595	264	0	365	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1792	1776	0	0	1827	1792	1776	0	1810			
Adj Flow Rate, veh/h	273	1497	0	0	1578	0	293	0	0			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	6	7	0	0	4	6	7	0	5			
Cap, veh/h	1086	2540	0	0	1280	562	421	0	198			
Arrive On Green	0.66	1.00	0.00	0.00	0.74	0.00	0.13	0.00	0.00			
Sat Flow, veh/h	3312	3463	0	0	3563	1524	3281	0	1538			
Grp Volume(v), veh/h	273	1497	0	0	1578	0	293	0	0			
Grp Sat Flow(s),veh/h/ln	1656	1687	0	0	1736	1524	1640	0	1538			
Q Serve(g_s), s	2.7	0.0	0.0	0.0	29.5	0.0	6.8	0.0	0.0			
Cycle Q Clear(g_c), s	2.7	0.0	0.0	0.0	29.5	0.0	6.8	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	1086	2540	0	0	1280	562	421	0	198			
V/C Ratio(X)	0.25	0.59	0.00	0.00	1.23	0.00	0.70	0.00	0.00			
Avail Cap(c_a), veh/h	1086	2540	0	0	1280	562	615	0	288			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.56	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	9.7	0.0	0.0	0.0	10.5	0.0	33.4	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	108.8	0.0	2.1	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	1.8	0.0	0.0	0.0	58.5	0.0	5.8	0.0	0.0			
LnGrp Delay(d),s/veh	9.7	0.0	0.0	0.0	119.3	0.0	35.4	0.0	0.0			
LnGrp LOS	A	A			F		D					
Approach Vol, veh/h		1770			1578			293				
Approach Delay, s/veh		1.5			119.3			35.4				
Approach LOS		A			F			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	30.7	34.0		15.3		64.7		
Change Period (Y+Rc), s	5.5	5.5		6.0		5.5		
Max Green Setting (Gmax), s	20.5	28.5		14.0		54.5		
Max Q Clear Time (g_c+I1), s	4.7	31.5		8.8		2.0		
Green Ext Time (p_c), s	10.0	0.0		0.5		18.0		

Intersection Summary	
HCM 2010 Ctrl Delay	55.3
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1153	545	8	13	477	238	22	8	20	259	8	1273
Future Volume (vph)	1153	545	8	13	477	238	22	8	20	259	8	1273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3273	3419		1770	3505	1568	1805	1609		1719	1496	2733
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3273	3419		1770	3505	1568	1805	1609		1719	1496	2733
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1267	599	9	14	524	262	24	9	22	285	9	1399
RTOR Reduction (vph)	0	1	0	0	0	218	0	21	0	0	0	197
Lane Group Flow (vph)	1267	607	0	14	524	44	24	10	0	285	9	1202
Heavy Vehicles (%)	7%	5%	29%	2%	3%	3%	0%	14%	2%	5%	27%	4%
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	pt+ov
Protected Phases	1	6		5	2		3	3		4	4	4 1
Permitted Phases						2						
Actuated Green, G (s)	22.9	33.9		1.5	12.5	12.5	4.2	4.2		17.4	17.4	46.3
Effective Green, g (s)	23.9	34.9		2.5	13.5	13.5	5.2	5.2		18.4	18.4	47.3
Actuated g/C Ratio	0.30	0.44		0.03	0.17	0.17	0.07	0.07		0.23	0.23	0.59
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	977	1491		55	591	264	117	104		395	344	1615
v/s Ratio Prot	c0.39	0.18		0.01	c0.15		c0.01	0.01		0.17	0.01	c0.44
v/s Ratio Perm						0.03						
v/c Ratio	1.30	0.41		0.25	0.89	0.17	0.21	0.10		0.72	0.03	0.74
Uniform Delay, d1	28.1	15.5		37.8	32.5	28.4	35.4	35.2		28.4	23.9	11.9
Progression Factor	0.86	1.06		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	140.1	0.7		2.4	17.7	1.4	0.9	0.4		6.4	0.0	1.9
Delay (s)	164.3	17.1		40.3	50.2	29.8	36.3	35.6		34.8	23.9	13.8
Level of Service	F	B		D	D	C	D	D		C	C	B
Approach Delay (s)		116.6			43.3			35.9			17.4	
Approach LOS		F			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	64.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	47.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	37	706	13	52	528	1
Future Vol, veh/h	37	706	13	52	528	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	300	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	0	1	4	100
Mvmt Flow	41	784	14	58	587	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	826	0	520	433
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	87	-
Critical Hdwy	-	-	4.1	-	6.44	7.2
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.2	-	3.536	4.2
Pot Cap-1 Maneuver	-	-	813	-	~ 513	459
Stage 1	-	-	-	-	650	-
Stage 2	-	-	-	-	931	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	813	-	~ 504	459
Mov Cap-2 Maneuver	-	-	-	-	~ 504	-
Stage 1	-	-	-	-	650	-
Stage 2	-	-	-	-	914	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	120.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	504	459	-	-	813	-
HCM Lane V/C Ratio	1.164	0.002	-	-	0.018	-
HCM Control Delay (s)	120.5	12.9	-	-	9.5	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	20.9	0	-	-	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	138.4
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	182	112	167	0	66	81	133	0	183	346	92
Future Vol, veh/h	0	182	112	167	0	66	81	133	0	183	346	92
Peak Hour Factor	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	3	6	4	2	8	2	4	2	2	3	2
Mvmt Flow	0	200	123	184	0	73	89	146	0	201	380	101
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	1
HCM Control Delay	165.6	49.4	117.1
HCM LOS	F	E	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	39%	24%	37%	0%
Vol Thru, %	0%	79%	24%	29%	63%	0%
Vol Right, %	0%	21%	36%	47%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	183	438	461	280	481	144
LT Vol	183	0	182	66	179	0
Through Vol	0	346	112	81	302	0
RT Vol	0	92	167	133	0	144
Lane Flow Rate	201	481	507	308	529	158
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.546	1.223	1.256	0.811	1.406	0.38
Departure Headway (Hd)	11.242	10.573	10.068	11.481	10.671	9.696
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	324	347	365	317	344	373
Service Time	8.942	8.273	8.068	9.481	8.371	7.396
HCM Lane V/C Ratio	0.62	1.386	1.389	0.972	1.538	0.424
HCM Control Delay	26.7	154.8	165.6	49.4	227.6	18.2
HCM Lane LOS	D	F	F	E	F	C
HCM 95th-tile Q	3.1	18.1	19.9	6.7	24.4	1.7

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↑	↱
Traffic Vol, veh/h	0	179	302	144
Future Vol, veh/h	0	179	302	144
Peak Hour Factor	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	8	6	3
Mvmt Flow	0	197	332	158
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	179.4
HCM LOS	F

Intersection	
Int Delay, s/veh	11.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	331	0	112	0	473	696	0	680	92
Future Vol, veh/h	0	0	0	331	0	112	0	473	696	0	680	92
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	Free
Storage Length	-	-	-	0	-	800	-	-	800	-	-	300
Veh in Median Storage, #	-	-	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	5	0	4	0	4	4	0	5	4
Mvmt Flow	0	0	0	356	0	120	0	509	748	0	731	99

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	875	-	254	-	0	-	-	-	0
Stage 1	509	-	-	-	-	-	-	-	-
Stage 2	366	-	-	-	-	-	-	-	-
Critical Hdwy	6.9	-	6.98	-	-	-	-	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	-	3.34	-	-	-	-	-	-
Pot Cap-1 Maneuver	~ 283	0	739	0	-	0	0	-	0
Stage 1	560	0	-	0	-	0	0	-	0
Stage 2	663	0	-	0	-	0	0	-	0
Platoon blocked, %					-			-	
Mov Cap-1 Maneuver	~ 283	0	739	-	-	-	-	-	-
Mov Cap-2 Maneuver	405	0	-	-	-	-	-	-	-
Stage 1	560	0	-	-	-	-	-	-	-
Stage 2	663	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	41.5	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBT
Capacity (veh/h)	-	405	739	-
HCM Lane V/C Ratio	-	0.879	0.163	-
HCM Control Delay (s)	-	51.9	10.8	-
HCM Lane LOS	-	F	B	-
HCM 95th %tile Q(veh)	-	8.9	0.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	32	184	17	26	1	131	6	18	0	7	18
Future Vol, veh/h	28	32	184	17	26	1	131	6	18	0	7	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	1	0	7	7	9	100	2	0	6	0	0	7
Mvmt Flow	33	37	214	20	30	1	152	7	21	0	8	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	31	0	0	251	0	0	294	280	144	293	386	31
Stage 1	-	-	-	-	-	-	209	209	-	70	70	-
Stage 2	-	-	-	-	-	-	85	71	-	223	316	-
Critical Hdwy	4.11	-	-	4.17	-	-	7.12	6.5	6.26	7.1	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.263	-	-	3.518	4	3.354	3.5	4	3.363
Pot Cap-1 Maneuver	1588	-	-	1286	-	-	658	632	893	663	551	1029
Stage 1	-	-	-	-	-	-	793	733	-	945	841	-
Stage 2	-	-	-	-	-	-	923	840	-	784	659	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1588	-	-	1286	-	-	617	606	893	622	529	1029
Mov Cap-2 Maneuver	-	-	-	-	-	-	617	606	-	622	529	-
Stage 1	-	-	-	-	-	-	773	715	-	921	828	-
Stage 2	-	-	-	-	-	-	881	827	-	739	643	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	3	12.8	9.6
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	640	1588	-	-	1286	-	-	814
HCM Lane V/C Ratio	0.282	0.021	-	-	0.015	-	-	0.036
HCM Control Delay (s)	12.8	7.3	0	-	7.8	0	-	9.6
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	17.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	47	333	113	26	223	90	98	36	36	109	47	42
Future Vol, veh/h	47	333	113	26	223	90	98	36	36	109	47	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	6	2	10	9	5	3	12	6	10	4	19	6
Mvmt Flow	49	347	118	27	232	94	102	38	38	114	49	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	326	0	0	465	0	0	884	884	406	874	896	279
Stage 1	-	-	-	-	-	-	504	504	-	333	333	-
Stage 2	-	-	-	-	-	-	380	380	-	541	563	-
Critical Hdwy	4.16	-	-	4.19	-	-	7.22	6.56	6.3	7.14	6.69	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.22	5.56	-	6.14	5.69	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.22	5.56	-	6.14	5.69	-
Follow-up Hdwy	2.254	-	-	2.281	-	-	3.608	4.054	3.39	3.536	4.171	3.354
Pot Cap-1 Maneuver	1211	-	-	1061	-	-	255	280	628	268	262	750
Stage 1	-	-	-	-	-	-	532	534	-	676	615	-
Stage 2	-	-	-	-	-	-	622	607	-	522	483	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1211	-	-	1061	-	-	190	256	628	209	240	750
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	256	-	209	240	-
Stage 1	-	-	-	-	-	-	502	504	-	638	596	-
Stage 2	-	-	-	-	-	-	521	588	-	429	456	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.7	54.1	59.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	238	1211	-	-	1061	-	-	256
HCM Lane V/C Ratio	0.744	0.04	-	-	0.026	-	-	0.806
HCM Control Delay (s)	54.1	8.1	0	-	8.5	0	-	59.1
HCM Lane LOS	F	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	5.2	0.1	-	-	0.1	-	-	6.2

APPENDIX G

2024 IMPROVED BACKGROUND TRAFFIC SYNCHRO SUMMARY WORKSHEETS

Arterial Level of Service: EB Laurel Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-75 SB Ramp	II	45	43.7	34.3	78.0	0.50	22.9	C
I-75 NB Ramp	II	45	29.3	3.4	32.7	0.30	32.6	B
Knights Trail Rd	II	45	31.3	8.1	39.4	0.33	29.8	B
Total	II		104.3	45.8	150.1	1.12	26.8	C

Arterial Level of Service: WB Laurel Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Knights Trail Rd	II	45	144.6	55.3	199.9	1.81	32.6	B
I-75 NB Ramp	II	45	31.3	19.1	50.4	0.33	23.3	C
I-75 SB Ramp	II	45	29.3	5.0	34.3	0.30	31.1	B
Total	II		205.2	79.4	284.6	2.43	30.7	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1039	544	642	1048	0	0	0	0	550	0	409
Future Volume (veh/h)	0	1039	544	642	1048	0	0	0	0	550	0	409
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1792	1827	1845	1810	0				1792	0	1792
Adj Flow Rate, veh/h	0	1154	0	713	1164	0				611	0	454
Adj No. of Lanes	0	2	1	2	2	0				2	0	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	0	6	4	3	5	0				6	0	6
Cap, veh/h	0	1293	590	937	2391	0				723	0	585
Arrive On Green	0.00	0.38	0.00	0.55	1.00	0.00				0.22	0.00	0.22
Sat Flow, veh/h	0	3495	1553	3408	3529	0				3312	0	2682
Grp Volume(v), veh/h	0	1154	0	713	1164	0				611	0	454
Grp Sat Flow(s),veh/h/ln	0	1703	1553	1704	1719	0				1656	0	1341
Q Serve(g_s), s	0.0	35.0	0.0	17.8	0.0	0.0				19.5	0.0	17.5
Cycle Q Clear(g_c), s	0.0	35.0	0.0	17.8	0.0	0.0				19.5	0.0	17.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1293	590	937	2391	0				723	0	585
V/C Ratio(X)	0.00	0.89	0.00	0.76	0.49	0.00				0.85	0.00	0.78
Avail Cap(c_a), veh/h	0	1378	628	937	2391	0				783	0	634
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.59	0.59	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	32.0	0.0	22.0	0.0	0.0				41.2	0.0	40.5
Incr Delay (d2), s/veh	0.0	9.6	0.0	2.4	0.1	0.0				8.0	0.0	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	25.1	0.0	12.1	0.1	0.0				14.8	0.0	11.3
LnGrp Delay(d),s/veh	0.0	41.7	0.0	24.3	0.1	0.0				49.2	0.0	46.1
LnGrp LOS		D		C	A					D		D
Approach Vol, veh/h		1154			1877						1065	
Approach Delay, s/veh		41.7			9.3						47.9	
Approach LOS		D			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	34.7	46.3		29.0		81.0		
Change Period (Y+Rc), s	5.5	5.5		6.0		5.5		
Max Green Setting (Gmax), s	24.5	43.5		25.0		73.5		
Max Q Clear Time (g_c+I1), s	19.8	37.0		21.5		2.0		
Green Ext Time (p_c), s	3.8	3.8		1.6		20.5		

Intersection Summary	
HCM 2010 Ctrl Delay	28.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	1347	0	0	1420	595	264	0	365	0	0	0
Future Volume (veh/h)	246	1347	0	0	1420	595	264	0	365	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1792	1776	0	0	1827	1792	1776	0	1810			
Adj Flow Rate, veh/h	273	1497	0	0	1578	0	293	0	0			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	6	7	0	0	4	6	7	0	5			
Cap, veh/h	654	2690	0	0	1941	852	381	0	179			
Arrive On Green	0.39	1.00	0.00	0.00	0.56	0.00	0.12	0.00	0.00			
Sat Flow, veh/h	3312	3463	0	0	3563	1524	3281	0	1538			
Grp Volume(v), veh/h	273	1497	0	0	1578	0	293	0	0			
Grp Sat Flow(s),veh/h/ln	1656	1687	0	0	1736	1524	1640	0	1538			
Q Serve(g_s), s	6.6	0.0	0.0	0.0	40.4	0.0	9.5	0.0	0.0			
Cycle Q Clear(g_c), s	6.6	0.0	0.0	0.0	40.4	0.0	9.5	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	654	2690	0	0	1941	852	381	0	179			
V/C Ratio(X)	0.42	0.56	0.00	0.00	0.81	0.00	0.77	0.00	0.00			
Avail Cap(c_a), veh/h	654	2690	0	0	1941	852	447	0	210			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.47	0.47	0.00	0.00	0.59	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	28.7	0.0	0.0	0.0	19.6	0.0	47.2	0.0	0.0			
Incr Delay (d2), s/veh	0.2	0.1	0.0	0.0	2.3	0.0	6.8	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	4.9	0.1	0.0	0.0	25.5	0.0	8.2	0.0	0.0			
LnGrp Delay(d),s/veh	28.9	0.1	0.0	0.0	21.9	0.0	53.9	0.0	0.0			
LnGrp LOS	C	A			C		D					
Approach Vol, veh/h		1770			1578			293				
Approach Delay, s/veh		4.6			21.9			53.9				
Approach LOS		A			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	26.2	66.0		17.8		92.2		
Change Period (Y+Rc), s	5.5	5.5		6.0		5.5		
Max Green Setting (Gmax), s	18.5	60.5		14.0		84.5		
Max Q Clear Time (g_c+I1), s	8.6	42.4		11.5		2.0		
Green Ext Time (p_c), s	7.0	10.6		0.2		19.4		

Intersection Summary	
HCM 2010 Ctrl Delay	16.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1153	545	8	13	477	238	22	8	20	259	8	1273
Future Volume (vph)	1153	545	8	13	477	238	22	8	20	259	8	1273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3273	3419		1770	3505	1568	1805	1609		1719	1496	2733
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3273	3419		1770	3505	1568	1805	1609		1719	1496	2733
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1267	599	9	14	524	262	24	9	22	285	9	1399
RTOR Reduction (vph)	0	1	0	0	0	220	0	21	0	0	0	122
Lane Group Flow (vph)	1267	607	0	14	524	42	24	10	0	285	9	1277
Heavy Vehicles (%)	7%	5%	29%	2%	3%	3%	0%	14%	2%	5%	27%	4%
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	pt+ov
Protected Phases	1	6		5	2		3	3		4	4	4 1
Permitted Phases						2						
Actuated Green, G (s)	43.7	57.5		2.8	16.6	16.6	4.2	4.2		22.5	22.5	72.2
Effective Green, g (s)	44.7	58.5		3.8	17.6	17.6	5.2	5.2		23.5	23.5	73.2
Actuated g/C Ratio	0.41	0.53		0.03	0.16	0.16	0.05	0.05		0.21	0.21	0.67
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1330	1818		61	560	250	85	76		367	319	1818
v/s Ratio Prot	c0.39	0.18		0.01	c0.15		c0.01	0.01		0.17	0.01	c0.47
v/s Ratio Perm						0.03						
v/c Ratio	0.95	0.33		0.23	0.94	0.17	0.28	0.13		0.78	0.03	0.70
Uniform Delay, d1	31.6	14.7		51.7	45.6	39.9	50.6	50.2		40.8	34.2	11.6
Progression Factor	0.54	0.61		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	14.3	0.4		1.9	25.1	1.4	1.8	0.8		9.9	0.0	1.3
Delay (s)	31.3	9.4		53.6	70.7	41.3	52.4	51.0		50.7	34.3	12.8
Level of Service	C	A		D	E	D	D	D		D	C	B
Approach Delay (s)		24.2			60.8			51.6			19.3	
Approach LOS		C			E			D			B	

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	7.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	37	706	13	52	528	1
Future Vol, veh/h	37	706	13	52	528	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	-	-	300	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	0	1	4	100
Mvmt Flow	41	784	14	58	587	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	41	0	128	41
Stage 1	-	-	-	-	41	-
Stage 2	-	-	-	-	87	-
Critical Hdwy	-	-	4.1	-	6.44	7.2
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.2	-	3.536	4.2
Pot Cap-1 Maneuver	-	-	1581	-	862	809
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	931	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1581	-	854	809
Mov Cap-2 Maneuver	-	-	-	-	854	-
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	17.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	854	809	-	-	1581	-
HCM Lane V/C Ratio	0.687	0.001	-	-	0.009	-
HCM Control Delay (s)	17.9	9.5	-	-	7.3	0
HCM Lane LOS	C	A	-	-	A	A
HCM 95th %tile Q(veh)	5.6	0	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	112	167	66	81	133	183	346	92	179	302	144
Future Volume (veh/h)	182	112	167	66	81	133	183	346	92	179	302	144
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1825	1900	1900	1820	1900	1863	1848	1900	1759	1809	1900
Adj Flow Rate, veh/h	200	123	184	73	89	146	201	380	101	197	332	158
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	6	6	6	2	2	2	2	3	3	8	6	6
Cap, veh/h	287	155	204	174	212	280	312	616	164	318	507	241
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	515	392	517	250	537	710	903	1408	374	860	1160	552
Grp Volume(v), veh/h	507	0	0	308	0	0	201	0	481	197	0	490
Grp Sat Flow(s),veh/h/ln	1423	0	0	1498	0	0	903	0	1782	860	0	1712
Q Serve(g_s), s	11.3	0.0	0.0	0.0	0.0	0.0	12.6	0.0	12.4	13.6	0.0	13.4
Cycle Q Clear(g_c), s	19.8	0.0	0.0	8.5	0.0	0.0	26.0	0.0	12.4	26.0	0.0	13.4
Prop In Lane	0.39		0.36	0.24		0.47	1.00		0.21	1.00		0.32
Lane Grp Cap(c), veh/h	646	0	0	666	0	0	312	0	780	318	0	749
V/C Ratio(X)	0.78	0.00	0.00	0.46	0.00	0.00	0.64	0.00	0.62	0.62	0.00	0.65
Avail Cap(c_a), veh/h	659	0	0	679	0	0	312	0	780	318	0	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.7	0.0	0.0	13.4	0.0	0.0	23.7	0.0	12.9	22.9	0.0	13.2
Incr Delay (d2), s/veh	6.1	0.0	0.0	0.5	0.0	0.0	4.5	0.0	1.5	3.6	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.7	0.0	0.0	6.9	0.0	0.0	6.5	0.0	10.5	6.3	0.0	10.9
LnGrp Delay(d),s/veh	22.8	0.0	0.0	13.9	0.0	0.0	28.2	0.0	14.4	26.5	0.0	15.2
LnGrp LOS	C			B			C		B	C		B
Approach Vol, veh/h		507			308			682			687	
Approach Delay, s/veh		22.8			13.9			18.4			18.5	
Approach LOS		C			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		31.0		28.4		31.0		28.4
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		25.0		23.0		25.0		23.0
Max Q Clear Time (g_c+I1), s		28.0		21.8		28.0		10.5
Green Ext Time (p_c), s		0.0		0.7		0.0		4.5

Intersection Summary	
HCM 2010 Ctrl Delay	18.8
HCM 2010 LOS	B

APPENDIX H

2024 TOTAL TRAFFIC SYNCHRO SUMMARY WORKSHEETS

Arterial Level of Service: EB Laurel Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-75 SB Ramp	II	45	43.8	37.7	81.5	0.50	22.0	C
I-75 NB Ramp	II	45	29.3	3.8	33.1	0.30	32.2	B
Knights Trail Rd	II	45	31.3	8.8	40.1	0.33	29.3	B
Total	II		104.4	50.3	154.7	1.12	26.1	C

Arterial Level of Service: WB Laurel Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Knights Trail Rd	II	45	144.6	63.1	207.7	1.81	31.3	B
I-75 NB Ramp	II	45	31.3	19.5	50.8	0.33	23.1	C
I-75 SB Ramp	II	45	29.3	5.7	35.0	0.30	30.5	B
Total	II		205.2	88.3	293.5	2.43	29.8	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1079	544	642	1070	0	0	0	0	623	0	409
Future Volume (veh/h)	0	1079	544	642	1070	0	0	0	0	623	0	409
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1792	1827	1845	1810	0				1792	0	1792
Adj Flow Rate, veh/h	0	1199	0	713	1189	0				692	0	454
Adj No. of Lanes	0	2	1	2	2	0				2	0	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	0	6	4	3	5	0				6	0	6
Cap, veh/h	0	1321	603	857	2339	0				773	0	626
Arrive On Green	0.00	0.39	0.00	0.50	1.00	0.00				0.23	0.00	0.23
Sat Flow, veh/h	0	3495	1553	3408	3529	0				3312	0	2682
Grp Volume(v), veh/h	0	1199	0	713	1189	0				692	0	454
Grp Sat Flow(s),veh/h/ln	0	1703	1553	1704	1719	0				1656	0	1341
Q Serve(g_s), s	0.0	36.6	0.0	19.7	0.0	0.0				22.3	0.0	17.2
Cycle Q Clear(g_c), s	0.0	36.6	0.0	19.7	0.0	0.0				22.3	0.0	17.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1321	603	857	2339	0				773	0	626
V/C Ratio(X)	0.00	0.91	0.00	0.83	0.51	0.00				0.90	0.00	0.73
Avail Cap(c_a), veh/h	0	1378	628	857	2339	0				783	0	634
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.57	0.57	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	31.8	0.0	25.4	0.0	0.0				40.9	0.0	38.9
Incr Delay (d2), s/veh	0.0	10.6	0.0	4.3	0.1	0.0				12.8	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	26.3	0.0	13.5	0.1	0.0				17.1	0.0	11.0
LnGrp Delay(d),s/veh	0.0	42.4	0.0	29.7	0.1	0.0				53.7	0.0	43.0
LnGrp LOS		D		C	A					D		D
Approach Vol, veh/h		1199			1902						1146	
Approach Delay, s/veh		42.4			11.2						49.4	
Approach LOS		D			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	32.1	47.2		30.7		79.3		
Change Period (Y+Rc), s	5.5	5.5		6.0		5.5		
Max Green Setting (Gmax), s	24.5	43.5		25.0		73.5		
Max Q Clear Time (g_c+I1), s	21.7	38.6		24.3		2.0		
Green Ext Time (p_c), s	2.4	3.1		0.4		21.0		

Intersection Summary	
HCM 2010 Ctrl Delay	30.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	1460	0	0	1442	636	264	0	365	0	0	0
Future Volume (veh/h)	246	1460	0	0	1442	636	264	0	365	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1792	1776	0	0	1827	1792	1776	0	1810			
Adj Flow Rate, veh/h	273	1622	0	0	1602	0	293	0	0			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	6	7	0	0	4	6	7	0	5			
Cap, veh/h	654	2690	0	0	1941	852	381	0	179			
Arrive On Green	0.39	1.00	0.00	0.00	0.56	0.00	0.12	0.00	0.00			
Sat Flow, veh/h	3312	3463	0	0	3563	1524	3281	0	1538			
Grp Volume(v), veh/h	273	1622	0	0	1602	0	293	0	0			
Grp Sat Flow(s),veh/h/ln	1656	1687	0	0	1736	1524	1640	0	1538			
Q Serve(g_s), s	6.6	0.0	0.0	0.0	41.6	0.0	9.5	0.0	0.0			
Cycle Q Clear(g_c), s	6.6	0.0	0.0	0.0	41.6	0.0	9.5	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	654	2690	0	0	1941	852	381	0	179			
V/C Ratio(X)	0.42	0.60	0.00	0.00	0.83	0.00	0.77	0.00	0.00			
Avail Cap(c_a), veh/h	654	2690	0	0	1941	852	447	0	210			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.36	0.36	0.00	0.00	0.51	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	28.7	0.0	0.0	0.0	19.9	0.0	47.2	0.0	0.0			
Incr Delay (d2), s/veh	0.2	0.1	0.0	0.0	2.2	0.0	6.8	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	4.7	0.1	0.0	0.0	25.7	0.0	8.2	0.0	0.0			
LnGrp Delay(d),s/veh	28.9	0.1	0.0	0.0	22.0	0.0	53.9	0.0	0.0			
LnGrp LOS	C	A			C		D					
Approach Vol, veh/h		1895			1602			293				
Approach Delay, s/veh		4.3			22.0			53.9				
Approach LOS		A			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	26.2	66.0		17.8		92.2		
Change Period (Y+Rc), s	5.5	5.5		6.0		5.5		
Max Green Setting (Gmax), s	18.5	60.5		14.0		84.5		
Max Q Clear Time (g_c+I1), s	8.6	43.6		11.5		2.0		
Green Ext Time (p_c), s	7.4	10.3		0.2		22.9		

Intersection Summary	
HCM 2010 Ctrl Delay	15.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1153	658	8	17	540	250	22	8	28	280	8	1273
Future Volume (vph)	1153	658	8	17	540	250	22	8	28	280	8	1273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3273	3422		1770	3505	1568	1805	1604		1719	1496	2733
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3273	3422		1770	3505	1568	1805	1604		1719	1496	2733
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1267	723	9	19	593	275	24	9	31	308	9	1399
RTOR Reduction (vph)	0	1	0	0	0	227	0	29	0	0	0	127
Lane Group Flow (vph)	1267	731	0	19	593	48	24	11	0	308	9	1272
Heavy Vehicles (%)	7%	5%	29%	2%	3%	3%	0%	14%	2%	5%	27%	4%
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	pt+ov
Protected Phases	1	6		5	2		3	3		4	4	4 1
Permitted Phases						2						
Actuated Green, G (s)	42.5	58.0		2.8	18.3	18.3	5.6	5.6		20.6	20.6	69.1
Effective Green, g (s)	43.5	59.0		3.8	19.3	19.3	6.6	6.6		21.6	21.6	70.1
Actuated g/C Ratio	0.40	0.54		0.03	0.18	0.18	0.06	0.06		0.20	0.20	0.64
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1294	1835		61	614	275	108	96		337	293	1741
v/s Ratio Prot	c0.39	0.21		0.01	c0.17		c0.01	0.01		c0.18	0.01	c0.47
v/s Ratio Perm						0.03						
v/c Ratio	0.98	0.40		0.31	0.97	0.18	0.22	0.11		0.91	0.03	0.73
Uniform Delay, d1	32.8	15.0		51.8	45.0	38.6	49.3	48.9		43.3	35.7	13.5
Progression Factor	0.53	0.62		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	18.6	0.6		2.9	28.8	1.4	1.0	0.5		28.1	0.0	1.6
Delay (s)	35.9	9.8		54.7	73.8	40.0	50.3	49.5		71.4	35.8	15.1
Level of Service	D	A		D	E	D	D	D		E	D	B
Approach Delay (s)		26.4			62.9			49.8			25.4	
Approach LOS		C			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	33.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	19.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	187	706	14	137	528	3
Future Vol, veh/h	187	706	14	137	528	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	-	-	300	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	0	1	4	33
Mvmt Flow	208	784	16	152	587	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	208	0	391	208
Stage 1	-	-	-	-	208	-
Stage 2	-	-	-	-	183	-
Critical Hdwy	-	-	4.1	-	6.44	6.53
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.2	-	3.536	3.597
Pot Cap-1 Maneuver	-	-	1375	-	609	760
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	844	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1375	-	601	760
Mov Cap-2 Maneuver	-	-	-	-	601	-
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	833	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	56.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	601	760	-	-	1375	-
HCM Lane V/C Ratio	0.976	0.004	-	-	0.011	-
HCM Control Delay (s)	57.2	9.8	-	-	7.6	0
HCM Lane LOS	F	A	-	-	A	A
HCM 95th %tile Q(veh)	14	0	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	138	167	96	96	134	183	346	146	180	302	144
Future Volume (veh/h)	182	138	167	96	96	134	183	346	146	180	302	144
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1824	1900	1900	1817	1900	1863	1850	1900	1759	1809	1900
Adj Flow Rate, veh/h	200	152	184	105	105	147	201	380	160	198	332	158
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	6	6	6	2	2	2	2	3	3	8	6	6
Cap, veh/h	269	173	188	199	200	225	306	536	226	268	503	239
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	467	434	471	303	499	562	903	1237	521	814	1160	552
Grp Volume(v), veh/h	536	0	0	357	0	0	201	0	540	198	0	490
Grp Sat Flow(s),veh/h/ln	1371	0	0	1364	0	0	903	0	1758	814	0	1712
Q Serve(g_s), s	11.3	0.0	0.0	0.0	0.0	0.0	12.4	0.0	15.1	10.9	0.0	13.6
Cycle Q Clear(g_c), s	23.1	0.0	0.0	11.8	0.0	0.0	26.0	0.0	15.1	26.0	0.0	13.6
Prop In Lane	0.37		0.34	0.29		0.41	1.00		0.30	1.00		0.32
Lane Grp Cap(c), veh/h	631	0	0	623	0	0	306	0	762	268	0	742
V/C Ratio(X)	0.85	0.00	0.00	0.57	0.00	0.00	0.66	0.00	0.71	0.74	0.00	0.66
Avail Cap(c_a), veh/h	631	0	0	623	0	0	306	0	762	268	0	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	0.0	14.0	0.0	0.0	24.3	0.0	13.9	25.9	0.0	13.5
Incr Delay (d2), s/veh	10.6	0.0	0.0	1.3	0.0	0.0	5.0	0.0	3.1	10.3	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.8	0.0	0.0	8.5	0.0	0.0	6.7	0.0	12.4	7.2	0.0	11.1
LnGrp Delay(d),s/veh	28.4	0.0	0.0	15.3	0.0	0.0	29.3	0.0	17.0	36.2	0.0	15.7
LnGrp LOS	C			B			C		B	D		B
Approach Vol, veh/h		536			357			741			688	
Approach Delay, s/veh		28.4			15.3			20.3			21.6	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		31.0		29.0		31.0		29.0
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		25.0		23.0		25.0		23.0
Max Q Clear Time (g_c+I1), s		28.0		25.1		28.0		13.8
Green Ext Time (p_c), s		0.0		0.0		0.0		4.1

Intersection Summary	
HCM 2010 Ctrl Delay	21.8
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	13.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	331	0	119	0	518	696	0	709	92
Future Vol, veh/h	0	0	0	331	0	119	0	518	696	0	709	92
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	Free
Storage Length	-	-	-	0	-	800	-	-	800	-	-	300
Veh in Median Storage, #	-	-	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	5	0	4	0	4	4	0	5	4
Mvmt Flow	0	0	0	356	0	128	0	557	748	0	762	99

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	938	-	278	-	0	-	-	-	0
Stage 1	557	-	-	-	-	-	-	-	-
Stage 2	381	-	-	-	-	-	-	-	-
Critical Hdwy	6.9	-	6.98	-	-	-	-	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	-	3.34	-	-	-	-	-	-
Pot Cap-1 Maneuver	~ 257	0	713	0	-	0	0	-	0
Stage 1	529	0	-	0	-	0	0	-	0
Stage 2	652	0	-	0	-	0	0	-	0
Platoon blocked, %					-			-	
Mov Cap-1 Maneuver	~ 257	0	713	-	-	-	-	-	-
Mov Cap-2 Maneuver	382	0	-	-	-	-	-	-	-
Stage 1	529	0	-	-	-	-	-	-	-
Stage 2	652	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	49.9	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBT
Capacity (veh/h)	-	382	713	-
HCM Lane V/C Ratio	-	0.932	0.179	-
HCM Control Delay (s)	-	63.8	11.2	-
HCM Lane LOS	-	F	B	-
HCM 95th %tile Q(veh)	-	10	0.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	30	32	206	17	27	1	170	6	18	0	7	20
Future Vol, veh/h	30	32	206	17	27	1	170	6	18	0	7	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	1	0	7	7	9	100	2	0	6	0	0	7
Mvmt Flow	35	37	240	20	31	1	198	7	21	0	8	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	33	0	0	277	0	0	314	299	157	313	419	32
Stage 1	-	-	-	-	-	-	227	227	-	72	72	-
Stage 2	-	-	-	-	-	-	87	72	-	241	347	-
Critical Hdwy	4.11	-	-	4.17	-	-	7.12	6.5	6.26	7.1	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.263	-	-	3.518	4	3.354	3.5	4	3.363
Pot Cap-1 Maneuver	1585	-	-	1258	-	-	639	616	878	643	528	1028
Stage 1	-	-	-	-	-	-	776	720	-	943	839	-
Stage 2	-	-	-	-	-	-	921	839	-	767	638	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1258	-	-	597	590	878	602	506	1028
Mov Cap-2 Maneuver	-	-	-	-	-	-	597	590	-	602	506	-
Stage 1	-	-	-	-	-	-	755	701	-	918	826	-
Stage 2	-	-	-	-	-	-	877	826	-	721	621	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	3	14.2	9.6
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	615	1585	-	-	1258	-	-	811
HCM Lane V/C Ratio	0.367	0.022	-	-	0.016	-	-	0.039
HCM Control Delay (s)	14.2	7.3	0	-	7.9	0	-	9.6
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	1.7	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	26.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	61	333	113	26	223	114	98	36	36	123	47	50
Future Vol, veh/h	61	333	113	26	223	114	98	36	36	123	47	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	6	2	10	9	5	3	12	6	10	4	19	6
Mvmt Flow	64	347	118	27	232	119	102	38	38	128	49	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	351	0	0	465	0	0	929	938	406	916	938	292
Stage 1	-	-	-	-	-	-	533	533	-	346	346	-
Stage 2	-	-	-	-	-	-	396	405	-	570	592	-
Critical Hdwy	4.16	-	-	4.19	-	-	7.22	6.56	6.3	7.14	6.69	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.22	5.56	-	6.14	5.69	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.22	5.56	-	6.14	5.69	-
Follow-up Hdwy	2.254	-	-	2.281	-	-	3.608	4.054	3.39	3.536	4.171	3.354
Pot Cap-1 Maneuver	1186	-	-	1061	-	-	238	260	628	251	248	738
Stage 1	-	-	-	-	-	-	513	518	-	666	606	-
Stage 2	-	-	-	-	-	-	610	592	-	503	468	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1186	-	-	1061	-	-	170	233	628	191	222	738
Mov Cap-2 Maneuver	-	-	-	-	-	-	170	233	-	191	222	-
Stage 1	-	-	-	-	-	-	475	480	-	617	587	-
Stage 2	-	-	-	-	-	-	503	573	-	404	433	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.6	69.4	93.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	216	1186	-	-	1061	-	-	238
HCM Lane V/C Ratio	0.82	0.054	-	-	0.026	-	-	0.963
HCM Control Delay (s)	69.4	8.2	0	-	8.5	0	-	93.2
HCM Lane LOS	F	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	6.1	0.2	-	-	0.1	-	-	8.7

APPENDIX I

SITE ACCESS SYNCHRO SUMMARY WORKSHEETS

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	152	0	2	86	0
Future Vol, veh/h	2	152	0	2	86	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	169	0	2	96	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	171	0	89	87
Stage 1	-	-	-	-	87	-
Stage 2	-	-	-	-	2	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1406	-	912	971
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	1021	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1406	-	912	971
Mov Cap-2 Maneuver	-	-	-	-	912	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	1021	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	912	-	-	1406	-
HCM Lane V/C Ratio	0.105	-	-	-	-
HCM Control Delay (s)	9.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	83	381	280	42	24	46
Future Vol, veh/h	83	381	280	42	24	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	210	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	6	2	2	2	2
Mvmt Flow	92	423	311	47	27	51

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	358	0	-	0	942	334
Stage 1	-	-	-	-	334	-
Stage 2	-	-	-	-	608	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1201	-	-	-	292	708
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	543	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1201	-	-	-	270	708
Mov Cap-2 Maneuver	-	-	-	-	270	-
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	501	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	14.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1201	-	-	-	455
HCM Lane V/C Ratio	0.077	-	-	-	0.171
HCM Control Delay (s)	8.2	-	-	-	14.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6