



**Venera**  
(1500 Venera &  
1537 San Remo)  
*Traffic Study*



**Prepared By:**  
David Plummer & Associates

**Prepared For:**  
Venera

**Prepared In:**  
February 2018

**DPA Job #:**  
16216

# Memo

**To:** Yamilet A. Senespleda, P.E., City Engineer, City of Coral Gables

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**From:** Jack S. Schnettler, P.E.      **Email:** Jack.schnettler@atkinsglobal.com

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**Phone:** 305-514-3369      **Date:** October 4, 2017

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**Ref:** Venera Traffic Study – Revised Report      **cc:** Chris Russo, PE

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**Subject:** Review of Venera Traffic Study – Revised Report

On behalf of the City of Coral Gables, ATKINS conducted a review of the Venera Traffic Study. Subsequently a revised report was submitted, to include a statement in the front of the revised document as to how the review comments had been addressed. This memorandum covers the further review of the revised document to confirm resolution of the comments.

This further review involved checking the revised document to confirm the report changes in response to the original review comments. The following summarizes the results of that review:

1. It is found that the revised traffic study report has addressed all comments sufficiently, and that where appropriate, the report has been revised as indicated.
2. It was originally suggested by the reviewer that with regard to parking, that a queuing analysis might be required depending how parking might be controlled by a gate or payment system. Only residential parking will be gated, and there is no significant transaction involved with this situation that would create a significant processing dwell time and queue creation, such as for valet service or parking fee payment. Therefore, it is not considered that a queue analysis is needed.
3. In response to a staff review comment regarding an inconsistency in the intersection turning movements across Exhibits 3, 6, 10, and 12 where it appeared that some directional movements through intersections were lower in some cases for the “future with project” condition as compared to the “future without project” condition, a check was made of this concern. The noted exhibits as well as the tables (volume development tables) in Appendix C provided as part of the response to review comment #1 were reviewed. It was determined that all the exhibit traffic volumes were correct as presented. The fact that certain movements were lower for the “future with project” condition as compared to the “future without project” condition was due to the fact that the “future without project” volumes in Exhibit 6 included the trips associated with the development currently on the project site. Exhibit 12 then presented “future with project” traffic volumes by subtracting out the existing development trips and adding in the new project trips. This was confirmed by reviewing the exhibits and cross-checking with the added tables in Appendix C. So the intersection approach volumes were found to be accurate for the different analysis conditions.

Please advise if there are any questions.

## Comments Responses to the Atkins Comments on Behalf of City of Coral Gables (December 19, 2016) Re: Review of Venera Traffic Impact Analysis Dated November 2016

- 1. Future without Project Intersection Capacity Analysis: Exhibit 6 provides the Total Volumes with committed development trips and background traffic. These volumes are difficult to reconcile with the committed development trips. It would be useful to show the committed development trips in Exhibit 6, or a separate diagram, in order to better understand how the committed trips were distributed through the project influence area.**

*Response: The volume development table has been included in Appendix C.*

- 2. Intersection Capacity Analysis Exhibits (Exhibit 4, 7 and 13): Suggest providing the delay values for any approaches that do not fall within City's LOS Standard to show magnitude of compliance.**

*Response: Exhibit 4, Exhibit 7 and Exhibit 13 have been updated to show the delay in seconds.*

- 3. Exhibit 8: Project Trip Generation: It appears a custom rate was used for the Land Use 826 AM peaks. It appears for most of the Trip Generation calculations ITE formulas were used in lieu of linear projections. However, for Land Use Code 826 there is no formula ITE formula available. A linear projection would result a total of 205 AM trips. Exhibit 8 shows a total of 27 AM peak hour trips. Please provide justification of the difference.**

*Response: Since ITE does not provide the rate nor the equation for LU 826 during the peak hour of the adjacent street, a ratio between the AM trips and PM trips for shopping center (LU 820) was used to calculate the AM trips for specialty retail land use. Furthermore the rate referenced in the comment above (6.84 trips / 1000 sq ft) which is provided by ITE for LU 826 for the AM peak hour of generator greatly over estimates trips during the morning peak period studied in the traffic analyses (7 - 9am).*

- 4. Parking:**

- a. How will parking for the retail uses be accommodated? Will they have access to the parking garage? Will there be signage to guide visitors to that parking?**

*Response: Customers and visitors to the Ground Floor commercial/retail locales will have access to the first level (2nd Floor) of parking and a total of 112 parking spaces; the entrance to the garage on Venera Ave. will be uncontrolled/ungated.*



**b. Will the proposed parking for the residents include a gated entrance? If so, a queuing analysis will be required.**

*Response: Parking for residents will be restricted and provided on the 3rd and 4th Floors, for a total of 244 spaces. The gate or access control will be placed at the entrance of the “up ramp” providing access from the 2nd Floor to the 3rd Floor.*

**5. Page 25 (5.0 Circulation Plan): Delivery vehicle area are shown on the plan in Appendix A to be provided from San Remo Avenue, rather than Venera Avenue as stated in the text. Please revise text.**

*Response: Section 5.0 of the report has been revised to correctly describe the loading area.*

**6. Page 26, Exhibit 14: The M-Path should be shown to the north of Dixie Hwy. rather than in the median of Dixie Hwy. Please revise.**

*Response: Exhibit 14 has been revised to show the M-Path to the north of Dixie Highway.*

**7. Page 27, Exhibit 15: Route 500 has stops on both sides of Dixie Hwy. near the SW 70th St. intersection with Dixie Hwy. Please note this in the text as complement to the other stops shown on the exhibit itself.**

*Response: Text has been added to Section 5.0 of the report stating that there are two bus stops along South Dixie Highway near SW 70<sup>th</sup> Street.*



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## EXECUTIVE SUMMARY

The Venera project will be located on the east side of Yumuri Street between Venera and San Remo Avenues in Coral Gables, Florida. The site is located within the Gables Re-development Infill District (GRID), the city's traffic concurrency exception area. The project proposes a new residential development with 189 dwelling units and 31,741 SF of retail space on the ground floor. The site is currently occupied by a 40-unit apartment building, a 47 unit condominium and 2,108 square feet of professional office. Access to and from the site will be provided on a two-way driveway located on Venera Avenue. The proposed parking garage provides 356 parking spaces. This traffic study is consistent with the methodology previously discussed with and agreed to by the City of Coral Gables Public Works Department. For the purpose of this traffic study, project buildout is anticipated in 2018.

An assessment of the traffic impacts associated with the proposed project was performed in accordance with the requirements of the City of Coral Gables. The results shows that the following intersections currently operate and are projected to operate within the city's LOS standards during the morning and afternoon peak periods:

- SW 57<sup>th</sup> Avenue (Red Road) / San Remo Avenue
- SW 57<sup>th</sup> Avenue (Red Road) / Madruga Avenue
- Madruga Avenue / Yumuri Street
- Venera Avenue / Yumuri Street
- Sunset Drive / Yumuri Street
- San Remo Avenue / Yumuri Street
- San Remo Avenue / Nervia Street
- Sunset Drive / Nervia Street

The analysis shows that the southwest movement at the un-signalized intersection of Red Road and Madruga Avenue is experiencing minor delays during the morning peak period. This is due to the fact that for un-signalized intersections the software tends to overestimate delay



measurements for the minor approaches and does not account for gaps in traffic created by the upstream signalized intersections to allow the minor street traffic flow. If the minor approach delays do reach the software estimates, observed behavior shows drivers will find alternate routes. As with the existing and future without project conditions, the minor approaches of the Red Road and San Remo Avenue intersection continue to experience delays. Minor signal timing adjustments are recommended to improve the overall operations and decrease delay at this intersection.

In addition, a mobility and circulation plan was completed as part of the study. The plan shows that the project area is currently served by various Miami-Dade Transit bus routes, and the Metrorail. The project is located in an area that is conducive for pedestrian and bicycle activities providing bike paths, ample sidewalks, and crosswalks.

## 1.0 INTRODUCTION

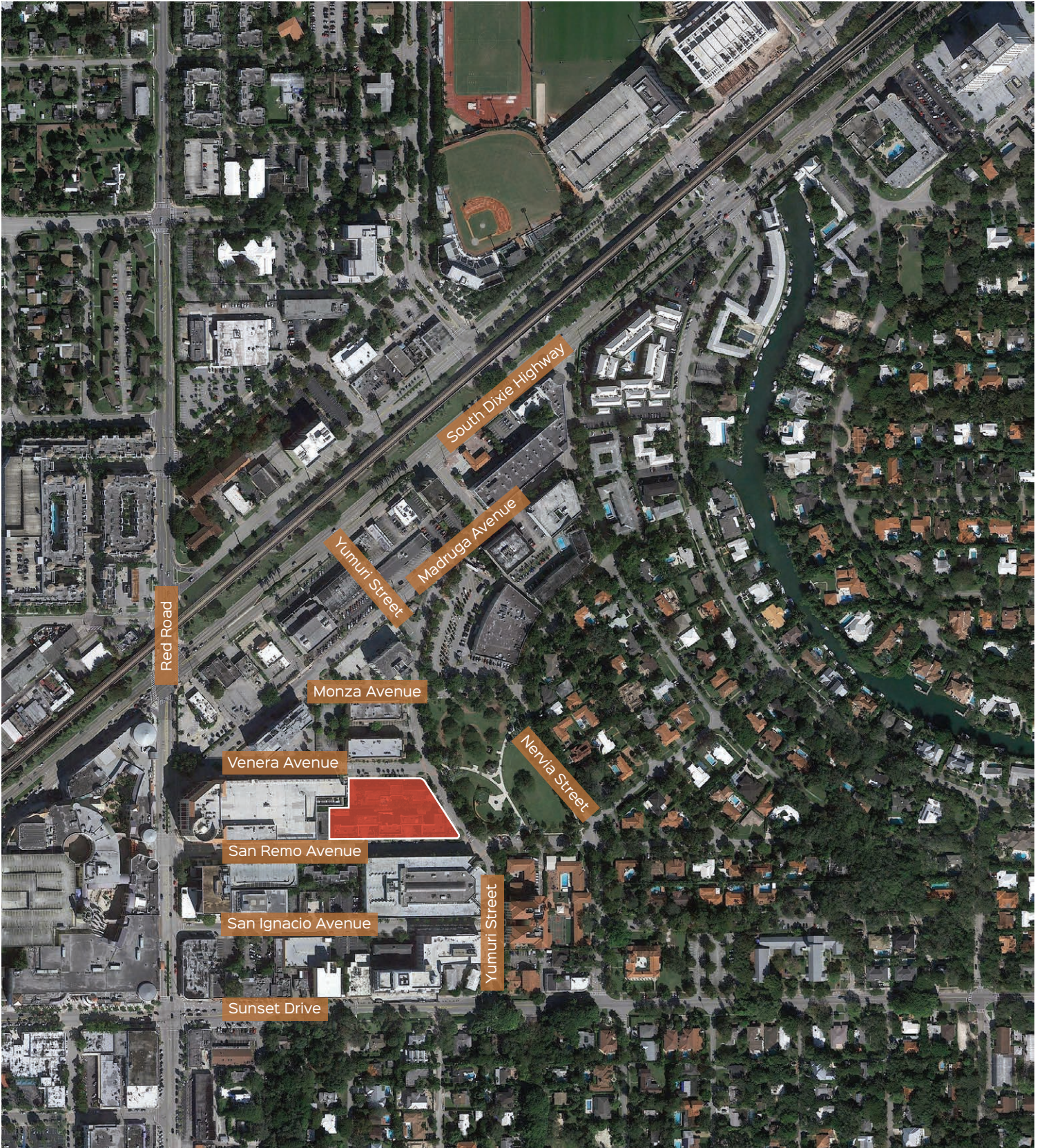
### 1.1 Project Background


The Venera project will be located on the east side of Yumuri Street between Venera and San Remo Avenues in Coral Gables, Florida (See Exhibit 1). The site is located within the Gables Re-development Infill District (GRID), the city's traffic concurrency exception area. The project proposes a new residential development with 189 dwelling units and 31,741 SF of retail space on the ground floor. The site is currently occupied by a 40-unit apartment building, a 47 unit condominium and 2,108 square feet of professional office. Access to and from the site will be provided on a two-way driveway located on Venera Avenue. The proposed parking garage provides 356 parking spaces. See Appendix A for site plan. This traffic study is consistent with the methodology previously discussed with and agreed to by the City of Coral Gables Public Works Department. For the purpose of this traffic study, project buildout is anticipated in 2018.

### 1.2 Study Objective

The purpose of the study is to provide a traffic study that meets the requirements of the City of Coral Gables for the project. This study includes vehicular flow, trip generation, and intersection analyses.





 Project Location

# Exhibit 1

## Location Map





### 1.3 Study Area and Methodology

The analysis undertaken follows the study methodology previously discussed with and approved by the City of Coral Gables Public Works Department (See Appendix B). A synopsis of the methodology is as follows:

- Traffic Counts (Intersections) – Two-hour turning movement counts were collected for the AM (7-9 AM) and PM (4-6 PM) periods on a typical weekday at the following intersections:
  - SW 57<sup>th</sup> Avenue (Red Road) / San Remo Avenue (S)
  - SW 57<sup>th</sup> Avenue (Red Road) / Madruga Avenue (U)
  - Madruga Avenue / Yumuri Street (U)
  - Venera Avenue / Yumuri Street (U)
  - Sunset Drive / Yumuri Street (S)
  - San Remo Avenue / Yumuri Street (U)
  - San Remo Avenue / Nervia Street (U)
  - Sunset Drive / Nervia Street (U)

S= Signalized

U=Un-signalized

- Signal Location and Timing – Existing signal phasing and timing for the signalized intersection were obtained from Miami-Dade County.
- Trip Generation – project trips were estimated using trip generation information published by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9<sup>th</sup> Edition.
- Trip Distribution / Trip Assignment – Net new external project traffic was assigned to the adjacent street network using the appropriate cardinal distribution from the Miami-Dade Long Range Transportation Plan Update, published by the Metropolitan Planning Organization. Normal traffic patterns were also considered when assigning project trips.



- Background Traffic - Available Florida Department of Transportation (FDOT) and Miami-Dade County (MDC) counts were be consulted to determine a growth factor consistent with historical annual growth in the area. The growth factor was applied to the existing traffic volumes to establish background traffic.
- Future Transportation Projects – The 2016 TIP and the 2040 LRTP was reviewed and considered in the analysis at project build-out.
- Committed Developments – Committed developments were provided by the city.
- Intersection analysis was done using Highway Capacity Software (HCS) based on the 2010 Highway Capacity Manual (HCM) or the Synchro software. Operation analysis at driveways providing access to/from the site was also conducted.
- Multimodal Considerations - Pedestrian, bicycle and transit facilities were defined in a Circulation Plan. Existing bus and mass transit routes including schedule and bus stop locations are discussed as part of the study.

## 2.0 DATA COLLECTION

Data collection for this study included roadway characteristics, intersection traffic counts, signal timing, and seasonal adjustment factors. The data collection effort is described in the following sections.

### 2.1 Roadway Characteristics

#### SW 57<sup>th</sup> Avenue (Red Road)

SW 57<sup>th</sup> Avenue is a minor arterial that provides north/south access throughout Miami-Dade County. Within the study area, SW 57<sup>th</sup> Avenue is a two-way, four-lane, divided roadway. On-street parking is provided on the east side of the roadway within the study area. Miami-Dade County has jurisdiction on this roadway. The speed limit is not posted within the study limits.

#### Venera Avenue

Venera Avenue is a local roadway that provides east/west access within the study area. Venera Avenue is a two-way, two-lane, undivided roadway with on-street parking on both sides of the roadway. The City of Coral Gables operates and maintains Venera Avenue. The posted speed limit is 30 mph.

#### Yumuri Street

Yumuri Street is a local roadway that provides north/south access within the study area. Yumuri Street is a two-way, two-lane, undivided roadway with on-street parking on both sides of the roadway. The City of Coral Gables operates and maintains Yumuri Street. The posted speed limit is 30 mph.

#### San Remo Avenue

San Remo Avenue is a local roadway that provides east/west access within the study area. San Remo Avenue is a two-way, two-lane, undivided roadway with on-street parking on both sides of

the roadway. The City of Coral Gables operates and maintains San Remo Avenue. The speed limit is not posted within the study limits; however, if not posted; the city's speed limit is 30 mph.

#### SW 72<sup>nd</sup> Street (Sunset Drive)

Within the study area, Sunset Drive is a minor arterial that provides east/west access throughout Miami-Dade County. Sunset Drive is a two-way, two-lane, undivided roadway with on-street parking on portions of the roadway within the study area. Miami-Dade County has jurisdiction on this roadway. The speed limit is not posted within the study limits; however, if not posted; the city's speed limit is 30 mph.

#### Madruga Avenue

Madruga Avenue is a local roadway that provides east/west access within the study area. Madruga Avenue is a two-way, two-lane, undivided roadway with on-street parking on both sides of the roadway. The City of Coral Gables operates and maintains Madruga Avenue. The speed limit is not posted within the study limits; however, if not posted; the city's speed limit is 30 mph.

#### Nervia Street

Nervia Street is a local roadway that provides north/south access within the study area. Nervia Street is a two-way, two-lane, undivided roadway with on-street parking on portion of the roadway. The City of Coral Gables operates and maintains Madruga Avenue. The speed limit is not posted within the study limits; however, if not posted; the city's speed limit is 30 mph.

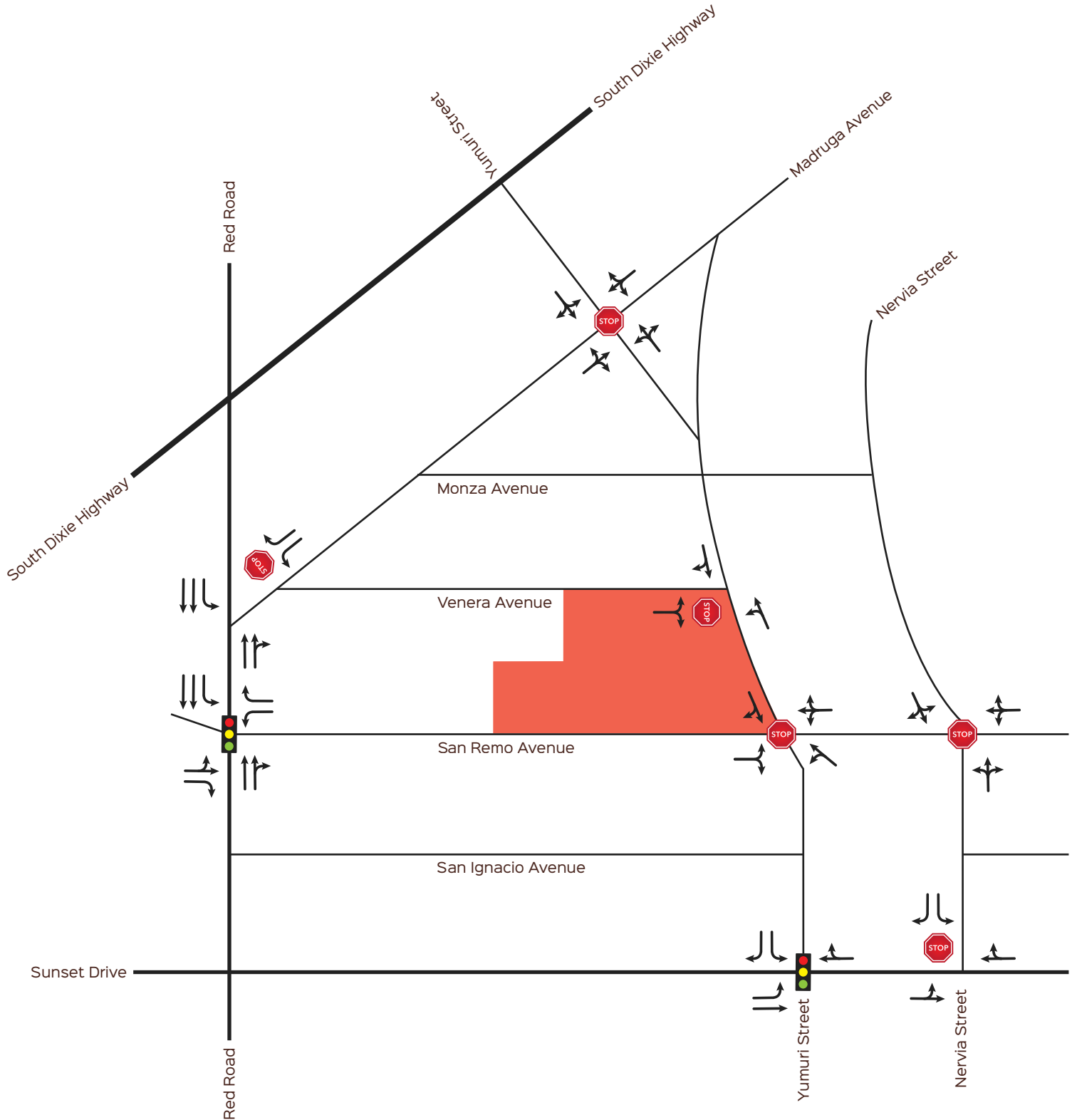


## **2.2 Traffic Counts**

Vehicle turning movement counts were collected on September 22, 2016 the study intersections during the AM (7-9 AM) and PM (4-6 PM) peak periods. The counts were adjusted to reflect average annual daily traffic conditions using the latest weekly volume adjustment factors obtained from FDOT. A weekly volume adjustment factor (Miami-Dade County South) of 1.01 corresponding to the date of the counts was used. Traffic counts are provided in Appendix C.

## **2.3 Intersection Data**

Signal timing data was obtained from Miami-Dade County for the signalized intersections analyzed in this study. This information was used for the signal phasing and timing required for the intersection capacity analysis. A field survey was also conducted to obtain the intersection lane configurations to be used in the intersection analysis. Exhibit 2 shows the existing lane configurations at the analyzed intersections. Existing volumes for the morning and afternoon peak period at the intersections analyzed are shown in Exhibit 3. Signal timings are also provided in Appendix C.

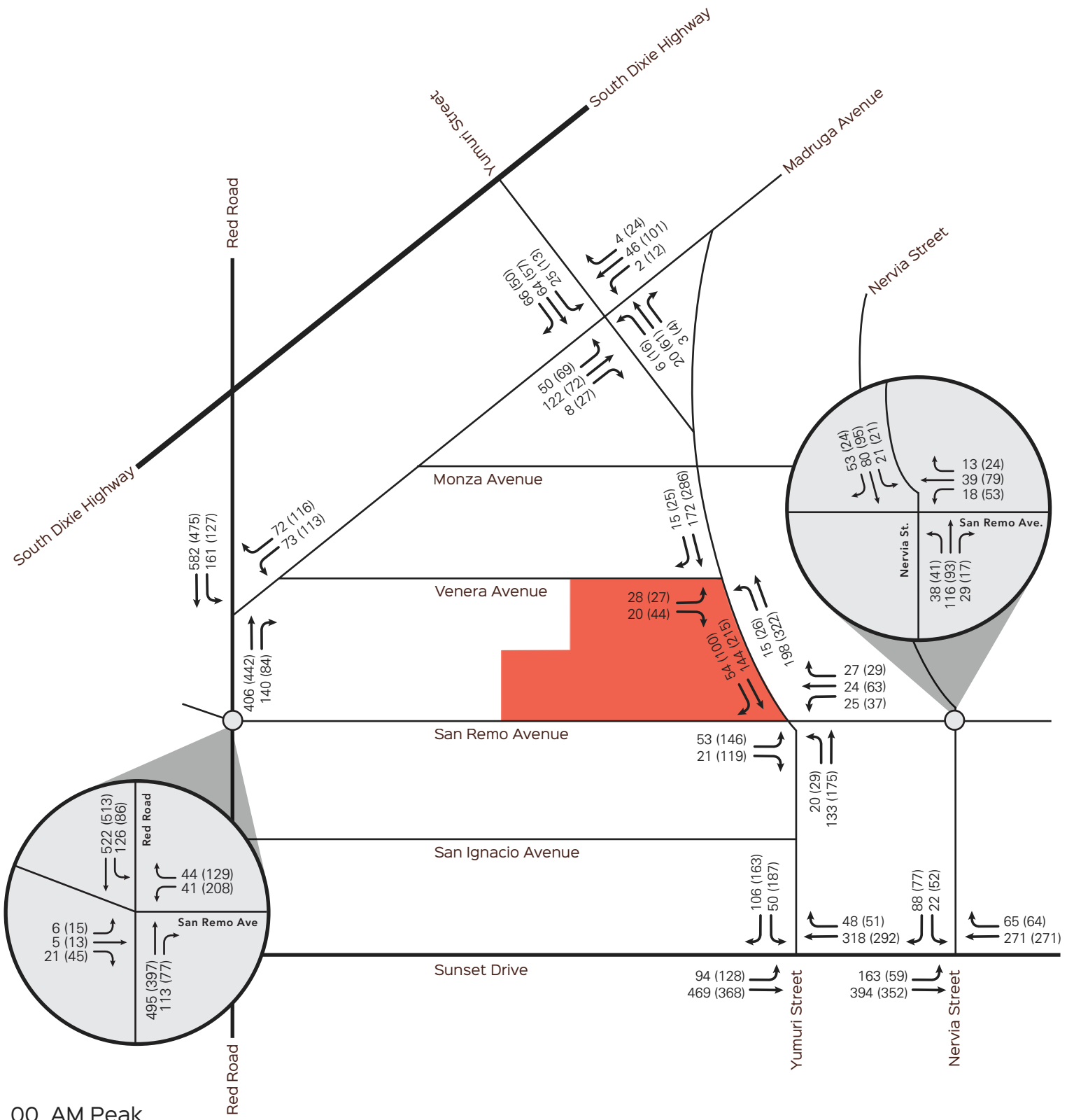


 Project Location

# Exhibit 2

## Existing Lane Configuration







## **2.4 Walking / Other Modes of Transportation**

Pedestrian activity is an essential element within the study area. The project site is located in an area where pedestrian activity is common between the existing site and surrounding properties. The following destinations, amongst others, are within walking distance of the project:

The Shops at Sunset Place – directly west of Red Road

Whole Food Market – directly west of project site

Publix Super Market – just north on Monza Avenue

William H Kerdyk Jr and Family Park – directly east of Yumuri Street

This area is also serviced by Miami-Dade transit bus routes. The South Miami and University Metrorail stations are also within walking distance. See Section 5.0 of this report for the circulation plan including details on pedestrian access and available transit.

## **2.5 Intersection Capacity Analysis**

The Synchro software was used to perform intersection capacity analysis at the analyzed intersections. Synchro is a macroscopic analysis and optimization software application that implements the Intersection Capacity Utilization method for determining intersection capacity. Synchro also supports the Highway Capacity Manual's methodology for signalized / un-signalized intersections. Exhibit 4 shows the resulting LOS for existing conditions during morning and afternoon peak periods. The results of the analysis show that all the intersections currently operate within the city's LOS standards. It should be noted that the eastbound approach of the Red Road and San Remo Avenue intersection is a private driveway and was not included in the intersection capacity analysis. Results also show that the minor approaches of the Red Road and San Remo Avenue intersection are currently experiencing delays. This is due to the fact that for un-signalized intersections the software tends to overestimate delay measurements for the minor approaches and does not account for gaps in traffic created by the upstream signalized intersections to allow the minor street traffic flow. If the minor approach delays do reach the software estimates, observed

behavior shows drivers will find alternate routes. Intersection capacity analysis worksheets are included in Appendix D.

**Exhibit 4: Existing Intersection Capacity Analysis  
Weekday AM and PM Peak Period Conditions**

Intersection	Signalized/ Unsignalized	Direction	AM Peak		PM Peak		LOS Standard*
			LOS	DELAY (sec)	LOS	DELAY (sec)	
SW 57 <sup>th</sup> Avenue (Red Road) / San Remo Avenue	S	NB	A	3.6	A	4.6	E
		SB	A	3.6	A	4.7	E
		EB	F	90.6	F	90.2	E + 50
		WB	E	78.1	F	201.2	E + 50
		<i>Overall</i>	<b>B</b>	<b>10.2</b>	<b>D</b>	<b>53.5</b>	<b>E + 50</b>
SW 57 <sup>th</sup> Avenue (Red Road) / Madruga Avenue	U	SWB	E	37.5	D	27.6	E + 50
Madruga Avenue / Yumuri Street	U	NB	A	9.1	A	9.4	E + 50
		SB	A	8	A	8.9	E + 50
		EB	A	8.6	A	8.8	E
		WB	A	8	A	8.8	E
Venera Avenue / Yumuri Street	U	EB	B	11.9	B	13.4	E
San Remo Avenue / Yumuri Street	U	NB	A	9.3	B	11.3	E
		SB	A	9.4	B	13.2	E
		EB	A	8.8	B	12.5	E
		WB	A	8.7	B	10.5	E
Sunset Drive / Yumuri Street	S	SB	C	22.3	C	32.3	E
		EB	A	8.3	A	4.9	E
		WB	B	13.4	A	9.3	E
		<i>Overall</i>	<b>B</b>	<b>12.0</b>	<b>B</b>	<b>14.2</b>	<b>E</b>
San Remo Avenue / Nervia Street	U	NB	A	9.9	A	8.8	E
		SB	A	9.5	A	8.6	E
		WB	A	9.1	A	9.1	E
Sunset Drive / Nervia Street	U	SB	C	15.3	B	14.1	E

Source: David Plummer & Associates

\*LOS standard is based on the city's Comprehensive Plan (E +50 for parallel roads within ½ mile of commuter rails).

### **3.0 PLANNED AND PROGRAMED ROADWAY IMPROVEMENTS**

The 2016 Miami-Dade County Transportation Improvement Program (TIP) and the 2040 Long Range Transportation Program (LRTP) were reviewed to identify any programmed or planned projects within the limits of the study area established. These documents show no officially programmed or planned capacity improvement projects within the study area.

## 4.0 FUTURE TRAFFIC CONDITIONS

### 4.1 Background Traffic and Committed Developments

Average Daily Traffic counts published by the Miami-Dade Public Works Department and the FDOT were reviewed to determine historic growth in the area. This analysis indicated that traffic has decreased in the past years. However, a conservative 0.5% annual growth rate was used for this study. Historic growth rate documentation is included in Appendix C.

Three committed developments in the vicinity of the project site were considered for estimating future traffic volumes in this study: Paseo de la Riviera, 1515 Sunset Drive, and UHealth. Exhibit 5 provides a tabulation of AM and PM peak hour trips generated by the committed development, along with the approved land uses. Committed development information is included in Appendix E.

**Exhibit 5: Committed Development AM and PM Peak Trip Generation\***

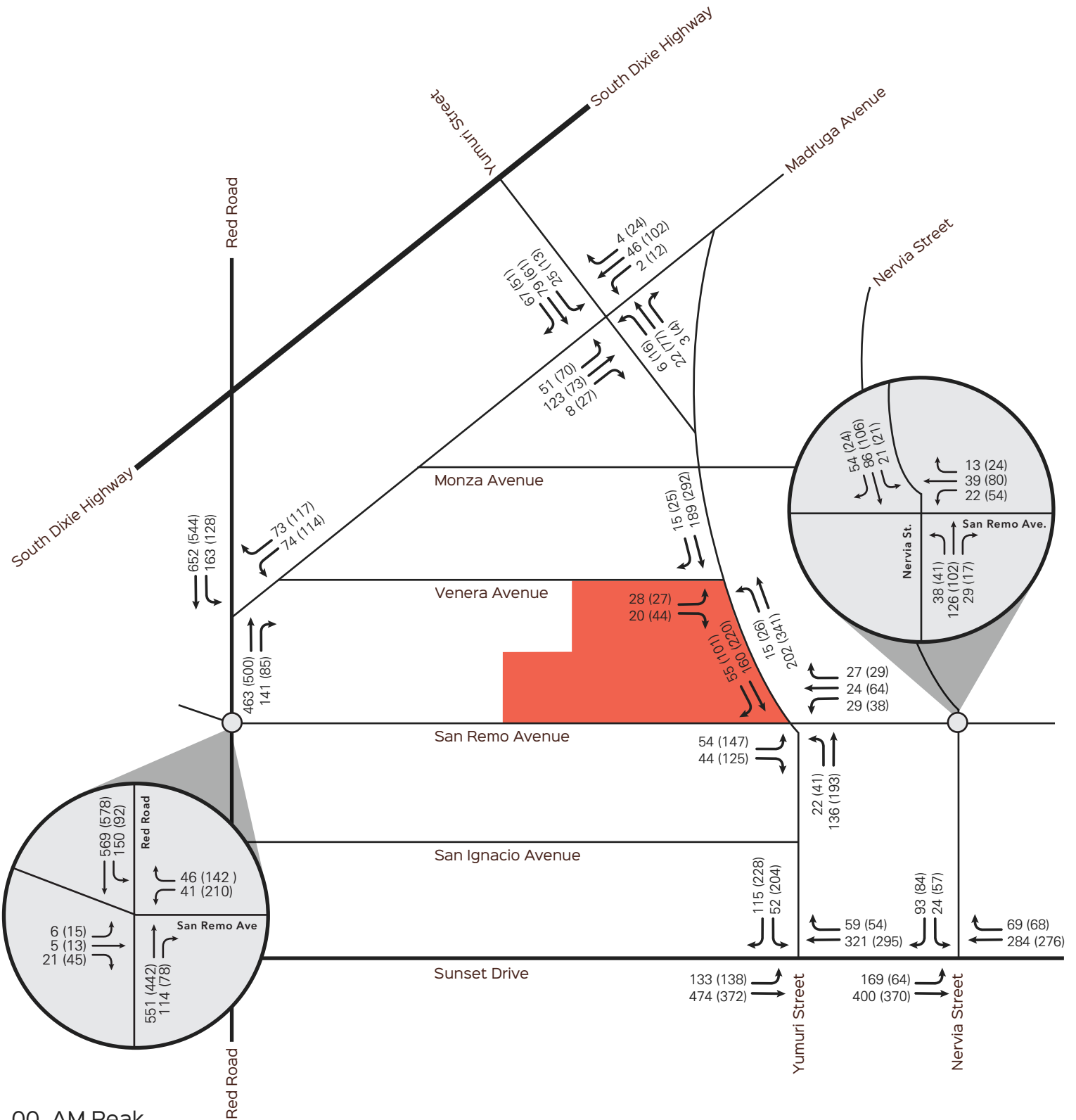
Project	ITE Land Use	Size/Units	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
			In	Out	Total	In	Out	Total
1515 Sunset	Office Building (Land Use 710)	61,539 SF	114	16	130	25	122	147
Paseo de la Riviera	Apartments (Land Use 223)	236 DU	21	50	71	54	38	92
	Hotel (Land Use 310)	252 Rooms	78	56	134	78	73	151
	Restaurant (Land Use 931)	4,380 SF	0	0	0	22	11	33
	Specialty Retail (Land Use 826)	14,094 SF	0	0	0	17	21	38
UHealth Gables	Medical Offices/ Surgery/ Imaging (Land Use 720)	114,580 SF	216	58	274	92	237	329
	Clinic (Land Use 630)	74,825 SF	255	68	323	105	283	388

\* Committed development documentation is included in Appendix E.



## **4.2 Future without Project Intersection Capacity Analysis**

Future without project conditions was obtained by adding background traffic with committed development trips. Exhibit 6 shows the projected turning movements for future without project traffic. Exhibit 7 shows the resulting LOS for morning and afternoon peak conditions for future without project. The overall LOS of all intersections continues to be within the city's LOS standards. The minor approaches of the Red Road and San Remo Avenue intersection continue to experience delays. Capacity worksheets are included in Appendix D.



00 AM Peak  
 (00) PM Peak

■ Project Location

# Exhibit 6

## Future Without Project AM & PM Peak Period Traffic Volumes



**Exhibit 7: Future without Project Intersection Capacity Analysis  
Weekday AM and PM Peak Period Conditions**

Intersection	Signalized/ Unsignalized	Direction	AM Peak		PM Peak		LOS Standard*
			LOS	DELAY (sec)	LOS	DELAY (sec)	
SW 57 <sup>th</sup> Avenue (Red Road) / San Remo Avenue	S	NB	A	3.7	A	4.7	E
		SB	A	3.8	A	4.8	E
		EB	F	90.6	F	90.2	E + 50
		WB	E	78.1	F	200.2	E + 50
		<i>Overall</i>	<b>A</b>	<b>9.9</b>	<b>D</b>	<b>51.2</b>	<b>E + 50</b>
SW 57 <sup>th</sup> Avenue (Red Road) / Madruga Avenue	U	SWB	E	48.5	E	36.4	E + 50
Madruga Avenue / Yumuri Street	U	NB	A	9.1	A	9.5	E + 50
		SB	A	8.1	A	9.1	E + 50
		EB	A	8.8	A	8.9	E
		WB	A	8	A	9	E
Venera Avenue / Yumuri Street	U	EB	B	12.2	B	13.6	E
San Remo Avenue / Yumuri Street	U	NB	A	9.6	B	12.5	E
		SB	A	9.9	B	13.8	E
		EB	A	9.1	B	13.1	E
		WB	A	8.9	B	10.9	E
Sunset Drive / Yumuri Street	S	SB	C	22.3	C	27.3	E
		EB	A	8.4	A	7.5	E
		WB	B	13.7	B	13.1	E
		<i>Overall</i>	<b>B</b>	<b>12.2</b>	<b>B</b>	<b>15.5</b>	<b>E</b>
San Remo Avenue / Nervia Street	U	NB	B	10.2	A	9	E
		SB	A	9.8	A	8.8	E
		WB	A	9.2	A	9.2	E
Sunset Drive / Nervia Street	U	SB	C	16.1	B	14.8	E

Source: David Plummer & Associates

\*LOS standard is based on the city's Comprehensive Plan (E +50 for parallel roads within ½ mile of commuter rails).

### **4.3 Project Trip Generation**

Trip generation for the proposed project and the existing use was estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition. This manual provides gross trip generation rates and/or equations by land use type. These rates and equations estimate vehicle trip ends at a free-standing site's driveways. See Appendix F for project trip generation worksheets.

The proposed development plan incorporates residential and retail land uses, which can satisfy the work trip, dining, and retail needs for some residents, employees, and visitors without making a trip off-site. An internalization matrix was developed to establish the appropriate number of internal project trips. Internal capture rates used are also included in Appendix F.

As previously mentioned, the project site is located in an area where pedestrian activity is common between the existing site and surrounding properties. The University and South Miami Metrorail stations are within walking distance. This area is also serviced by Miami-Dade transit bus routes (see Section 5.0 of this report for the circulation plan including details on pedestrian access and available transit). A 10% adjustment was applied to the trip generation of the existing and proposed uses to account for other modes of transportation. The project trip generation summary is provided in Exhibit 8.

### Exhibit 8: Project Trip Generation Summary

Proposed ITE Land Use Designation <sup>1</sup>	Size/Units	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
		In	Out	Total	In	Out	Total
Residential Condominium (Land Use 230)	189 DU	15	71	86	68	33	101
Specialty Retail (Land Use 826)	31,741 SF	17	10	27	43	55	98
Subtotal Gross Trips		32	81	113	111	88	199
Transit/Pedestrian Trips	10%	-4	-8	-11	-9	-7	-16
Internalization <sup>2</sup>	AM 1.80% PM 18.1%	-1	-1	-2	-18	-18	-36
<b>Net External Trips (Proposed)</b>		<b>27</b>	<b>72</b>	<b>100</b>	<b>84</b>	<b>63</b>	<b>147</b>

Existing ITE Land Use Designation <sup>1</sup>	Size/Units	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
		In	Out	Total	In	Out	Total
Apartment (Land Use 220)	40 DU	5	18	23	26	14	40
Residential Condominium (Land Use 230)	47 DU	5	23	28	21	11	32
Office (Land Use 710)	2,108 SF	3	0	3	1	2	3
Subtotal Gross Trips		13	41	54	48	27	75
Transit/Pedestrian Trips	10%	-1	-4	-5	-5	-3	-8
<b>Net External Trips (Existing)</b>		<b>12</b>	<b>37</b>	<b>49</b>	<b>43</b>	<b>24</b>	<b>67</b>

Proposed Uses	27	72	100	84	63	147
Existing Uses	-12	-37	-49	-43	-24	-67
<b>Net New External Trips</b>	<b>15</b>	<b>35</b>	<b>51</b>	<b>41</b>	<b>39</b>	<b>80</b>

<sup>1</sup> Based on ITE Trip Generation Manual, Ninth Edition,

<sup>2</sup> Based on ITE Trip Generation Manual User's Guide and Handbook, Ninth Edition



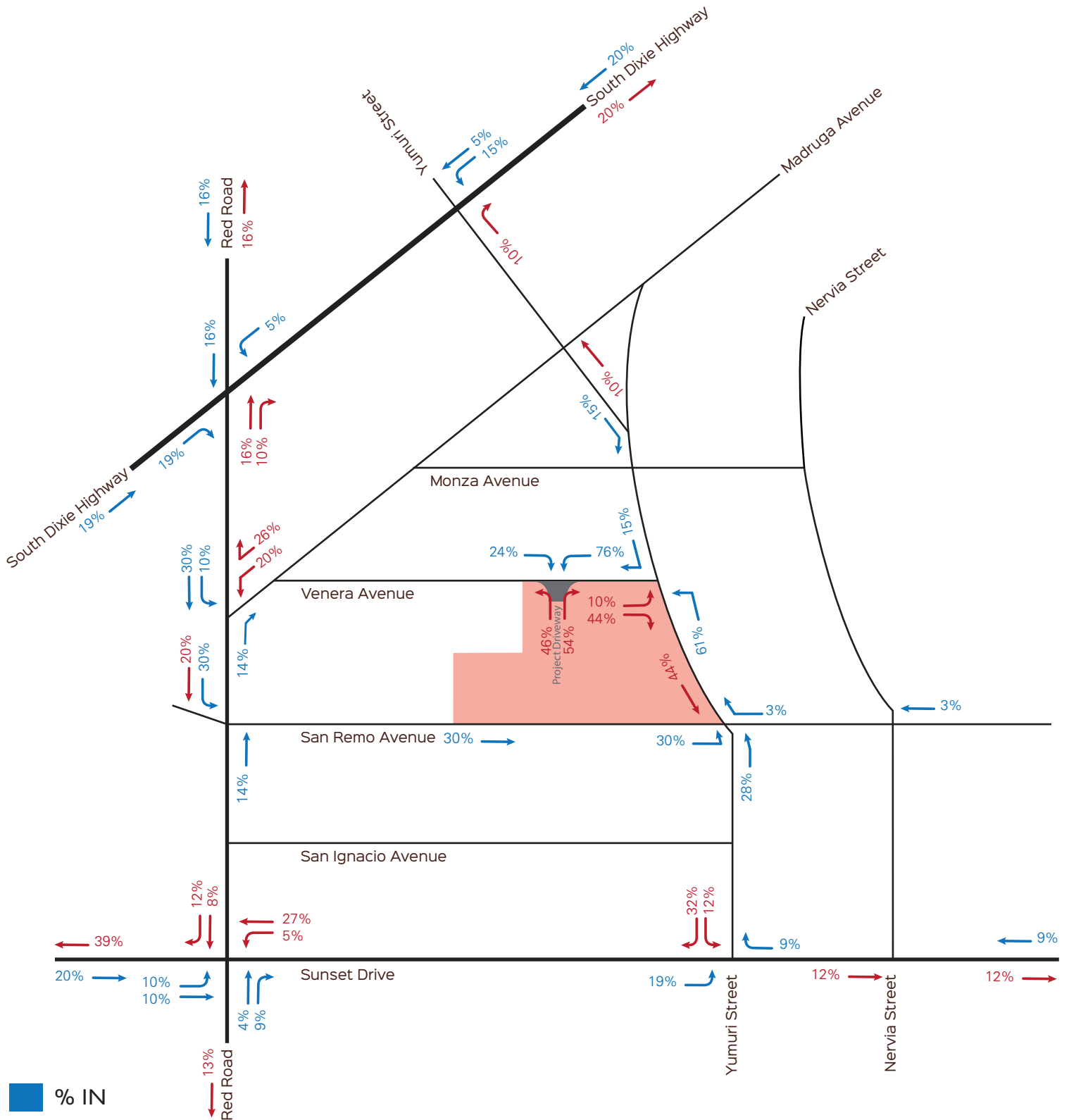
## 4.4 Project Trip Assignment

Project traffic was distributed and assigned to the study area using the Cardinal Distribution for TAZ 1103 shown in Exhibit 9. The Cardinal Distribution gives a generalized distribution of trips from a TAZ to other parts of Miami-Dade County. The distribution can be summarized as follows: 35.91% to the north, 12.65% to the south, 12.28% to the east, and 39.31% to the west. For estimating trip distribution for the project traffic, consideration was given to conditions such as the roadway network accessed by the project traffic, roadways available to travel in the desired direction, and attractiveness of traveling on a specific roadway. Project trip distribution and project trip assignment for the proposed project is shown in Exhibit 10 and Exhibit 11, respectively.

**Exhibit 9: Cardinal Distribution  
(TAZ 1103)**

Direction	Distribution
NNE	22.54%
ENE	10.51%
ESE	1.77%
SSE	1.50%
SSW	11.15%
WSW	27.57%
WNW	11.74%
NNW	13.37%
Total	100.00%

Source: Miami-Dade Long Range Transportation Plan

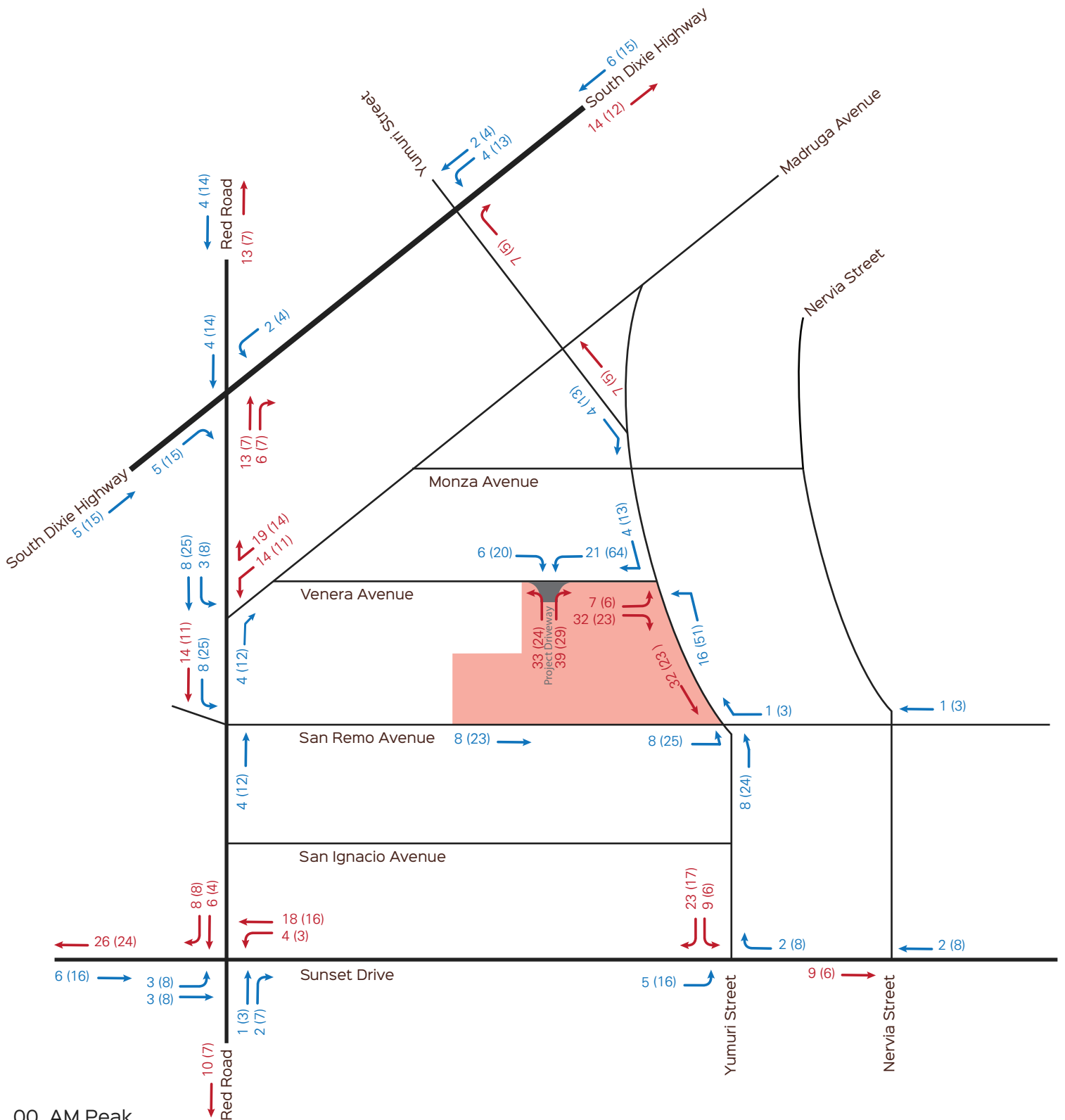


- % IN
- % OUT
- Project Location

# Exhibit 10

## Project Trip Distribution





00 AM Peak  
(00) PM Peak

Project Location

# Exhibit 11

## Project Trip Assignment

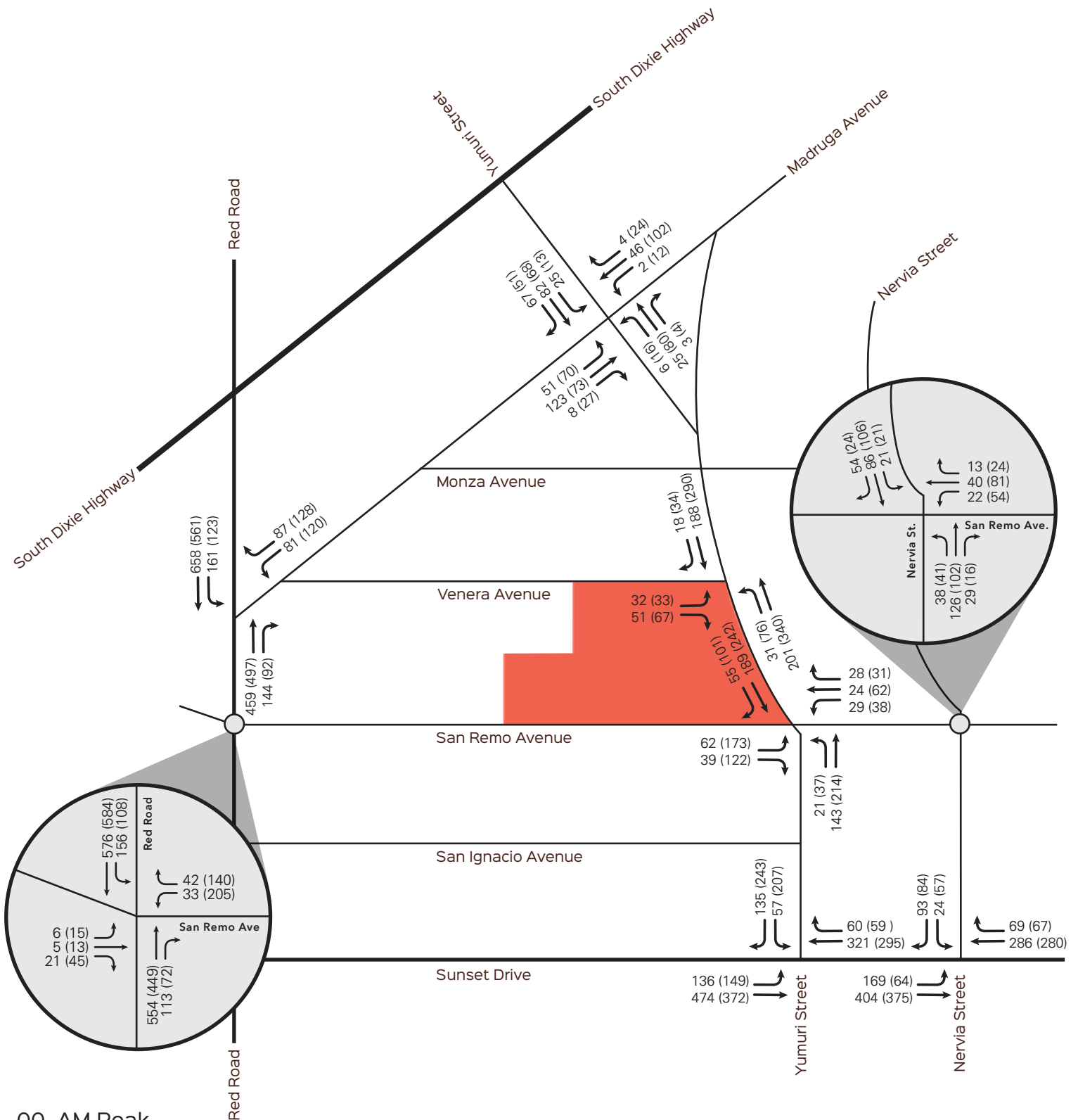


## 4.5 Future With Project Intersection Capacity Analysis

The trip assignments in the previous section, traffic projections for the project, committed developments and background growth were combined to obtain future traffic with project at the analyzed intersections. Exhibit 12 shows the projected turning movement volumes for future with project. Exhibit 13 shows the resulting LOS for the morning and afternoon peak conditions for future with project. The overall LOS of all intersections analyzed is currently and projected to be within the city's LOS standard during the morning and afternoon peak periods. Capacity worksheets are included in Appendix D.

The analysis shows that the southwest movement at the un-signalized intersection of Red Road and Madruga Avenue is experiencing minor delays during the morning peak period. This is due to the fact that for un-signalized intersections the software tends to overestimate delay measurements for the minor approaches and does not account for gaps in traffic created by the upstream signalized intersections to allow the minor street traffic flow. If the minor approach delays do reach the software estimates, observed behavior shows drivers will find alternate routes. As with the existing and future without project conditions, the minor approaches of the Red Road and San Remo Avenue intersection continue to experience delays. Minor signal timing adjustments are recommended to improve the overall operations and decrease delay at this intersection.

It should be noted that the proposed project is located within the City of Coral Gables Redevelopment and Infill District (GRID), which is a Transportation Concurrency Area established by the city to promote development within its boundaries. In essence, this ordinance establishes that roadways within the geographical area of the GRID are exempt from the citywide traffic LOS Standards.



**Exhibit 13: Future with Project Intersection Capacity Analysis  
Weekday AM and PM Peak Period Conditions**

Intersection	Signalized/ Unsignalized	Direction	AM Peak		PM Peak		LOS Standard*
			LOS	DELAY (sec)	LOS	DELAY (sec)	
SW 57 <sup>th</sup> Avenue (Red Road) / San Remo Avenue <sup>(1)</sup>	S	NB	A	3.5	A	6.3	E
		SB	A	3.6	A	6.5	E
		EB	E + 13	90.6	E + 13	90.2	E + 50
		WB	E	78.4	E + 40	111.6	E + 50
		<i>Overall</i>	<b>A</b>	<b>9.1</b>	<b>C</b>	<b>32.4</b>	<b>E + 50</b>
SW 57 <sup>th</sup> Avenue (Red Road) / Madruga Avenue	U	SWB	F	52.1	E	37.8	E + 50
Madruga Avenue / Yumuri Street	U	NB	A	9.2	A	9.6	E + 50
		SB	A	8.1	A	9.1	E + 50
		EB	A	8.8	A	9	E
		WB	A	8.1	A	9.1	E
Venera Avenue / Yumuri Street	U	EB	B	12.4	C	15.4	E
San Remo Avenue / Yumuri Street	U	NB	A	9.8	B	13.6	E
		SB	B	10.6	C	15.5	E
		EB	A	9.4	B	14.7	E
		WB	A	9.1	B	11.4	E
		<i>Overall</i>	<b>A</b>	<b>10.0</b>	<b>B</b>	<b>14.3</b>	<b>E</b>
Sunset Drive / Yumuri Street	S	SB	C	22.3	C	26.9	E
		EB	A	8.4	A	7.5	E
		WB	B	13.7	B	13.1	E
		<i>Overall</i>	<b>B</b>	<b>12.4</b>	<b>B</b>	<b>15.6</b>	<b>E</b>
San Remo Avenue / Nervia Street	U	NB	B	10.4	A	8.9	E
		SB	A	9.8	A	8.8	E
		WB	A	9.3	A	9.2	E
Sunset Drive / Nervia Street	U	SB	C	16.3	B	14.9	E
Project Driveway / Venera Avenue	U	NB	A	9.2	A	9.8	N/A

Source: David Plummer & Associates

\*LOS standard is based on the city's Comprehensive Plan (E +50 for parallel roads within ½ mile of commuter rails).

(1) PM Peak LOS with Signal Timing Improvements.

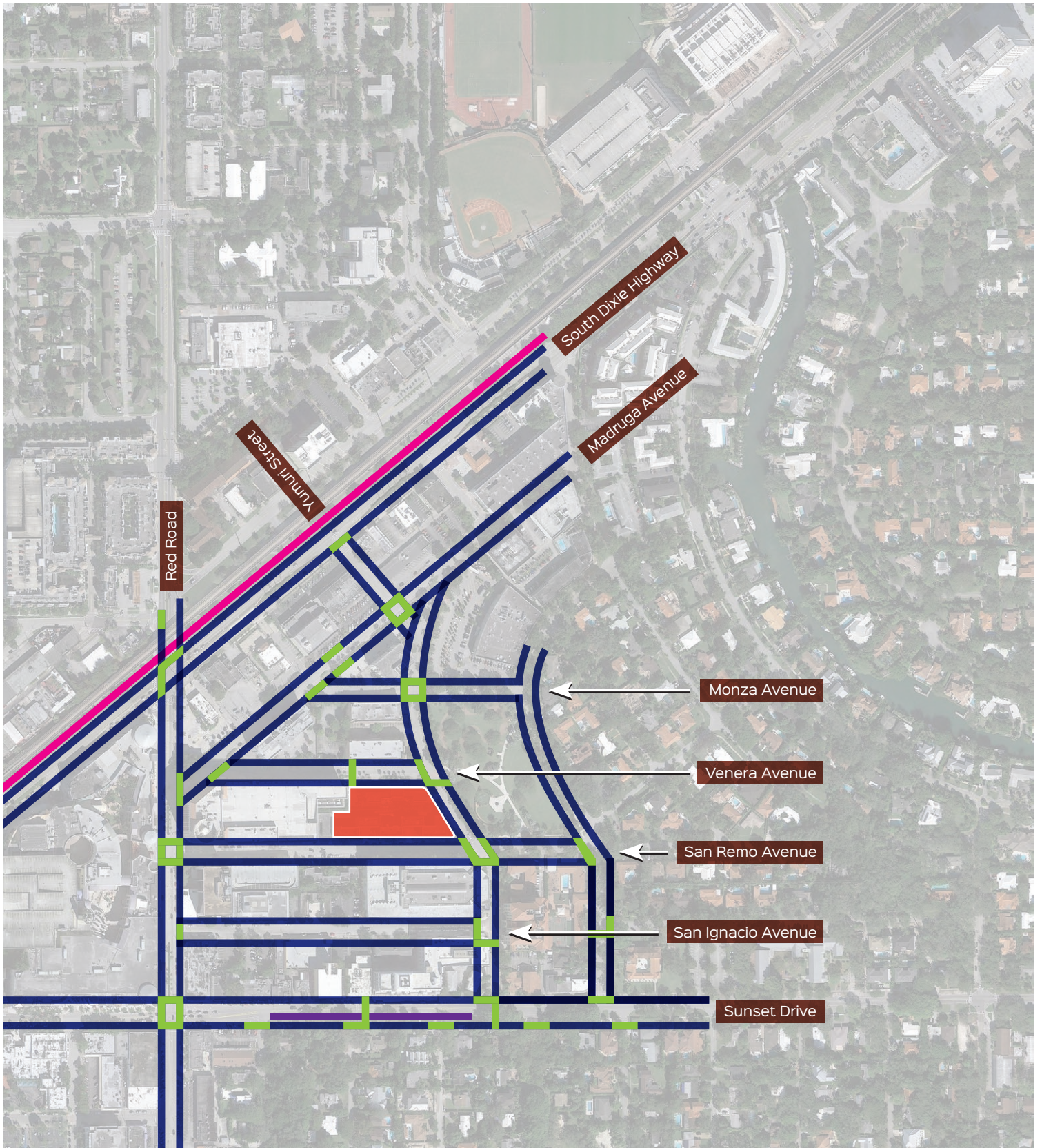


## 5.0 CIRCULATION PLAN

As mentioned before, access to and from the site will be provided on a two-way driveway located on Venera Avenue. The delivery truck load/off-load areas is will be accessed via San Remo Avenue. The project will provide ample sidewalks along the principle, side and rear frontage of the site. It will also provide ground level pedestrian access at two separate lobby entrances (one on San Remo Avenue and one on Venera Avenue), retail space entrances on Venera Avenue and Yumuri Street, and residential units on San Remo Avenue.

The project is located in an area that is conducive for pedestrian activities. South Dixie Highway, Red Road, San Remo Avenue, Venera Avenue, SW 72<sup>nd</sup> Street, Nervia Street, Yumuri Street, and Madruga Avenue provide sidewalks on both sides of the road. Furthermore there is a midblock crosswalk located at the west end of the project site on Venera Avenue. Signalized intersections adjacent to the site have clearly marked crosswalks and provide pedestrian signals. A bike path is provided under the elevated Metrorail (M-Path) and bike lines are provided along SW 72<sup>nd</sup> Street. A circulation and mobility plan was prepared for the site (see Exhibit 14). The plan shows the project driveways, location of street signals, delivery areas, sidewalk connections, and pedestrian crosswalks.

The area surrounding the project is served by transit. There are three Miami Dade transit bus routes (Route 37, 57 and 500) that traverse this area of Coral Gables. The closest bus stops to the project site are located on Sunset Drive, Red Road at Yumuri Street. It should be noted that Route 500 has stops on both sides of South Dixie Highway near the SW 70<sup>th</sup> Street. This project is located between two Metrorail Stations, approximately 0.8 miles south of the University Station and 0.3 miles north of the South Miami Station. Both the Metrorail Orange and Green line provide service to these stations. Exhibit 15 shows the available bus routes and bus stops in the area. Appendix G shows the bus route maps and schedules.



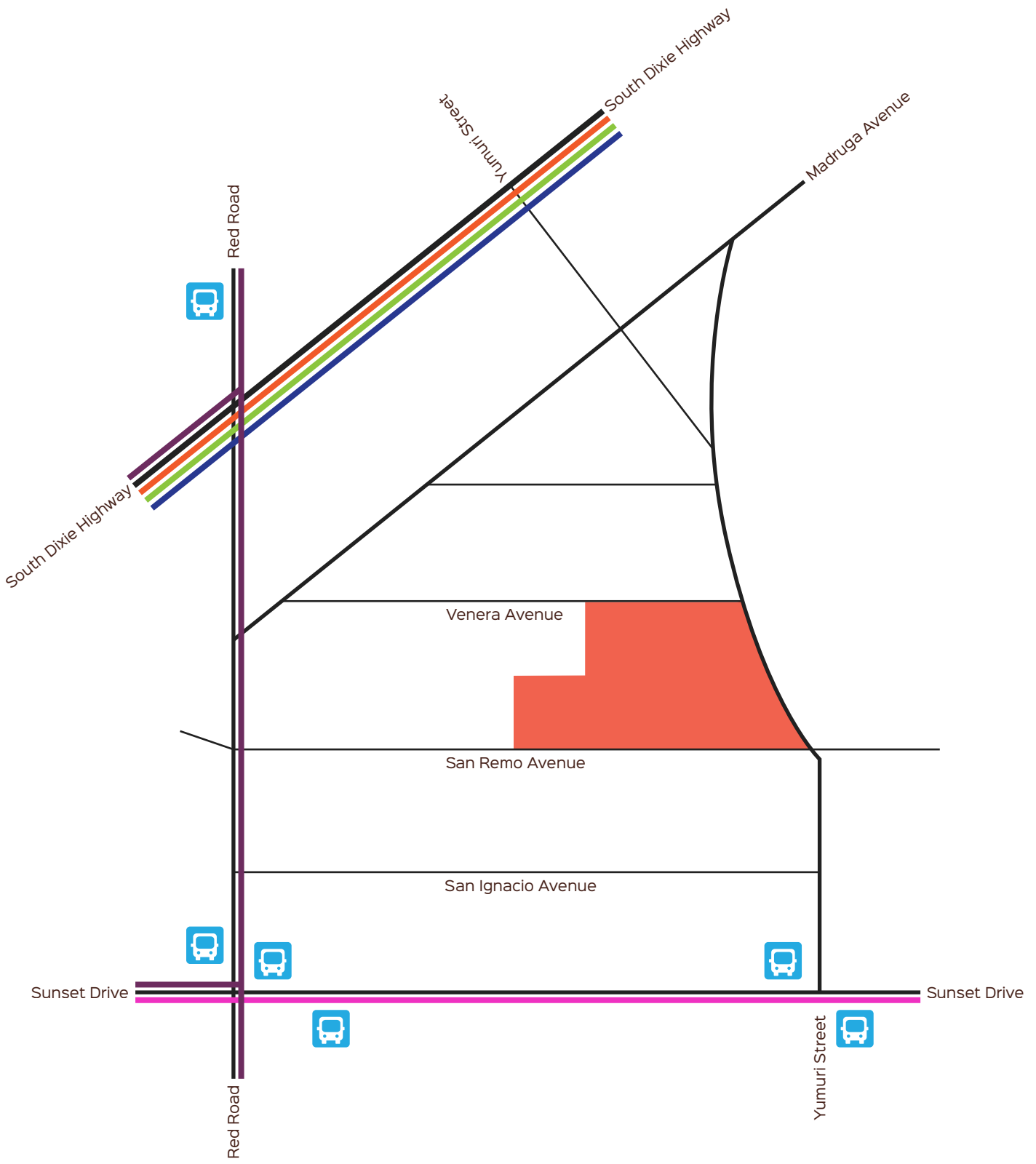
- Project Location
- Sidewalks
- Bike Lane
- Crosswalks
- M Path

# Exhibit 14

## Circulation Plan - Mobility







■ Project Location

# Exhibit 15

## Circulation Plan - Bus Routes

Bus Routes	
<span style="color: purple;">—</span>	Route 37
<span style="color: pink;">—</span>	Route 57
<span style="color: blue;">—</span>	Route 500

Metrorail	
<span style="color: orange;">—</span>	Orange Line
<span style="color: green;">—</span>	Green Line



## 6.0 CONCLUSIONS

An assessment of the traffic impacts associated with the proposed project was performed in accordance with the requirements of the city of Coral Gables. The results shows that the following intersections currently operate and are projected to operate within the city's LOS standards during the morning and afternoon peak periods:

- SW 57<sup>th</sup> Avenue (Red Road) / San Remo Avenue
- SW 57<sup>th</sup> Avenue (Red Road) / Madruga Avenue
- Madruga Avenue / Yumuri Street
- Venera Avenue / Yumuri Street
- Sunset Drive / Yumuri Street
- San Remo Avenue / Yumuri Street
- San Remo Avenue / Nervia Street
- Sunset Drive / Nervia Street

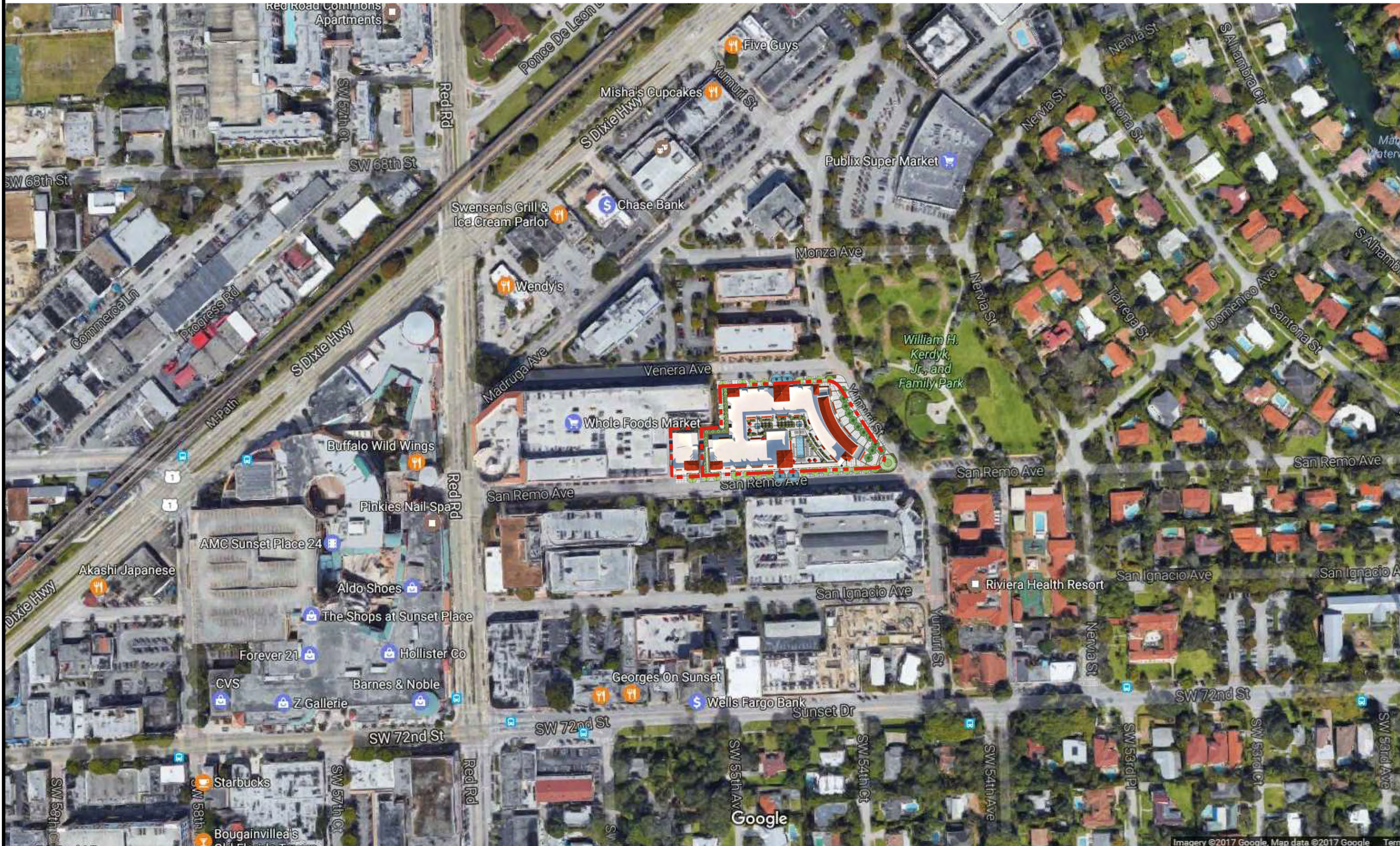
The analysis shows that the southwest movement at the un-signalized intersection of Red Road and Madruga Avenue is experiencing minor delays during the morning peak period. This is due to the fact that for un-signalized intersections the software tends to overestimate delay measurements for the minor approaches and does not account for gaps in traffic created by the upstream signalized intersections to allow the minor street traffic flow. If the minor approach delays do reach the software estimates, observed behavior shows drivers will find alternate routes. As with the existing and future without project conditions, the minor approaches of the Red Road and San Remo Avenue intersection continue to experience delays. Minor signal timing adjustments are recommended to improve the overall operations and decrease delay at this intersection.

In addition, a mobility and circulation plan was completed as part of the study. The plan shows that the project area is currently served by various Miami-Dade Transit bus routes, and the Metrorail. The project is located in an area that is conducive for pedestrian and bicycle activities providing a bike paths, ample sidewalks, and crosswalks.

# **Appendix A**

## **Site Plan**





FULL BLOCK SITE PLAN



VENERA

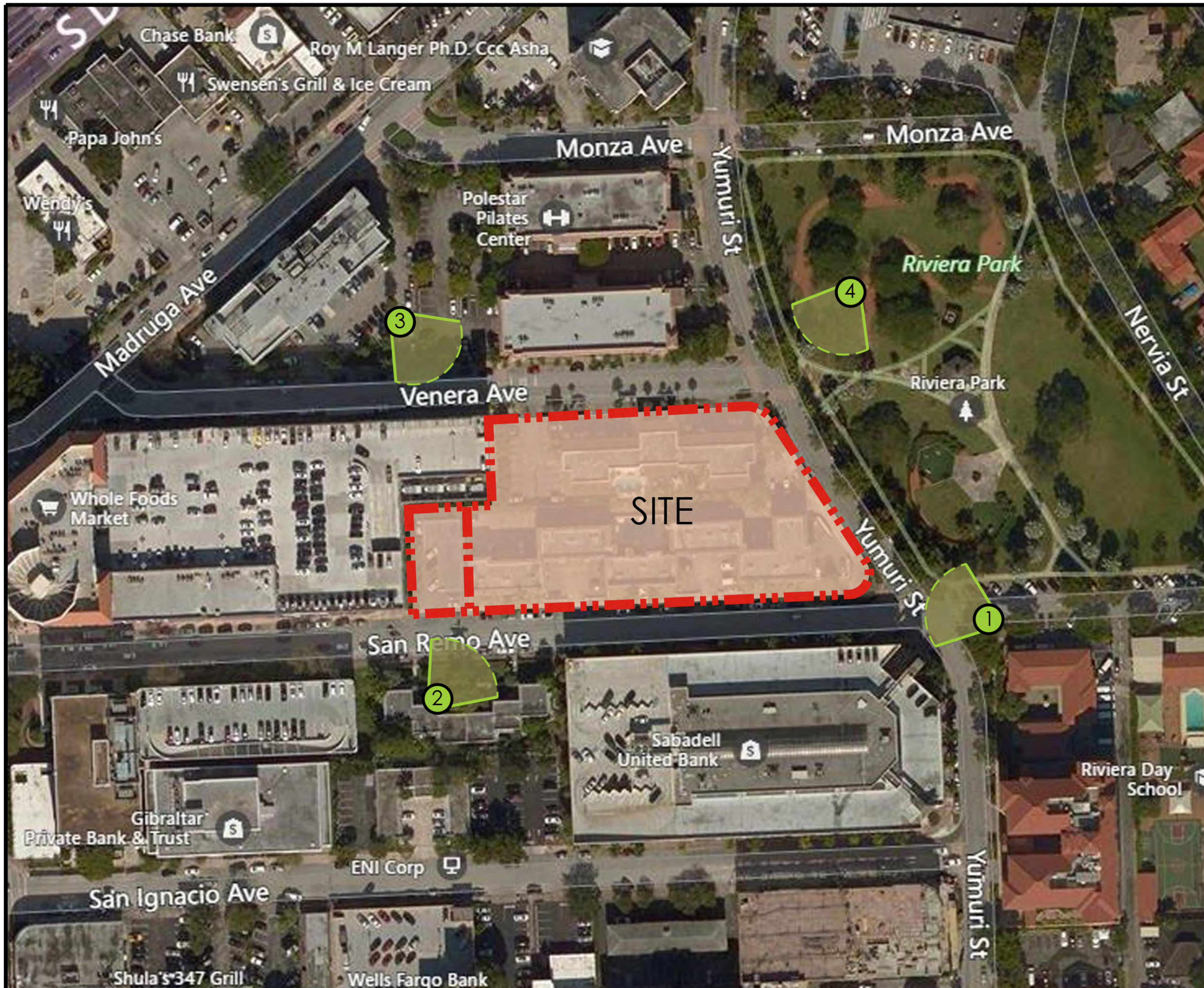
1500 VENERA AVE, 33146  
 1515 SAN REMO AVE, 33146  
 CORAL GABLES, FL

SHOMA

PLANNING AND ZONING  
 BOARD SUBMITTAL  
 08-07-2017  
 1ST COMMISSION MEETING  
 02-13-2018

FULL BLOCK  
 SITE PLAN





AERIAL LOCATION



**VENERA**  
 1500 VENERA AVE, 33146  
 1515 SAN REMO AVE, 33146  
 CORAL GABLES, FL

**SHOMA**  
 PLANNING AND ZONING  
 BOARD SUBMITTAL  
 08-07-2017  
 1ST COMMISSION MEETING  
 02-13-2018

AERIAL  
 LOCATION



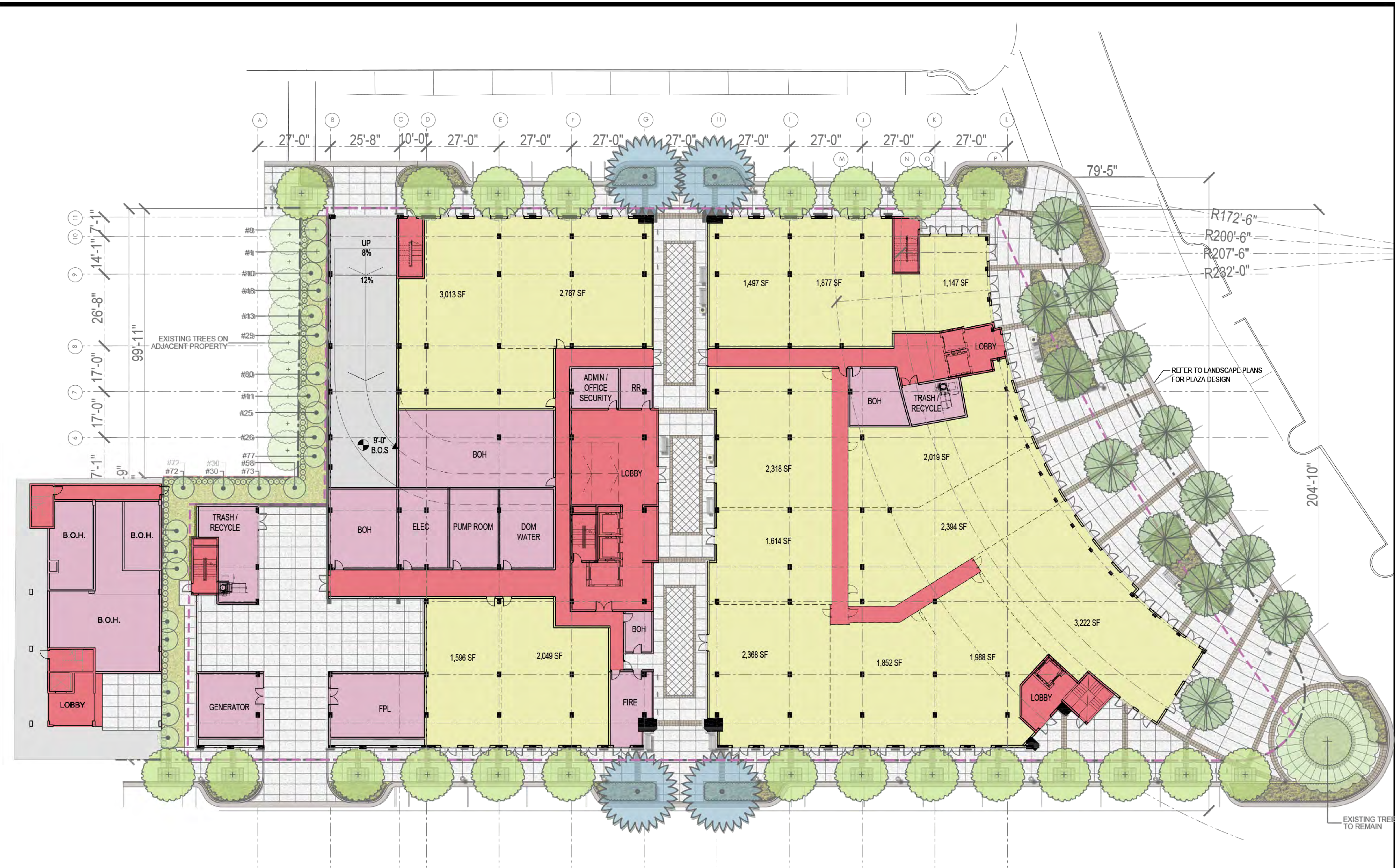
# VENERA

1500 VENERA AVE, 33146  
 1515 SAN REMO AVE, 33146  
 CORAL GABLES, FL

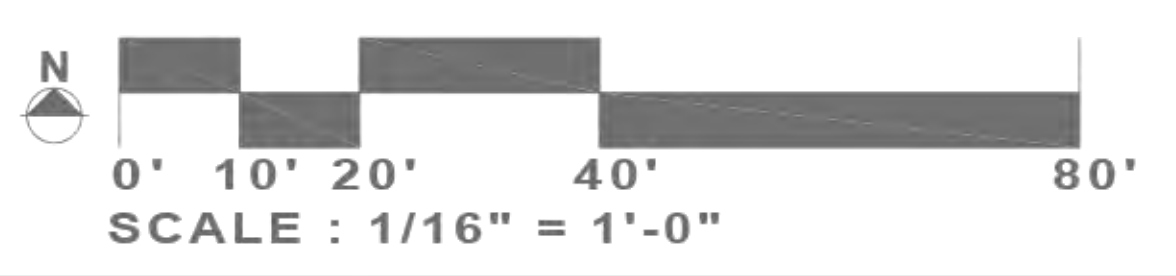
**SHOMA**  
 PLANNING AND ZONING  
 BOARD SUBMITTAL  
 08-07-2017  
 1ST COMMISSION MEETING  
 02-13-2018

**GROUND FLOOR**


A-6



## GROUND FLOOR



**LEGEND**

	PROPERTY LINE		RETAIL		1 BEDROOM UNIT
	SETBACK LINE		BOH		2 BEDROOM UNIT
	SETBACK LINE ABOVE 45'		CIRCULATION		3 BEDROOM UNIT
			AMENITIES		



# **Appendix B**

## **Methodology**

## Venera Traffic Analysis Methodology

August 25, 2016

DPA will undertake a Traffic Impact Analysis as required by the City of Coral Gables. The analyses are for the existing conditions, future conditions with committed development, and the future conditions with project and committed developments.

The site is located on the east side of Yumuri Street between Venera and San Remo Avenues in Coral Gables, FL.

**Existing Site:** Villa San Remo (47 Condo Units) and 1500 Venera (40 Apartments)

**Proposed Plan:** 172 residential units

The methodology is outlined below:

- Traffic Counts (Intersections) – Two-hour turning movement counts will be collected for the AM (7-9 AM) and PM (4-6 PM) hours on a typical weekday at the following intersections:
    - SW 57<sup>th</sup> Avenue (Red Road) / San Remo Avenue (S)
    - SW 57<sup>th</sup> Avenue (Red Road) / Madruga Avenue (U)
    - Madruga Avenue / Yumuri Street (U)
    - Venera Avenue / Yumuri Street (U)
    - Sunset Drive / Yumuri Street (S)
    - San Remo Avenue / Yumuri Street (U)
    - San Remo Avenue / Nervia Street (U)
    - Sunset Drive / Nervia Street (U)
- S= Signalized  
U=Un-signalized
- Signal Location and Timing – Existing signal phasing and timing for the signalized intersection will be obtained from Miami-Dade County.
  - Trip Generation – project trips will be estimated using trip generation information published by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9<sup>th</sup> Edition.

- Trip Distribution / Trip Assignment – Net new external project traffic will be assigned to the adjacent street network using the appropriate cardinal distribution from the Miami-Dade Long Range Transportation Plan Update, published by the Metropolitan Planning Organization. Normal traffic patterns will also be considered when assigning project trips.
- Background Traffic - Available Florida Department of Transportation (FDOT) and Miami-Dade County (MDC) counts will be consulted to determine a growth factor consistent with historical annual growth in the area. The growth factor will be applied to the existing traffic volumes to establish background traffic
- Future Transportation Projects – The 2016 TIP and the 2040 LRTP will be reviewed and considered in the analysis at project build-out.
- Committed Developments – Committed developments will be provided by the city.
- Intersection analysis will be done using Highway Capacity Software (HCS) based on the 2010 Highway Capacity Manual (HCM) or the Synchro software. Operation analysis at driveways providing access to/from the site will also be conducted.
- Multimodal Considerations - Pedestrian, bicycle and transit facilities will be defined in a Circulation Plan. Existing bus and mass transit routes including schedule and bus stop locations will be discussed as part of the study.

### **QUEUING ANALYSIS**

If a gated parking entrance is proposed, a queuing analysis will be required. The potential queue will be calculated based on the peak hour traffic published by ITE's Trip Generation, 9<sup>th</sup> Edition. The project trip generation for the PM peak hour (the critical inbound hour) will be used for the analysis. The processing time will be determined based on data provided by the gate manufacture. Data collected and processing time calculation will be included in the study.

w:\16\16216\methodology.docx

**Appendix C**  
**Data Collection**  
Traffic Volumes  
Signal Timings  
Historic Background Growth



# Traffic Volumes

## TURNING MOVEMENT COUNTS

**Project Name:** Venera  
**Location:** SW 57th Avenue (Red Road) & San Remo Avenue  
**Observer:** Traffic Survey Specialists, Inc.

**Project Number:** 16216  
**Count Date:** 9/22/2016  
**Day of Week:** Thursday

TIME INTERVAL		SW 57th Avenue (Red Road)								San Remo Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	07:15 AM	0	119	17	136	27	120	0	147	0	0	5	5	12	0	4	16	304
07:15 AM	07:30 AM	0	100	21	121	17	113	0	130	2	3	5	10	6	0	8	14	275
07:30 AM	07:45 AM	0	73	24	97	23	128	0	151	0	0	1	1	8	0	5	13	262
07:45 AM	08:00 AM	0	141	25	166	29	141	0	170	2	1	5	8	3	0	5	8	352
08:00 AM	08:15 AM	0	131	28	159	37	154	0	191	2	1	5	8	7	0	9	16	374
08:15 AM	08:30 AM	0	142	36	178	27	124	0	151	2	0	8	10	5	0	18	23	362
08:30 AM	08:45 AM	0	143	39	182	41	131	0	172	0	2	3	5	27	0	20	47	406
08:45 AM	09:00 AM	0	132	34	166	49	123	0	172	3	2	10	15	13	0	18	31	384

### AM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		SW 57th Avenue (Red Road)								San Remo Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	09:00 AM	0	495	113	609	126	522	0	648	6	5	21	31	41	0	44	85	1,373
PEAK HOUR FACTOR		0.94				0.90				0.63				0.62				0.94

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01

## TURNING MOVEMENT COUNTS

**Project Name:** Venera  
**Location:** SW 57th Avenue (Red Road) & San Remo Avenue  
**Observer:** Traffic Survey Specialists, Inc.

**Project Number:** 16216  
**Count Date:** 9/22/2016  
**Day of Week:** Thursday

TIME INTERVAL		SW 57th Avenue (Red Road)								San Remo Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	04:15 PM	0	101	21	122	23	145	0	168	3	2	7	12	47	0	28	75	377
04:15 PM	04:30 PM	0	86	17	103	21	119	0	140	1	1	9	11	45	0	39	84	338
04:30 PM	04:45 PM	0	90	22	112	24	134	0	158	1	1	20	22	55	0	39	94	386
04:45 PM	05:00 PM	0	110	14	124	31	142	0	173	2	3	13	18	49	0	31	80	395
05:00 PM	05:15 PM	0	92	12	104	20	115	0	135	4	2	12	18	64	0	35	99	356
05:15 PM	05:30 PM	0	100	23	123	15	106	0	121	5	3	11	19	64	0	30	94	357
05:30 PM	05:45 PM	0	107	22	129	20	122	0	142	8	7	12	27	51	0	24	75	373
05:45 PM	06:00 PM	0	101	22	123	17	133	0	150	5	6	6	17	37	0	30	67	357

### PM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		SW 57th Avenue (Red Road)								San Remo Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	06:00 PM	0	397	77	475	86	513	0	599	15	13	45	73	208	0	129	337	1,484
PEAK HOUR FACTOR		0.93				0.92				0.72				0.89				0.95

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01

### TURNING MOVEMENT COUNTS

**Project Name:** Venera  
**Location:** SW 57th Avenue (Red Road) & Madruga Avenue  
**Observer:** Traffic Survey Specialists, Inc.

**Project Number:** 16216  
**Count Date:** 9/22/2016  
**Day of Week:** Thursday

TIME INTERVAL		SW 57th Avenue (Red Road)								Madruga Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	07:15 AM	0	86	33	119	62	125	0	187	0	0	0	0	22	0	32	54	360
07:15 AM	07:30 AM	0	91	22	113	30	113	0	143	0	0	0	0	19	0	18	37	293
07:30 AM	07:45 AM	0	59	20	79	30	145	0	175	0	0	0	0	14	0	9	23	277
07:45 AM	08:00 AM	0	116	29	145	24	159	0	183	0	0	0	0	14	0	10	24	352
08:00 AM	08:15 AM	0	101	36	137	42	154	0	196	0	0	0	0	30	0	13	43	376
08:15 AM	08:30 AM	0	103	40	143	42	135	0	177	0	0	0	0	10	0	23	33	353
08:30 AM	08:45 AM	0	144	44	188	52	154	0	206	0	0	0	0	18	0	21	39	433
08:45 AM	09:00 AM	0	103	53	156	36	167	0	203	0	0	0	0	17	0	16	33	392

#### AM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		SW 57th Avenue (Red Road)								Madruga Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	09:00 AM	0	406	140	545	161	582	0	742	0	0	0	0	73	0	72	144	1,432
PEAK HOUR FACTOR		0.83				0.95				NA				0.86				0.90

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01

### TURNING MOVEMENT COUNTS

**Project Name:** Venera  
**Location:** SW 57th Avenue (Red Road) & Madruga Avenue  
**Observer:** Traffic Survey Specialists, Inc.

**Project Number:** 16216  
**Count Date:** 9/22/2016  
**Day of Week:** Thursday

TIME INTERVAL		SW 57th Avenue (Red Road)								Madruga Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	04:15 PM	0	96	27	123	25	107	0	132	0	0	0	0	45	0	39	84	339
04:15 PM	04:30 PM	0	115	16	131	37	133	0	170	0	0	0	0	29	0	27	56	357
04:30 PM	04:45 PM	0	113	18	131	39	127	0	166	0	0	0	0	20	0	30	50	347
04:45 PM	05:00 PM	0	121	17	138	23	139	0	162	0	0	0	0	19	0	22	41	341
05:00 PM	05:15 PM	0	101	12	113	33	101	0	134	0	0	0	0	26	0	25	51	298
05:15 PM	05:30 PM	0	117	28	145	36	98	0	134	0	0	0	0	36	0	25	61	340
05:30 PM	05:45 PM	0	111	23	134	32	123	0	155	0	0	0	0	25	0	39	64	353
05:45 PM	06:00 PM	0	102	25	127	27	112	0	139	0	0	0	0	24	0	22	46	312

#### PM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		SW 57th Avenue (Red Road)								Madruga Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	06:00 PM	0	442	84	526	127	475	0	602	0	0	0	0	113	0	116	229	1,357
PEAK HOUR FACTOR		0.95				0.93				NA				0.69				0.97

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01

### TURNING MOVEMENT COUNTS

**Project Name:** Venera  
**Location:** Madruga Avenue & Yumuri Street  
**Observer:** Traffic Survey Specialists, Inc.

**Project Number:** 16216  
**Count Date:** 9/22/2016  
**Day of Week:** Thursday

TIME INTERVAL		Yumuri Street								Madruga Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	07:15 AM	2	9	0	11	2	13	35	50	24	22	0	46	0	20	0	20	127
07:15 AM	07:30 AM	0	5	0	5	1	10	16	27	6	13	2	21	0	10	1	11	64
07:30 AM	07:45 AM	2	2	0	4	7	3	12	22	8	18	1	27	0	6	1	7	60
07:45 AM	08:00 AM	1	2	2	5	1	19	10	30	9	25	3	37	1	6	0	7	79
08:00 AM	08:15 AM	2	2	1	5	10	20	23	53	10	27	2	39	0	11	0	11	108
08:15 AM	08:30 AM	1	7	1	9	9	26	6	41	4	38	2	44	1	11	2	14	108
08:30 AM	08:45 AM	2	11	0	13	8	15	14	37	23	51	1	75	1	12	1	14	139
08:45 AM	09:00 AM	2	1	1	4	11	21	15	47	15	47	4	66	1	16	2	19	136

#### AM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		Yumuri Street								Madruga Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	09:00 AM	6	20	3	28	25	64	66	155	50	122	8	179	2	46	4	52	415
PEAK HOUR FACTOR		0.60				0.84				0.75				0.76				0.88

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01



### TURNING MOVEMENT COUNTS

**Project Name:** Venera  
**Location:** Madruga Avenue & Yumuri Street  
**Observer:** Traffic Survey Specialists, Inc.

**Project Number:** 16216  
**Count Date:** 9/22/2016  
**Day of Week:** Thursday

TIME INTERVAL		Yumuri Street								Madruga Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	04:15 PM	10	18	0	28	2	21	19	42	16	20	8	44	1	33	9	43	157
04:15 PM	04:30 PM	3	10	0	13	1	17	16	34	14	17	8	39	2	24	6	32	118
04:30 PM	04:45 PM	3	20	2	25	3	23	17	43	19	15	3	37	1	23	4	28	133
04:45 PM	05:00 PM	2	14	1	17	3	16	13	32	21	23	5	49	2	23	5	30	128
05:00 PM	05:15 PM	2	26	0	28	4	7	9	20	13	16	10	39	6	33	11	50	137
05:15 PM	05:30 PM	6	17	1	24	4	9	5	18	23	18	9	50	5	25	3	33	125
05:30 PM	05:45 PM	2	6	2	10	3	6	8	17	14	15	5	34	5	20	5	30	91
05:45 PM	06:00 PM	3	9	2	14	6	14	12	32	17	18	6	41	2	19	4	25	112

#### PM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		Yumuri Street								Madruga Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	06:00 PM	16	61	4	80	13	57	50	120	69	72	27	168	12	101	24	137	506
PEAK HOUR FACTOR		0.74				0.88				0.86				0.77				0.85

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01

### TURNING MOVEMENT COUNTS

Project Name: Venera  
 Location: Venera Avenue & Yumuri Street  
 Observer: Traffic Survey Specialists, Inc.

Project Number: 16216  
 Count Date: 9/22/2016  
 Day of Week: Thursday

TIME INTERVAL		Yumuri Street								Venera Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	07:15 AM	7	31	0	38	0	41	9	50	13	0	3	16	0	0	0	0	104
07:15 AM	07:30 AM	1	61	0	62	0	38	3	41	6	0	7	13	0	0	0	0	116
07:30 AM	07:45 AM	3	26	0	29	0	22	1	23	4	0	0	4	0	0	0	0	56
07:45 AM	08:00 AM	3	31	0	34	0	43	4	47	3	0	0	3	0	0	0	0	84
08:00 AM	08:15 AM	2	46	0	48	0	52	2	54	10	0	11	21	0	0	0	0	123
08:15 AM	08:30 AM	7	93	0	100	0	53	5	58	5	0	9	14	0	0	0	0	172
08:30 AM	08:45 AM	3	70	0	73	0	43	2	45	8	0	7	15	0	0	0	0	133
08:45 AM	09:00 AM	3	34	0	37	0	48	3	51	7	0	3	10	0	0	0	0	98

#### AM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		Yumuri Street								Venera Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	09:00 AM	15	198	0	213	0	172	15	186	28	0	20	48	0	0	0	0	447
PEAK HOUR FACTOR		0.65				0.90				0.71				NA				0.76

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01

## TURNING MOVEMENT COUNTS

**Project Name:** Venera  
**Location:** Venera Avenue & Yumuri Street  
**Observer:** Traffic Survey Specialists, Inc.

**Project Number:** 16216  
**Count Date:** 9/22/2016  
**Day of Week:** Thursday

TIME INTERVAL		Yumuri Street								Venera Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	04:15 PM	7	101	0	108	0	63	6	69	8	0	20	28	0	0	0	0	205
04:15 PM	04:30 PM	2	63	0	65	0	57	4	61	4	0	13	17	0	0	0	0	143
04:30 PM	04:45 PM	9	85	0	94	0	63	5	68	8	0	14	22	0	0	0	0	184
04:45 PM	05:00 PM	6	76	0	82	0	69	8	77	7	0	15	22	0	0	0	0	181
05:00 PM	05:15 PM	8	97	0	105	0	87	7	94	7	0	8	15	0	0	0	0	214
05:15 PM	05:30 PM	6	96	0	102	0	69	7	76	6	0	2	8	0	0	0	0	186
05:30 PM	05:45 PM	6	69	0	75	0	56	7	63	8	0	7	15	0	0	0	0	153
05:45 PM	06:00 PM	7	50	0	57	0	67	5	72	6	0	9	15	0	0	0	0	144

### PM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		Yumuri Street								Venera Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	06:00 PM	26	322	0	347	0	268	25	293	27	0	44	72	0	0	0	0	712
PEAK HOUR FACTOR		0.91				0.84				0.76				NA				0.89

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01

### TURNING MOVEMENT COUNTS

**Project Name:** Venera  
**Location:** San Remo Avenue & Yumuri Street  
**Observer:** Traffic Survey Specialists, Inc.

**Project Number:** 16216  
**Count Date:** 9/22/2016  
**Day of Week:** Thursday

TIME INTERVAL		Yumuri Street								San Remo Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	07:15 AM	5	24	0	29	0	41	3	44	13	0	4	17	2	1	0	3	93
07:15 AM	07:30 AM	7	31	0	38	0	40	10	50	9	0	2	11	12	4	22	38	137
07:30 AM	07:45 AM	4	16	0	20	0	16	7	23	9	0	6	15	1	4	1	6	64
07:45 AM	08:00 AM	1	28	0	29	0	35	6	41	9	0	2	11	1	3	1	5	86
08:00 AM	08:15 AM	6	29	0	35	0	38	25	63	14	0	5	19	10	7	7	24	141
08:15 AM	08:30 AM	7	64	0	71	0	44	21	65	19	0	7	26	5	9	14	28	190
08:30 AM	08:45 AM	6	46	0	52	0	37	15	52	18	0	5	23	14	15	7	36	163
08:45 AM	09:00 AM	4	25	0	29	0	35	19	54	14	0	10	24	4	5	2	11	118

#### AM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		Yumuri Street								San Remo Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	09:00 AM	20	133	0	153	0	144	54	198	53	0	21	74	25	24	27	76	501
PEAK HOUR FACTOR		0.66				0.90				0.88				0.69				0.81

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01

### TURNING MOVEMENT COUNTS

**Project Name:** Venera  
**Location:** San Remo Avenue & Yumuri Street  
**Observer:** Traffic Survey Specialists, Inc.

**Project Number:** 16216  
**Count Date:** 9/22/2016  
**Day of Week:** Thursday

TIME INTERVAL		Yumuri Street								San Remo Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	04:15 PM	2	60	0	62	0	61	24	85	38	0	28	66	5	14	7	26	239
04:15 PM	04:30 PM	11	34	0	45	0	47	27	74	26	0	27	53	16	15	6	37	209
04:30 PM	04:45 PM	7	49	0	56	0	55	25	80	36	0	29	65	11	21	13	45	246
04:45 PM	05:00 PM	5	40	0	45	0	65	21	86	32	0	33	65	4	19	4	27	223
05:00 PM	05:15 PM	6	60	0	66	0	40	40	80	41	0	37	78	7	14	5	26	250
05:15 PM	05:30 PM	11	41	0	52	0	60	28	88	57	0	31	88	6	10	8	24	252
05:30 PM	05:45 PM	8	42	0	50	0	45	15	60	29	0	30	59	10	14	9	33	202
05:45 PM	06:00 PM	8	21	0	29	0	52	18	70	31	0	20	51	14	17	6	37	187

#### PM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		Yumuri Street								San Remo Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	06:00 PM	29	175	0	205	0	215	100	315	146	0	119	265	37	63	29	129	913
PEAK HOUR FACTOR		0.83				0.95				0.84				0.68				0.96

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01

### TURNING MOVEMENT COUNTS

**Project Name:** Venera  
**Location:** Sunset Drive & Yumuri Street  
**Observer:** Traffic Survey Specialists, Inc.

**Project Number:** 16216  
**Count Date:** 9/22/2016  
**Day of Week:** Thursday

TIME INTERVAL		Yumuri Street								Sunset Drive								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	07:15 AM	0	0	0	0	8	0	25	33	18	79	0	97	0	38	4	42	172
07:15 AM	07:30 AM	0	0	0	0	19	0	27	46	16	122	0	138	0	51	4	55	239
07:30 AM	07:45 AM	0	0	0	0	4	0	24	28	16	105	0	121	0	49	3	52	201
07:45 AM	08:00 AM	0	0	0	0	10	0	26	36	21	111	0	132	0	76	10	86	254
08:00 AM	08:15 AM	0	0	0	0	14	0	23	37	25	145	0	170	0	96	13	109	316
08:15 AM	08:30 AM	0	0	0	0	18	0	25	43	39	142	0	181	0	99	33	132	356
08:30 AM	08:45 AM	0	0	0	0	12	0	33	45	28	96	0	124	0	118	20	138	307
08:45 AM	09:00 AM	0	0	0	0	14	0	27	41	24	128	0	152	0	102	8	110	303

#### AM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		Yumuri Street								Sunset Drive								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	09:00 AM	0	0	0	0	50	0	106	156	94	469	0	563	0	318	48	366	1,085
PEAK HOUR FACTOR		NA				0.92				0.87				0.89				0.90

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01



### TURNING MOVEMENT COUNTS

**Project Name:** Venera  
**Location:** Sunset Drive & Yumuri Street  
**Observer:** Traffic Survey Specialists, Inc.

**Project Number:** 16216  
**Count Date:** 9/22/2016  
**Day of Week:** Thursday

TIME INTERVAL		Yumuri Street								Sunset Drive								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	04:15 PM	0	0	0	0	38	0	68	106	35	94	0	129	0	87	14	101	336
04:15 PM	04:30 PM	0	0	0	0	39	0	38	77	24	82	0	106	0	73	15	88	271
04:30 PM	04:45 PM	0	0	0	0	48	0	35	83	34	80	0	114	0	76	19	95	292
04:45 PM	05:00 PM	0	0	0	0	50	0	30	80	39	96	0	135	0	48	9	57	272
05:00 PM	05:15 PM	0	0	0	0	37	0	26	63	43	100	0	143	0	47	8	55	261
05:15 PM	05:30 PM	0	0	0	0	63	0	49	112	33	89	0	122	0	75	10	85	319
05:30 PM	05:45 PM	0	0	0	0	47	0	41	88	27	103	0	130	0	89	15	104	322
05:45 PM	06:00 PM	0	0	0	0	48	0	36	84	19	84	0	103	0	83	10	93	280

#### PM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		Yumuri Street								Sunset Drive								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	06:00 PM	0	0	0	0	187	0	163	350	128	368	0	496	0	292	51	342	1,188
PEAK HOUR FACTOR		NA				0.77				0.87				0.81				0.92

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01

### TURNING MOVEMENT COUNTS

**Project Name:** Venera  
**Location:** San Remo Avenue & Nervia Street  
**Observer:** Traffic Survey Specialists, Inc.

**Project Number:** 16216  
**Count Date:** 9/22/2016  
**Day of Week:** Thursday

TIME INTERVAL		Nervia Street								San Remo Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	07:15 AM	8	13	0	21	3	12	2	17	0	0	0	0	2	6	0	8	46
07:15 AM	07:30 AM	15	11	3	29	3	18	23	44	0	0	0	0	3	18	1	22	95
07:30 AM	07:45 AM	4	21	5	30	4	15	4	23	0	0	0	0	3	3	0	6	59
07:45 AM	08:00 AM	10	13	7	30	0	9	12	21	0	0	0	0	1	3	5	9	60
08:00 AM	08:15 AM	7	30	14	51	8	37	23	68	0	0	0	0	6	11	3	20	139
08:15 AM	08:30 AM	22	63	12	97	7	47	28	82	0	0	0	0	14	11	9	34	213
08:30 AM	08:45 AM	6	41	13	60	6	11	9	26	0	0	0	0	4	19	6	29	115
08:45 AM	09:00 AM	3	37	4	44	10	10	4	24	0	0	0	0	2	6	1	9	77

#### AM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		Nervia Street								San Remo Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	09:00 AM	38	116	29	183	21	80	53	154	0	0	0	0	18	39	13	69	406
PEAK HOUR FACTOR		0.65				0.61				NA				0.68				0.64

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01

### TURNING MOVEMENT COUNTS

**Project Name:** Venera  
**Location:** San Remo Avenue & Nervia Street  
**Observer:** Traffic Survey Specialists, Inc.

**Project Number:** 16216  
**Count Date:** 9/22/2016  
**Day of Week:** Thursday

TIME INTERVAL		Nervia Street								San Remo Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	04:15 PM	16	23	9	48	2	26	13	41	0	0	0	0	18	16	4	38	127
04:15 PM	04:30 PM	10	23	4	37	6	24	7	37	0	0	0	0	28	23	12	63	137
04:30 PM	04:45 PM	16	32	3	51	5	16	7	28	0	0	0	0	9	25	8	42	121
04:45 PM	05:00 PM	8	25	3	36	9	22	3	34	0	0	0	0	6	17	4	27	97
05:00 PM	05:15 PM	10	27	1	38	6	24	4	34	0	0	0	0	5	14	5	24	96
05:15 PM	05:30 PM	10	21	3	34	7	30	2	39	0	0	0	0	10	14	3	27	100
05:30 PM	05:45 PM	5	18	9	32	3	20	2	25	0	0	0	0	16	24	6	46	103
05:45 PM	06:00 PM	6	15	2	23	3	26	10	39	0	0	0	0	12	24	5	41	103

#### PM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		Nervia Street								San Remo Avenue								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	06:00 PM	41	93	17	151	21	95	24	140	0	0	0	0	53	79	24	156	446
PEAK HOUR FACTOR		0.84				0.85				NA				0.67				0.88

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01

### TURNING MOVEMENT COUNTS

**Project Name:** Venera  
**Location:** Sunset Drive & Nervia Street  
**Observer:** Traffic Survey Specialists, Inc.

**Project Number:** 16216  
**Count Date:** 9/22/2016  
**Day of Week:** Thursday

TIME INTERVAL		Nervia Street								Sunset Drive								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	07:15 AM	0	0	0	0	6	0	10	16	16	73	0	89	0	38	3	41	146
07:15 AM	07:30 AM	0	0	0	0	9	0	11	20	18	126	0	144	0	50	10	60	224
07:30 AM	07:45 AM	0	0	0	0	6	0	9	15	30	90	0	120	0	46	13	59	194
07:45 AM	08:00 AM	0	0	0	0	5	0	15	20	35	93	0	128	0	71	10	81	229
08:00 AM	08:15 AM	0	0	0	0	6	0	31	37	59	106	0	165	0	77	27	104	306
08:15 AM	08:30 AM	0	0	0	0	4	0	54	58	97	92	0	189	0	62	32	94	341
08:30 AM	08:45 AM	0	0	0	0	3	0	33	36	36	83	0	119	0	93	22	115	270
08:45 AM	09:00 AM	0	0	0	0	4	0	11	15	32	117	0	149	0	99	12	111	275

#### AM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		Nervia Street								Sunset Drive								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
07:00 AM	09:00 AM	0	0	0	0	22	0	88	110	163	394	0	557	0	271	65	336	1,002
PEAK HOUR FACTOR		NA				0.63				0.82				0.92				0.87

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01

### TURNING MOVEMENT COUNTS

**Project Name:** Venera  
**Location:** Sunset Drive & Nervia Street  
**Observer:** Traffic Survey Specialists, Inc.

**Project Number:** 16216  
**Count Date:** 9/22/2016  
**Day of Week:** Thursday

TIME INTERVAL		Nervia Street								Sunset Drive								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	04:15 PM	0	0	0	0	11	0	24	35	21	85	0	106	0	78	20	98	239
04:15 PM	04:30 PM	0	0	0	0	22	0	31	53	12	84	0	96	0	59	9	68	217
04:30 PM	04:45 PM	0	0	0	0	15	0	18	33	15	85	0	100	0	81	26	107	240
04:45 PM	05:00 PM	0	0	0	0	15	0	9	24	16	101	0	117	0	52	15	67	208
05:00 PM	05:15 PM	0	0	0	0	8	0	17	25	16	71	0	87	0	47	21	68	180
05:15 PM	05:30 PM	0	0	0	0	8	0	10	18	6	87	0	93	0	55	14	69	180
05:30 PM	05:45 PM	0	0	0	0	9	0	21	30	18	96	0	114	0	75	14	89	233
05:45 PM	06:00 PM	0	0	0	0	15	0	23	38	12	89	0	101	0	89	8	97	236

#### PM PEAK PERIOD TURNING MOVEMENT COUNT SUMMARY ANNUAL AVERAGE DAILY TRAFFIC CONDITIONS

TIME INTERVAL		Nervia Street								Sunset Drive								GRAND TOTAL
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL	
04:00 PM	06:00 PM	0	0	0	0	52	0	77	129	59	352	0	411	0	271	64	335	875
PEAK HOUR FACTOR		NA				0.68				0.90				0.79				0.94

Note: 2015 FDOT Seasonal Weekly Volume Factor = 1.01

TRAFFIC SURVEY SPECIALISTS, INC.

SAN REMO AVENUE & RED ROAD  
 CORAL GABLES, FLORIDA  
 COUNTED BY: ARIEL PEREZ  
 SIGNALIZED

85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : 57AVSANR  
 Page : 1

ALL VEHICLES

Date	RED ROAD From North				SAN REMO AVENUE From East				RED ROAD From South				SUNSET PLACE From West				Total
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	
09/22/16																	
07:00	0	27	120	0	0	12	0	4	0	0	119	17	0	0	0	5	304
07:15	1	16	113	0	0	6	0	8	0	0	100	21	0	2	3	5	275
07:30	0	23	128	0	0	8	0	5	0	0	73	24	0	0	0	1	262
07:45	0	29	141	0	0	3	0	5	0	0	141	25	0	2	1	5	352
Hr Total	1	95	502	0	0	29	0	22	0	0	433	87	0	4	4	16	1193
08:00	0	37	154	0	0	7	0	9	0	0	131	28	0	2	1	5	374
08:15	1	26	124	0	0	5	0	18	0	0	142	36	0	2	0	8	362
08:30	0	41	131	0	1	26	0	20	0	0	143	39	0	0	2	3	406
08:45	1	48	123	0	0	13	0	18	0	0	132	34	0	3	2	10	384
Hr Total	2	152	532	0	1	51	0	65	0	0	548	137	0	7	5	26	1526
* BREAK *																	
16:00	0	23	145	0	0	47	0	28	0	0	101	21	0	3	2	7	377
16:15	0	21	119	0	0	45	0	39	0	0	86	17	0	1	1	9	338
16:30	0	24	134	0	0	55	0	39	0	0	90	22	0	1	1	20	386
16:45	0	31	142	0	0	49	0	31	0	0	110	14	0	2	3	13	395
Hr Total	0	99	540	0	0	196	0	137	0	0	387	74	0	7	7	49	1496
17:00	0	20	115	0	0	64	0	35	1	0	91	12	0	4	2	12	356
17:15	0	15	106	0	0	64	0	30	0	0	100	23	0	5	3	11	357
17:30	0	20	122	0	0	51	0	24	1	0	106	22	0	8	7	12	373
17:45	1	16	133	0	0	37	0	30	0	0	101	22	0	5	6	6	357
Hr Total	1	71	476	0	0	216	0	119	2	0	398	79	0	22	18	41	1443
*TOTAL*	4	417	2050	0	1	492	0	343	2	0	1766	377	0	40	34	132	5658

SAN REMO AVENUE & RED ROAD  
 CORAL GABLES, FLORIDA  
 COUNTED BY: ARIEL PEREZ  
 SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : 57AVSANR  
 Page : 2

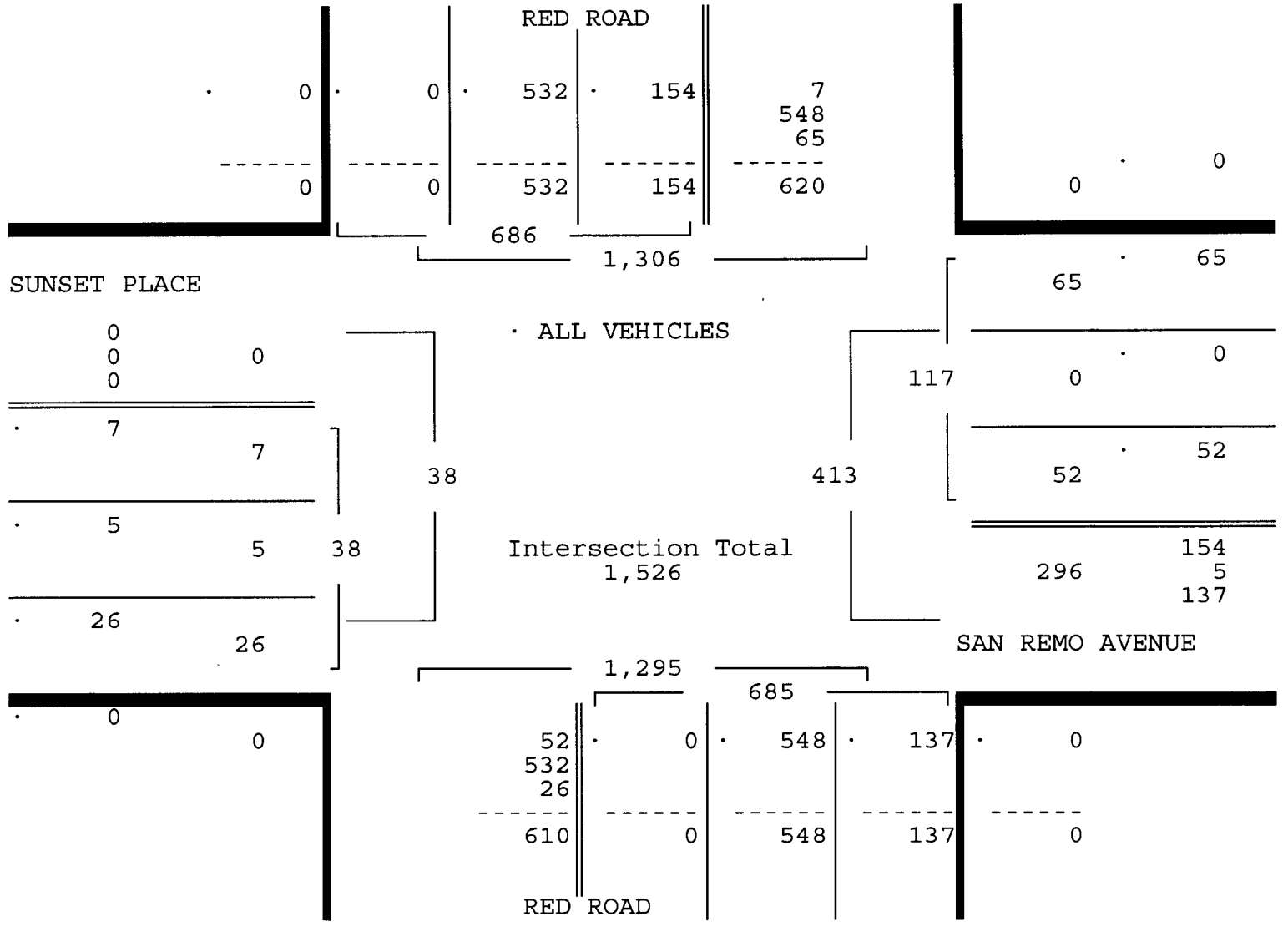
ALL VEHICLES

RED ROAD From North				SAN REMO AVENUE From East				RED ROAD From South				SUNSET PLACE From West				Total
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 09/22/16

Peak start	08:00				08:00				08:00				08:00			
Volume	2	152	532	0	1	51	0	65	0	0	548	137	0	7	5	26
Percent	0%	22%	78%	0%	1%	44%	0%	56%	0%	0%	80%	20%	0%	18%	13%	68%
Pk total	686				117				685				38			
Highest	08:00				08:30				08:30				08:45			
Volume	0	37	154	0	1	26	0	20	0	0	143	39	0	3	2	10
Hi total	191				47				182				15			
PHF	.90				.62				.94				.63			





SAN REMO AVENUE & RED ROAD  
 CORAL GABLES, FLORIDA  
 COUNTED BY: ARIEL PEREZ  
 SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : 57AVSANR  
 Page : 3

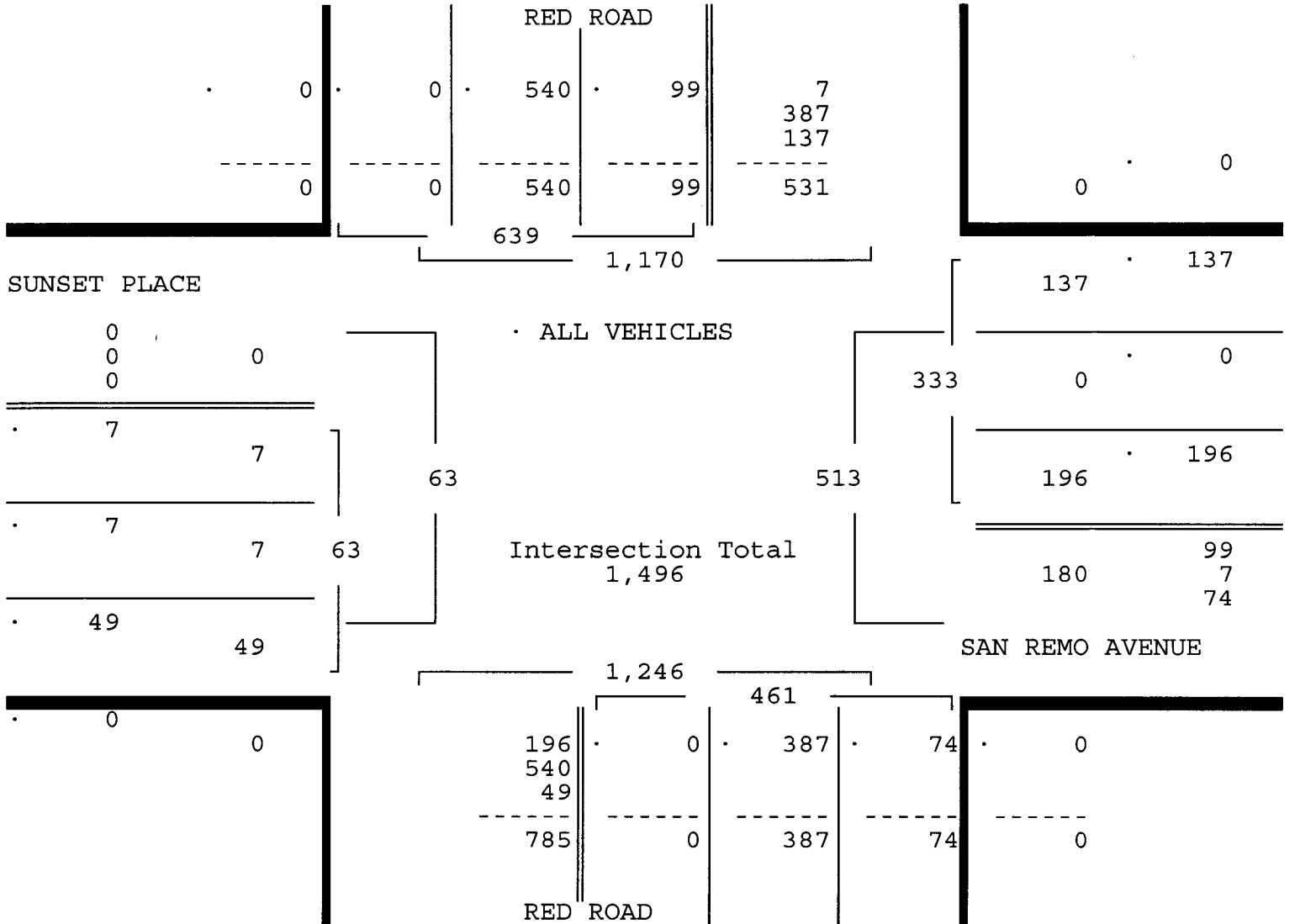
ALL VEHICLES

RED ROAD From North				SAN REMO AVENUE From East				RED ROAD From South				SUNSET PLACE From West				Total
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 09/22/16

Peak start 16:00	16:00				16:00				16:00							
Volume	0	99	540	0	0	196	0	137	0	0	387	74	0	7	7	49
Percent	0%	15%	85%	0%	0%	59%	0%	41%	0%	0%	84%	16%	0%	11%	11%	78%
Pk total	639				333				461				63			
Highest	16:45				16:30				16:45				16:30			
Volume	0	31	142	0	0	55	0	39	0	0	110	14	0	1	1	20
Hi total	173				94				124				22			
PHF	.92				.89				.93				.72			



TRAFFIC SURVEY SPECIALISTS, INC.

SAN REMO AVENUE & RED ROAD  
 CORAL GABLES, FLORIDA  
 COUNTED BY: ARIEL PEREZ  
 SIGNALIZED

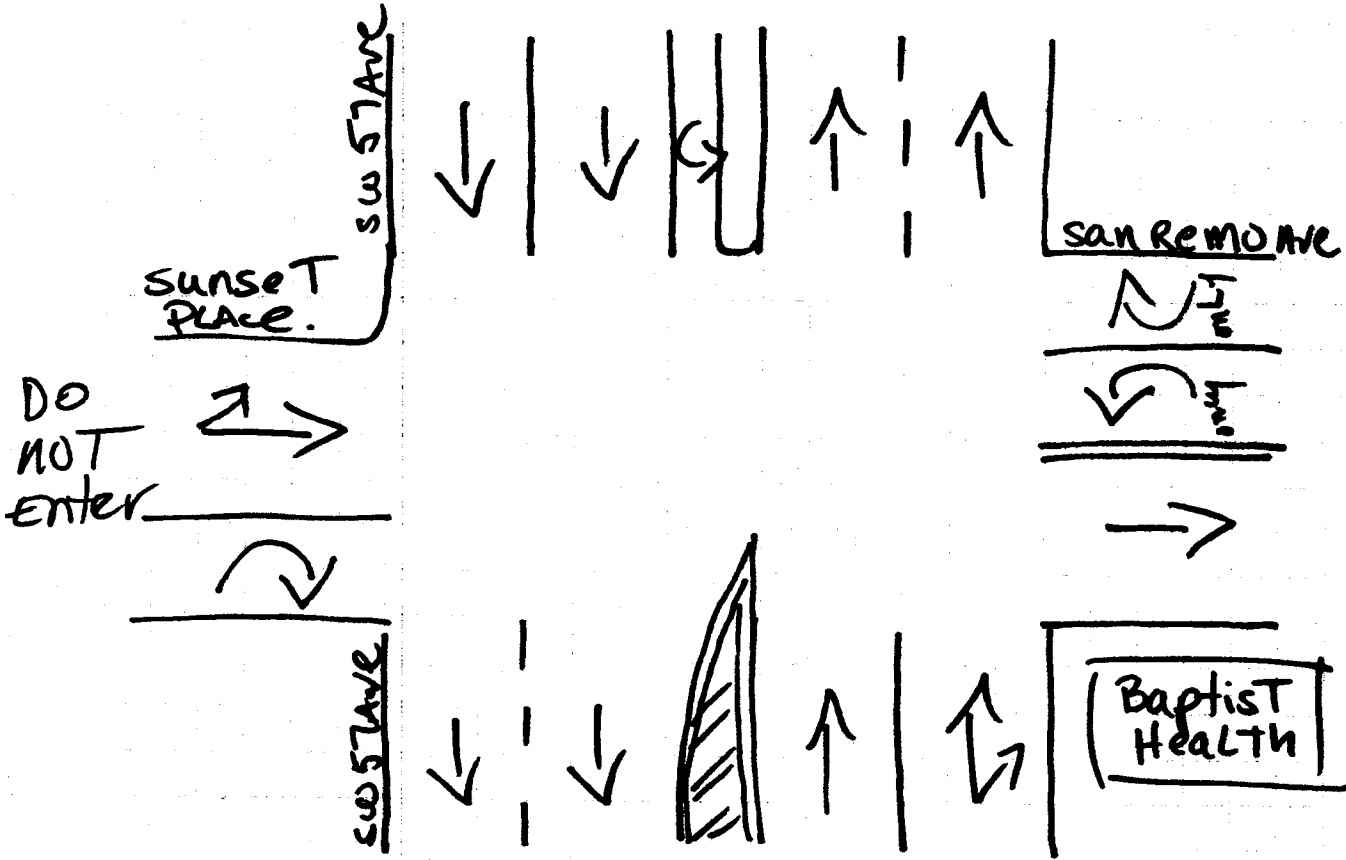
85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : 57AVSANR  
 Page : 1

PEDESTRIANS & BIKES

Date	RED ROAD From North				SAN REMO AVENUE From East				RED ROAD From South				SUNSET PLACE From West				Total
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	
09/22/16	-----																
07:00	0	1	0	48	0	2	0	0	0	1	0	15	0	2	0	0	69
07:15	0	0	0	10	0	2	0	2	0	0	0	12	0	0	0	1	27
07:30	0	0	0	5	0	1	0	0	0	0	0	9	0	0	0	0	15
07:45	0	0	0	7	0	0	0	4	0	0	0	19	0	0	0	4	34
Hr Total	0	1	0	70	0	5	0	6	0	1	0	55	0	2	0	5	145
08:00	0	0	0	5	0	0	0	1	0	0	0	16	0	1	0	4	27
08:15	0	0	0	3	0	1	0	3	0	0	0	9	0	0	0	2	18
08:30	0	0	0	4	0	1	0	3	0	0	0	11	0	1	0	1	21
08:45	0	0	0	5	0	0	0	0	0	0	0	8	0	0	0	5	18
Hr Total	0	0	0	17	0	2	0	7	0	0	0	44	0	2	0	12	84
----- * BREAK * -----																	
16:00	0	1	0	9	0	0	0	7	0	0	0	14	0	0	0	4	35
16:15	0	0	0	15	0	2	0	3	0	0	0	10	0	1	0	3	34
16:30	0	1	0	7	0	0	0	4	0	0	0	11	0	1	0	2	26
16:45	0	0	0	18	0	2	0	3	0	2	0	3	0	2	0	2	32
Hr Total	0	2	0	49	0	4	0	17	0	2	0	38	0	4	0	11	127
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	4	0	0	0	1	0	0	0	3	0	0	0	0	8
17:45	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	1	5
Hr Total	0	0	0	8	0	0	0	1	0	0	0	3	0	0	0	1	13
-----																	
*TOTAL*	0	3	0	144	0	11	0	31	0	3	0	140	0	8	0	29	369

North ↑



CORAL Gables, Florida  
July 15, 2014  
drawn by: Luis Palomino  
Signalized

TRAFFIC SURVEY SPECIALISTS, INC.

MADRUGA AVENUE & RED ROAD  
 CORAL GABLES, FLORIDA  
 COUNTED BY: ROLANDO MARTINEZ  
 NOT SIGNALIZED

85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : 57AVMADR  
 Page : 1

ALL VEHICLES

Date	RED ROAD From North				MADRUGA AVENUE From East				RED ROAD From South				----- From West				Total
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	
09/22/16																	
07:00	0	62	125	0	0	22	0	32	0	0	86	33	0	0	0	0	360
07:15	0	30	113	0	0	19	0	18	0	0	91	22	0	0	0	0	293
07:30	1	29	145	0	0	14	0	9	1	0	58	20	0	0	0	0	277
07:45	1	23	159	0	0	14	0	10	0	0	116	29	0	0	0	0	352
Hr Total	2	144	542	0	0	69	0	69	1	0	351	104	0	0	0	0	1282
08:00	1	41	154	0	0	30	0	13	0	0	101	36	0	0	0	0	376
08:15	0	42	135	0	0	10	0	23	1	0	102	40	0	0	0	0	353
08:30	1	51	154	0	0	18	0	21	2	0	142	44	0	0	0	0	433
08:45	0	36	167	0	0	17	0	16	1	0	102	53	0	0	0	0	392
Hr Total	2	170	610	0	0	75	0	73	4	0	447	173	0	0	0	0	1554
----- * BREAK * -----																	
16:00	1	24	107	0	0	45	0	39	1	0	95	27	0	0	0	0	339
16:15	0	37	133	0	0	29	0	27	1	0	114	16	0	0	0	0	357
16:30	1	38	127	0	0	20	0	30	1	0	112	18	0	0	0	0	347
16:45	0	23	139	0	0	19	0	22	0	0	121	17	0	0	0	0	341
Hr Total	2	122	506	0	0	113	0	118	3	0	442	78	0	0	0	0	1384
17:00	0	33	101	0	0	26	0	25	1	0	100	12	0	0	0	0	298
17:15	0	36	98	0	0	36	0	25	0	0	117	28	0	0	0	0	340
17:30	2	30	123	0	0	25	0	39	0	0	111	23	0	0	0	0	353
17:45	0	27	112	0	0	24	0	22	1	0	101	25	0	0	0	0	312
Hr Total	2	126	434	0	0	111	0	111	2	0	429	88	0	0	0	0	1303
*TOTAL*	8	562	2092	0	0	368	0	371	10	0	1669	443	0	0	0	0	5523

MADRUGA AVENUE & RED ROAD  
 CORAL GABLES, FLORIDA  
 COUNTED BY: ROLANDO MARTINEZ  
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : 57AVMADR  
 Page : 2

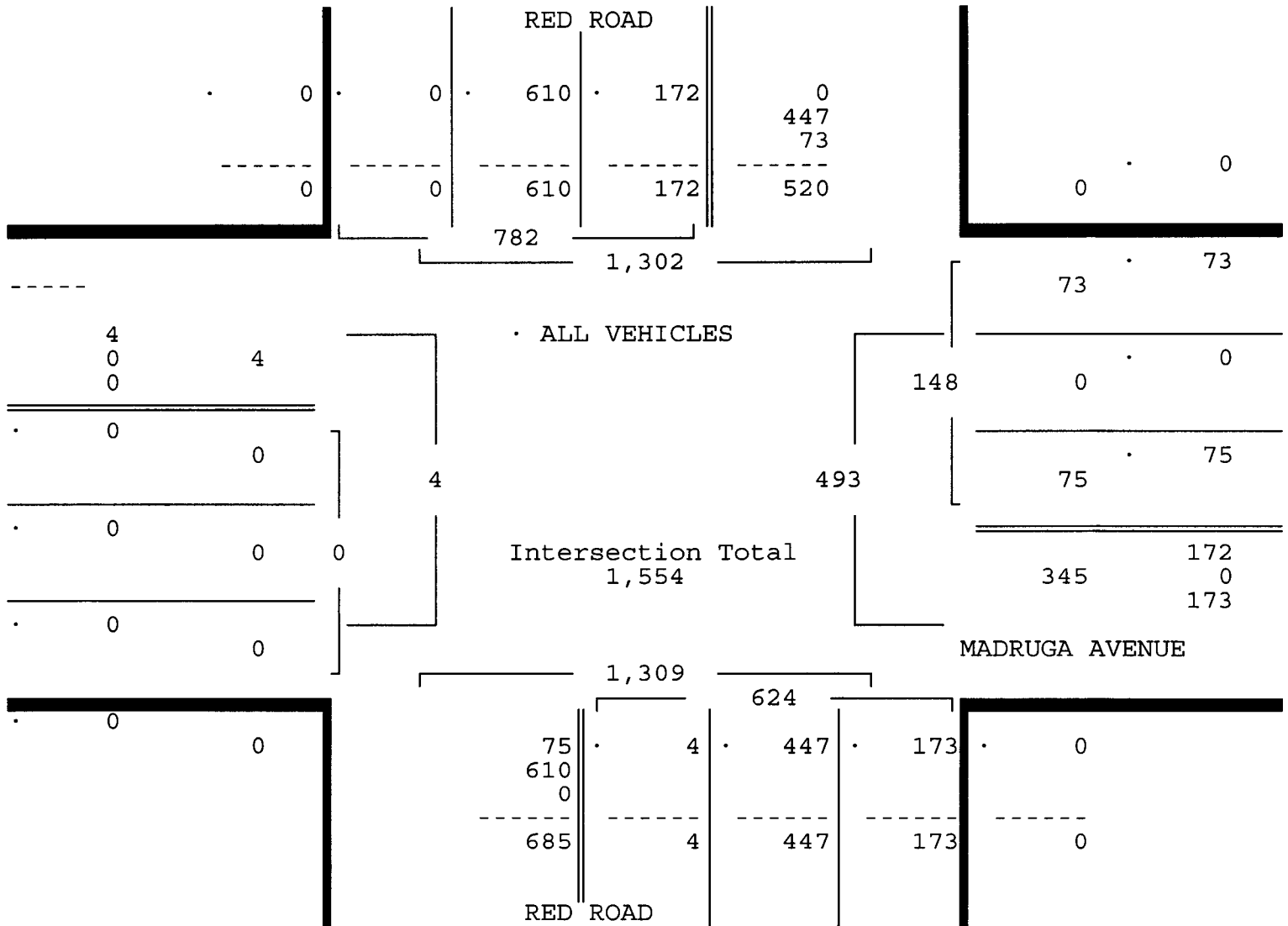
ALL VEHICLES

RED ROAD From North				MADRUGA AVENUE From East				RED ROAD From South				----- From West				Total
U Turn	Left	Thru	Right	U Turn	Left	Thru	Right	U Turn	Left	Thru	Right	U Turn	Left	Thru	Right	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 09/22/16

Peak start	08:00				08:00				08:00				Total			
Volume	2	170	610	0	0	75	0	73	4	0	447	173	0	0	0	0
Percent	0%	22%	78%	0%	0%	51%	0%	49%	1%	0%	72%	28%	0%	0%	0%	0%
Pk total	782				148				624				0			
Highest	08:30				08:00				08:30				07:00			
Volume	1	51	154	0	0	30	0	13	2	0	142	44	0	0	0	0
Hi total	206				43				188				0			
PHF	.95				.86				.83				.0			



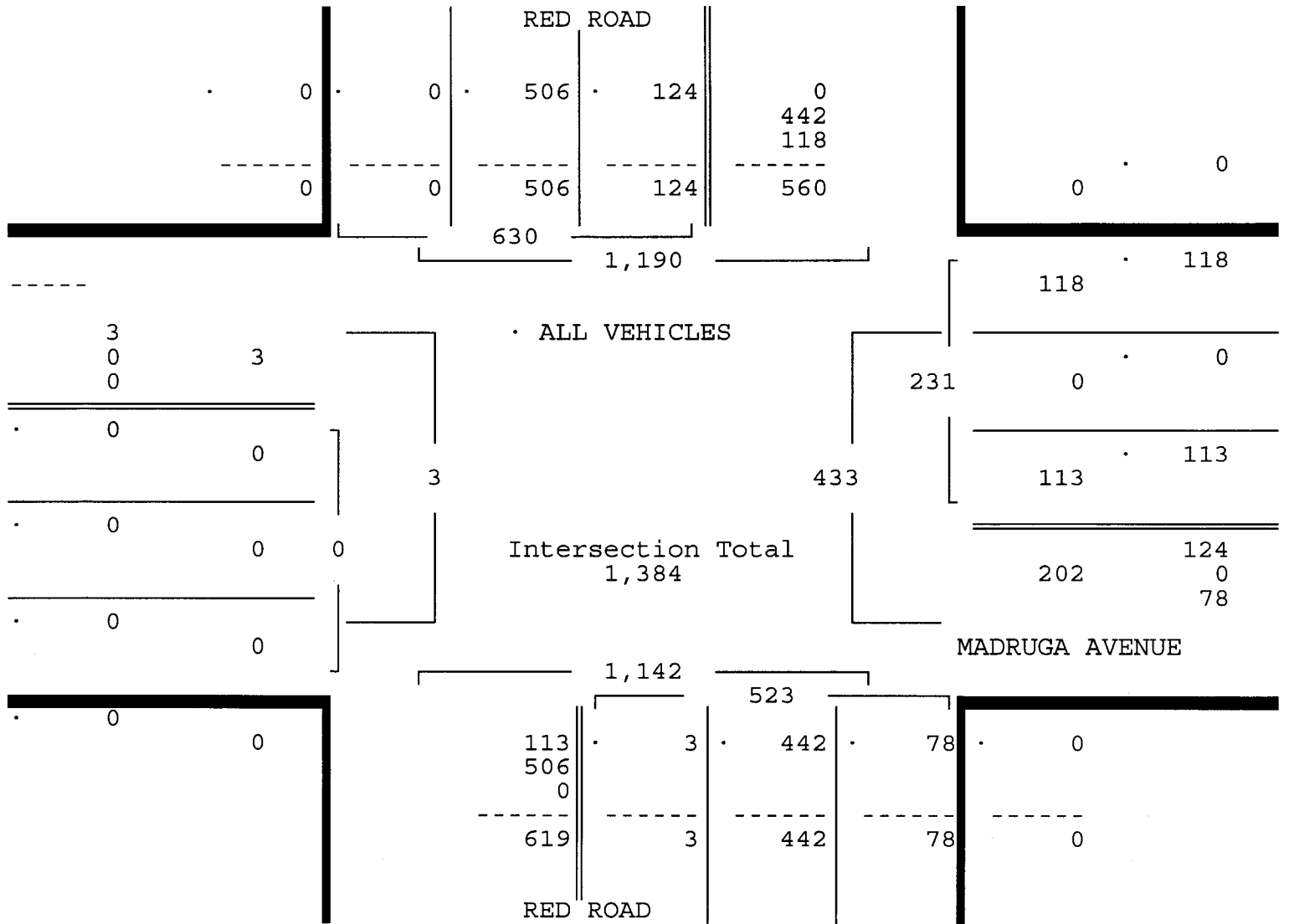
ALL VEHICLES

RED ROAD				MADRUGA AVENUE				RED ROAD				-----				Total
From North				From East				From South				From West				
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 09/22/16

	16:00				16:00				16:00							
Peak start 16:00																
Volume	2	122	506	0	0	113	0	118	3	0	442	78	0	0	0	0
Percent	0%	19%	80%	0%	0%	49%	0%	51%	1%	0%	85%	15%	0%	0%	0%	0%
Pk total	630				231				523				0			
Highest	16:15				16:00				16:45				07:00			
Volume	0	37	133	0	0	45	0	39	0	0	121	17	0	0	0	0
Hi total	170				84				138				0			
PHF	.93				.69				.95				.0			



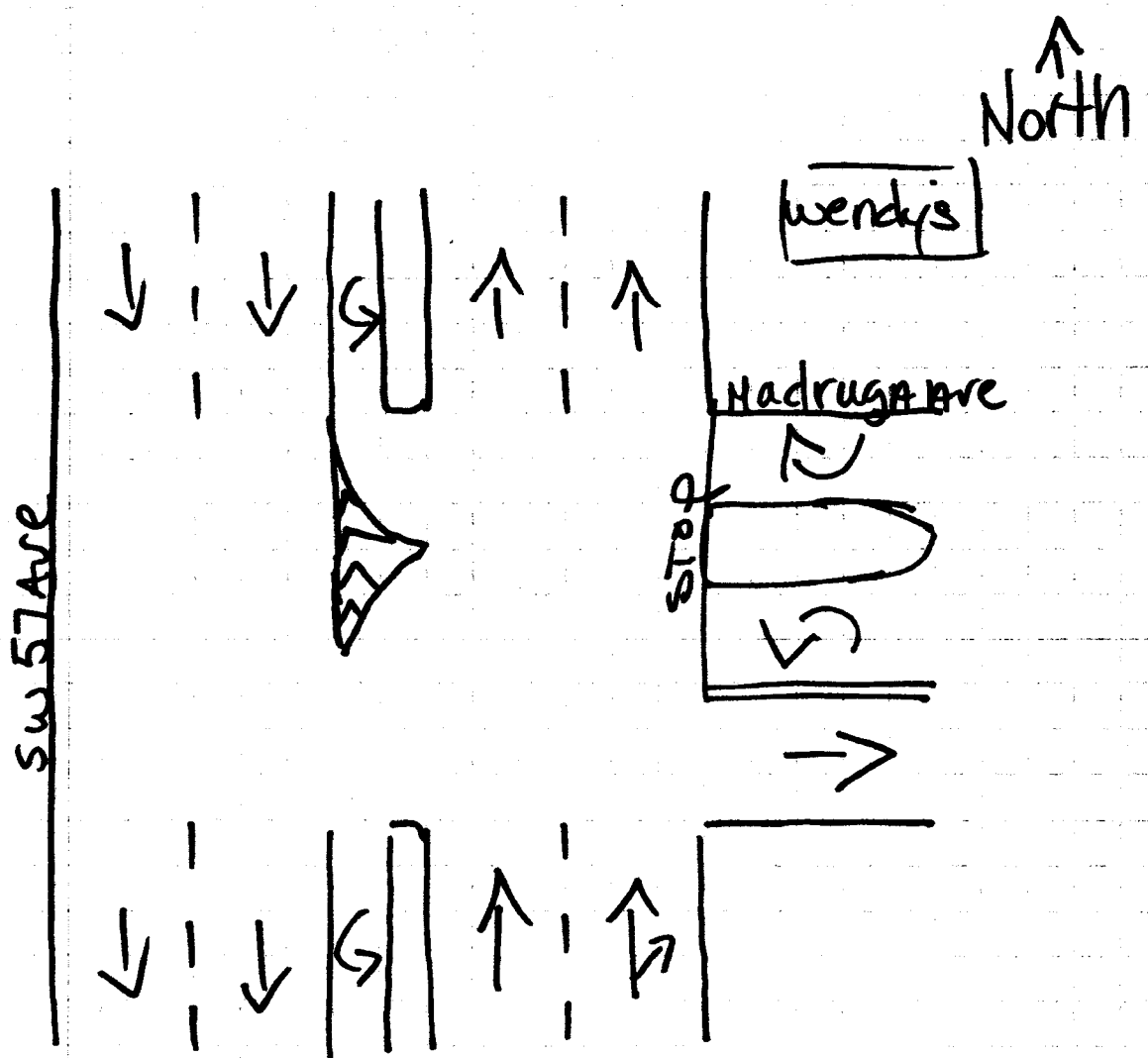
MADRUGA AVENUE & RED ROAD  
 CORAL GABLES, FLORIDA  
 COUNTED BY: ROLANDO MARTINEZ  
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : 57AVMADR  
 Page : 1

PEDESTRIANS & BIKES

Date	RED ROAD From North				MADRUGA AVENUE From East				RED ROAD From South				----- From West				Total
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	
09/22/16	-----																
07:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:15	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
07:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
07:45	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Hr Total	0	0	0	0	0	5	0	1	0	0	0	0	0	0	0	0	6
08:00	0	0	0	0	0	1	0	3	0	0	0	1	0	0	0	0	5
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	0	0	0	0	2	0	3	0	0	0	1	0	1	0	0	7
----- * BREAK * -----																	
16:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:15	0	0	0	0	0	1	0	2	0	0	0	2	0	0	0	0	5
16:30	0	0	0	0	0	1	0	6	0	1	0	0	0	0	0	0	8
16:45	0	0	0	2	0	0	0	2	0	0	0	1	0	0	0	0	5
Hr Total	0	0	0	2	0	3	0	10	0	1	0	3	0	0	0	0	19
17:00	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	4
17:15	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5
17:30	0	0	0	2	0	1	0	4	0	1	0	2	0	0	0	0	10
17:45	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Hr Total	0	0	0	4	0	1	0	12	0	1	0	3	0	0	0	0	21
-----																	
*TOTAL*	0	0	0	6	0	11	0	26	0	2	0	7	0	1	0	0	53



CORAL Gables, Florida

July 15, 2014

drawn by: Luis Palomino

NOT Signalized



MADRUGA AVENUE & YUMURI STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: AMBER PALOMINO  
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : MADRYUMU  
 Page : 1

ALL VEHICLES

Date	YUMURI STREET From North				MADRUGA AVENUE From East				YUMURI STREET From South				MADRUGA AVENUE From West				Total
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	
09/22/16	-----																
07:00	0	2	13	35	0	0	20	0	1	1	9	0	0	24	22	0	127
07:15	0	1	10	16	0	0	10	1	0	0	5	0	0	6	13	2	64
07:30	1	6	3	12	0	0	6	1	0	2	2	0	0	8	18	1	60
07:45	0	1	19	10	0	1	6	0	0	1	2	2	0	9	25	3	79
Hr Total	1	10	45	73	0	1	42	2	1	4	18	2	0	47	78	6	330
08:00	0	10	20	23	0	0	11	0	0	2	2	1	0	10	27	2	108
08:15	0	9	26	6	0	1	11	2	0	1	7	1	0	4	38	2	108
08:30	0	8	15	14	0	1	12	1	0	2	11	0	1	22	51	1	139
08:45	0	11	21	15	0	1	16	2	0	2	1	1	0	15	47	4	136
Hr Total	0	38	82	58	0	3	50	5	0	7	21	3	1	51	163	9	491
----- * BREAK * -----																	
16:00	0	2	21	19	0	1	33	9	0	10	18	0	1	15	20	8	157
16:15	0	1	17	16	0	2	24	6	0	3	10	0	0	14	17	8	118
16:30	0	3	23	17	0	1	23	4	0	3	20	2	0	19	15	3	133
16:45	0	3	16	13	0	2	23	5	0	2	14	1	0	21	23	5	128
Hr Total	0	9	77	65	0	6	103	24	0	18	62	3	1	69	75	24	536
17:00	0	4	7	9	0	6	33	11	0	2	26	0	0	13	16	10	137
17:15	0	4	9	5	0	5	25	3	0	6	17	1	0	23	18	9	125
17:30	0	3	6	8	0	5	20	5	0	2	6	2	0	14	15	5	91
17:45	0	6	14	12	0	2	19	4	0	3	9	2	0	17	18	6	112
Hr Total	0	17	36	34	0	18	97	23	0	13	58	5	0	67	67	30	465
*TOTAL*	1	74	240	230	0	28	292	54	1	42	159	13	2	234	383	69	1822

MADRUGA AVENUE & YUMURI STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: AMBER PALOMINO  
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : MADRYUMU  
 Page : 2

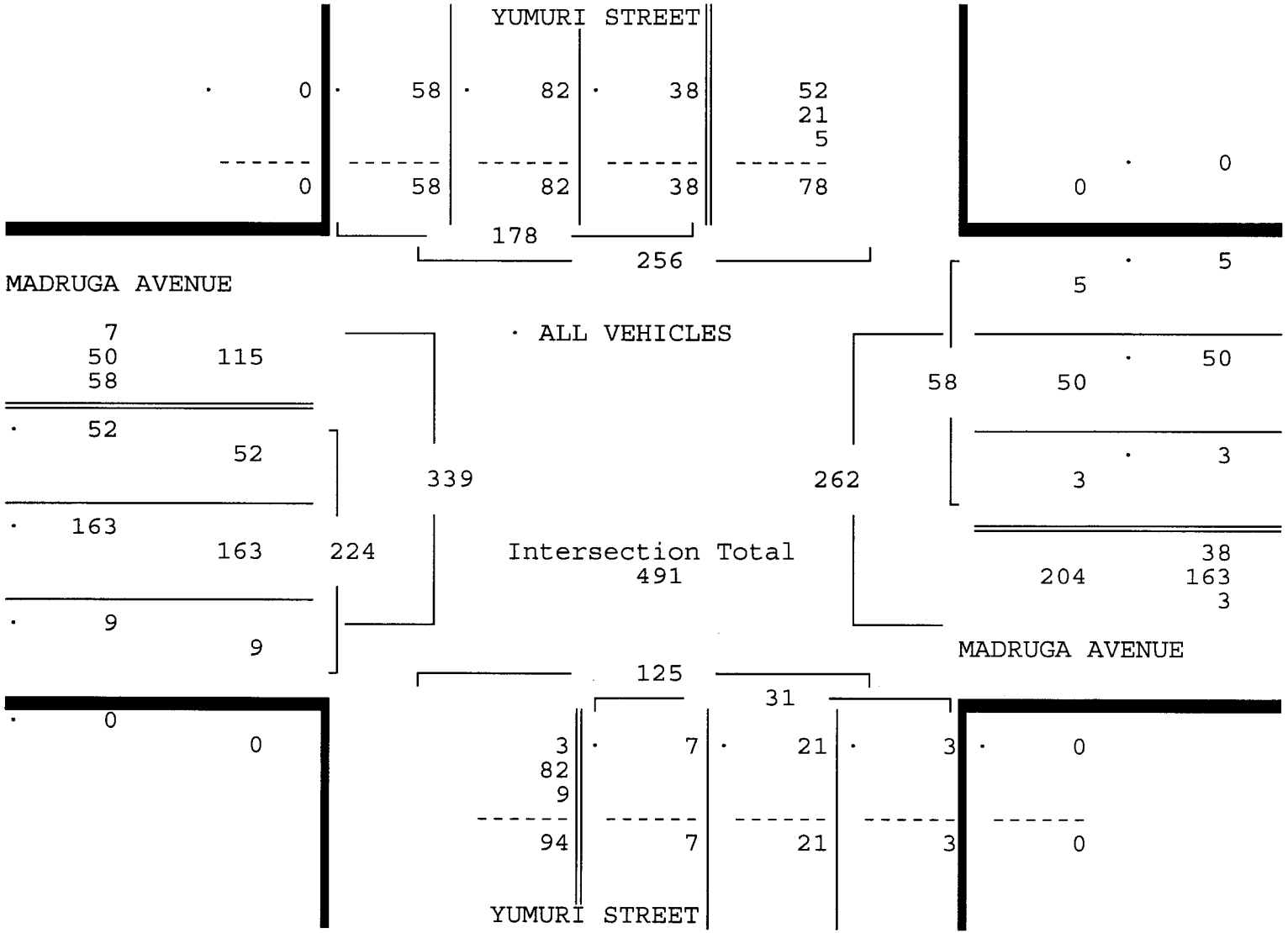
ALL VEHICLES

YUMURI STREET				MADRUGA AVENUE				YUMURI STREET				MADRUGA AVENUE				Total
From North				From East				From South				From West				
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 09/22/16

Peak start	08:00				08:00				08:00				08:00			
Volume	0	38	82	58	0	3	50	5	0	7	21	3	1	51	163	9
Percent	0%	21%	46%	33%	0%	5%	86%	9%	0%	23%	68%	10%	0%	23%	73%	4%
Pk total	178				58				31				224			
Highest	08:00				08:45				08:30				08:30			
Volume	0	10	20	23	0	1	16	2	0	2	11	0	1	22	51	1
Hi total	53				19				13				75			
PHF	.84				.76				.60				.75			



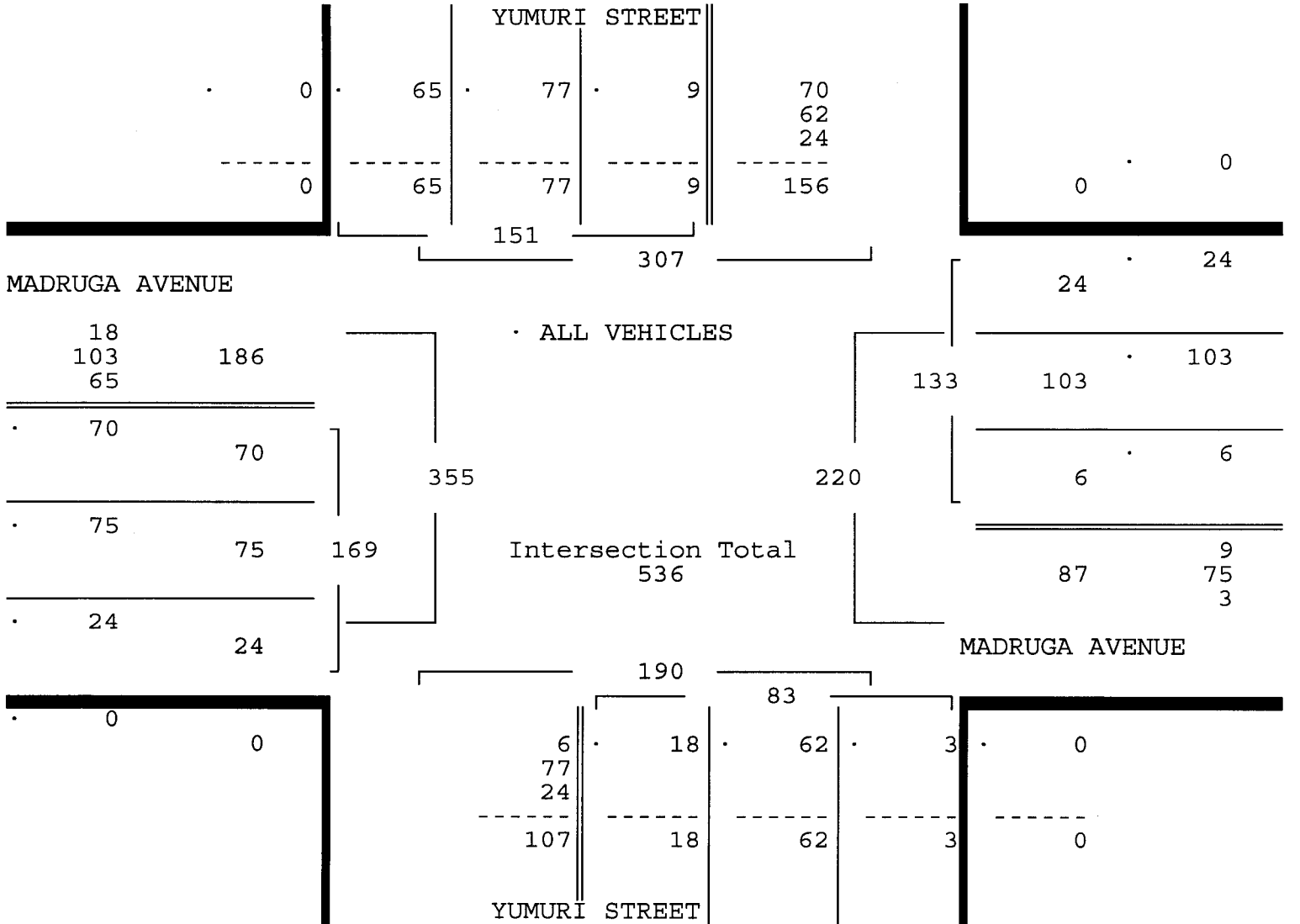
ALL VEHICLES

YUMURI STREET From North				MADRUGA AVENUE From East				YUMURI STREET From South				MADRUGA AVENUE From West				Total
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 09/22/16

Peak start 16:00	16:00				16:00				16:00							
Volume	0	9	77	65	0	6	103	24	0	18	62	3	1	69	75	24
Percent	0%	6%	51%	43%	0%	5%	77%	18%	0%	22%	75%	4%	1%	41%	44%	14%
Pk total	151				133				83				169			
Highest	16:30				16:00				16:00				16:45			
Volume	0	3	23	17	0	1	33	9	0	10	18	0	0	21	23	5
Hi total	43				43				28				49			
PHF	.88				.77				.74				.86			



MADRUGA AVENUE & YUMURI STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: AMBER PALOMINO  
 NOT SIGNALIZED

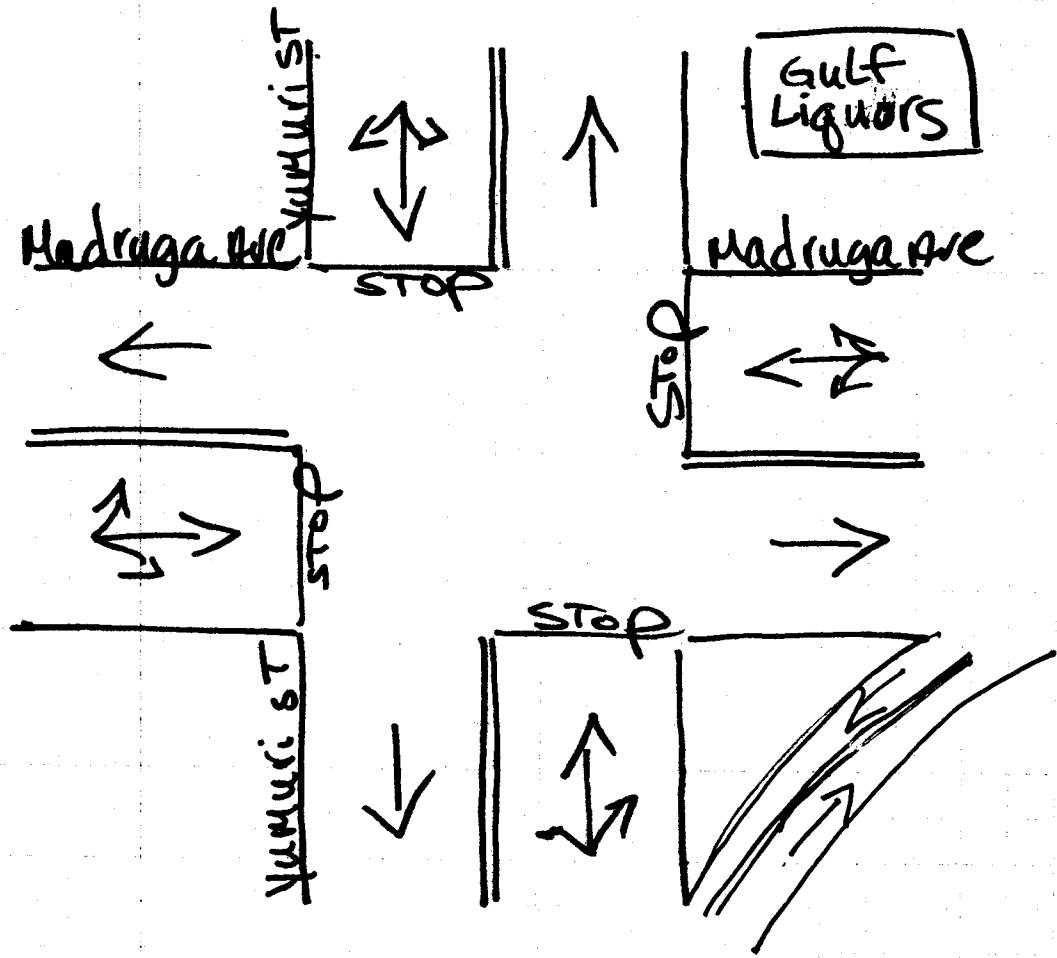
TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : MADRYUMU  
 Page : 1

PEDESTRIANS & BIKES

Date	YUMURI STREET From North				MADRUGA AVENUE From East				YUMURI STREET From South				MADRUGA AVENUE From West				Total
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	
09/22/16	-----																
07:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	3
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
07:45	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	3
Hr Total	0	0	0	3	0	0	0	2	0	0	0	0	0	1	0	2	8
08:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	3
08:30	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
08:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Hr Total	0	0	0	2	0	0	0	0	0	0	0	5	0	0	0	0	7
----- * BREAK * -----																	
16:00	0	0	0	1	0	0	0	4	0	0	0	4	0	0	0	1	10
16:15	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
16:30	0	0	0	3	0	0	0	2	0	0	0	4	0	0	0	0	9
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	1	0	4	0	0	0	7	0	0	0	8	0	0	0	1	21
17:00	0	0	0	3	0	0	0	1	0	2	0	2	0	0	0	1	9
17:15	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	1	5
17:30	0	0	0	2	0	0	0	1	0	1	0	4	0	0	0	0	8
17:45	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
Hr Total	0	0	0	5	0	0	0	5	0	5	0	7	0	0	0	2	24
-----																	
*TOTAL*	0	1	0	14	0	0	0	14	0	5	0	20	0	1	0	5	60

↑  
North



Coral Gable Florida  
July 15, 2014  
drawn by: Luis Palomino  
NOT signalized

VENERA AVENUE & YUMURI STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: CRISTINA PALOMINO  
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : VENEMYUMU  
 Page : 1

ALL VEHICLES

Date	YUMURI STREET From North				----- From East				YUMURI STREET From South				VENERA AVENUE From West				Total
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	
09/22/16	-----																
07:00	0	0	41	9	0	0	0	0	0	7	31	0	0	13	0	3	104
07:15	0	0	38	3	0	0	0	0	0	1	61	0	0	6	0	7	116
07:30	0	0	22	1	0	0	0	0	0	3	26	0	0	4	0	0	56
07:45	0	0	43	4	0	0	0	0	1	2	31	0	0	3	0	0	84
Hr Total	0	0	144	17	0	0	0	0	1	13	149	0	0	26	0	10	360
08:00	1	0	51	2	0	0	0	0	0	2	46	0	0	10	0	11	123
08:15	0	0	53	5	0	0	0	0	0	7	93	0	0	5	0	9	172
08:30	0	0	43	2	0	0	0	0	0	3	70	0	0	8	0	7	133
08:45	0	0	48	3	0	0	0	0	0	3	34	0	0	7	0	3	98
Hr Total	1	0	195	12	0	0	0	0	0	15	243	0	0	30	0	30	526
----- * BREAK * -----																	
16:00	0	0	63	6	0	0	0	0	0	7	101	0	0	8	0	20	205
16:15	0	0	57	4	0	0	0	0	0	2	63	0	0	4	0	13	143
16:30	0	0	63	5	0	0	0	0	0	9	85	0	0	8	0	14	184
16:45	0	0	69	8	0	0	0	0	0	6	76	0	0	7	0	15	181
Hr Total	0	0	252	23	0	0	0	0	0	24	325	0	0	27	0	62	713
17:00	0	0	87	7	0	0	0	0	0	8	97	0	0	7	0	8	214
17:15	0	0	69	7	0	0	0	0	0	6	96	0	0	6	0	2	186
17:30	0	0	56	7	0	0	0	0	0	6	69	0	0	8	0	7	153
17:45	0	0	67	5	0	0	0	0	0	7	50	0	0	6	0	9	144
Hr Total	0	0	279	26	0	0	0	0	0	27	312	0	0	27	0	26	697
*TOTAL*	1	0	870	78	0	0	0	0	1	79	1029	0	0	110	0	128	2296

VENERA AVENUE & YUMURI STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: CRISTINA PALOMINO  
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : VENEMYUMU  
 Page : 2

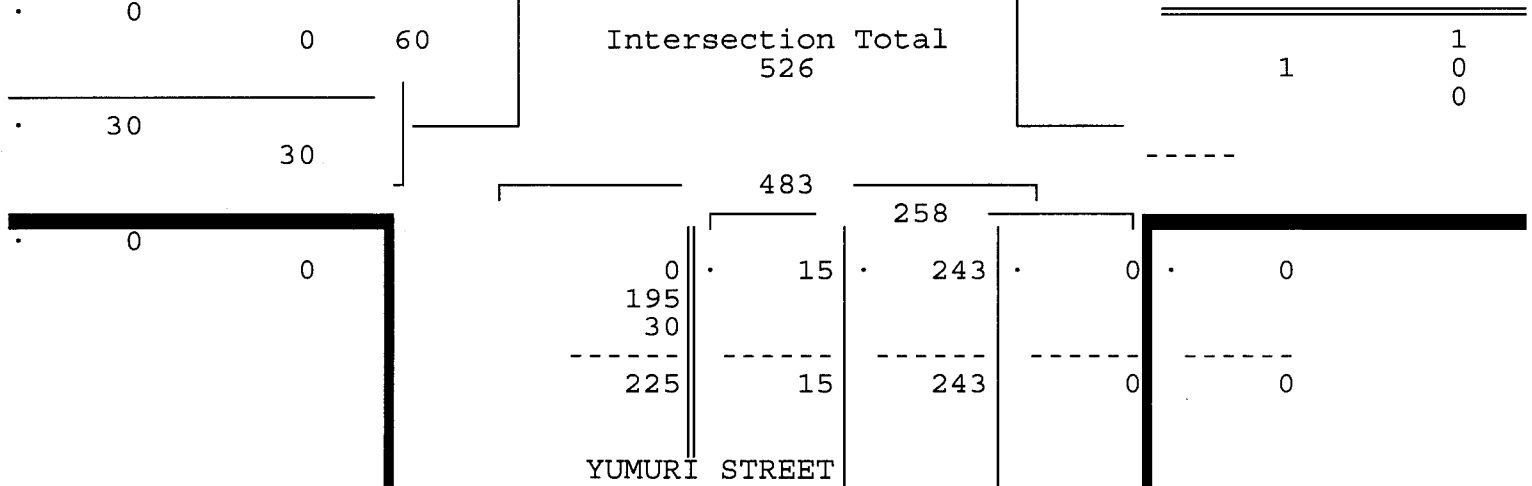
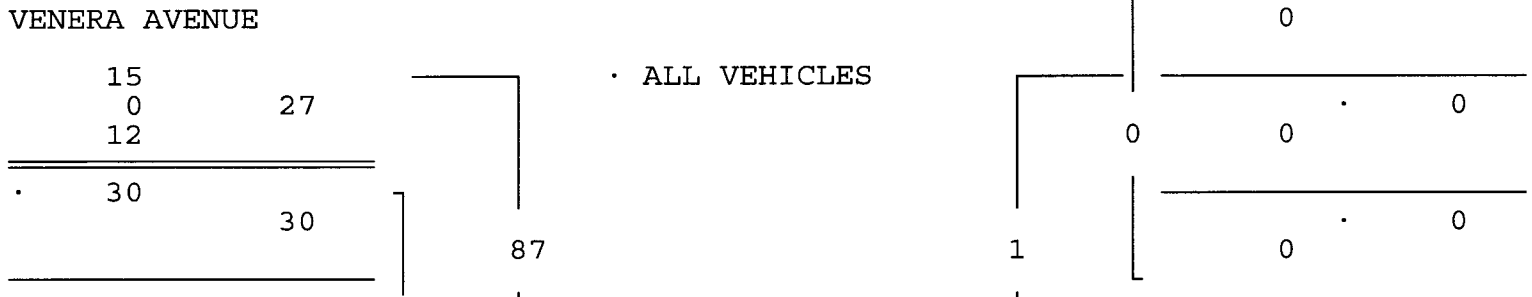
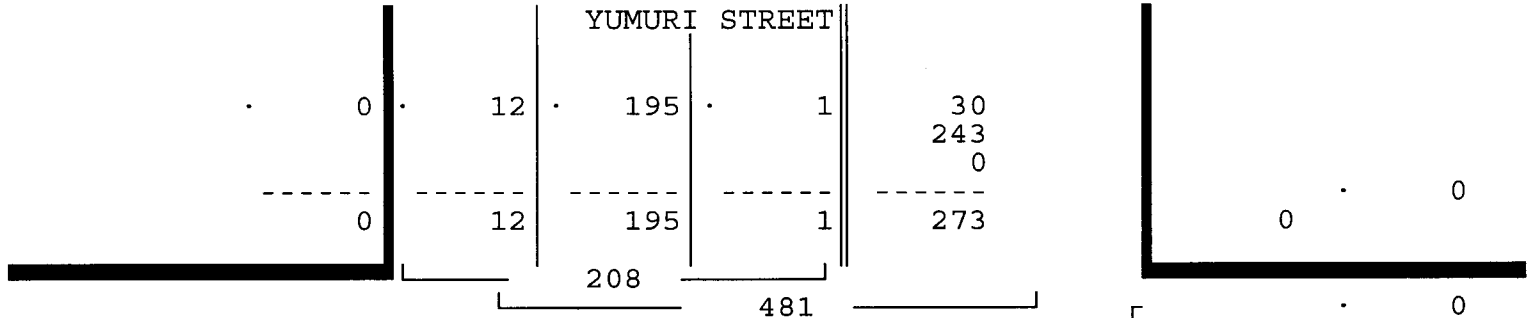
ALL VEHICLES

YUMURI STREET				YUMURI STREET				YUMURI STREET				VENERA AVENUE				Total
From North				From East				From South				From West				
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 09/22/16

Peak start 08:00				08:00				08:00				08:00			
Volume	1	0	195	12	0	0	0	0	15	243	0	0	30	0	30
Percent	0%	0%	94%	6%	0%	0%	0%	0%	6%	94%	0%	0%	50%	0%	50%
Pk total	208			0				258				60			
Highest	08:15			07:00				08:15				08:00			
Volume	0	0	53	5	0	0	0	0	7	93	0	0	10	0	11
Hi total	58			0				100				21			
PHF	.90			.0				.64				.71			



Intersection Total  
526

YUMURI STREET

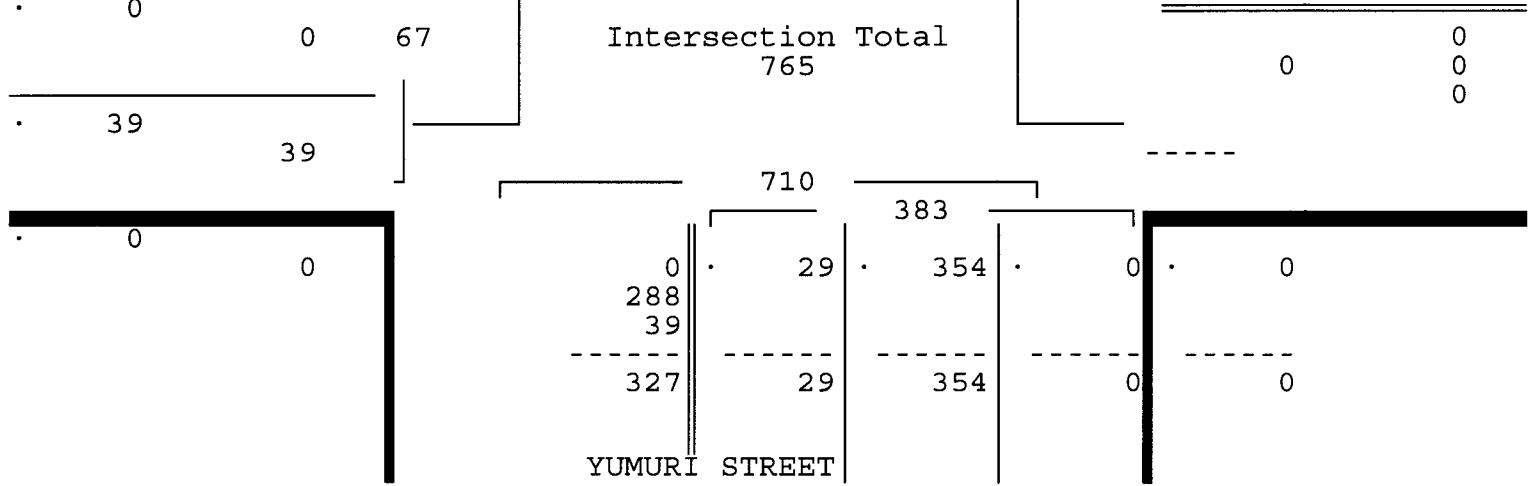
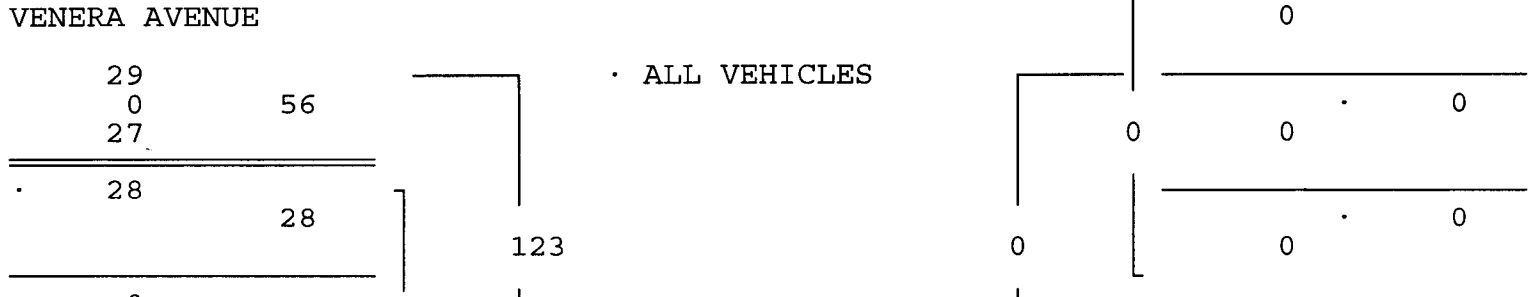
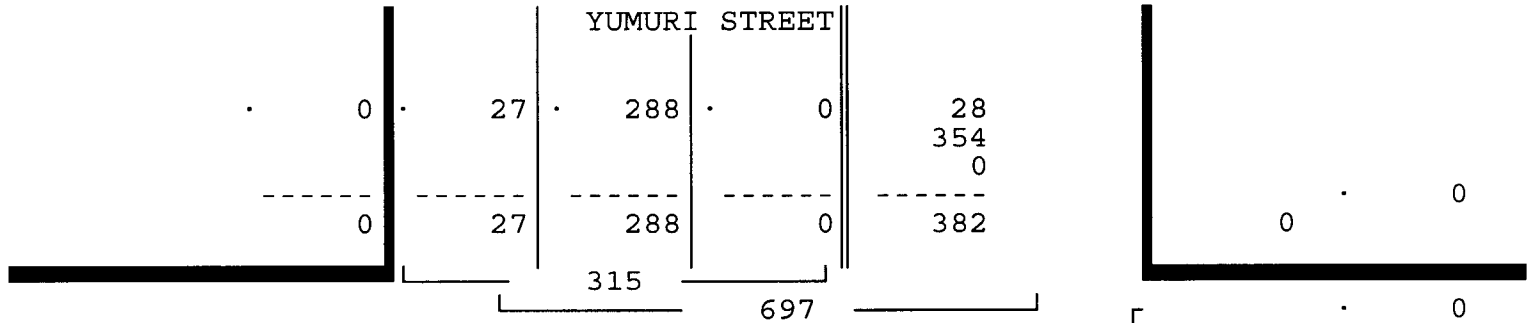
ALL VEHICLES

YUMURI STREET				YUMURI STREET				YUMURI STREET				VENERA AVENUE				Total
From North				From East				From South				From West				
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 09/22/16

Peak start 16:30				16:30				16:30				16:30				
Volume	0	0	288	27	0	0	0	0	0	29	354	0	0	28	0	39
Percent	0%	0%	91%	9%	0%	0%	0%	0%	0%	8%	92%	0%	0%	42%	0%	58%
Pk total	315			0				383				67				
Highest	17:00			07:00				17:00				16:30				
Volume	0	0	87	7	0	0	0	0	0	8	97	0	0	8	0	14
Hi total	94			0				105				22				
PHF	.84			.0				.91				.76				





VENERA AVENUE & YUMURI STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: CRISTINA PALOMINO  
 NOT SIGNALIZED

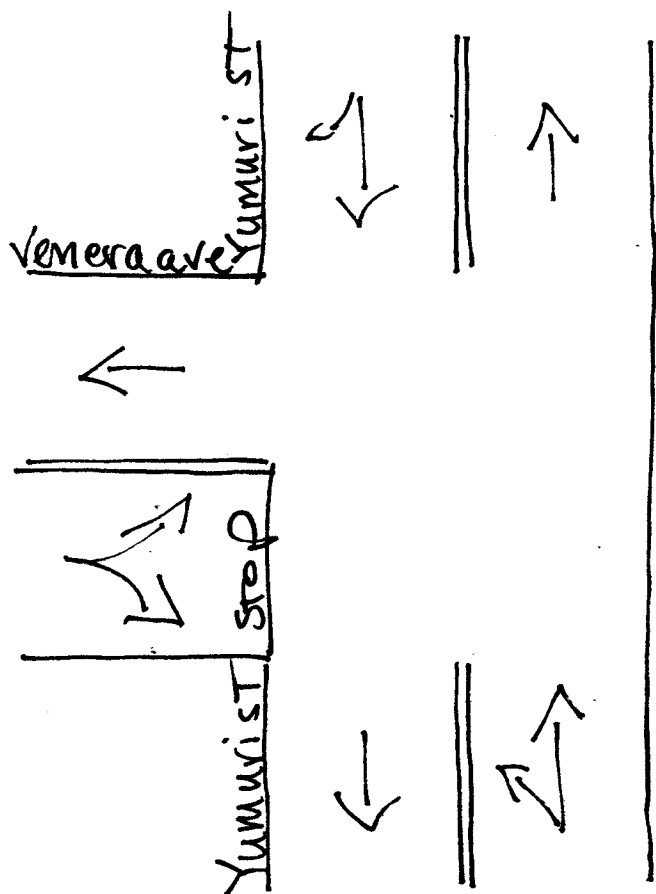
TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : VENNEYUMU  
 Page : 1

PEDESTRIANS & BIKES

Date	YUMURI STREET From North				----- From East				YUMURI STREET From South				VENERA AVENUE From West				Total
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	
09/22/16	-----																
07:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	4
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	2	7
08:30	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	4
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	0	0	0	0	0	0	0	0	0	0	7	0	1	0	3	11
----- * BREAK * -----																	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
16:15	0	0	0	1	0	0	0	0	0	0	0	4	0	1	0	6	12
16:30	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	1	8
16:45	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	3
Hr Total	0	0	0	3	0	0	0	0	0	0	0	12	0	2	0	7	24
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
17:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	3	5
-----																	
*TOTAL*	0	0	0	3	0	0	0	0	0	0	0	21	0	4	0	16	44

↑  
North



Coral Gables, Florida  
September 22, 2016  
drawn by Luis Palomino  
NOT signalized

TRAFFIC SURVEY SPECIALISTS, INC.

SAN REMO AVENUE & YUMURI STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: LUIS PALOMINO  
 NOT SIGNALIZED

85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : SANRYUMU  
 Page : 1

ALL VEHICLES

Date	YUMURI STREET From North				SAN REMO AVENUE From East				YUMURI STREET From South				SAN REMO AVENUE From West				Total
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	
09/22/16	-----																
07:00	0	0	41	3	0	2	1	0	0	5	24	0	0	13	0	4	93
07:15	0	0	40	10	0	12	4	22	0	7	31	0	0	9	0	2	137
07:30	0	0	16	7	0	1	4	1	0	4	16	0	0	9	0	6	64
07:45	0	0	35	6	0	1	3	1	0	1	28	0	0	9	0	2	86
Hr Total	0	0	132	26	0	16	12	24	0	17	99	0	0	40	0	14	380
08:00	0	0	38	25	0	10	7	7	0	6	29	0	0	14	0	5	141
08:15	0	0	44	21	0	5	9	14	0	7	64	0	0	19	0	7	190
08:30	0	0	37	15	0	14	15	7	0	6	46	0	0	18	0	5	163
08:45	0	0	35	19	0	4	5	2	0	4	25	0	0	14	0	10	118
Hr Total	0	0	154	80	0	33	36	30	0	23	164	0	0	65	0	27	612
----- * BREAK * -----																	
16:00	0	0	61	24	0	5	14	7	0	2	60	0	0	38	0	28	239
16:15	0	0	47	27	0	16	15	6	0	11	34	0	0	26	0	27	209
16:30	0	0	55	25	0	11	21	13	0	7	49	0	0	36	0	29	246
16:45	0	0	65	21	0	4	19	4	0	5	40	0	0	32	0	33	223
Hr Total	0	0	228	97	0	36	69	30	0	25	183	0	0	132	0	117	917
17:00	0	0	40	40	0	7	14	5	0	6	60	0	0	41	0	37	250
17:15	0	0	60	28	0	6	10	8	0	11	41	0	0	57	0	31	252
17:30	0	0	45	15	0	10	14	9	0	8	42	0	0	29	0	30	202
17:45	0	0	52	18	0	14	17	6	0	8	21	0	0	31	0	20	187
Hr Total	0	0	197	101	0	37	55	28	0	33	164	0	0	158	0	118	891
-----																	
*TOTAL*	0	0	711	304	0	122	172	112	0	98	610	0	0	395	0	276	2800

SAN REMO AVENUE & YUMURI STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: LUIS PALOMINO  
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : SANRYUMU  
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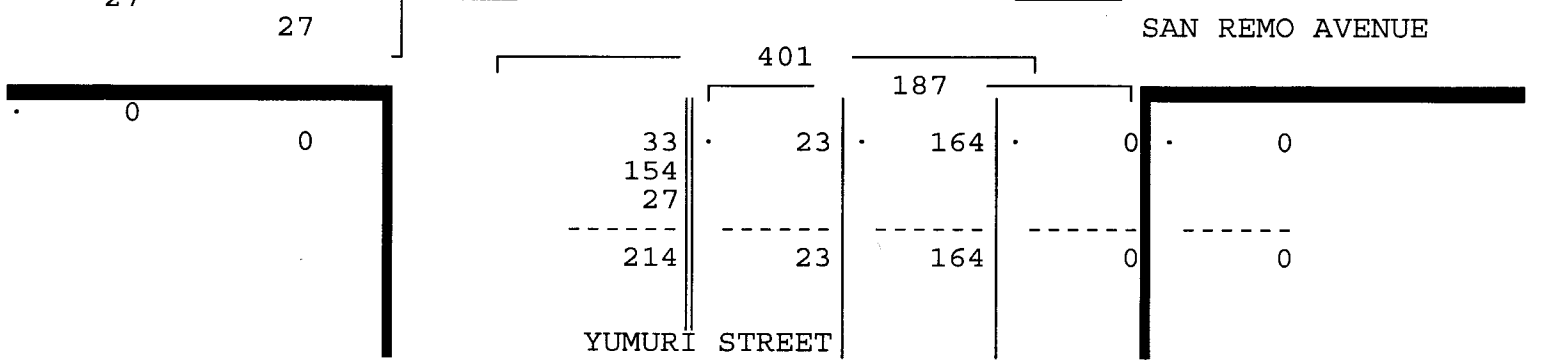
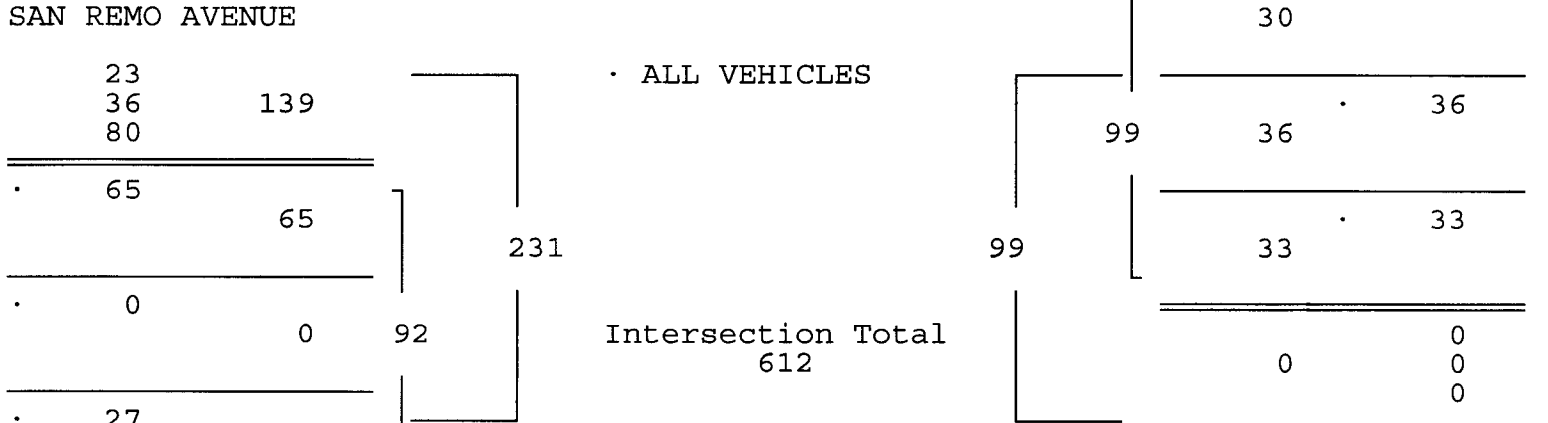
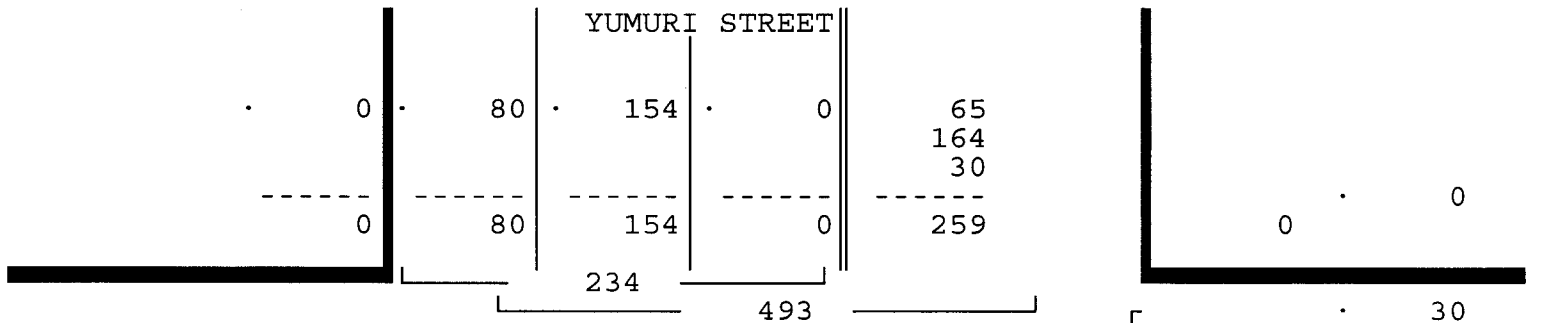
ALL VEHICLES

YUMURI STREET From North				SAN REMO AVENUE From East				YUMURI STREET From South				SAN REMO AVENUE From West				Total
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 09/22/16

Peak start 08:00				08:00				08:00				08:00				
Volume	0	0	154	80	0	33	36	30	0	23	164	0	0	65	0	27
Percent	0%	0%	66%	34%	0%	33%	36%	30%	0%	12%	88%	0%	0%	71%	0%	29%
Pk total	234			99			187			92						
Highest	08:15			08:30			08:15			08:15						
Volume	0	0	44	21	0	14	15	7	0	7	64	0	0	19	0	7
Hi total	65			36			71			26						
PHF	.90			.69			.66			.88						



SAN REMO AVENUE & YUMURI STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: LUIS PALOMINO  
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : SANRYUMU  
 Page : 3

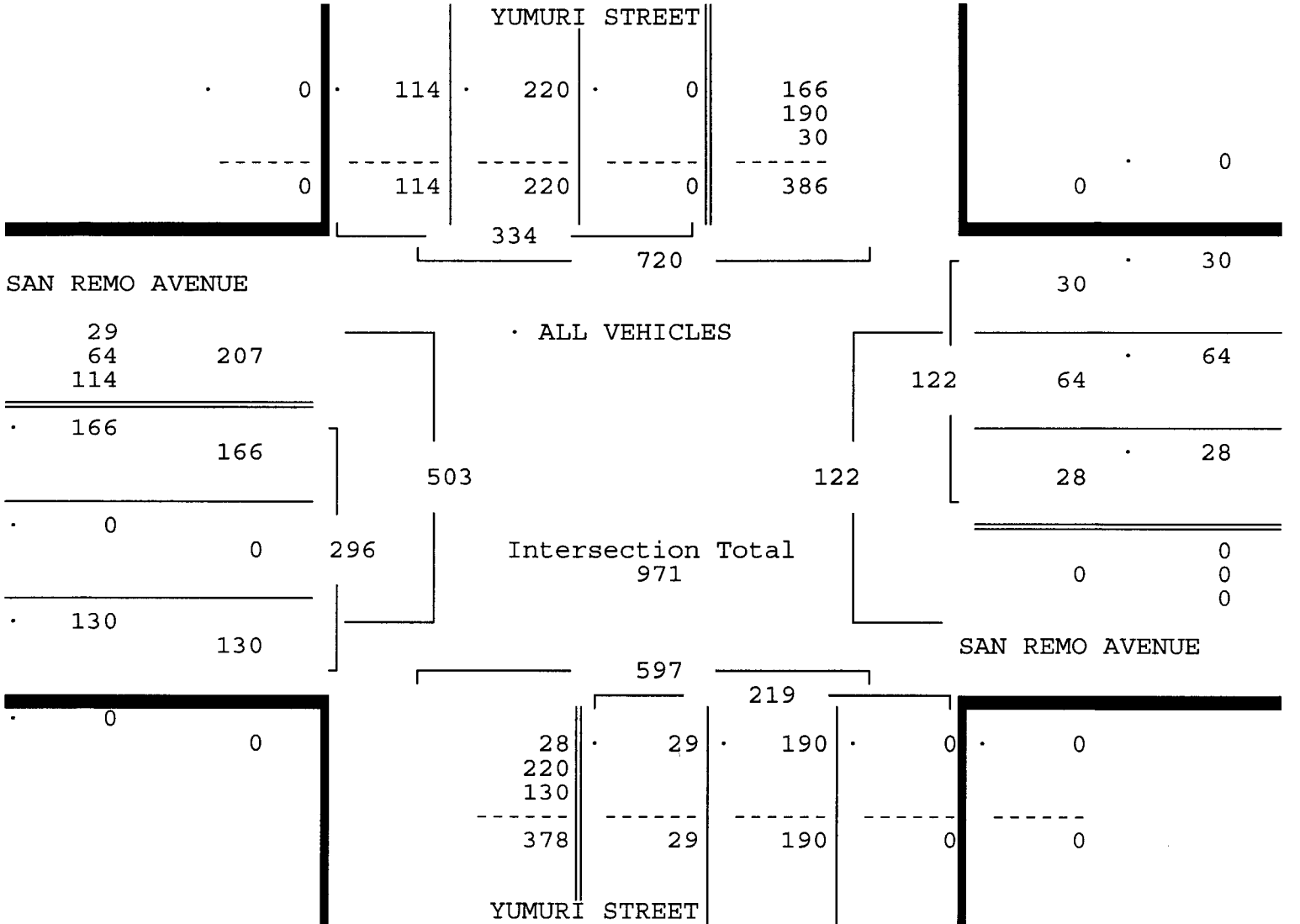
ALL VEHICLES

YUMURI STREET From North				SAN REMO AVENUE From East				YUMURI STREET From South				SAN REMO AVENUE From West				Total
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 09/22/16

Peak start 16:30				16:30				16:30				16:30				
Volume	0	0	220	114	0	28	64	30	0	29	190	0	0	166	0	130
Percent	0%	0%	66%	34%	0%	23%	52%	25%	0%	13%	87%	0%	0%	56%	0%	44%
Pk total	334			122				219				296				
Highest	17:15			16:30				17:00				17:15				
Volume	0	0	60	28	0	11	21	13	0	6	60	0	0	57	0	31
Hi total	88			45				66				88				
PHF	.95			.68				.83				.84				



TRAFFIC SURVEY SPECIALISTS, INC.

SAN REMO AVENUE & YUMURI STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: LUIS PALOMINO  
 NOT SIGNALIZED

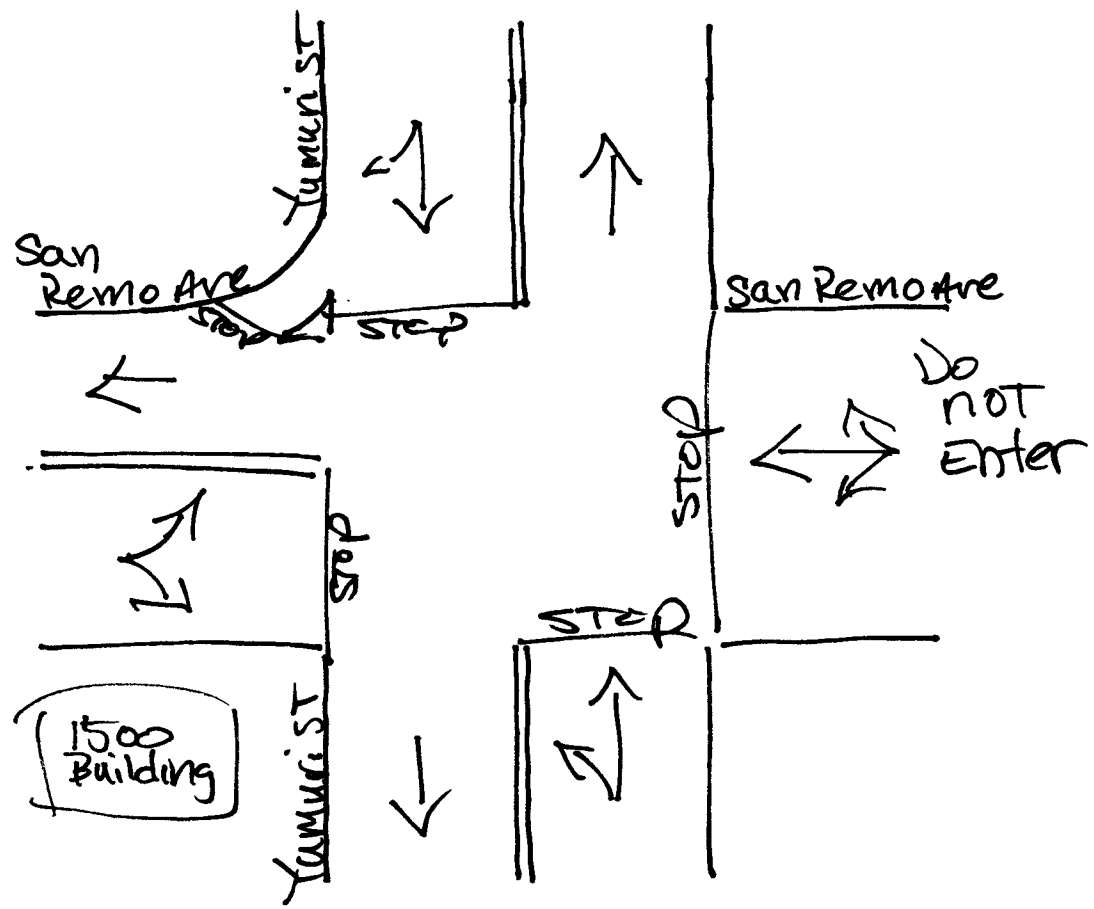
85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : SANRYUMU  
 Page : 1

PEDESTRIANS & BIKES

Date	YUMURI STREET From North				SAN REMO AVENUE From East				YUMURI STREET From South				SAN REMO AVENUE From West				Total
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	
09/22/16	-----																
07:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
07:15	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3
07:30	0	0	0	1	0	2	0	0	0	0	0	1	0	0	0	2	6
07:45	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	4
Hr Total	0	0	0	1	0	2	0	0	0	0	0	9	0	0	0	3	15
08:00	0	1	0	2	0	0	0	0	0	0	0	2	0	0	0	0	5
08:15	0	0	0	0	0	1	0	2	0	0	0	22	0	0	0	15	40
08:30	0	0	0	3	0	0	0	3	0	0	0	7	0	1	0	4	18
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	1	0	5	0	1	0	5	0	0	0	31	0	1	0	19	63
----- * BREAK * -----																	
16:00	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	10
16:15	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	8
16:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2
16:45	0	1	0	0	0	0	0	3	0	0	0	2	0	0	0	4	10
Hr Total	0	1	0	0	0	0	0	4	0	0	0	11	0	0	0	14	30
17:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
17:15	0	0	0	0	0	2	0	0	0	1	0	0	0	1	0	0	4
17:30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
17:45	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	4
Hr Total	0	0	0	1	0	2	0	0	0	2	0	4	0	1	0	1	11
-----																	
*TOTAL*	0	2	0	7	0	5	0	9	0	2	0	55	0	2	0	37	119

North



Coral Gables, Florida  
September 22, 2016  
drawn by: Luis Palomino  
NOT signalized

SAN REMO AVENUE & NERVIA STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: SEBASTIAN SALVO  
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : SANRNERV  
 Page : 1

ALL VEHICLES

Date	NERVIA STREET From North				SAM REMO AVENUE From East				NERVIA STREET From South				SAM REMO AVENUE From West				Total
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	
09/22/16	-----																
07:00	0	3	12	2	0	2	6	0	0	8	13	0	0	0	0	0	46
07:15	0	3	18	23	0	3	18	1	0	15	11	3	0	0	0	0	95
07:30	0	4	15	4	0	3	3	0	0	4	21	5	0	0	0	0	59
07:45	0	0	9	12	0	1	3	5	0	10	13	7	0	0	0	0	60
Hr Total	0	10	54	41	0	9	30	6	0	37	58	15	0	0	0	0	260
08:00	0	8	37	23	0	6	11	3	0	7	30	14	0	0	0	0	139
08:15	0	7	47	28	0	14	11	9	0	22	63	12	0	0	0	0	213
08:30	0	6	11	9	0	4	19	6	0	6	41	13	0	0	0	0	115
08:45	0	10	10	4	0	2	6	1	0	3	37	4	0	0	0	0	77
Hr Total	0	31	105	64	0	26	47	19	0	38	171	43	0	0	0	0	544
----- * BREAK * -----																	
16:00	0	2	26	13	0	18	16	4	0	16	23	9	0	0	0	0	127
16:15	0	6	24	7	0	28	23	12	0	10	23	4	0	0	0	0	137
16:30	0	5	16	7	0	9	25	8	0	16	32	3	0	0	0	0	121
16:45	0	9	22	3	0	6	17	4	0	8	25	3	0	0	0	0	97
Hr Total	0	22	88	30	0	61	81	28	0	50	103	19	0	0	0	0	482
17:00	0	6	24	4	0	5	14	5	0	10	27	1	0	0	0	0	96
17:15	0	7	30	2	1	9	14	3	0	10	21	3	0	0	0	0	100
17:30	0	3	20	2	1	15	24	6	0	5	18	9	0	0	0	0	103
17:45	0	3	26	10	1	11	24	5	0	6	15	2	0	0	0	0	103
Hr Total	0	19	100	18	3	40	76	19	0	31	81	15	0	0	0	0	402
*TOTAL*	0	82	347	153	3	136	234	72	0	156	413	92	0	0	0	0	1688



SAN REMO AVENUE & NERVIA STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: SEBASTIAN SALVO  
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : SANRNERV  
 Page : 2

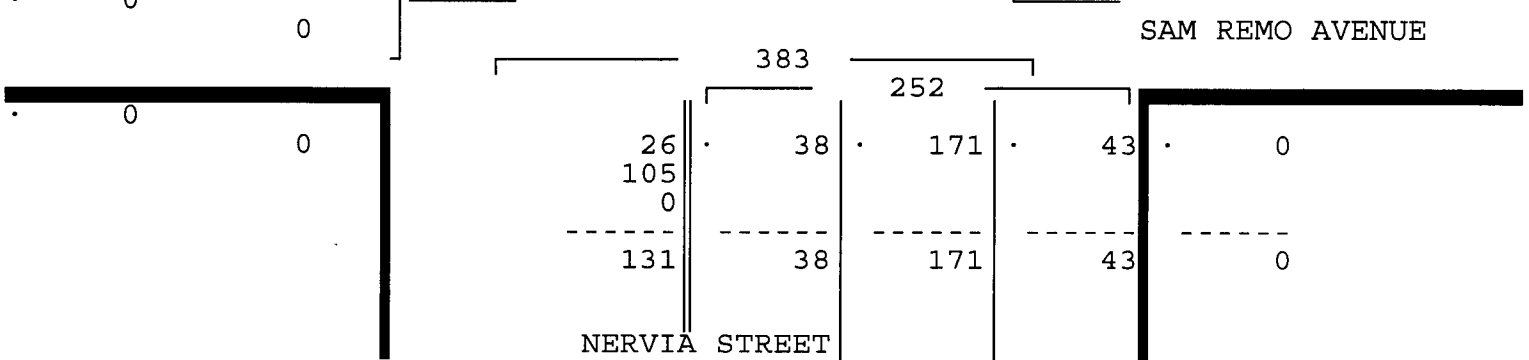
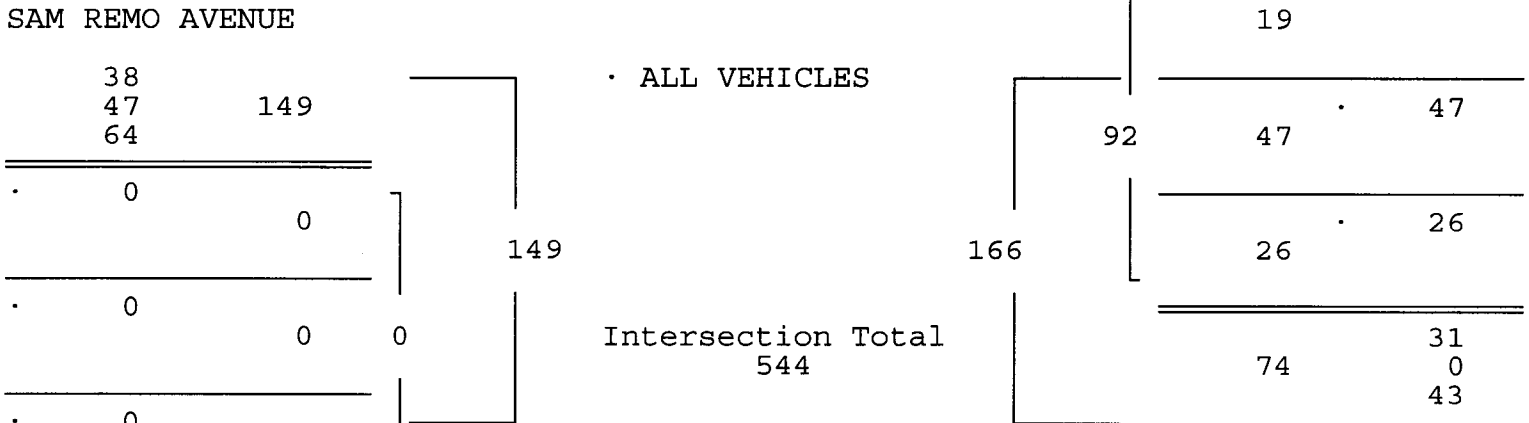
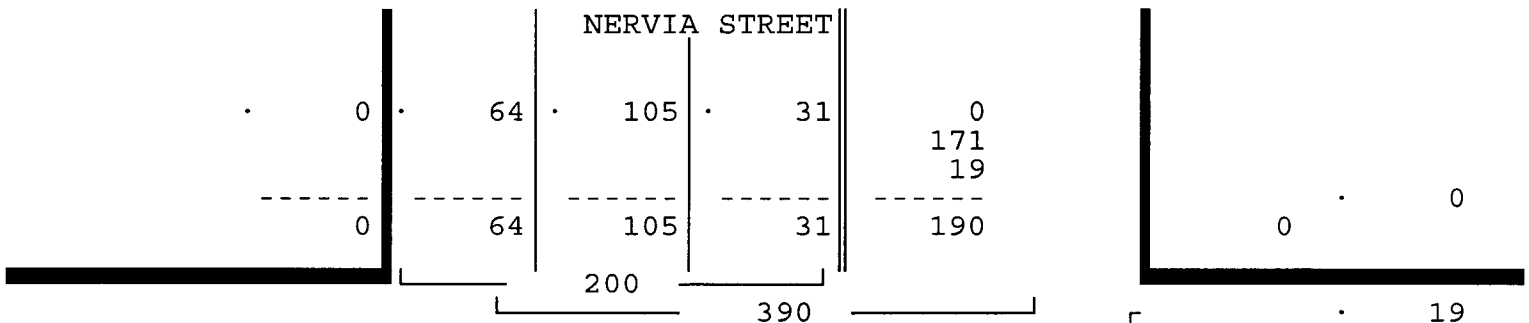
ALL VEHICLES

NERVIA STREET				SAM REMO AVENUE				NERVIA STREET				SAM REMO AVENUE				Total
From North				From East				From South				From West				
U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 09/22/16

Peak start	08:00				08:00				08:00							
Volume	0	31	105	64	0	26	47	19	0	38	171	43	0	0	0	0
Percent	0%	16%	52%	32%	0%	28%	51%	21%	0%	15%	68%	17%	0%	0%	0%	0%
Pk total	200				92				252							
Highest	08:15				08:15				07:00							
Volume	0	7	47	28	0	14	11	9	0	22	63	12	0	0	0	0
Hi total	82				34				97							
PHF	.61				.68				.65							



SAN REMO AVENUE & NERVIA STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: SEBASTIAN SALVO  
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : SANRNERV  
 Page : 3

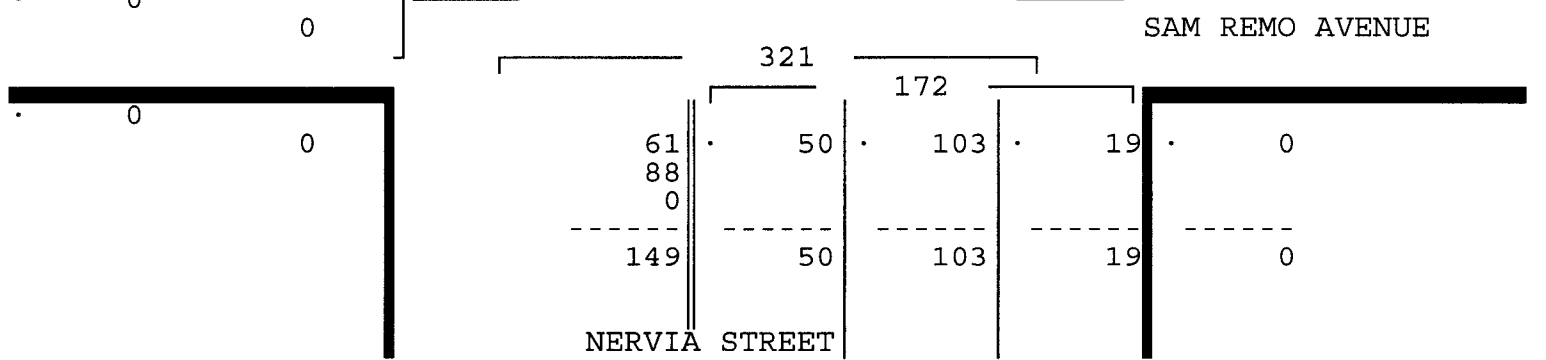
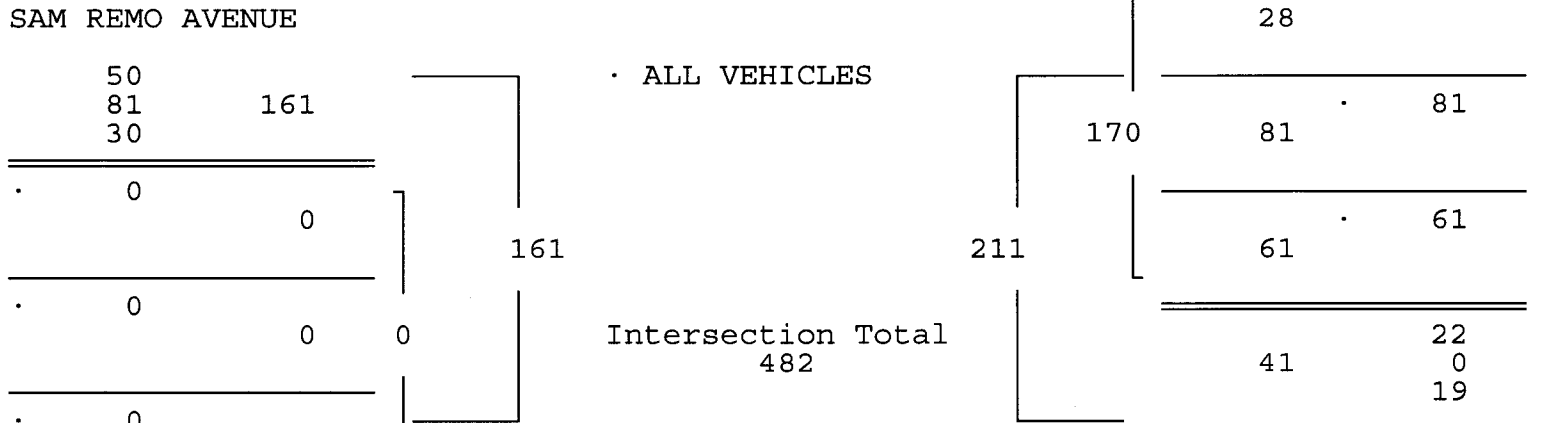
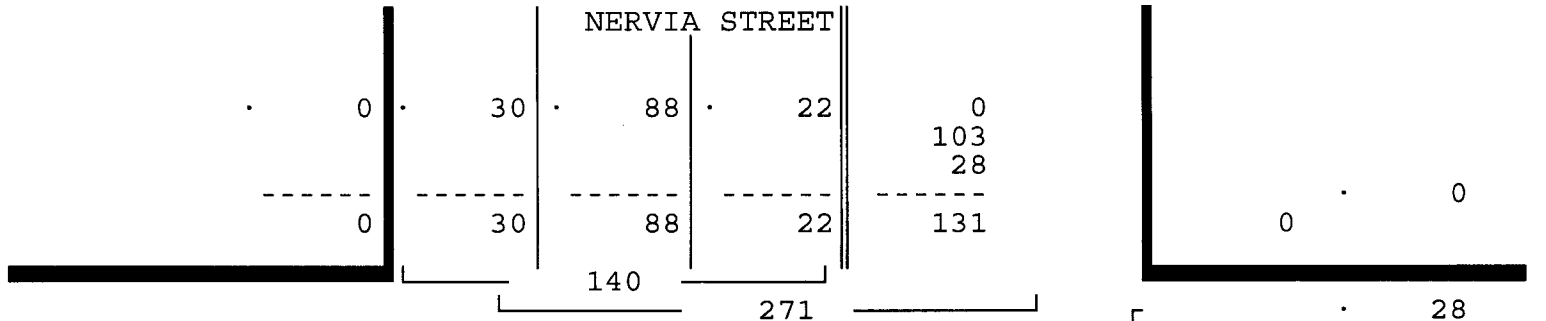
ALL VEHICLES

NERVIA STREET				SAM REMO AVENUE				NERVIA STREET				SAM REMO AVENUE				Total
From North				From East				From South				From West				
U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 09/22/16

Peak start 16:00				16:00				16:00				16:00				
Volume	0	22	88	30	0	61	81	28	0	50	103	19	0	0	0	0
Percent	0%	16%	63%	21%	0%	36%	48%	16%	0%	29%	60%	11%	0%	0%	0%	0%
Pk total	140			170	172			0	0			0				
Highest	16:00			16:15	16:30			07:00	0			0				
Volume	0	2	26	13	0	28	23	12	0	16	32	3	0	0	0	0
Hi total	41			63	51			0	0			0				
PHF	.85			.67	.84			.0								



SAN REMO AVENUE & NERVIA STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: SEBASTIAN SALVO  
 NOT SIGNALIZED

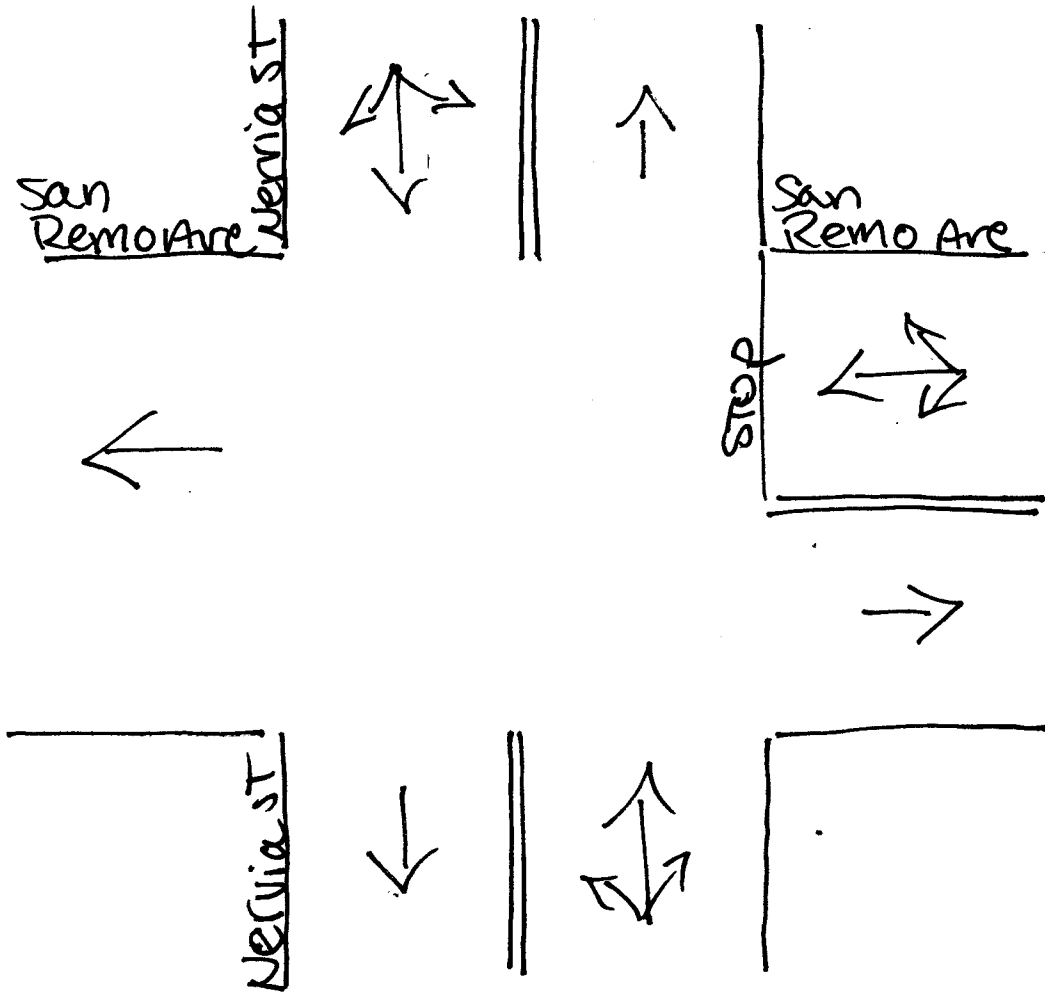
TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : SANRNERV  
 Page : 1

PEDESTRIANS & BIKES

Date	NERVIA STREET From North				SAM REMO AVENUE From East				NERVIA STREET From South				SAM REMO AVENUE From West				Total
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	
09/22/16	-----																
07:00	0	0	0	1	0	1	0	1	0	0	0	1	0	0	0	1	5
07:15	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2
07:30	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
07:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	4
Hr Total	0	0	0	2	0	1	0	4	0	0	0	2	0	0	0	4	13
08:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
08:15	0	0	0	7	0	0	0	0	0	1	0	2	0	0	0	12	22
08:30	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	4
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	0	0	9	0	0	0	0	0	1	0	3	0	0	0	15	28
----- * BREAK * -----																	
16:00	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	1	5
16:15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
16:30	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2	4
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	0	0	1	0	1	0	2	0	0	0	3	0	0	0	4	11
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
17:45	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	3
Hr Total	0	0	0	1	0	0	0	2	0	0	0	0	0	1	0	2	6
-----																	
*TOTAL*	0	0	0	13	0	2	0	8	0	1	0	8	0	1	0	25	58

North



Coral Gables, Florida  
September 22, 2016  
drawn by: Luis Palomino  
not signalized

TRAFFIC SURVEY SPECIALISTS, INC.

SUNSET DRIVE & YUMURI STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: ALEX RICKETTS  
 SIGNALIZED

85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : 72STYUMU  
 Page : 1

ALL VEHICLES

Date	YUMURI STREET From North				SUNSET DRIVE From East				----- From South				SUNSET DRIVE From West				Total
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	
09/22/16																	
07:00	0	8	0	25	0	0	38	4	0	0	0	0	0	18	79	0	172
07:15	0	19	0	27	0	0	51	4	0	0	0	0	0	16	122	0	239
07:30	0	4	0	24	0	0	49	3	0	0	0	0	0	16	105	0	201
07:45	0	10	0	26	0	0	76	10	0	0	0	0	0	21	111	0	254
Hr Total	0	41	0	102	0	0	214	21	0	0	0	0	0	71	417	0	866
08:00	0	14	0	23	0	0	96	13	0	0	0	0	0	25	145	0	316
08:15	0	18	0	25	0	0	99	33	0	0	0	0	0	39	142	0	356
08:30	0	12	0	33	0	0	118	20	0	0	0	0	0	28	96	0	307
08:45	0	14	0	27	0	0	102	8	0	0	0	0	0	24	128	0	303
Hr Total	0	58	0	108	0	0	415	74	0	0	0	0	0	116	511	0	1282
----- * BREAK * -----																	
16:00	0	38	0	68	0	0	87	14	0	0	0	0	0	35	94	0	336
16:15	0	39	0	38	0	0	73	15	0	0	0	0	0	24	82	0	271
16:30	0	48	0	35	0	0	76	19	0	0	0	0	0	34	80	0	292
16:45	0	50	0	30	0	0	48	9	0	0	0	0	0	39	96	0	272
Hr Total	0	175	0	171	0	0	284	57	0	0	0	0	0	132	352	0	1171
17:00	0	37	0	26	0	0	47	8	0	0	0	0	0	43	100	0	261
17:15	0	63	0	49	0	0	75	10	0	0	0	0	0	33	89	0	319
17:30	0	47	0	41	0	0	89	15	0	0	0	0	0	27	103	0	322
17:45	0	48	0	36	0	0	83	10	0	0	0	0	0	19	84	0	280
Hr Total	0	195	0	152	0	0	294	43	0	0	0	0	0	122	376	0	1182
*TOTAL*	0	469	0	533	0	0	1207	195	0	0	0	0	0	441	1656	0	4501

SUNSET DRIVE & YUMURI STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: ALEX RICKETTS  
 SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : 72STYUMU  
 Page : 2

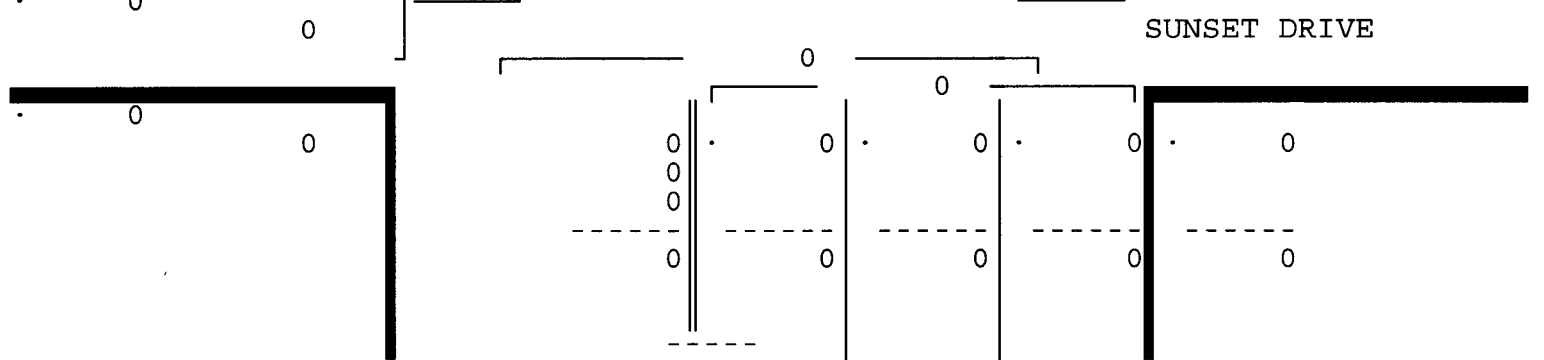
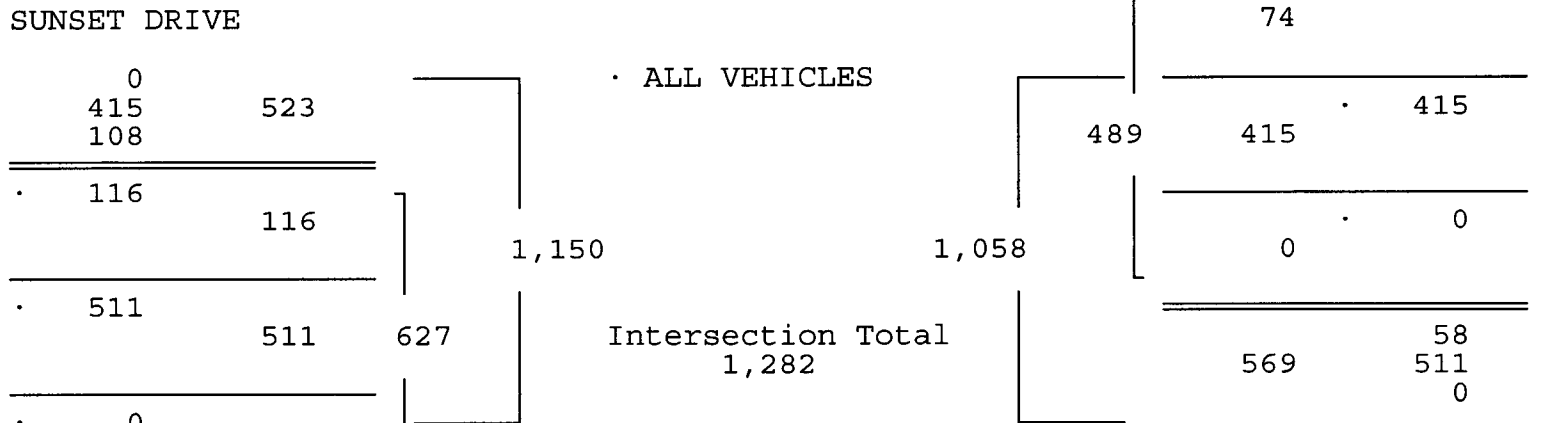
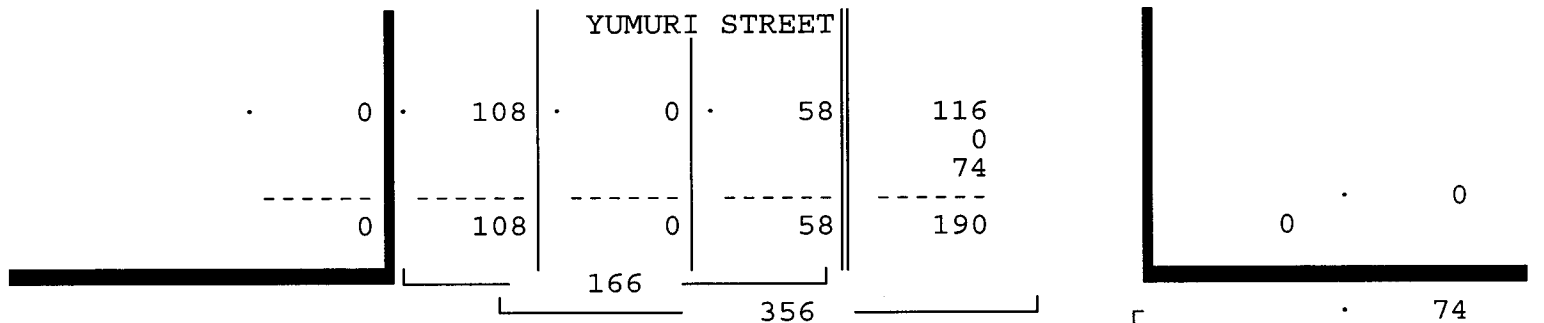
ALL VEHICLES

YUMURI STREET From North				SUNSET DRIVE From East				----- From South				SUNSET DRIVE From West				Total
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 09/22/16

Peak start 08:00	08:00				08:00				08:00							
Volume	0	58	0	108	0	0	415	74	0	0	0	0	0	116	511	0
Percent	0%	35%	0%	65%	0%	0%	85%	15%	0%	0%	0%	0%	0%	19%	81%	0%
Pk total	166				489				0				627			
Highest	08:30				08:30				07:00				08:15			
Volume	0	12	0	33	0	0	118	20	0	0	0	0	0	39	142	0
Hi total	45				138				0				181			
PHF	.92				.89				.0				.87			



TRAFFIC SURVEY SPECIALISTS, INC.

SUNSET DRIVE & YUMURI STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: ALEX RICKETTS  
 SIGNALIZED

85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : 72STYUMU  
 Page : 3

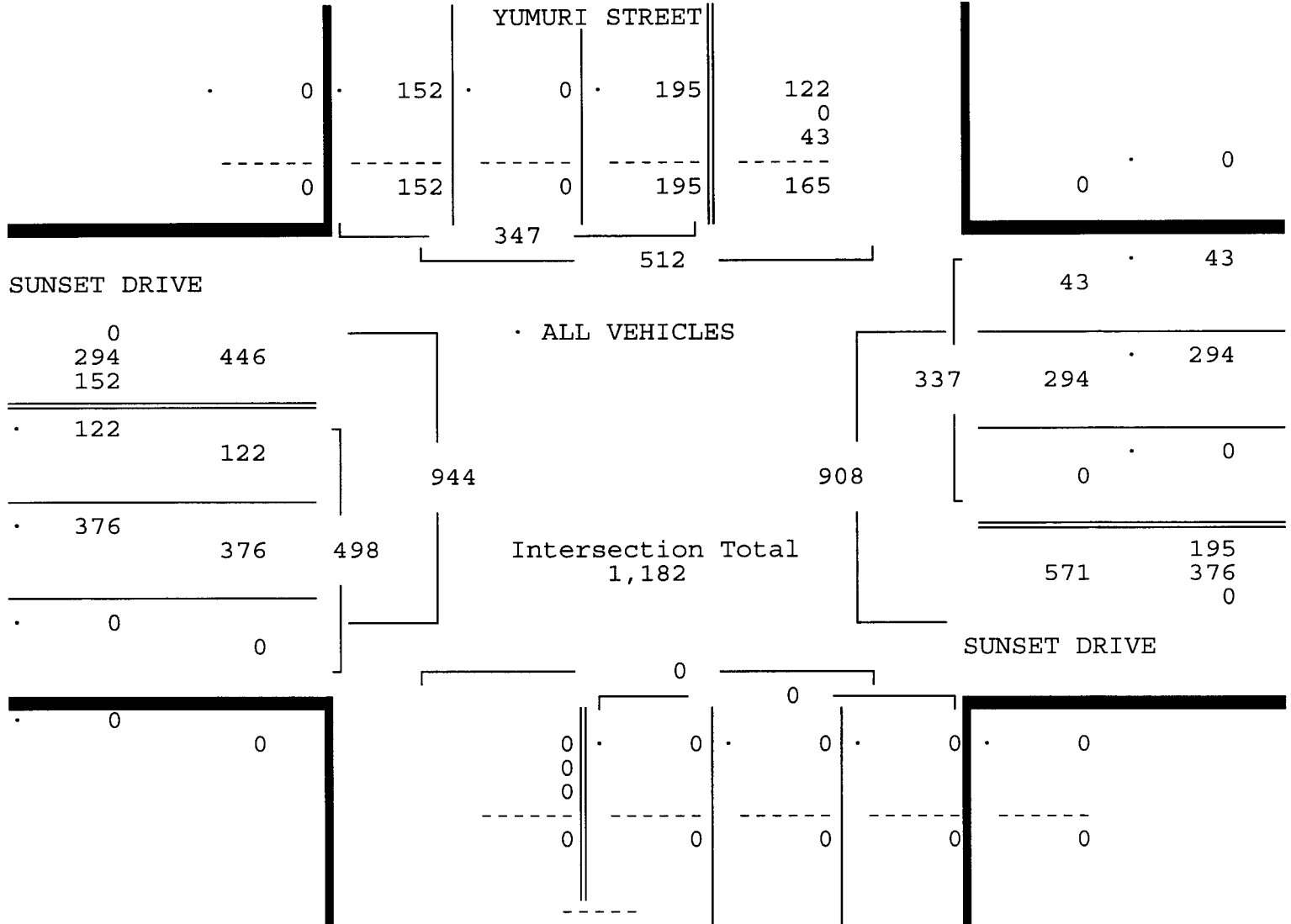
ALL VEHICLES

YUMURI STREET				SUNSET DRIVE				-----				SUNSET DRIVE				Total
From North				From East				From South				From West				
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 09/22/16

Peak start 17:00	17:00				17:00				17:00							
Volume	0	195	0	152	0	0	294	43	0	0	0	0	122	376	0	
Percent	0%	56%	0%	44%	0%	0%	87%	13%	0%	0%	0%	0%	24%	76%	0%	
Pk total	347				337				498							
Highest	17:15				17:30				07:00				17:00			
Volume	0	63	0	49	0	0	89	15	0	0	0	0	43	100	0	
Hi total	112				104				0				143			
PHF	.77				.81				.0				.87			



TRAFFIC SURVEY SPECIALISTS, INC.

SUNSET DRIVE & YUMURI STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: ALEX RICKETTS  
 SIGNALIZED

85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

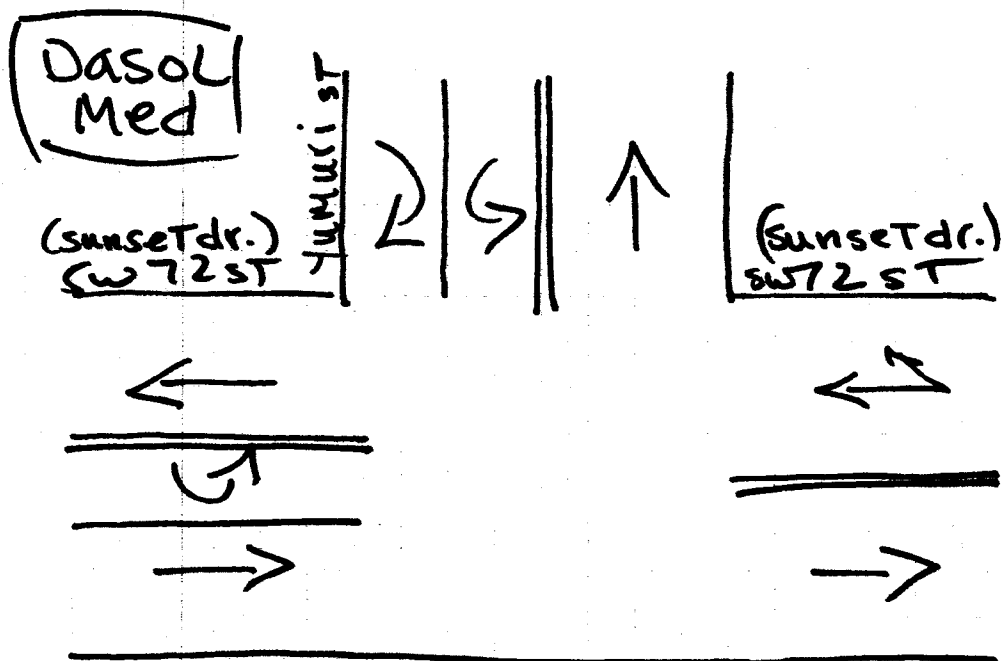
Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : 72STYUMU  
 Page : 1

PEDESTRIANS & BIKES

Date	YUMURI STREET From North				SUNSET DRIVE From East				----- From South				SUNSET DRIVE From West				Total
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	
09/22/16	-----																
07:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Hr Total	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
08:00	0	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0	6
08:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
08:30	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2
08:45	0	0	0	2	0	2	0	1	0	0	0	0	0	0	0	0	5
Hr Total	0	2	0	3	0	2	0	7	0	0	0	0	0	0	0	1	15
----- * BREAK * -----																	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
16:15	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
16:30	0	0	0	2	0	1	0	3	0	0	0	0	0	0	0	0	6
16:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Hr Total	0	0	0	2	0	1	0	7	0	0	0	0	0	1	0	0	11
17:00	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
17:30	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	4
17:45	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	4
Hr Total	0	0	0	1	0	0	0	10	0	0	0	0	0	2	0	0	13
-----																	
*TOTAL*	0	5	0	6	0	5	0	24	0	0	0	0	0	3	0	1	44



↑  
North



Coral Gables, Florida  
July 15, 2014  
drawn by: Luis Palomino  
signalized

SUNSET DRIVE & NERVIA STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: DREXYL EITNIEAR  
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : 72STNERV  
 Page : 1

ALL VEHICLES

Date	NERVIA STREET From North				SUNSET DRIVE From East				----- From South				SUNSET DRIVE From West				Total
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	
09/22/16	-----																
07:00	0	6	0	10	0	0	38	3	0	0	0	0	0	16	73	0	146
07:15	0	9	0	11	0	0	50	10	0	0	0	0	0	18	126	0	224
07:30	0	6	0	9	0	0	46	13	0	0	0	0	0	30	90	0	194
07:45	0	5	0	15	0	0	71	10	0	0	0	0	0	35	93	0	229
Hr Total	0	26	0	45	0	0	205	36	0	0	0	0	0	99	382	0	793
08:00	0	6	0	31	0	0	77	27	0	0	0	0	0	59	106	0	306
08:15	0	4	0	54	0	0	62	32	0	0	0	0	0	97	92	0	341
08:30	0	3	0	33	0	0	93	22	0	0	0	0	1	35	83	0	270
08:45	1	3	0	11	0	0	99	12	0	0	0	0	0	32	117	0	275
Hr Total	1	16	0	129	0	0	331	93	0	0	0	0	1	223	398	0	1192
----- * BREAK * -----																	
16:00	0	11	0	24	0	0	78	20	0	0	0	0	0	21	85	0	239
16:15	0	22	0	31	0	0	59	9	0	0	0	0	0	12	84	0	217
16:30	0	15	0	18	0	0	81	26	0	0	0	0	0	15	85	0	240
16:45	0	15	0	9	1	0	51	15	0	0	0	0	0	16	101	0	208
Hr Total	0	63	0	82	1	0	269	70	0	0	0	0	0	64	355	0	904
17:00	0	8	0	17	0	0	47	21	0	0	0	0	0	16	71	0	180
17:15	0	8	0	10	0	0	55	14	0	0	0	0	0	6	87	0	180
17:30	0	9	0	21	0	0	75	14	0	0	0	0	0	18	96	0	233
17:45	0	15	0	23	0	0	89	8	0	0	0	0	0	12	89	0	236
Hr Total	0	40	0	71	0	0	266	57	0	0	0	0	0	52	343	0	829
*TOTAL*	1	145	0	327	1	0	1071	256	0	0	0	0	1	438	1478	0	3718

SUNSET DRIVE & NERVIA STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: DREXYL EITNIEAR  
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : 72STNERV  
 Page : 2

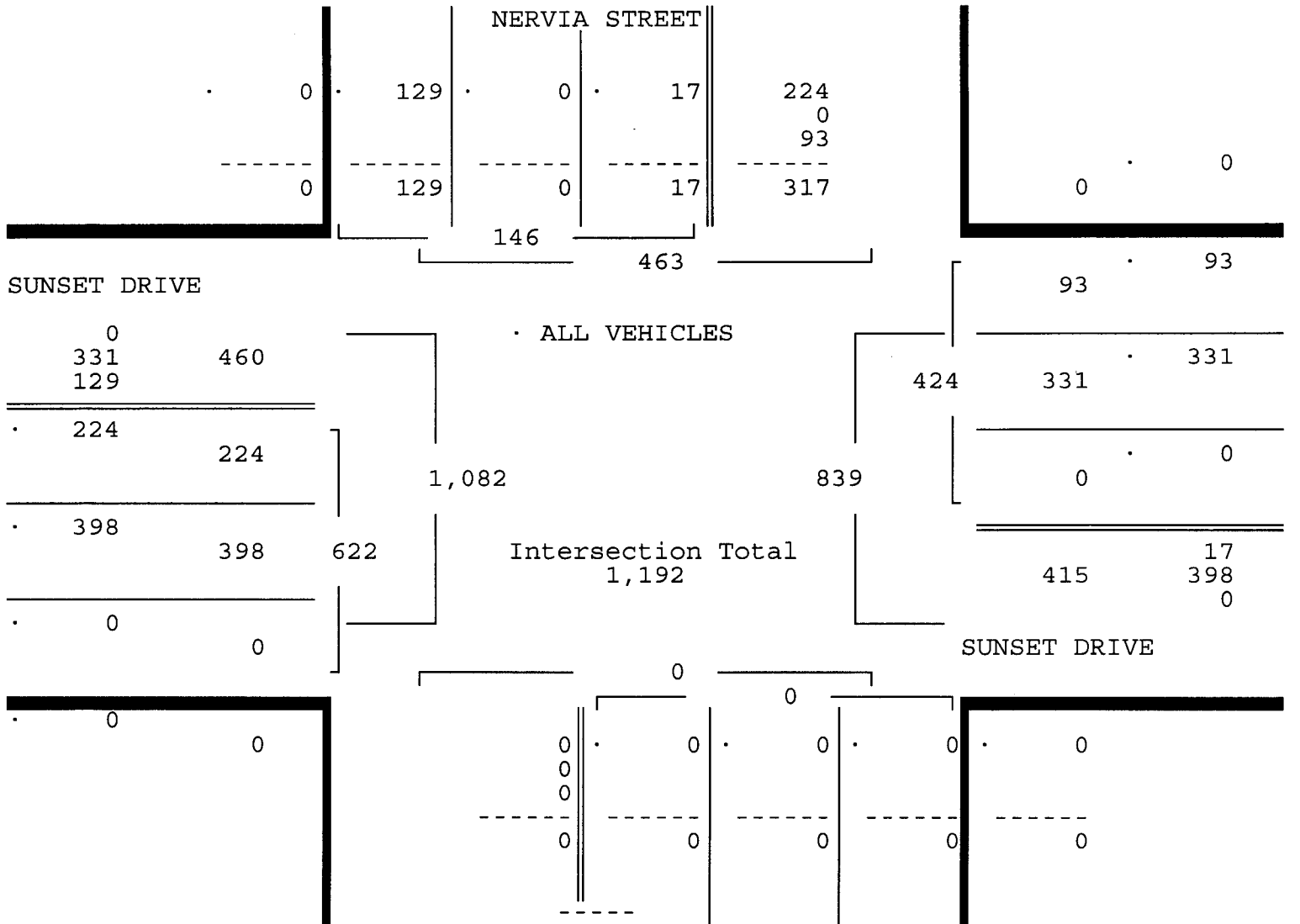
ALL VEHICLES

NERVIA STREET				SUNSET DRIVE				-----				SUNSET DRIVE				Total
From North				From East				From South				From West				
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 09/22/16

Peak start 08:00				08:00				08:00				08:00				
Volume	1	16	0	129	0	0	331	93	0	0	0	0	1	223	398	0
Percent	1%	11%	0%	88%	0%	0%	78%	22%	0%	0%	0%	0%	0%	36%	64%	0%
Pk total	146			424				0				622				
Highest	08:15			08:30				07:00				08:15				
Volume	0	4	0	54	0	0	93	22	0	0	0	0	0	97	92	0
Hi total	58			115				0				189				
PHF	.63			.92				.0				.82				



SUNSET DRIVE & NERVIA STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: DREXYL EITNIEAR  
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
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Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : 72STNERV  
 Page : 3

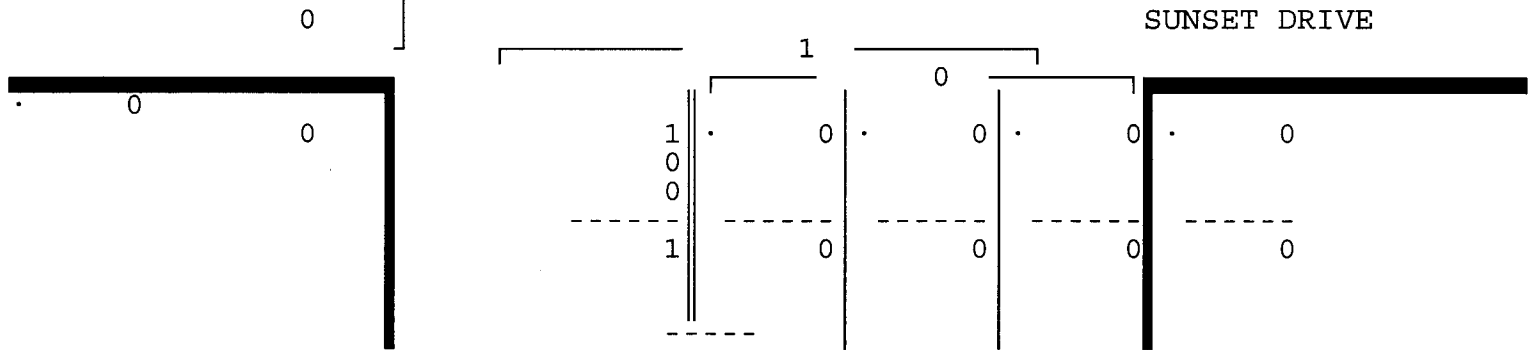
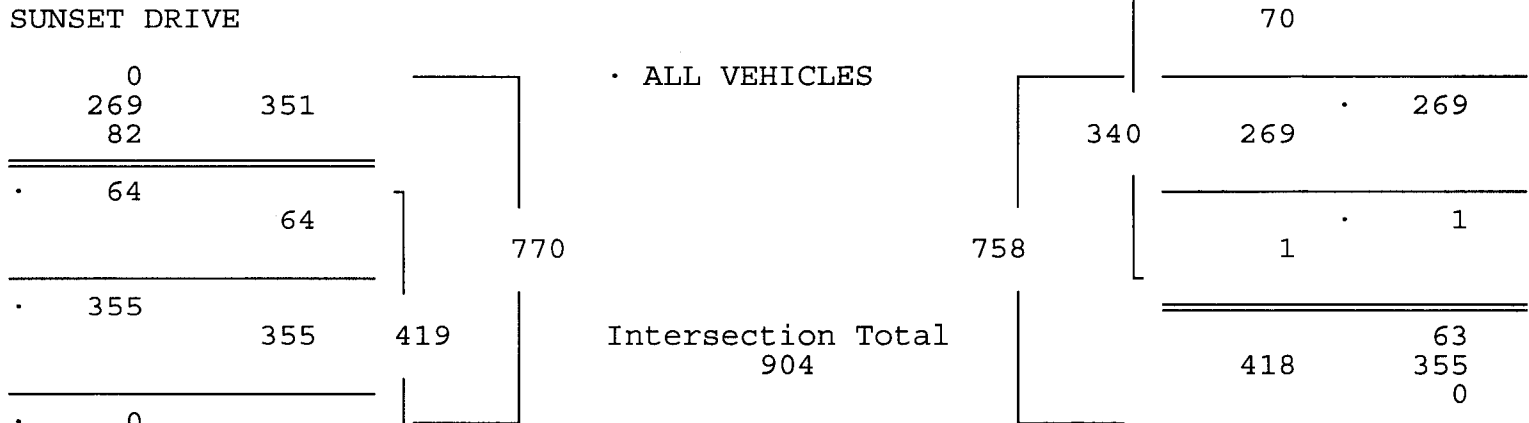
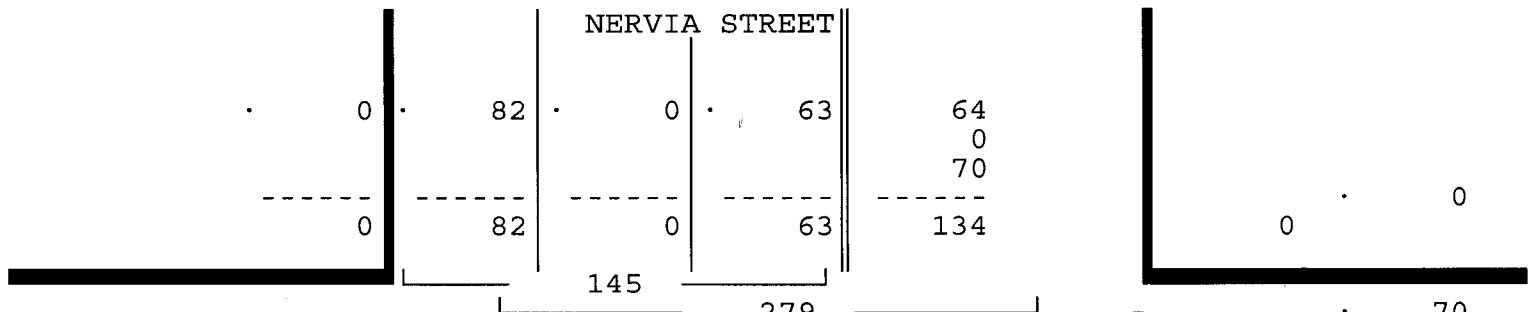
ALL VEHICLES

NERVIA STREET From North				SUNSET DRIVE From East				----- From South				SUNSET DRIVE From West				Total
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	

Date 09/22/16

Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 09/22/16

Peak start 16:00	16:00				16:00				16:00				Total		
Volume	0	63	0	82	1	0	269	70	0	0	0	0	64	355	0
Percent	0%	43%	0%	57%	0%	0%	79%	21%	0%	0%	0%	0%	15%	85%	0%
Pk total	145				340				419						
Highest	16:15				16:30				07:00				16:45		
Volume	0	22	0	31	0	0	81	26	0	0	0	0	16	101	0
Hi total	53				107				0				117		
PHF	.68				.79				.0				.90		





SUNSET DRIVE & NERVIA STREET  
 CORAL GABLES, FLORIDA  
 COUNTED BY: DREXYL EITNIEAR  
 NOT SIGNALIZED

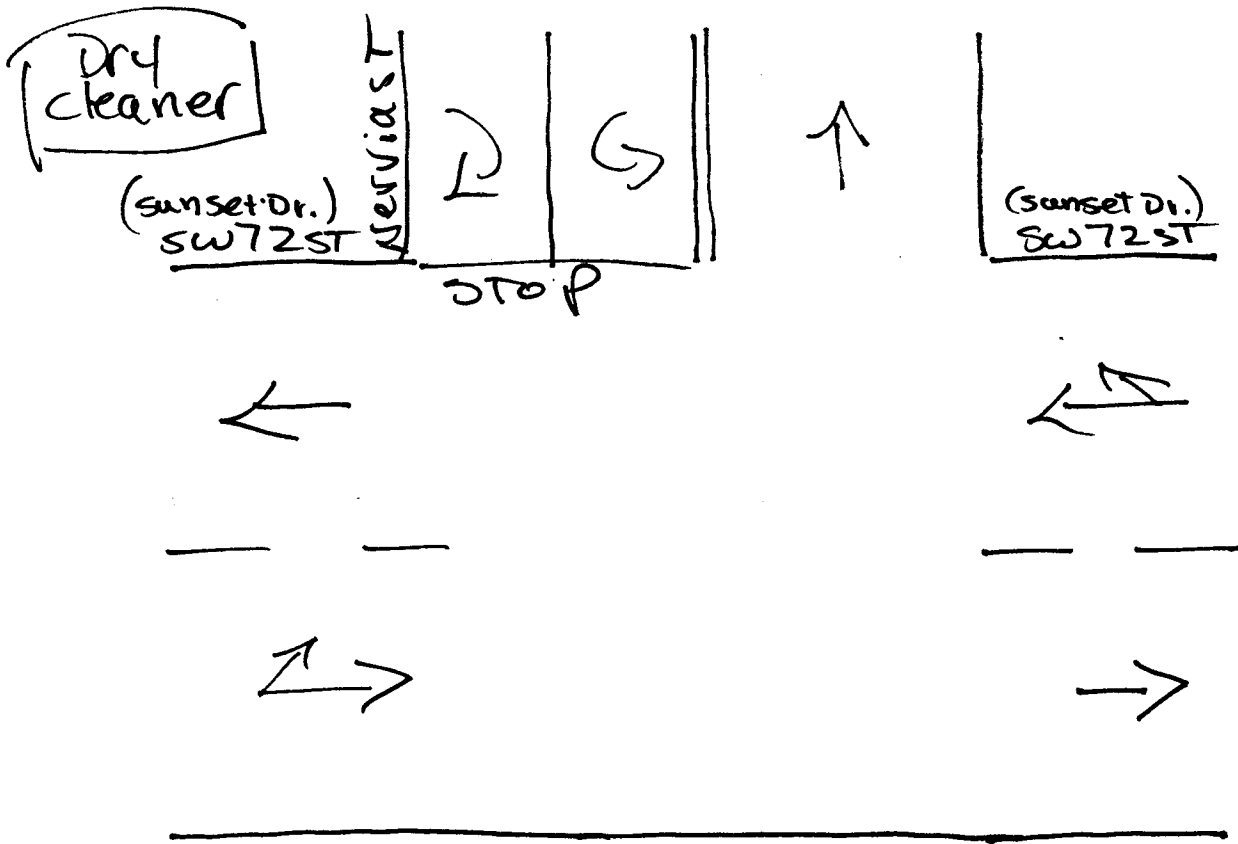
TRAFFIC SURVEY SPECIALISTS, INC.  
 85 SE 4TH AVENUE, UNIT 109  
 DELRAY BEACH, FLORIDA  
 PHONE (561)272-3255

Site Code : 00160208  
 Start Date: 09/22/16  
 File I.D. : 72STNERV  
 Page : 1

PEDESTRIANS & BIKES

Date	NERVIA STREET From North				SUNSET DRIVE From East				----- From South				SUNSET DRIVE From West				Total
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	
09/22/16	-----																
07:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	3
07:15	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4
Hr Total	0	3	0	4	0	0	0	0	0	1	0	0	0	0	0	1	9
08:00	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
08:15	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30	0	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	6
08:45	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Hr Total	0	0	0	11	0	0	0	2	0	0	0	0	0	0	0	0	13
----- * BREAK * -----																	
16:00	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2
16:15	0	0	0	4	0	0	0	0	0	1	0	0	0	0	0	0	5
16:30	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
16:45	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	4
Hr Total	0	0	0	10	0	0	0	0	0	4	0	0	0	0	0	0	14
17:00	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	2	0	2	0	0	0	0	0	1	0	0	0	1	0	0	6
Hr Total	0	2	0	7	0	0	0	0	0	1	0	0	0	1	0	0	11
-----																	
*TOTAL*	0	5	0	32	0	0	0	2	0	6	0	0	0	1	0	1	47

North



Coral Gables, Florida  
September 22, 2016  
drawn by: Luis Palomino  
not signalized

# Signal Timings

**TOD Schedule Report**  
for 5129: Sunset Dr&Yumuri St

Print Date:  
1/25/2016

Print Time:  
2:47 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
5129	Sunset Dr&Yumuri St	DOW-2		N/A	0	0	N/A	0	Max 0

**Splits**

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	-	-	EBT	-	SBL
0	0	0	0	0	0	0	0

Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	5 - 5 - 5	10 - 7 - 0	3	0										
2 WBT	0 - 0 - 0	0 - 0 - 0	15 - 15 - 15	1 - 1 - 1	30 - 30 - 35	0 - 45 - 0	4	1										
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0										
4 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0										
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0										
6 EBT	0 - 0 - 0	0 - 0 - 0	15 - 15 - 15	1 - 1 - 1	30 - 30 - 35	0 - 45 - 0	4	1										
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0										
8 SBL	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	15 - 15 - 18	25 - 20 - 0	4	0.5										

Last In Service Date: unknown

**Permitted Phases**

	<b>12345678</b>
Default	123--6-8
External Permit 0	-23--6-8
External Permit 1	-23--6-8
External Permit 2	-23--6-8

**Local TOD Schedule**

Time	Plan	DOW
0000	Flash	Su M T W Th F S
0530	Free	M T W Th F
0600	Free	Su S

Current TOD Schedule	Plan	Cycle	1	2	3	4	5	6	7	8	Ring Offset	Offset
			EBL	WBT	-	-	-	EBT	-	SBL		



**TOD Schedule Report**  
**for 5129: Sunset Dr&Yumuri St**

Print Date:  
**1/25/2016**

Print Time:  
**2:47 PM**

<b>Current Time of Day Function</b>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S
0530	TOD OUTPUTS	----3--	M T W ThF
0630	TOD OUTPUTS	-----2-	M T W ThF
0900	TOD OUTPUTS	----3--	M T W ThF
1500	TOD OUTPUTS	-----2-	M T W ThF
1900	TOD OUTPUTS	----3--	M T W ThF
2000	TOD OUTPUTS	-----1	M T W ThF

<b>Local Time of Day Function</b>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S
0530	TOD OUTPUTS	----3--	M T W ThF
0600	TOD OUTPUTS	-----1	Su S
0630	TOD OUTPUTS	-----2-	M T W ThF
0900	TOD OUTPUTS	----3--	M T W ThF
1000	TOD OUTPUTS	----3--	Su S
1500	TOD OUTPUTS	-----2-	M T W ThF
1900	TOD OUTPUTS	----3--	M T W ThF
2000	TOD OUTPUTS	-----1	M T W ThF
2000	TOD OUTPUTS	-----1	Su S

<b>* Settings</b>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***

**TOD Schedule Report**  
for 5128: Red Rd&San Remo Av

Print Date:  
6/22/2016

Print Time:  
2:07 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
5128	Red Rd&San Remo Av	DOW-4		N/A	0	0	N/A	0	Max 0

**Splits**

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
-	SBT	-	WBT	-	NBT	WBL	EBT
0	0	0	0	0	0	0	0

Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 SBT	7	7	7	10	10	10	7	7	7	1	1	1	30	30	30	0	30	30	4	2.6
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 WBT	7	7	7	14	14	14	15	7	7	2.5	-2.5	-2.5	13	13	13	53	13	13	4	2.3
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 NBT	7	7	7	10	10	10	7	7	7	1	1	1	30	30	30	0	30	30	4	2.6
7 WBL	0	0	0	0	0	0	5	5	5	2	2	2	5	5	5	23	5	5	3.7	2.3
8 EBT	7	7	7	14	14	14	15	7	7	2.5	-2.5	-2.5	13	13	13	35	13	13	4	2.3

Last In Service Date: unknown

<b>Permitted Phases</b>	
	<b>12345678</b>
Default	-2-4-678
External Permit 0	-2-4-6-8
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

**TOD Schedule Report**  
for 5128: Red Rd&San Remo Av

Print Date:  
6/22/2016

Print Time:  
2:07 AM

Current TOD Schedule	Plan	Cycle	Green Time								Ring Offset	Offset
			1 -	2 SBT	3 -	4 WBT	5 -	6 NBT	7 WBL	8 EBT		
1		120	0	85	0	22	0	85	5	11	0	43
2		100	0	65	0	22	0	65	5	11	0	20
3		140	0	82	0	45	0	82	17	22	0	66
4		150	0	104	0	33	0	104	5	22	0	51
5		130	0	92	0	25	0	92	5	14	0	35
6		180	0	127	0	40	0	127	12	22	0	60
7		90	0	63	0	14	0	63	0	14	0	28
8		190	0	137	0	40	0	137	12	22	0	41
11		130	0	83	0	34	0	83	6	22	0	115
12		120	0	86	0	21	0	86	5	10	0	42
13		80	0	53	0	14	0	53	0	14	0	54
14		140	0	101	0	26	0	101	5	15	0	51
15		115	0	80	0	22	0	80	5	11	0	51
16		115	0	80	0	22	0	80	5	11	0	51
17		180	0	117	0	50	0	117	20	24	0	62
18		190	0	127	0	50	0	127	20	24	0	94
19		160	0	118	0	29	0	118	11	12	0	0
20		160	0	111	0	36	0	111	10	20	0	112
21		150	0	96	0	41	0	96	13	22	0	93
23		180	0	131	0	36	0	131	10	20	0	112
25		150	0	102	0	35	0	102	10	19	0	115

Local TOD Schedule		
Time	Plan	DOW
0000	Free	M T W Th F
0000	13	Su S
0100	Free	Su S
0130	Free	M T W Th F
0200	Free	Su S
0530	Free	M T W Th F
0600	17	M T W Th F
0630	11	Su S
0730	18	M T W Th F
0930	23	M T W Th F
1000	21	Su S
1100	20	M T W Th F
1500	6	M T W Th F
1600	8	M T W Th F
1900	19	M T W Th F
2000	2	M T W Th
2000	3	Su S
2000	4	F
2200	7	M T W Th
2300	13	M T W Th

Current Time of Day Function			
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	---5---1	M T W ThF
0625	TOD OUTPUTS	-----	M T W ThF

Local Time of Day Function			
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-----	Su S
0000	TOD OUTPUTS	---5---1	M T W ThF
0100	TOD OUTPUTS	---5---1	Su S
0625	TOD OUTPUTS	-----	M T W ThF
0630	TOD OUTPUTS	-----	Su S

* Settings
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

# **Historic Background Growth**



16216

**Venera**

Background Growth Rate

Station	Location	2010	2011	2012	2013	2014	2015
9800	SR 5/US-1 200' S GRANADA BLVD @r-178	83,500	81,500	77,500	74,000	78,500	79,500
0034	SR 959/Red Rd / SW 57 AV, 200' N SR 5 /US-1	22,000	24,500	23,500	21,400	23,500	26,000
0127	SR 5 / US - 1, 400' E OF SW 57 AVE.	77,000	79,500	82,000	74,000	79,500	70,000
7015	GRANADA BLVD. 600 FT EAST OF US 1	4,100	4,300	4,300	3,800	3,800	3,000
Total		186,600	189,800	187,300	173,200	185,300	178,500
Yearly Growth			1.7%	-1.3%	-7.5%	7.0%	-3.7%
Growth Trend							-0.8%

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRANSPORTATION STATISTICS OFFICE  
2015 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 0034 - SR 959/RED RD/SW 57 AV, 200' N SR 5/US-1

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2015	26000	C	N 12500		S 13500	9.00	57.40	8.60
2014	23500	C	N 11500		S 12000	9.00	59.30	6.90
2013	21400	C	N 9400		S 12000	9.00	58.90	5.40
2012	23500	C	N 11000		S 12500	9.00	59.70	10.00
2011	24500	C	N 11500		S 13000	9.00	58.20	3.20
2010	22000	C	N 11500		S 10500	7.87	58.27	3.20
2009	23000	C	N 11500		S 11500	7.98	59.96	4.50
2008	23500	F	N 12000		S 11500	8.07	66.31	5.80
2007	23500	C	N 12000		S 11500	7.90	63.12	5.80
2006	22500	C	N 10500		S 12000	7.39	58.66	13.10
2005	20500	C	N 10000		S 10500	7.70	65.70	11.90
2004	20400	C	N 9900		S 10500	8.20	67.10	11.90
2003	22000	C	N 11000		S 11000	8.10	72.30	3.30
2002	22500	C	N 11500		S 11000	9.20	68.00	3.60
2001	19400	C	N 9400		S 10000	8.20	53.50	2.40
2000	23500	C	N 11500		S 12000	8.20	53.10	3.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE  
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2015 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 0127 - SR 5/US-1, 400' E OF SW 57 AVE.

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2015	70000	C	N 35000		S 35000	9.00	57.40	3.70
2014	79500	C	N 39000		S 40500	9.00	59.30	3.40
2013	74000	C	N 37500		S 36500	9.00	58.90	5.00
2012	82000	C	N 41000		S 41000	9.00	59.70	5.10
2011	79500	C	N 40000		S 39500	9.00	58.20	3.90
2010	77000	C	N 39000		S 38000	7.87	58.27	4.30
2009	78000	C	N 39000		S 39000	7.98	59.96	4.90
2008	82000	C	N 41500		S 40500	8.07	66.31	3.70
2007	82500	C	N 42000		S 40500	7.90	63.12	3.50
2006	79000	C	N 40000		S 39000	7.39	58.66	8.00
2005	81000	C	N 41500		S 39500	7.70	65.70	5.50
2004	92500	C	N 48500		S 44000	8.20	67.10	4.90
2003	89000	C	N 45000		S 44000	8.10	72.30	3.40
2002	84000	C	N 44000		S 40000	9.20	68.00	4.30
2001	87500	C	N 42000		S 45500	8.20	53.50	3.00
2000	81500	C	N 42500		S 39000	8.20	53.10	3.20

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
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\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2015 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 7015 - GRANADA BLVD. 600 FT EAST OF US1

YEAR	AADT		DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
2015	3000	C	E	1500	W	1500	9.00	57.40	3.10
2014	3800	F	E	1800	W	2000	9.00	59.30	44.50
2013	3800	C	E	1800	W	2000	9.00	58.90	44.50
2012	4300	F	E	2200	W	2100	9.00	59.70	5.10
2011	4300	C	E	2200	W	2100	9.00	58.20	3.90
2010	4100	F	E	2000	W	2100	7.87	58.27	4.30
2009	4100	C	E	2000	W	2100	7.98	59.96	4.90

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE  
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES



FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2015 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 9800 - SR 5/US-1, 200' S GRANADA BLVD @R-178

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2015	79500	C	N 42500		S 37000	9.00	57.40	4.30
2014	78500	C	N 40500		S 38000	9.00	59.30	4.40
2013	74000	C	N 40000		S 34000	9.00	58.90	4.80
2012	77500	C	N 39500		S 38000	9.00	59.70	3.80
2011	81500	C	N 42000		S 39500	9.00	58.20	5.70
2010	83500	C	N 43000		S 40500	7.87	58.27	5.70
2009	78000	C	N 38500		S 39500	7.98	59.96	5.20
2008	77000	C	N 39000		S 38000	8.07	66.31	5.40
2007	76500	C	N 36000		S 40500	7.90	63.12	5.30
2006	80500	C	N 40000		S 40500	7.39	58.66	4.00
2005	79500	C	N 39500		S 40000	7.70	65.70	7.20
2004	86000	C	N 46500		S 39500	8.20	67.10	7.20
2003	81500	C	N 38500		S 43000	8.10	72.30	2.30
2002	80000	C	N 38500		S 41500	9.20	68.00	3.00
2001	86000	C	N 45500		S 40500	8.20	53.50	2.80
2000	78000	C	N 40000		S 38000	8.20	53.10	2.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE  
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

**Appendix D**  
**Intersection Capacity Analysis**  
**Worksheets**

**1500 Venera & 1537 San Remo - AM Intersection Assignment**

INTERSECTION	MOVE MENT	EXISTING 2016	BACKGROUND Growth rate: 0.5% No. of years: 2	UHealth			Paseo de la Riviera			1515 Sunset Drive			COM DEV	FUTURE wo PROJECT	EXISTING USES			PROJECT			FUTURE WITH PROJECT
				Out 0	In 0	Total 0	Out 90	In 87	Total 177	Out 16	In 114	Total 130			Out 37	In 12	Total 49	Out 72	In 27	Total 99	
1_Red Road & San Remo Avenue (S)	NBL	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	NBT	495	500		45	45	0%	5%	4	13%	0%	2	51	551	0%	10%	1	0%	14%	4	554
	NBR	113	114			0	0%	0%	0	0%	0%	0	0	114	0%	13%	2	0%	0%	0	113
	SBL	126	127			0	0%	0%	0	0%	20%	23	23	150	0%	20%	2	0%	30%	8	156
	SBT	522	527	12		12	5%	0%	5	0%	22%	25	42	569	20%	0%	7	20%	0%	14	576
	SBR	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	EBL	6	6			0	0%	0%	0	0%	0%	0	0	6	0%	0%	0	0%	0%	0	6
	EBT	5	5			0	0%	0%	0	0%	0%	0	0	5	0%	0%	0	0%	0%	0	5
	EBR	21	21			0	0%	0%	0	0%	0%	0	0	21	0%	0%	0	0%	0%	0	21
	WBL	41	41			0	0%	0%	0	0%	0%	0	0	41	22%	0%	8	0%	0%	0	33
PHF = 0.94	WBT	0	0			0	0%	0%	0	0%	0	0	0	0%	0%	0	0%	0%	0	0	
	WBR	44	44			0	0%	0%	0	10%	2	2	46	11%	0%	4	0%	0%	0	42	
TOTAL		1373	1387	12	45	57	5%	5%	9	23%	42%	52	117	1504	53%	43%	25	20%	44%	26	1506
2_Red Road & Madruga Avenue (U)	NBT	406	410		45	45	0%	5%	4	23%	0%	4	53	463	11%	0%	4	0%	0%	0	459
	NBR	140	141			0	0%	0%	0	0%	0%	0	0	141	0%	10%	1	0%	14%	4	144
	SBL	161	163			0	0%	0%	0	0%	0%	0	0	163	0%	32%	4	0%	10%	3	161
	SBT	582	588	12		12	5%	0%	5	0%	42%	48	64	652	0%	20%	2	0%	30%	8	658
	WBL	73	74			0	0%	0%	0	0%	0%	0	0	74	20%	0%	7	20%	0%	14	81
	PHF = 0.90	WBR	72	73			0	0%	0%	0	0%	0	0	73	12%	0%	4	26%	0%	19	87
TOTAL		1434	1448	12	45	57	5%	5%	9	23%	42%	52	117	1566	43%	62%	23	46%	54%	48	1590
3_Madruga Avenue & Yumuri Street (U)	NWBL	6	6			0	0%	0%	0	0%	0%	0	0	6	0%	0%	0	0%	0%	0	6
	NWBT	20	20			0	0%	0%	0	13%	0%	2	2	22	13%	0%	5	10%	0%	7	25
	NWBR	3	3			0	0%	0%	0	0%	0%	0	0	3	0%	0%	0	0%	0%	0	3
	SEBL	25	25			0	0%	0%	0	0%	0%	0	0	25	0%	0%	0	0%	0%	0	25
	SEBT	64	65			0	0%	0%	0	0%	13%	15	15	79	0%	13%	2	0%	15%	4	82
	SEBR	66	67			0	0%	0%	0	0%	0%	0	0	67	0%	0%	0	0%	0%	0	67
	NEBL	50	51			0	0%	0%	0	0%	0%	0	0	51	0%	0%	0	0%	0%	0	51
	NEBT	122	123			0	0%	0%	0	0%	0%	0	0	123	0%	0%	0	0%	0%	0	123
	NEBR	8	8			0	0%	0%	0	0%	0%	0	0	8	0%	0%	0	0%	0%	0	8
	PHF = 0.88	SWBL	2	2			0	0%	0%	0	0%	0	0	2	0%	0%	0	0%	0%	0	2
	SWBT	46	46			0	0%	0%	0	0%	0	0	46	0%	0%	0	0%	0%	0	46	
	SWBR	4	4			0	0%	0%	0	0%	0	0	4	0%	0%	0	0%	0%	0	4	
TOTAL		416	420	0	0	0	0%	0%	0	13%	13%	17	17	437	13%	13%	6	10%	15%	11	442
4_Venera Avenue & Yumuri Street (U)	NBL	15	15			0	0%	0%	0	0%	0%	0	0	15	0%	3%	0	0%	61%	16	31
	NBT	198	200			0	0%	0%	0	13%	0%	2	2	202	4%	0%	1	0%	0%	0	201
	NBR	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	SBT	172	174			0	0%	0%	0	0%	13%	15	15	189	0%	4%	0	0%	0%	0	188
	SBR	15	15			0	0%	0%	0	0%	0%	0	0	15	0%	9%	1	0%	15%	4	18
	EBL	28	28			0	0%	0%	0	0%	0%	0	0	28	9%	0%	3	10%	0%	7	32
	EBT	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	PHF = 0.76	EBR	20	20			0	0%	0%	0	0%	0	0	20	3%	0%	1	44%	0%	32	51
		WBL	0	0			0	0%	0%	0	0%	0	0	0	0%	0%	0	0%	0%	0	0
	WBT	0	0			0	0%	0%	0	0%	0	0	0	0%	0%	0	0%	0%	0	0	
	WBR	0	0			0	0%	0%	0	0%	0	0	0	0%	0%	0	0%	0%	0	0	
TOTAL		448	452	0	0	0	0%	0%	0	13%	13%	17	17	469	16%	16%	8	54%	76%	59	521

**1500 Venera & 1537 San Remo - AM Intersection Assignment**

INTERSECTION	MOVE MENT	EXISTING 2016	BACKGROUND Growth rate: 0.5% No. of years: 2	UHealth			Paseo de la Riviera			1515 Sunset Drive			COM DEV	FUTURE wo PROJECT	EXISTING USES			PROJECT			FUTURE WITH PROJECT
				Out 0	In 0	Total 0	Out 90	In 87	Total 177	Out 16	In 114	Total 130			Out 37	In 12	Total 49	Out 72	In 27	Total 99	
5_San Remo Avenu & Yumuri Street (U)	NBL	20	20			0	0%	0%	0	10%	0%	2	2	22	0%	10%	1	0%	0%	0	21
	NBT	133	134			0	0%	0%	0	13%	0%	2	2	136	0%	6%	1	0%	28%	8	143
	NBR	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	SBT	144	145			0	0%	0%	0	0%	13%	15	15	160	9%	0%	3	44%	0%	32	189
	SBR	54	55			0	0%	0%	0	0%	0%	0	0	55	0%	0%	0	0%	0%	0	55
	EBL	53	54			0	0%	0%	0	0%	0%	0	0	54	0%	0%	0	0%	30%	8	62
	EBT	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	EBR	21	21			0	0%	0%	0	0%	20%	23	23	44	13%	0%	5	0%	0%	0	39
	WBL	25	25			0	0%	0%	0	0%	3%	3	3	29	0%	0%	0	0%	0%	0	29
PHF = 0.81	WBT	24	24			0	0%	0%	0	0%	0	0	24	0%	3%	0	0%	0%	0	24	
	WBR	27	27			0	0%	0%	0	0%	0	0	27	0%	3%	0	0%	3%	1	28	
TOTAL		501	506	0	0	0	0%	0%	0	23%	36%	45	45	551	22%	22%	11	44%	61%	48	588
6_Sunset Drive& Yumuri Street (S)	SBL	50	51			0	0%	0%	0	12%	0%	2	2	52	12%	0%	4	12%	0%	9	57
	SBR	106	107			0	0%	0%	0	52%	0%	8	8	115	10%	0%	4	32%	0%	23	135
	EBL	94	95			0	0%	0%	0	0%	33%	38	38	133	0%	10%	1	0%	19%	5	136
	EBT	469	474			0	0%	0%	0	0%	0%	0	0	474	0%	0%	0	0%	0%	0	474
	WBT	318	321			0	0%	0%	0	0%	0%	0	0	321	0%	0%	0	0%	0%	0	321
	WBR	48	48			0	0%	0%	0	0%	9%	10	10	59	0%	6%	1	0%	9%	2	60
TOTAL		1085	1096	0	0	0	0%	0%	0	64%	42%	58	58	1154	22%	16%	10	44%	28%	39	1183
7_San Remo Avenue & Nervia Street (U)	NBL	38	38			0	0%	0%	0	0%	0%	0	0	38	0%	0%	0	0%	0%	0	38
	NBT	116	117		4	4	0%	5%	4	0%	0%	0	8	126	0%	0%	0	0%	0%	0	126
	NBR	29	29			0	0%	0%	0	0%	0%	0	0	29	0%	3%	0	0%	0%	0	29
	SBL	21	21			0	0%	0%	0	0%	0%	0	0	21	0%	0%	0	0%	0%	0	21
	SBT	80	81	1		1	5%	0%	5	0%	0%	0	6	86	0%	0%	0	0%	0%	0	86
	SBR	53	54			0	0%	0%	0	0%	0%	0	0	54	0%	0%	0	0%	0%	0	54
	EBL	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	EBT	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	EBR	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	WBL	18	18			0	0%	0%	0	0%	3%	3	3	22	0%	0%	0	0%	0%	0	22
PHF = 0.64	WBT	39	39			0	0%	0%	0	0%	0	0	39	0%	3%	0	0%	3%	1	40	
	WBR	13	13			0	0%	0%	0	0%	0%	0	0	13	0%	0%	0	0%	0%	0	13
TOTAL		407	411	1	4	5	5%	5%	9	0%	3%	3	17	428	0%	6%	1	0%	3%	1	428
8_Sunset Drive & Nervia Street (U)	NBL	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	NBT	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	NBR	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	22	22	0		0	2%	0%	2	0%	0%	0	2	24	0%	0%	0	0%	0%	0	24
	SBT	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	SBR	88	89	1		1	3%	0%	3	0%	0%	0	4	93	0%	0%	0	0%	0%	0	93
	EBL	163	165		2	2	0%	3%	3	0%	0%	0	5	169	0%	0%	0	0%	0%	0	169
	EBT	394	398			0	0%	0%	0	12%	0%	2	2	400	12%	0%	4	12%	0%	9	404
	EBR	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	WBL	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
PHF = 0.87	WBT	271	274			0	0%	0%	0	0%	9%	10	10	284	0%	6%	1	0%	9%	2	286
	WBR	65	66		2	2	0%	2%	2	0%	0%	0	4	69	0%	3%	0	0%	0%	0	69
TOTAL		1003	1013	1	4	5	5%	5%	9	12%	9%	12	26	1039	12%	9%	6	12%	9%	11	1045
9_Project Driveway & San Remo Avet (U)	NBL	0	0			0			0			0	0	0			0	46%	0%	33	33
	NBR	0	0			0			0			0	0	0			0	54%	0%	39	39
	EBT	48	48			0			0			0	0	48			4	0%	0%	0	44
	EBR	0	0			0			0			0	0	0			0	0%	24%	6	6
	WBL	0	0			0			0			0	0	0			0	0%	76%	21	21
PHF = 0.87	WBT	30	30			0			0		0	0	30			1	0%	0%	0	29	
TOTAL		78	79	0	0	0	0%	0%	0	0%	0%	0	0	79	0%	0%	6	100%	100%	99	172



### Venera- PM Intersection Assignment

INTERSECTION	MOVE MENT	EXISTING 2016	BACKGROUND Growth rate: 0.5% No. of years: 2	UHealth			Paseo de la Riviera			1515 Sunset Drive			COM DEV	FUTURE wo PROJECT	EXISTING USES			PROJECT			FUTURE WITH PROJECT
				Out 0	In 0	Total 0	Out 102	In 123	Total 225	Out 122	In 25	Total 147			Out 24	In 43	Total 67	Out 53	In 84	Total 137	
1_Red Road & San Remo Avenue (S)	NBL	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	NBT	397	401		19	19	0%	5%	6	13%	0%	16	41	442	0%	10%	4	0%	14%	12	449
	NBR	77	78				0	0%	0	0%	0	0	0	78	0%	13%	6	0%	0%	0	72
	SBL	86	87				0	0%	0	0%	20%	5	5	92	0%	20%	9	0%	30%	25	108
	SBT	513	518		49	49	5%	0%	5	0%	22%	6	60	578	20%	0%	5	20%	0%	11	584
	SBR	0	0				0	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	EBL	15	15				0	0%	0	0%	0%	0	0	15	0%	0%	0	0%	0%	0	15
	EBT	13	13				0	0%	0	0%	0%	0	0	13	0%	0%	0	0%	0%	0	13
	EBR	45	45				0	0%	0	0%	0%	0	0	45	0%	0%	0	0%	0%	0	45
	WBL	208	210				0	0%	0	0%	0%	0	0	210	22%	0%	5	0%	0%	0	205
PHF =0.95	WBT	0	0				0%	0%	0	0%	0	0	0	0%	0%	0	0%	0%	0	0	
	WBR	129	130				0%	0%	0	10%	12	12	142	1%	0%	3	0%	0%	0	140	
TOTAL		1483	1498	49	19	68	5%	5%	11	23%	42%	39	118	1616	53%	43%	31	20%	44%	48	1632
2_Red Road & Madrugra Avenue (U)	NBL*	0	0			0	0%	0%	0	0%	0	0	0	0%	0%	0	0%	0%	0	0	
	NBT	442	446		19	19	0%	5%	6	23%	0%	28	53	500	11%	0%	3	0%	0%	0	497
	NBR	84	85				0	0%	0	0%	0%	0	0	85	0%	10%	4	0%	14%	12	92
	SBL*	127	128				0	0%	0	0%	0%	0	0	128	0%	32%	14	0%	10%	8	123
	SBT	475	480		49	49	5%	0%	5	0%	42%	11	65	544	0%	20%	9	0%	30%	25	561
	SBR	0	0				0	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	EBL	0	0				0	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	EBT	0	0				0	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	EBR	0	0				0	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	WBL	113	114				0	0%	0	0%	0%	0	0	114	20%	0%	5	20%	0%	11	120
PHF = 0.97	WBT	0	0				0%	0%	0	0%	0	0	0	0%	0%	0	0%	0%	0	0	
	WBR*	116	117				0%	0%	0	0%	0	0	117	12%	0%	3	26%	0%	14	128	
TOTAL		1357	1371	49	19	68	5%	5%	11	23%	42%	39	118	1488	43%	62%	37	46%	54%	70	1521
3_Madruga Avenue & Yumuri Street (U)	NWBL	16	16			0	0%	0%	0	0%	0	0	16	0%	0%	0	0%	0%	0	16	
	NWBT	61	62			0	0%	0%	0	13%	0%	16	16	77	13%	0%	3	10%	0%	5	80
	NWBR	4	4			0	0%	0%	0	0%	0%	0	0	4	0%	0%	0	0%	0%	0	4
	SEBL	13	13			0	0%	0%	0	0%	0%	0	0	13	0%	0%	0	0%	0%	0	13
	SEBT	57	58			0	0%	0%	0	0%	13%	3	3	61	0%	13%	6	0%	15%	13	68
	SEBR	50	51			0	0%	0%	0	0%	0%	0	0	51	0%	0%	0	0%	0%	0	51
	NEBL	69	70			0	0%	0%	0	0%	0%	0	0	70	0%	0%	0	0%	0%	0	70
	NEBT	72	73			0	0%	0%	0	0%	0%	0	0	73	0%	0%	0	0%	0%	0	73
	NEBR	27	27			0	0%	0%	0	0%	0%	0	0	27	0%	0%	0	0%	0%	0	27
	SWBL	12	12			0	0%	0%	0	0%	0%	0	0	12	0%	0%	0	0%	0%	0	12
PHF = 0.85	SWBT	101	102			0	0%	0%	0	0%	0	0	102	0%	0%	0	0%	0%	0	102	
	SWBR	24	24			0	0%	0%	0	0%	0	0	24	0%	0%	0	0%	0%	0	24	
TOTAL		506	511	0	0	0	0%	0%	0	13%	13%	19	19	530	13%	13%	9	10%	15%	18	539
4_Venera Avenue & Yumuri Street (U)	NBL	26	26			0	0%	0%	0	0%	0	0	26	0%	3%	1	0%	61%	51	76	
	NBT	322	325			0	0%	0%	0	13%	0%	16	16	341	4%	0%	1	0%	0%	0	340
	NBR	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	SBT	286	289			0	0%	0%	0	0%	13%	3	3	292	0%	4%	2	0%	0%	0	290
	SBR	25	25			0	0%	0%	0	0%	0%	0	0	25	0%	9%	4	0%	15%	13	34
	EBL	27	27			0	0%	0%	0	0%	0%	0	0	27	0%	0%	0	10%	0%	5	33
	EBT	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	EBR	44	44			0	0%	0%	0	0%	0%	0	0	44	3%	0%	1	44%	0%	23	67
	WBL	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
PHF = 0.89	WBT	0	0			0	0%	0%	0	0%	0	0	0	0%	0%	0	0%	0%	0	0	
	WBR	0	0			0	0%	0%	0	0%	0	0	0	0%	0%	0	0%	0%	0	0	
TOTAL		730	737	0	0	0	0%	0%	0	13%	13%	19	19	756	7%	16%	9	54%	76%	92	840





















Venera- PM Intersection Assignment

INTERSECTION	MOVE MENT	EXISTING 2016	BACKGROUND Growth rate: 0.5% No. of years: 2	UHealth			Paseo de la Riviera			1515 Sunset Drive			COM DEV	FUTURE wo PROJECT	EXISTING USES			PROJECT			FUTURE WITH PROJECT
				Out	In	Total	Out	In	Total	Out	In	Total			Out	In	Total	Out	In	Total	
5_San Remo Avenu & Yumuri Street (U)	NBL	29	29			0	0%	0%	0	10%	0%	12	12	41	0%	10%	4	0%	0%	0	37
	NBT	175	177			0	0%	0%	0	13%	0%	16	16	193	0%	6%	3	0%	28%	24	214
	NBR	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	SBT	215	217			0	0%	0%	0	0%	13%	3	3	220	9%	0%	2	44%	0%	23	242
	SBR	100	101			0	0%	0%	0	0%	0%	0	0	101	0%	0%	0	0%	0%	0	101
	EBL	146	147			0	0%	0%	0	0%	0%	0	0	147	0%	0%	0	0%	30%	25	173
	EBT	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	EBR	119	120			0	0%	0%	0	0%	20%	5	5	125	13%	0%	3	0%	0%	0	122
	WBL	37	37			0	0%	0%	0	0%	3%	1	1	38	0%	0%	0	0%	0%	0	38
PHF = 0.96	WBT	63	64			0	0%	0%	0	0%	0	0	64	0%	3%	1	0%	0%	0	62	
	WBR	29	29			0	0%	0%	0	0%	0	0	29	0%	3%	1	0%	3%	3	31	
TOTAL		913	922			0	0%	0%	0	23%	36%	37	37	959	22%	22%	15	44%	61%	75	1019
6_Sunset Drive& Yumuri Street (S)	NBL	0	0			0	0%	0%	0	0%	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBT	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	NBR	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	187	189			0	0%	0%	0	12%	0%	15	15	204	12%	0%	3	12%	0%	6	207
	SBT	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	SBR	163	165			0	0%	0%	0	52%	0%	63	63	228	10%	0%	2	32%	0%	17	243
	EBL	128	129			0	0%	0%	0	0%	33%	8	8	138	0%	10%	4	0%	19%	16	149
	EBT	368	372			0	0%	0%	0	0%	0%	0	0	372	0%	0%	0	0%	0%	0	372
	EBR	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	WBL	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
PHF = 0.92	WBT	292	295			0	0%	0%	0	0%	0	0	295	0%	0%	0	0%	0%	0	295	
	WBR	51	52			0	0%	0%	0	0%	2	2	54	0%	6%	3	0%	9%	8	59	
TOTAL		1189	1201			0	0%	0%	0	64%	42%	89	89	1289	22%	16%	12	44%	28%	47	1324
7_San Remo Avenue & Nervia Street (U)	NBL	41	41			0	0%	0%	0	0%	0	0	41	0%	0%	0	0%	0%	0	41	
	NBT	93	94		2	2	0%	5%	6	0%	0%	8	8	102	0%	0%	0	0%	0%	0	102
	NBR	17	17			0	0%	0%	0	0%	0%	0	0	17	0%	3%	1	0%	0%	0	16
	SBL	21	21			0	0%	0%	0	0%	0%	0	0	21	0%	0%	0	0%	0%	0	21
	SBT	95	96		5	5	5%	0%	5	0%	0%	10	106	0%	0%	0	0%	0%	0	106	
	SBR	24	24			0	0%	0%	0	0%	0%	0	24	0%	0%	0	0%	0%	0	24	
	EBL	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	EBT	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	EBR	0	0			0	0%	0%	0	0%	0%	0	0	0	0%	0%	0	0%	0%	0	0
	WBL	53	54			0	0%	0%	0	0%	3%	1	1	54	0%	0%	0	0%	0%	0	54
PHF = 0.88	WBT	79	80			0	0%	0%	0	0%	0	0	80	0%	3%	1	0%	3%	3	81	
	WBR	24	24			0	0%	0%	0	0%	0	0	24	0%	0%	0	0%	0%	0	24	
TOTAL		447	451		5	2	7	5%	5%	11	0%	3%	1	19	0%	6%	3	0%	3%	3	470
8_Sunset Drive & Nervia Street (U)	SBL	52	53		2	2	2%	0%	2	0%	0%	0	4	57	0%	0%	0	0%	0%	0	57
	SBR	77	78		3	3	3%	0%	3	0%	0%	6	84	0%	0%	0	0%	0%	0	84	
	EBL	59	60			1	0%	3%	4	0%	0%	5	64	0%	0%	0	0%	0%	0	64	
	EBT	352	356			0	0%	0%	0	12%	0%	15	15	370	12%	0%	3	12%	0%	6	374
	WBT	271	274			0	0%	0%	0	0%	9%	2	2	276	0%	6%	3	0%	9%	8	281
PHF = 0.94	WBR	64	65		1	1	0%	2%	2	0%	0	3	68	0%	3%	1	0%	0%	0	67	
TOTAL		875	884		5	2	7	5%	5%	11	12%	9%	17	35	12%	9%	7	12%	9%	14	926
9_Project Driveway & San Remo Avet (U)	NBL	0	0			0			0		0	0	0	0			0	46%	0%	24	24
	NBR	0	0			0			0		0	0	0	0			0	54%	0%	29	29
	EBT	71	72			0			0		0	0	72			1	0%	0%	0	71	
	EBR	0	0			0			0		0	0	0			0	0%	24%	20	20	
	WBL	0	0			0			0		0	0	0			0	0%	76%	64	64	
PHF = 0.94	WBT	51	52			0			0		0	52			5	0%	0%	0	46		
TOTAL		122	123		0	0	0	0%	0%	0	0%	0	0	123	0%	0%	6	100%	100%	137	254

# **Existing Conditions**

HCM Signalized Intersection Capacity Analysis  
 1: Red Road & San Remo Avenue

16216 Existing AM  
 9/26/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	5	21	41	0	44	0	495	113	126	522	0
Future Volume (vph)	6	5	21	41	0	44	0	495	113	126	522	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0		6.0		7.0		7.0	7.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95		1.00	0.95	
Frbp, ped/bikes		1.00	1.00	1.00		1.00		0.99		1.00	1.00	
Flpb, ped/bikes		0.93	1.00	0.96		1.00		1.00		0.98	1.00	
Frt		1.00	0.85	1.00		0.85		0.97		1.00	1.00	
Flt Protected		0.97	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1695	1583	1704		1583		3402		1742	3539	
Flt Permitted		0.97	1.00	0.36		1.00		1.00		0.40	1.00	
Satd. Flow (perm)		1695	1583	638		1583		3402		742	3539	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	5	22	44	0	47	0	527	120	134	555	0
RTOR Reduction (vph)	0	0	21	0	0	42	0	5	0	0	0	0
Lane Group Flow (vph)	0	11	1	44	0	5	0	642	0	134	555	0
Confl. Peds. (#/hr)	44		50	50		44	9		7	7		9
Confl. Bikes (#/hr)			1			1			4			2
Turn Type	Perm	NA	Prot	pm+pt		Prot		NA		Perm	NA	
Protected Phases		8	8	7		4		6			2	
Permitted Phases	8			4						2		
Actuated Green, G (s)		5.4	5.4	19.5		19.5		157.5		157.5	157.5	
Effective Green, g (s)		5.4	5.4	19.5		19.5		157.5		157.5	157.5	
Actuated g/C Ratio		0.03	0.03	0.10		0.10		0.83		0.83	0.83	
Clearance Time (s)		6.0	6.0	6.0		6.0		7.0		7.0	7.0	
Vehicle Extension (s)		2.5	2.5	2.0		2.5		1.0		1.0	1.0	
Lane Grp Cap (vph)		48	44	110		162		2820		615	2933	
v/s Ratio Prot			0.00	c0.02		0.00		c0.19			0.16	
v/s Ratio Perm		0.01		c0.02						0.18		
v/c Ratio		0.23	0.01	0.40		0.03		0.23		0.22	0.19	
Uniform Delay, d1		90.3	89.7	78.6		76.7		3.4		3.4	3.3	
Progression Factor		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2		1.8	0.1	0.9		0.1		0.2		0.8	0.1	
Delay (s)		92.0	89.8	79.5		76.8		3.6		4.2	3.4	
Level of Service		F	F	E		E		A		A	A	
Approach Delay (s)		90.6			78.1			3.6			3.6	
Approach LOS		F			E			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			10.2									B
HCM 2000 Volume to Capacity ratio			0.25									
Actuated Cycle Length (s)			190.0								19.0	
Intersection Capacity Utilization			63.2%									B
Analysis Period (min)			15									
c Critical Lane Group												

Timings  
1: Red Road & San Remo Avenue

16216 Existing AM  
9/26/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	5	21	41	0	44	0	495	113	126	522	0
Future Volume (vph)	6	5	21	41	0	44	0	495	113	126	522	0
Confl. Peds. (#/hr)	44		50	50		44	9		7	7		9
Confl. Bikes (#/hr)			1			1			4			2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Prot	pm+pt		Prot		NA		Perm	NA	
Protected Phases		8	8	7		4		6				2
Permitted Phases	8			4						2		
Detector Phase	8	8	8	7		4		6		2		2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0		5.0
Minimum Split (s)	27.0	27.0	27.0	26.0		56.0		28.0		28.0		28.0
Total Split (s)	30.0	30.0	30.0	26.0		56.0		134.0		134.0		134.0
Total Split (%)	15.8%	15.8%	15.8%	13.7%		29.5%		70.5%		70.5%		70.5%
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0		4.0		4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0		3.0		3.0		3.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0		6.0		7.0		7.0		7.0
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	None	None	None	None		None		C-Max		C-Max		C-Max

Intersection Summary

Cycle Length: 190  
 Actuated Cycle Length: 190  
 Offset: 94 (49%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated






















Splits and Phases: 1: Red Road & San Remo Avenue





HCM Signalized Intersection Capacity Analysis  
 1: Red Road & San Remo Avenue

16216 Existing PM  
 9/26/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	13	45	208	0	129	0	397	77	86	513	0
Future Volume (vph)	15	13	45	208	0	129	0	397	77	86	513	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0		6.0		7.0		7.0	7.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95		1.00	0.95	
Frbp, ped/bikes		1.00	1.00	1.00		1.00		0.99		1.00	1.00	
Flpb, ped/bikes		0.96	1.00	0.98		1.00		1.00		0.97	1.00	
Frt		1.00	0.85	1.00		0.85		0.98		1.00	1.00	
Flt Protected		0.97	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1738	1583	1739		1583		3414		1725	3539	
Flt Permitted		0.97	1.00	0.40		1.00		1.00		0.47	1.00	
Satd. Flow (perm)		1738	1583	736		1583		3414		852	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	14	47	219	0	136	0	418	81	91	540	0
RTOR Reduction (vph)	0	0	45	0	0	118	0	6	0	0	0	0
Lane Group Flow (vph)	0	30	2	219	0	18	0	493	0	91	540	0
Confl. Peds. (#/hr)	29		21	21		29	6		9	9		6
Confl. Bikes (#/hr)			1			1			2			2
Turn Type	Perm	NA	Prot	pm+pt		Prot		NA		Perm	NA	
Protected Phases		8	8	7		4		6			2	
Permitted Phases	8			4						2		
Actuated Green, G (s)		7.2	7.2	25.2		25.2		151.8		151.8	151.8	
Effective Green, g (s)		7.2	7.2	25.2		25.2		151.8		151.8	151.8	
Actuated g/C Ratio		0.04	0.04	0.13		0.13		0.80		0.80	0.80	
Clearance Time (s)		6.0	6.0	6.0		6.0		7.0		7.0	7.0	
Vehicle Extension (s)		2.5	2.5	2.0		2.5		1.0		1.0	1.0	
Lane Grp Cap (vph)		65	59	160		209		2727		680	2827	
v/s Ratio Prot			0.00	c0.09		0.01		0.14			c0.15	
v/s Ratio Perm		0.02		c0.09						0.11		
v/c Ratio		0.46	0.03	1.37		0.09		0.18		0.13	0.19	
Uniform Delay, d1		89.5	88.0	80.7		72.3		4.5		4.3	4.5	
Progression Factor		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2		3.7	0.2	200.5		0.1		0.1		0.4	0.2	
Delay (s)		93.2	88.2	281.2		72.4		4.6		4.7	4.7	
Level of Service		F	F	F		E		A		A	A	
Approach Delay (s)		90.2			201.2			4.6			4.7	
Approach LOS		F			F			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			53.5		HCM 2000 Level of Service						D	
HCM 2000 Volume to Capacity ratio			0.35									
Actuated Cycle Length (s)			190.0		Sum of lost time (s)					19.0		
Intersection Capacity Utilization			55.8%		ICU Level of Service					B		
Analysis Period (min)			15									

c Critical Lane Group

Timings  
1: Red Road & San Remo Avenue

16216 Existing PM  
9/26/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗	↖		↗		↕↗		↖	↕↕	
Traffic Volume (vph)	15	13	45	208	0	129	0	397	77	86	513	0
Future Volume (vph)	15	13	45	208	0	129	0	397	77	86	513	0
Confl. Peds. (#/hr)	29		21	21		29	6		9	9		6
Confl. Bikes (#/hr)			1			1			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Prot	pm+pt		Prot		NA		Perm	NA	
Protected Phases		8	8	7		4		6				2
Permitted Phases	8			4						2		
Detector Phase	8	8	8	7		4		6		2		2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0		5.0
Minimum Split (s)	27.0	27.0	27.0	18.0		44.0		28.0		28.0		28.0
Total Split (s)	28.0	28.0	28.0	18.0		46.0		144.0		144.0		144.0
Total Split (%)	14.7%	14.7%	14.7%	9.5%		24.2%		75.8%		75.8%		75.8%
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0		4.0		4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0		3.0		3.0		3.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0		6.0		7.0		7.0		7.0
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	None	None	None	None		None		C-Max		C-Max		C-Max

Intersection Summary

Cycle Length: 190  
 Actuated Cycle Length: 190  
 Offset: 94 (49%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Red Road & San Remo Avenue



**Intersection**

Int Delay, s/veh 4.8

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Vol, veh/h	426	140	161	582	73	72
Future Vol, veh/h	426	140	161	582	73	72
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	92	-	0	50
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	473	156	179	647	81	80

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	631
Stage 1	-	-	553
Stage 2	-	-	681
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	947
Stage 1	-	-	540
Stage 2	-	-	464
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	947
Mov Cap-2 Maneuver	-	-	137
Stage 1	-	-	539
Stage 2	-	-	376

Approach	NB	SB	SW
HCM Control Delay, s	0	2.1	37.5
HCM LOS			E

Minor Lane/Major Mvmt	NBT	NBR	SBL	SBT	SWLn1	SWLn2
Capacity (veh/h)	-	-	947	-	137	679
HCM Lane V/C Ratio	-	-	0.189	-	0.592	0.118
HCM Control Delay (s)	-	-	9.7	-	63.7	11
HCM Lane LOS	-	-	A	-	F	B
HCM 95th %tile Q(veh)	-	-	0.7	-	3	0.4

**Intersection**

Int Delay, s/veh 5.5

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Vol, veh/h	442	84	127	475	113	116
Future Vol, veh/h	442	84	127	475	113	116
Conflicting Peds, #/hr	0	11	11	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	92	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	456	87	131	490	116	120

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	553
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	1013
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1013
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	NB	SB	SW
HCM Control Delay, s	0	1.9	27.6
HCM LOS			D

Minor Lane/Major Mvmt	NBT	NBR	SBL	SBT	SWLn1	SWLn2
Capacity (veh/h)	-	-	1013	-	202	708
HCM Lane V/C Ratio	-	-	0.129	-	0.577	0.169
HCM Control Delay (s)	-	-	9.1	-	44.6	11.1
HCM Lane LOS	-	-	A	-	E	B
HCM 95th %tile Q(veh)	-	-	0.4	-	3.2	0.6

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	25	64	66	0	6	20	3	0	50	122	8
Future Vol, veh/h	0	25	64	66	0	6	20	3	0	50	122	8
Peak Hour Factor	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	28	73	75	0	7	23	3	0	57	139	9
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	SE	NW	NE
Opposing Approach	NW	SE	SW
Opposing Lanes	1	1	1
Conflicting Approach Left	SW	NE	SE
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NE	SW	NW
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.6	8	9.1
HCM LOS	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	28%	21%	16%	4%
Vol Thru, %	68%	69%	41%	88%
Vol Right, %	4%	10%	43%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	180	29	155	52
LT Vol	50	6	25	2
Through Vol	122	20	64	46
RT Vol	8	3	66	4
Lane Flow Rate	205	33	176	59
Geometry Grp	1	1	1	1
Degree of Util (X)	0.256	0.043	0.214	0.076
Departure Headway (Hd)	4.509	4.733	4.367	4.607
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	798	756	823	777
Service Time	2.533	2.764	2.39	2.637
HCM Lane V/C Ratio	0.257	0.044	0.214	0.076
HCM Control Delay	9.1	8	8.6	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.1	0.8	0.2



**Intersection**

Intersection Delay, s/veh  
 Intersection LOS

Movement	SWU	SWL	SWT	SWR
Lane Configurations			↕	
Traffic Vol, veh/h	0	2	46	4
Future Vol, veh/h	0	2	46	4
Peak Hour Factor	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	2	52	5
Number of Lanes	0	0	1	0

Approach	SW
Opposing Approach	NE
Opposing Lanes	1
Conflicting Approach Left	NW
Conflicting Lanes Left	1
Conflicting Approach Right	SE
Conflicting Lanes Right	1
HCM Control Delay	8
HCM LOS	A

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	13	57	50	0	16	61	4	0	69	72	27
Future Vol, veh/h	0	13	57	50	0	16	61	4	0	69	72	27
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	15	67	59	0	19	72	5	0	81	85	32
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	SE	NW	NE
Opposing Approach	NW	SE	SW
Opposing Lanes	1	1	1
Conflicting Approach Left	SW	NE	SE
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NE	SW	NW
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.8	8.8	9.4
HCM LOS	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	41%	20%	11%	9%
Vol Thru, %	43%	75%	47%	74%
Vol Right, %	16%	5%	42%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	168	81	120	137
LT Vol	69	16	13	12
Through Vol	72	61	57	101
RT Vol	27	4	50	24
Lane Flow Rate	198	95	141	161
Geometry Grp	1	1	1	1
Degree of Util (X)	0.257	0.131	0.183	0.208
Departure Headway (Hd)	4.68	4.964	4.672	4.652
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	765	719	765	769
Service Time	2.725	3.018	2.721	2.7
HCM Lane V/C Ratio	0.259	0.132	0.184	0.209
HCM Control Delay	9.4	8.8	8.8	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.4	0.7	0.8

**Intersection**

Intersection Delay, s/veh  
 Intersection LOS

Movement	SWU	SWL	SWT	SWR
Lane Configurations			↕	
Traffic Vol, veh/h	0	12	101	24
Future Vol, veh/h	0	12	101	24
Peak Hour Factor	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	14	119	28
Number of Lanes	0	0	1	0

Approach	SW
Opposing Approach	NE
Opposing Lanes	1
Conflicting Approach Left	NW
Conflicting Lanes Left	1
Conflicting Approach Right	SE
Conflicting Lanes Right	1
HCM Control Delay	8.9
HCM LOS	A

**Intersection**

Int Delay, s/veh 1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	1	
Traffic Vol, veh/h	28	20	15	198	172	15
Future Vol, veh/h	28	20	15	198	172	15
Conflicting Peds, #/hr	0	4	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	26	20	261	226	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	539	243	249	0	-	0
Stage 1	239	-	-	-	-	-
Stage 2	300	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	503	796	1317	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	752	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	491	791	1312	-	-	-
Mov Cap-2 Maneuver	491	-	-	-	-	-
Stage 1	799	-	-	-	-	-
Stage 2	736	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1312	-	583	-	-
HCM Lane V/C Ratio	0.015	-	0.108	-	-
HCM Control Delay (s)	7.8	0	11.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

**Intersection**

Int Delay, s/veh 1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	27	44	26	322	286	25
Future Vol, veh/h	27	44	26	322	286	25
Conflicting Peds, #/hr	0	7	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	49	29	362	321	28

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	760	347	354 0
Stage 1	340	-	- -
Stage 2	420	-	- -
Critical Hdwy	6.42	6.22	4.12 -
Critical Hdwy Stg 1	5.42	-	- -
Critical Hdwy Stg 2	5.42	-	- -
Follow-up Hdwy	3.518	3.318	2.218 -
Pot Cap-1 Maneuver	374	696	1205 -
Stage 1	721	-	- -
Stage 2	663	-	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	359	688	1197 -
Mov Cap-2 Maneuver	359	-	- -
Stage 1	718	-	- -
Stage 2	640	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	13.4	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1197	-	510	-	-
HCM Lane V/C Ratio	0.024	-	0.156	-	-
HCM Control Delay (s)	8.1	0	13.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-



Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A


Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	53	0	21	0	25	24	27	0	20	133	0
Future Vol, veh/h	0	53	0	21	0	25	24	27	0	20	133	0
Peak Hour Factor	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	65	0	26	0	31	30	33	0	25	164	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.8	8.7	9.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	72%	33%	0%
Vol Thru, %	87%	0%	32%	73%
Vol Right, %	0%	28%	36%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	153	74	76	198
LT Vol	20	53	25	0
Through Vol	133	0	24	144
RT Vol	0	21	27	54
Lane Flow Rate	189	91	94	244
Geometry Grp	1	1	1	1
Degree of Util (X)	0.246	0.127	0.128	0.302
Departure Headway (Hd)	4.695	5.02	4.899	4.453
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	763	711	728	804
Service Time	2.739	3.076	2.953	2.494
HCM Lane V/C Ratio	0.248	0.128	0.129	0.303
HCM Control Delay	9.3	8.8	8.7	9.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.4	0.4	1.3

**Intersection**

Intersection Delay, s/veh  
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	0	144	54
Future Vol, veh/h	0	0	144	54
Peak Hour Factor	0.92	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	178	67
Number of Lanes	0	0	1	0

**Approach** SB

Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.4
HCM LOS	A

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B


Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↔				↑				↔	
Traffic Vol, veh/h	0	146	0	119	0	37	63	29	0	29	175	0
Future Vol, veh/h	0	146	0	119	0	37	63	29	0	29	175	0
Peak Hour Factor	0.92	0.96	0.96	0.96	0.92	0.96	0.96	0.96	0.92	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	152	0	124	0	39	66	30	0	30	182	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	12.5	10.5	11.6
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	55%	29%	0%
Vol Thru, %	86%	0%	49%	68%
Vol Right, %	0%	45%	22%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	204	265	129	315
LT Vol	29	146	37	0
Through Vol	175	0	63	215
RT Vol	0	119	29	100
Lane Flow Rate	213	276	134	328
Geometry Grp	1	1	1	1
Degree of Util (X)	0.335	0.421	0.218	0.481
Departure Headway (Hd)	5.669	5.496	5.841	5.277
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	631	651	611	679
Service Time	3.73	3.554	3.909	3.332
HCM Lane V/C Ratio	0.338	0.424	0.219	0.483
HCM Control Delay	11.6	12.5	10.5	13.2
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.5	2.1	0.8	2.6

**Intersection**

Intersection Delay, s/veh  
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	0	215	100
Future Vol, veh/h	0	0	215	100
Peak Hour Factor	0.92	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	224	104
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	13.2
HCM LOS	B

HCM Signalized Intersection Capacity Analysis  
6: SW 72nd Street & Yumuri Street

16216 Existing AM  
9/26/2016



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	94	469	318	48	50	106
Future Volume (vph)	94	469	318	48	50	106
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1806		1752	1568
Flt Permitted	0.42	1.00	1.00		0.95	1.00
Satd. Flow (perm)	771	1845	1806		1752	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	104	521	353	53	56	118
RTOR Reduction (vph)	0	0	7	0	0	81
Lane Group Flow (vph)	104	521	399	0	56	37
Confl. Peds. (#/hr)	3			3	4	
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	pm+pt	NA	NA		Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases	6					1
Actuated Green, G (s)	55.0	55.0	45.0		20.0	27.0
Effective Green, g (s)	55.0	55.0	45.0		20.0	27.0
Actuated g/C Ratio	0.65	0.65	0.53		0.24	0.32
Clearance Time (s)	3.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	579	1193	956		412	590
v/s Ratio Prot	0.01	c0.28	0.22		c0.03	0.01
v/s Ratio Perm	0.10					0.01
v/c Ratio	0.18	0.44	0.42		0.14	0.06
Uniform Delay, d1	6.2	7.4	12.1		25.7	20.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	1.2	1.3		0.7	0.2
Delay (s)	6.9	8.5	13.4		26.4	20.4
Level of Service	A	A	B		C	C
Approach Delay (s)		8.3	13.4		22.3	
Approach LOS		A	B		C	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Timings  
6: SW 72nd Street & Yumuri Street

16216 Existing AM  
9/26/2016



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗		↖	↗
Traffic Volume (vph)	94	469	318	48	50	106
Future Volume (vph)	94	469	318	48	50	106
Confl. Peds. (#/hr)	3			3	4	
Confl. Bikes (#/hr)				2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Turn Type	pm+pt	NA	NA		Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases	6					1
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0		7.0	7.0
Minimum Split (s)	9.5	23.0	23.0		23.0	23.0
Total Split (s)	10.0	60.0	50.0		25.0	25.0
Total Split (%)	11.8%	70.6%	58.8%		29.4%	29.4%
Yellow Time (s)	3.0	4.0	4.0		4.0	4.0
All-Red Time (s)	0.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Max	Max	Max		Max	Max

Intersection Summary

Cycle Length: 85  
 Actuated Cycle Length: 85  
 Offset: 77.5 (91%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Pretimed

Splits and Phases: 6: SW 72nd Street & Yumuri Street



HCM Signalized Intersection Capacity Analysis  
6: SW 72nd Street & Yumuri Street

16216 Existing PM  
9/26/2016



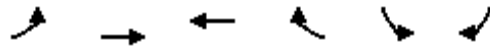
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	128	368	292	51	187	163
Future Volume (vph)	128	368	292	51	187	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1802		1752	1568
Flt Permitted	0.47	1.00	1.00		0.95	1.00
Satd. Flow (perm)	871	1845	1802		1752	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	139	400	317	55	203	177
RTOR Reduction (vph)	0	0	6	0	0	134
Lane Group Flow (vph)	139	400	366	0	203	43
Confl. Peds. (#/hr)	9					
Confl. Bikes (#/hr)	2					
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	pm+pt	NA	NA		Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases	6					1
Actuated Green, G (s)	60.5	60.5	51.2		14.5	20.8
Effective Green, g (s)	60.5	60.5	51.2		14.5	20.8
Actuated g/C Ratio	0.71	0.71	0.60		0.17	0.24
Clearance Time (s)	3.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	1.0	1.0		2.5	2.5
Lane Grp Cap (vph)	685	1313	1085		298	475
v/s Ratio Prot	0.02	c0.22	c0.20		c0.12	0.02
v/s Ratio Perm	0.13					0.01
v/c Ratio	0.20	0.30	0.34		0.68	0.09
Uniform Delay, d1	4.2	4.5	8.4		33.1	24.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.6	0.8		5.8	0.1
Delay (s)	4.2	5.1	9.3		38.8	24.9
Level of Service	A	A	A		D	C
Approach Delay (s)		4.9	9.3		32.3	
Approach LOS		A	A		C	

Intersection Summary

HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Timings  
6: SW 72nd Street & Yumuri Street

16216 Existing PM  
9/26/2016



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	128	368	292	51	187	163
Future Volume (vph)	128	368	292	51	187	163
Confl. Peds. (#/hr)					9	
Confl. Bikes (#/hr)				2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Turn Type	pm+pt	NA	NA		Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases	6					1
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0		7.0	7.0
Minimum Split (s)	9.5	23.0	23.0		23.0	23.0
Total Split (s)	10.0	60.0	50.0		25.0	25.0
Total Split (%)	11.8%	70.6%	58.8%		29.4%	29.4%
Yellow Time (s)	3.0	4.0	4.0		4.0	4.0
All-Red Time (s)	0.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Max	C-Max		None	None

Intersection Summary

Cycle Length: 85  
 Actuated Cycle Length: 85  
 Offset: 77.5 (91%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated

Splits and Phases: 6: SW 72nd Street & Yumuri Street



Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations							↕				↕	
Traffic Vol, veh/h	0	0	0	0	0	18	39	13	0	38	116	29
Future Vol, veh/h	0	0	0	0	0	18	39	13	0	38	116	29
Peak Hour Factor	0.92	0.64	0.64	0.64	0.92	0.64	0.64	0.64	0.92	0.64	0.64	0.64
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	28	61	20	0	59	181	45
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	9.1	9.9
HCM LOS	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	21%	26%	14%
Vol Thru, %	63%	56%	52%
Vol Right, %	16%	19%	34%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	183	70	154
LT Vol	38	18	21
Through Vol	116	39	80
RT Vol	29	13	53
Lane Flow Rate	286	109	273
Geometry Grp	1	1	1
Degree of Util (X)	0.354	0.154	0.33
Departure Headway (Hd)	4.451	5.082	4.346
Convergence, Y/N	Yes	Yes	Yes
Cap	809	703	827
Service Time	2.48	3.13	2.376
HCM Lane V/C Ratio	0.354	0.155	0.33
HCM Control Delay	9.9	9.1	9.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.6	0.5	1.4

**Intersection**

Intersection Delay, s/veh  
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	21	80	53
Future Vol, veh/h	0	21	80	53
Peak Hour Factor	0.92	0.64	0.64	0.46
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	33	125	115
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	9.5
HCM LOS	A



Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations							↕				↕	
Traffic Vol, veh/h	0	0	0	0	0	53	79	24	0	41	93	17
Future Vol, veh/h	0	0	0	0	0	53	79	24	0	41	93	17
Peak Hour Factor	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	60	90	27	0	47	106	19
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	9.1	8.8
HCM LOS	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	27%	34%	15%
Vol Thru, %	62%	51%	68%
Vol Right, %	11%	15%	17%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	151	156	140
LT Vol	41	53	21
Through Vol	93	79	95
RT Vol	17	24	24
Lane Flow Rate	172	177	159
Geometry Grp	1	1	1
Degree of Util (X)	0.216	0.229	0.198
Departure Headway (Hd)	4.531	4.66	4.487
Convergence, Y/N	Yes	Yes	Yes
Cap	793	771	800
Service Time	2.557	2.689	2.513
HCM Lane V/C Ratio	0.217	0.23	0.199
HCM Control Delay	8.8	9.1	8.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.8	0.9	0.7

**Intersection**

Intersection Delay, s/veh  
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	21	95	24
Future Vol, veh/h	0	21	95	24
Peak Hour Factor	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	24	108	27
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	8.6
HCM LOS	A

**Intersection**

Int Delay, s/veh 3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↖	↗
Traffic Vol, veh/h	163	394	271	65	22	88
Future Vol, veh/h	163	394	271	65	22	88
Conflicting Peds, #/hr	8	0	0	8	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	187	453	311	75	25	101

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	394	0	1186
Stage 1	-	-	357
Stage 2	-	-	829
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1165	-	208
Stage 1	-	-	708
Stage 2	-	-	429
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1164	-	161
Mov Cap-2 Maneuver	-	-	161
Stage 1	-	-	703
Stage 2	-	-	334

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	15.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1164	-	-	-	161	680
HCM Lane V/C Ratio	0.161	-	-	-	0.157	0.149
HCM Control Delay (s)	8.7	0	-	-	31.5	11.2
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0.6	-	-	-	0.5	0.5

**Intersection**

Int Delay, s/veh 2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↖	↗
Traffic Vol, veh/h	59	352	271	64	52	77
Future Vol, veh/h	59	352	271	64	52	77
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	374	288	68	55	82

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	365	0	831
Stage 1	-	-	331
Stage 2	-	-	500
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1194	-	340
Stage 1	-	-	728
Stage 2	-	-	609
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1194	-	312
Mov Cap-2 Maneuver	-	-	312
Stage 1	-	-	722
Stage 2	-	-	563

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	14.1
HCM LOS			B






















Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1194	-	-	-	312	705
HCM Lane V/C Ratio	0.053	-	-	-	0.177	0.116
HCM Control Delay (s)	8.2	0	-	-	19	10.8
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6	0.4

# **Future without Project Conditions**



HCM Signalized Intersection Capacity Analysis  
1: Red Road & San Remo Avenue

16216 Future without Project AM  
9/26/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	5	21	41	0	46	0	551	114	150	569	0
Future Volume (vph)	6	5	21	41	0	46	0	551	114	150	569	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0		6.0		7.0		7.0	7.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95		1.00	0.95	
Frbp, ped/bikes		1.00	1.00	1.00		1.00		0.99		1.00	1.00	
Flpb, ped/bikes		0.93	1.00	0.96		1.00		1.00		0.99	1.00	
Frt		1.00	0.85	1.00		0.85		0.97		1.00	1.00	
Flt Protected		0.97	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1695	1583	1704		1583		3413		1745	3539	
Flt Permitted		0.97	1.00	0.36		1.00		1.00		0.38	1.00	
Satd. Flow (perm)		1695	1583	638		1583		3413		697	3539	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	5	22	44	0	49	0	586	121	160	605	0
RTOR Reduction (vph)	0	0	21	0	0	44	0	5	0	0	0	0
Lane Group Flow (vph)	0	11	1	44	0	5	0	702	0	160	605	0
Confl. Peds. (#/hr)	44		50	50		44	9		7	7		9
Confl. Bikes (#/hr)			1			1			4			2
Turn Type	Perm	NA	Prot	pm+pt		Prot		NA		Perm	NA	
Protected Phases		8	8	7		4		6			2	
Permitted Phases	8			4						2		
Actuated Green, G (s)		5.4	5.4	19.5		19.5		157.5		157.5	157.5	
Effective Green, g (s)		5.4	5.4	19.5		19.5		157.5		157.5	157.5	
Actuated g/C Ratio		0.03	0.03	0.10		0.10		0.83		0.83	0.83	
Clearance Time (s)		6.0	6.0	6.0		6.0		7.0		7.0	7.0	
Vehicle Extension (s)		2.5	2.5	2.0		2.5		1.0		1.0	1.0	
Lane Grp Cap (vph)		48	44	110		162		2829		577	2933	
v/s Ratio Prot			0.00	c0.02		0.00		0.21			0.17	
v/s Ratio Perm		0.01		c0.02						c0.23		
v/c Ratio		0.23	0.01	0.40		0.03		0.25		0.28	0.21	
Uniform Delay, d1		90.3	89.7	78.6		76.7		3.5		3.6	3.4	
Progression Factor		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2		1.8	0.1	0.9		0.1		0.2		1.2	0.2	
Delay (s)		92.0	89.8	79.5		76.8		3.7		4.8	3.5	
Level of Service		F	F	E		E		A		A	A	
Approach Delay (s)		90.6			78.1			3.7			3.8	
Approach LOS		F			E			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			9.9									A
HCM 2000 Volume to Capacity ratio			0.30									
Actuated Cycle Length (s)			190.0							19.0		
Intersection Capacity Utilization			64.8%									C
Analysis Period (min)			15									
c Critical Lane Group												

Timings  
1: Red Road & San Remo Avenue

16216 Future without Project AM  
9/26/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	5	21	41	0	46	0	551	114	150	569	0
Future Volume (vph)	6	5	21	41	0	46	0	551	114	150	569	0
Confl. Peds. (#/hr)	44		50	50		44	9		7	7		9
Confl. Bikes (#/hr)			1			1			4			2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Prot	pm+pt		Prot		NA		Perm	NA	
Protected Phases		8	8	7		4		6				2
Permitted Phases	8			4						2		
Detector Phase	8	8	8	7		4		6		2		2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0		5.0
Minimum Split (s)	27.0	27.0	27.0	26.0		56.0		28.0		28.0		28.0
Total Split (s)	30.0	30.0	30.0	26.0		56.0		134.0		134.0		134.0
Total Split (%)	15.8%	15.8%	15.8%	13.7%		29.5%		70.5%		70.5%		70.5%
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0		4.0		4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0		3.0		3.0		3.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0		6.0		7.0		7.0		7.0
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	None	None	None	None		None		C-Max		C-Max		C-Max

Intersection Summary





















Cycle Length: 190  
 Actuated Cycle Length: 190  
 Offset: 94 (49%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Red Road & San Remo Avenue



HCM Signalized Intersection Capacity Analysis  
1: Red Road & San Remo Avenue

16216 Future without Project PM  
9/26/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	13	45	210	0	142	0	442	78	92	578	0
Future Volume (vph)	15	13	45	210	0	142	0	442	78	92	578	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0		6.0		7.0		7.0	7.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95		1.00	0.95	
Frbp, ped/bikes		1.00	1.00	1.00		1.00		0.99		1.00	1.00	
Flpb, ped/bikes		0.96	1.00	0.98		1.00		1.00		0.98	1.00	
Frt		1.00	0.85	1.00		0.85		0.98		1.00	1.00	
Flt Protected		0.97	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1738	1583	1739		1583		3423		1728	3539	
Flt Permitted		0.97	1.00	0.40		1.00		1.00		0.45	1.00	
Satd. Flow (perm)		1738	1583	736		1583		3423		813	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	14	47	221	0	149	0	465	82	97	608	0
RTOR Reduction (vph)	0	0	45	0	0	129	0	5	0	0	0	0
Lane Group Flow (vph)	0	30	2	221	0	20	0	542	0	97	608	0
Confl. Peds. (#/hr)	29		21	21		29	6		9	9		6
Confl. Bikes (#/hr)			1			1			2			2
Turn Type	Perm	NA	Prot	pm+pt		Prot		NA		Perm	NA	
Protected Phases		8	8	7		4		6			2	
Permitted Phases	8			4						2		
Actuated Green, G (s)		7.2	7.2	25.2		25.2		151.8		151.8	151.8	
Effective Green, g (s)		7.2	7.2	25.2		25.2		151.8		151.8	151.8	
Actuated g/C Ratio		0.04	0.04	0.13		0.13		0.80		0.80	0.80	
Clearance Time (s)		6.0	6.0	6.0		6.0		7.0		7.0	7.0	
Vehicle Extension (s)		2.5	2.5	2.0		2.5		1.0		1.0	1.0	
Lane Grp Cap (vph)		65	59	160		209		2734		649	2827	
v/s Ratio Prot			0.00	c0.09		0.01		0.16			c0.17	
v/s Ratio Perm		0.02		c0.10						0.12		
v/c Ratio		0.46	0.03	1.38		0.09		0.20		0.15	0.22	
Uniform Delay, d1		89.5	88.0	80.7		72.4		4.6		4.4	4.6	
Progression Factor		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2		3.7	0.2	205.6		0.1		0.2		0.5	0.2	
Delay (s)		93.2	88.2	286.2		72.5		4.7		4.8	4.8	
Level of Service		F	F	F		E		A		A	A	
Approach Delay (s)		90.2			200.2			4.7			4.8	
Approach LOS		F			F			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			51.2									D
HCM 2000 Volume to Capacity ratio			0.38									
Actuated Cycle Length (s)			190.0							19.0		
Intersection Capacity Utilization			56.7%									B
Analysis Period (min)			15									
c Critical Lane Group												

Timings  
1: Red Road & San Remo Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	13	45	210	0	142	0	442	78	92	578	0
Future Volume (vph)	15	13	45	210	0	142	0	442	78	92	578	0
Confl. Peds. (#/hr)	29		21	21		29	6		9	9		6
Confl. Bikes (#/hr)			1			1			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Prot	pm+pt		Prot	NA		Perm	NA		
Protected Phases		8	8	7		4	6				2	
Permitted Phases	8			4						2		
Detector Phase	8	8	8	7		4	6		2	2		
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0		
Minimum Split (s)	27.0	27.0	27.0	18.0		46.0	28.0		28.0	28.0		
Total Split (s)	28.0	28.0	28.0	18.0		46.0	144.0		144.0	144.0		
Total Split (%)	14.7%	14.7%	14.7%	9.5%		24.2%	75.8%		75.8%	75.8%		
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0		
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	3.0		3.0	3.0		
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0		0.0	0.0		
Total Lost Time (s)		6.0	6.0	6.0		6.0	7.0		7.0	7.0		
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	None	None	None	None		None	C-Max		C-Max	C-Max		

Intersection Summary

Cycle Length: 190  
 Actuated Cycle Length: 190  
 Offset: 94 (49%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Red Road & San Remo Avenue



**Intersection**

Int Delay, s/veh 5.6

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Vol, veh/h	463	141	163	652	74	73
Future Vol, veh/h	463	141	163	652	74	73
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	92	-	0	50
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	514	157	181	724	82	81

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	673
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	914
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	914
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	NB	SB	SW
HCM Control Delay, s	0	2	48.5
HCM LOS			E

Minor Lane/Major Mvmt	NBT	NBR	SBL	SBT	SWLn1	SWLn2
Capacity (veh/h)	-	-	914	-	119	657
HCM Lane V/C Ratio	-	-	0.198	-	0.691	0.123
HCM Control Delay (s)	-	-	9.9	-	85.1	11.3
HCM Lane LOS	-	-	A	-	F	B
HCM 95th %tile Q(veh)	-	-	0.7	-	3.7	0.4



**Intersection**

Int Delay, s/veh 6.5

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Vol, veh/h	500	85	128	544	114	117
Future Vol, veh/h	500	85	128	544	114	117
Conflicting Peds, #/hr	0	11	11	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	92	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	515	88	132	561	118	121

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	614
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	961
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	961
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	NB	SB	SW
HCM Control Delay, s	0	1.8	36.4
HCM LOS			E

Minor Lane/Major Mvmt	NBT	NBR	SBL	SBT	SWLn1	SWLn2
Capacity (veh/h)	-	-	961	-	172	676
HCM Lane V/C Ratio	-	-	0.137	-	0.683	0.178
HCM Control Delay (s)	-	-	9.3	-	62	11.5
HCM Lane LOS	-	-	A	-	F	B
HCM 95th %tile Q(veh)	-	-	0.5	-	4.1	0.6

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	25	79	67	0	6	22	3	0	51	123	8
Future Vol, veh/h	0	25	79	67	0	6	22	3	0	51	123	8
Peak Hour Factor	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	28	90	76	0	7	25	3	0	58	140	9
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	SE	NW	NE
Opposing Approach	NW	SE	SW
Opposing Lanes	1	1	1
Conflicting Approach Left	SW	NE	SE
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NE	SW	NW
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.8	8	9.2
HCM LOS	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	28%	19%	15%	4%
Vol Thru, %	68%	71%	46%	88%
Vol Right, %	4%	10%	39%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	182	31	171	52
LT Vol	51	6	25	2
Through Vol	123	22	79	46
RT Vol	8	3	67	4
Lane Flow Rate	207	35	194	59
Geometry Grp	1	1	1	1
Degree of Util (X)	0.262	0.047	0.237	0.077
Departure Headway (Hd)	4.558	4.766	4.397	4.663
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	788	750	816	767
Service Time	2.587	2.802	2.425	2.698
HCM Lane V/C Ratio	0.263	0.047	0.238	0.077
HCM Control Delay	9.2	8	8.8	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.1	0.9	0.2

**Intersection**

Intersection Delay, s/veh  
 Intersection LOS

Movement	SWU	SWL	SWT	SWR
Lane Configurations			↕	
Traffic Vol, veh/h	0	2	46	4
Future Vol, veh/h	0	2	46	4
Peak Hour Factor	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	2	52	5
Number of Lanes	0	0	1	0

Approach	SW
Opposing Approach	NE
Opposing Lanes	1
Conflicting Approach Left	NW
Conflicting Lanes Left	1
Conflicting Approach Right	SE
Conflicting Lanes Right	1
HCM Control Delay	8.1
HCM LOS	A

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	13	61	51	0	16	77	4	0	70	73	27
Future Vol, veh/h	0	13	61	51	0	16	77	4	0	70	73	27
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	15	72	60	0	19	91	5	0	82	86	32
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	SE	NW	NE
Opposing Approach	NW	SE	SW
Opposing Lanes	1	1	1
Conflicting Approach Left	SW	NE	SE
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NE	SW	NW
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.9	9	9.5
HCM LOS	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	41%	16%	10%	9%
Vol Thru, %	43%	79%	49%	74%
Vol Right, %	16%	4%	41%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	170	97	125	138
LT Vol	70	16	13	12
Through Vol	73	77	61	102
RT Vol	27	4	51	24
Lane Flow Rate	200	114	147	162
Geometry Grp	1	1	1	1
Degree of Util (X)	0.264	0.158	0.193	0.213
Departure Headway (Hd)	4.751	4.987	4.718	4.725
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	752	714	756	755
Service Time	2.804	3.05	2.777	2.781
HCM Lane V/C Ratio	0.266	0.16	0.194	0.215
HCM Control Delay	9.5	9	8.9	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0.6	0.7	0.8

**Intersection**

Intersection Delay, s/veh  
 Intersection LOS

Movement	SWU	SWL	SWT	SWR
Lane Configurations			↕	
Traffic Vol, veh/h	0	12	102	24
Future Vol, veh/h	0	12	102	24
Peak Hour Factor	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	14	120	28
Number of Lanes	0	0	1	0

Approach	SW
Opposing Approach	NE
Opposing Lanes	1
Conflicting Approach Left	NW
Conflicting Lanes Left	1
Conflicting Approach Right	SE
Conflicting Lanes Right	1
HCM Control Delay	9.1
HCM LOS	A



**Intersection**

Int Delay, s/veh 1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	20	15	202	189	15
Future Vol, veh/h	28	20	15	202	189	15
Conflicting Peds, #/hr	0	4	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	26	20	266	249	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	567	266	271	0	-	0
Stage 1	262	-	-	-	-	-
Stage 2	305	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	485	773	1292	-	-	-
Stage 1	782	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	474	768	1287	-	-	-
Mov Cap-2 Maneuver	474	-	-	-	-	-
Stage 1	780	-	-	-	-	-
Stage 2	732	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.2	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1287	-	564	-	-
HCM Lane V/C Ratio	0.015	-	0.112	-	-
HCM Control Delay (s)	7.8	0	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

**Intersection**

Int Delay, s/veh 1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	27	44	26	341	292	25
Future Vol, veh/h	27	44	26	341	292	25
Conflicting Peds, #/hr	0	7	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	49	29	383	328	28

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	789	354	361	0	- 0
Stage 1	347	-	-	-	- -
Stage 2	442	-	-	-	- -
Critical Hdwy	6.42	6.22	4.12	-	- -
Critical Hdwy Stg 1	5.42	-	-	-	- -
Critical Hdwy Stg 2	5.42	-	-	-	- -
Follow-up Hdwy	3.518	3.318	2.218	-	- -
Pot Cap-1 Maneuver	359	690	1198	-	- -
Stage 1	716	-	-	-	- -
Stage 2	648	-	-	-	- -
Platoon blocked, %				-	- -
Mov Cap-1 Maneuver	345	682	1190	-	- -
Mov Cap-2 Maneuver	345	-	-	-	- -
Stage 1	713	-	-	-	- -
Stage 2	625	-	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	13.6	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1190	-	497	-	-
HCM Lane V/C Ratio	0.025	-	0.161	-	-
HCM Control Delay (s)	8.1	0	13.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↑				↕	
Traffic Vol, veh/h	0	54	0	44	0	29	24	27	0	22	136	0
Future Vol, veh/h	0	54	0	44	0	29	24	27	0	22	136	0
Peak Hour Factor	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	67	0	54	0	36	30	33	0	27	168	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.1	8.9	9.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	55%	36%	0%
Vol Thru, %	86%	0%	30%	74%
Vol Right, %	0%	45%	34%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	158	98	80	215
LT Vol	22	54	29	0
Through Vol	136	0	24	160
RT Vol	0	44	27	55
Lane Flow Rate	195	121	99	265
Geometry Grp	1	1	1	1
Degree of Util (X)	0.261	0.167	0.138	0.337
Departure Headway (Hd)	4.817	4.976	5.036	4.565
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	741	715	706	783
Service Time	2.877	3.047	3.111	2.619
HCM Lane V/C Ratio	0.263	0.169	0.14	0.338
HCM Control Delay	9.6	9.1	8.9	9.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.6	0.5	1.5

**Intersection**

Intersection Delay, s/veh  
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↳	
Traffic Vol, veh/h	0	0	160	55
Future Vol, veh/h	0	0	160	55
Peak Hour Factor	0.92	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	198	68
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.9
HCM LOS	A

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↑				↕	
Traffic Vol, veh/h	0	147	0	125	0	38	64	29	0	41	193	0
Future Vol, veh/h	0	147	0	125	0	38	64	29	0	41	193	0
Peak Hour Factor	0.92	0.96	0.96	0.96	0.92	0.96	0.96	0.96	0.92	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	153	0	130	0	40	67	30	0	43	201	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0


Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	13.1	10.9	12.5
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	54%	29%	0%
Vol Thru, %	82%	0%	49%	69%
Vol Right, %	0%	46%	22%	31%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	234	272	131	321
LT Vol	41	147	38	0
Through Vol	193	0	64	220
RT Vol	0	125	29	101
Lane Flow Rate	244	283	136	334
Geometry Grp	1	1	1	1
Degree of Util (X)	0.39	0.443	0.228	0.501
Departure Headway (Hd)	5.755	5.627	6.009	5.397
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	622	638	592	665
Service Time	3.828	3.697	4.094	3.465
HCM Lane V/C Ratio	0.392	0.444	0.23	0.502
HCM Control Delay	12.5	13.1	10.9	13.8
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.8	2.3	0.9	2.8



**Intersection**

Intersection Delay, s/veh  
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	0	220	101
Future Vol, veh/h	0	0	220	101
Peak Hour Factor	0.92	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	229	105
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	13.8
HCM LOS	B

HCM Signalized Intersection Capacity Analysis  
6: SW 72nd Street & Yumuri Street

16216 Future without Project AM  
9/26/2016

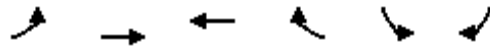


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↷		↶	↷
Traffic Volume (vph)	133	474	321	59	52	115
Future Volume (vph)	133	474	321	59	52	115
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1799		1752	1568
Flt Permitted	0.40	1.00	1.00		0.95	1.00
Satd. Flow (perm)	747	1845	1799		1752	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	148	527	357	66	58	128
RTOR Reduction (vph)	0	0	8	0	0	87
Lane Group Flow (vph)	148	527	415	0	58	41
Confl. Peds. (#/hr)	3			3	4	
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	pm+pt	NA	NA		Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases	6					1
Actuated Green, G (s)	55.0	55.0	45.0		20.0	27.0
Effective Green, g (s)	55.0	55.0	45.0		20.0	27.0
Actuated g/C Ratio	0.65	0.65	0.53		0.24	0.32
Clearance Time (s)	3.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	566	1193	952		412	590
v/s Ratio Prot	0.02	c0.29	0.23		c0.03	0.02
v/s Ratio Perm	0.15					0.01
v/c Ratio	0.26	0.44	0.44		0.14	0.07
Uniform Delay, d1	6.5	7.4	12.2		25.7	20.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.1	1.2	1.5		0.7	0.2
Delay (s)	7.6	8.6	13.7		26.4	20.5
Level of Service	A	A	B		C	C
Approach Delay (s)		8.4	13.7		22.3	
Approach LOS		A	B		C	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Timings  
6: SW 72nd Street & Yumuri Street



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↔		↘	↙
Traffic Volume (vph)	133	474	321	59	52	115
Future Volume (vph)	133	474	321	59	52	115
Confl. Peds. (#/hr)	3			3	4	
Confl. Bikes (#/hr)				2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Turn Type	pm+pt	NA	NA		Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases	6					1
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0		7.0	7.0
Minimum Split (s)	9.5	23.0	23.0		23.0	23.0
Total Split (s)	10.0	60.0	50.0		25.0	25.0
Total Split (%)	11.8%	70.6%	58.8%		29.4%	29.4%
Yellow Time (s)	3.0	4.0	4.0		4.0	4.0
All-Red Time (s)	0.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Max	Max	Max		Max	Max

Intersection Summary

Cycle Length: 85  
 Actuated Cycle Length: 85  
 Offset: 77.5 (91%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Pretimed

Splits and Phases: 6: SW 72nd Street & Yumuri Street



HCM Signalized Intersection Capacity Analysis  
6: SW 72nd Street & Yumuri Street

16216 Future without Project PM  
9/26/2016



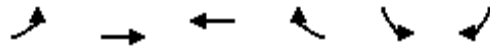
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	138	372	295	54	204	228
Future Volume (vph)	138	372	295	54	204	228
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1800		1752	1559
Flt Permitted	0.44	1.00	1.00		0.95	1.00
Satd. Flow (perm)	810	1845	1800		1752	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	150	404	321	59	222	248
RTOR Reduction (vph)	0	0	8	0	0	169
Lane Group Flow (vph)	150	404	372	0	222	79
Confl. Peds. (#/hr)					9	2
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	pm+pt	NA	NA		Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases	6					1
Actuated Green, G (s)	55.0	55.0	45.0		20.0	27.0
Effective Green, g (s)	55.0	55.0	45.0		20.0	27.0
Actuated g/C Ratio	0.65	0.65	0.53		0.24	0.32
Clearance Time (s)	3.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	601	1193	952		412	586
v/s Ratio Prot	0.02	c0.22	c0.21		c0.13	0.03
v/s Ratio Perm	0.14					0.02
v/c Ratio	0.25	0.34	0.39		0.54	0.13
Uniform Delay, d1	6.3	6.8	11.9		28.5	20.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0	0.8	1.2		5.0	0.5
Delay (s)	7.3	7.6	13.1		33.4	21.1
Level of Service	A	A	B		C	C
Approach Delay (s)		7.5	13.1		27.0	
Approach LOS		A	B		C	

Intersection Summary

HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Timings  
6: SW 72nd Street & Yumuri Street



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↔		↘	↙
Traffic Volume (vph)	138	372	295	54	204	228
Future Volume (vph)	138	372	295	54	204	228
Confl. Peds. (#/hr)					9	2
Confl. Bikes (#/hr)				2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Turn Type	pm+pt	NA	NA		Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases	6					1
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0		7.0	7.0
Minimum Split (s)	9.5	23.0	23.0		23.0	23.0
Total Split (s)	10.0	60.0	50.0		25.0	25.0
Total Split (%)	11.8%	70.6%	58.8%		29.4%	29.4%
Yellow Time (s)	3.0	4.0	4.0		4.0	4.0
All-Red Time (s)	0.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Max	Max	Max		Max	Max

Intersection Summary

Cycle Length: 85  
 Actuated Cycle Length: 85  
 Offset: 77.5 (91%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Pretimed

Splits and Phases: 6: SW 72nd Street & Yumuri Street



Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations							↕				↕	
Traffic Vol, veh/h	0	0	0	0	0	22	39	13	0	38	126	29
Future Vol, veh/h	0	0	0	0	0	22	39	13	0	38	126	29
Peak Hour Factor	0.92	0.64	0.64	0.64	0.92	0.64	0.64	0.64	0.92	0.64	0.64	0.64
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	34	61	20	0	59	197	45
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	9.2	10.2
HCM LOS	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	20%	30%	13%
Vol Thru, %	65%	53%	53%
Vol Right, %	15%	18%	34%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	193	74	161
LT Vol	38	22	21
Through Vol	126	39	86
RT Vol	29	13	54
Lane Flow Rate	302	116	285
Geometry Grp	1	1	1
Degree of Util (X)	0.376	0.166	0.347
Departure Headway (Hd)	4.489	5.159	4.39
Convergence, Y/N	Yes	Yes	Yes
Cap	799	693	817
Service Time	2.524	3.211	2.425
HCM Lane V/C Ratio	0.378	0.167	0.349
HCM Control Delay	10.2	9.2	9.8
HCM Lane LOS	B	A	A
HCM 95th-tile Q	1.8	0.6	1.6



**Intersection**

Intersection Delay, s/veh  
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	21	86	54
Future Vol, veh/h	0	21	86	54
Peak Hour Factor	0.92	0.64	0.64	0.46
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	33	134	117
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	9.8
HCM LOS	A

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations							↕				↕	
Traffic Vol, veh/h	0	0	0	0	0	54	80	24	0	41	102	17
Future Vol, veh/h	0	0	0	0	0	54	80	24	0	41	102	17
Peak Hour Factor	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	61	91	27	0	47	116	19
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	9.2	9
HCM LOS	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	26%	34%	14%
Vol Thru, %	64%	51%	70%
Vol Right, %	11%	15%	16%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	160	158	151
LT Vol	41	54	21
Through Vol	102	80	106
RT Vol	17	24	24
Lane Flow Rate	182	180	172
Geometry Grp	1	1	1
Degree of Util (X)	0.23	0.235	0.215
Departure Headway (Hd)	4.557	4.714	4.515
Convergence, Y/N	Yes	Yes	Yes
Cap	787	761	794
Service Time	2.586	2.747	2.544
HCM Lane V/C Ratio	0.231	0.237	0.217
HCM Control Delay	9	9.2	8.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.9	0.9	0.8

**Intersection**

Intersection Delay, s/veh  
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	21	106	24
Future Vol, veh/h	0	21	106	24
Peak Hour Factor	0.92	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	24	120	27
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	8.8
HCM LOS	A

**Intersection**

Int Delay, s/veh 3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↙	↘
Traffic Vol, veh/h	169	400	284	69	24	93
Future Vol, veh/h	169	400	284	69	24	93
Conflicting Peds, #/hr	8	0	0	8	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	194	460	326	79	28	107

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	414	0	1223
Stage 1	-	-	374
Stage 2	-	-	849
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1145	-	198
Stage 1	-	-	696
Stage 2	-	-	419
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1144	-	151
Mov Cap-2 Maneuver	-	-	151
Stage 1	-	-	691
Stage 2	-	-	321

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	16.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1144	-	-	-	151	665
HCM Lane V/C Ratio	0.17	-	-	-	0.183	0.161
HCM Control Delay (s)	8.8	0	-	-	34.1	11.4
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0.6	-	-	-	0.6	0.6

**Intersection**

Int Delay, s/veh 2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↖	↗
Traffic Vol, veh/h	64	370	276	68	57	84
Future Vol, veh/h	64	370	276	68	57	84
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	394	294	72	61	89

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	375	0	869
Stage 1	-	-	339
Stage 2	-	-	530
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1183	-	322
Stage 1	-	-	722
Stage 2	-	-	590
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1183	-	293
Mov Cap-2 Maneuver	-	-	293
Stage 1	-	-	716
Stage 2	-	-	542

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1183	-	-	-	293	697
HCM Lane V/C Ratio	0.058	-	-	-	0.207	0.128
HCM Control Delay (s)	8.2	0	-	-	20.5	10.9
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8	0.4

# **Future with Project Conditions**



HCM Signalized Intersection Capacity Analysis  
 1: Red Road & San Remo Avenue

Future w Project AM  
 01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗	↖		↗		↕↗		↖	↕↖	
Traffic Volume (vph)	6	5	21	33	0	42	0	554	113	156	576	0
Future Volume (vph)	6	5	21	33	0	42	0	554	113	156	576	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0		6.0		7.0		7.0	7.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95		1.00	0.95	
Frbp, ped/bikes		1.00	1.00	1.00		1.00		0.99		1.00	1.00	
Flpb, ped/bikes		0.93	1.00	0.96		1.00		1.00		0.99	1.00	
Frt		1.00	0.85	1.00		0.85		0.97		1.00	1.00	
Flt Protected		0.97	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1695	1583	1704		1583		3414		1745	3539	
Flt Permitted		0.97	1.00	0.36		1.00		1.00		0.38	1.00	
Satd. Flow (perm)		1695	1583	638		1583		3414		696	3539	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	5	22	35	0	45	0	589	120	166	613	0
RTOR Reduction (vph)	0	0	21	0	0	41	0	5	0	0	0	0
Lane Group Flow (vph)	0	11	1	35	0	4	0	704	0	166	613	0
Confl. Peds. (#/hr)	44		50	50		44	9		7	7		9
Confl. Bikes (#/hr)			1			1			4			2
Turn Type	Perm	NA	Prot	pm+pt		Prot		NA		Perm	NA	
Protected Phases		8	8	7		4		6				2
Permitted Phases	8			4						2		
Actuated Green, G (s)		5.4	5.4	18.7		18.7		158.3		158.3	158.3	
Effective Green, g (s)		5.4	5.4	18.7		18.7		158.3		158.3	158.3	
Actuated g/C Ratio		0.03	0.03	0.10		0.10		0.83		0.83	0.83	
Clearance Time (s)		6.0	6.0	6.0		6.0		7.0		7.0	7.0	
Vehicle Extension (s)		2.5	2.5	2.0		2.5		1.0		1.0	1.0	
Lane Grp Cap (vph)		48	44	103		155		2844		579	2948	
v/s Ratio Prot			0.00	c0.01		0.00		0.21				0.17
v/s Ratio Perm		0.01		c0.02						c0.24		
v/c Ratio		0.23	0.01	0.34		0.03		0.25		0.29	0.21	
Uniform Delay, d1		90.3	89.7	78.9		77.4		3.3		3.5	3.2	
Progression Factor		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2		1.8	0.1	0.7		0.1		0.2		1.2	0.2	
Delay (s)		92.0	89.8	79.7		77.5		3.5		4.7	3.4	
Level of Service		F	F	E		E		A		A	A	
Approach Delay (s)		90.6			78.4			3.5			3.6	
Approach LOS		F			E			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			9.1									A
HCM 2000 Volume to Capacity ratio			0.30									
Actuated Cycle Length (s)			190.0							19.0		
Intersection Capacity Utilization			64.8%									C
Analysis Period (min)			15									

c Critical Lane Group

Phasings  
1: Red Road & San Remo Avenue

Future w Project AM  
01/31/2018



Lane Group	EBT	EBR	WBL	WBR	NBT	SBL	SBT
Protected Phases	8	8	7	4	6		2
Permitted Phases			4			2	
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	27.0	26.0	56.0	28.0	28.0	28.0
Total Split (s)	30.0	30.0	26.0	56.0	134.0	134.0	134.0
Total Split (%)	15.8%	15.8%	13.7%	29.5%	70.5%	70.5%	70.5%
Maximum Green (s)	24.0	24.0	20.0	50.0	127.0	127.0	127.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Vehicle Extension (s)	2.5	2.5	2.0	2.5	1.0	1.0	1.0
Minimum Gap (s)	2.5	2.5	2.0	2.5	1.0	1.0	1.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	14.0	14.0		14.0	10.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0
90th %ile Green (s)	8.3	8.3	11.7	26.0	151.0	151.0	151.0
90th %ile Term Code	Gap	Gap	Gap	Hold	Coord	Coord	Coord
70th %ile Green (s)	7.1	7.1	9.7	22.8	154.2	154.2	154.2
70th %ile Term Code	Gap	Gap	Gap	Hold	Coord	Coord	Coord
50th %ile Green (s)	6.2	6.2	8.2	20.4	156.6	156.6	156.6
50th %ile Term Code	Gap	Gap	Gap	Hold	Coord	Coord	Coord
30th %ile Green (s)	5.3	5.3	6.7	18.0	159.0	159.0	159.0
30th %ile Term Code	Gap	Gap	Gap	Hold	Coord	Coord	Coord
10th %ile Green (s)	0.0	0.0	0.0	0.0	183.0	183.0	183.0
10th %ile Term Code	Skip	Skip	Skip	Skip	Coord	Coord	Coord





















Intersection Summary

Cycle Length: 190  
 Actuated Cycle Length: 190  
 Offset: 94 (49%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow  
 Control Type: Actuated-Coordinated

# HCM Signalized Intersection Capacity Analysis

## 1: Red Road & San Remo Avenue

01/31/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	13	45	205	0	140	0	449	72	108	584	0
Future Volume (vph)	15	13	45	205	0	140	0	449	72	108	584	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0		6.0		7.0		7.0	7.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95		1.00	0.95	
Frbp, ped/bikes		1.00	1.00	1.00		1.00		0.99		1.00	1.00	
Flpb, ped/bikes		0.96	1.00	0.98		1.00		1.00		0.98	1.00	
Frt		1.00	0.85	1.00		0.85		0.98		1.00	1.00	
Flt Protected		0.97	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1738	1583	1739		1583		3432		1730	3539	
Flt Permitted		0.97	1.00	0.40		1.00		1.00		0.44	1.00	
Satd. Flow (perm)		1738	1583	736		1583		3432		805	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	14	47	216	0	147	0	473	76	114	615	0
RTOR Reduction (vph)	0	0	45	0	0	70	0	5	0	0	0	0
Lane Group Flow (vph)	0	30	2	216	0	77	0	544	0	114	615	0
Confl. Peds. (#/hr)	29		21	21		29	6		9	9		6
Confl. Bikes (#/hr)			1			1			2			2
Turn Type	Perm	NA	Prot	pm+pt		Prot		NA		Perm	NA	
Protected Phases		8	8	7		4		6			2	
Permitted Phases	8			4						2		
Actuated Green, G (s)		7.2	7.2	31.2		31.2		145.8		145.8	145.8	
Effective Green, g (s)		7.2	7.2	31.2		31.2		145.8		145.8	145.8	
Actuated g/C Ratio		0.04	0.04	0.16		0.16		0.77		0.77	0.77	
Clearance Time (s)		6.0	6.0	6.0		6.0		7.0		7.0	7.0	
Vehicle Extension (s)		2.5	2.5	2.0		2.5		1.0		1.0	1.0	
Lane Grp Cap (vph)		65	59	215		259		2633		617	2715	
v/s Ratio Prot			0.00	c0.09		0.05		0.16			c0.17	
v/s Ratio Perm		0.02		c0.07						0.14		
v/c Ratio		0.46	0.03	1.00		0.30		0.21		0.18	0.23	
Uniform Delay, d1		89.5	88.0	77.1		69.8		6.1		6.0	6.2	
Progression Factor		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2		3.7	0.2	62.6		0.5		0.2		0.7	0.2	
Delay (s)		93.2	88.2	139.7		70.2		6.3		6.7	6.4	
Level of Service		F	F	F		E		A		A	A	
Approach Delay (s)		90.2			111.6			6.3			6.5	
Approach LOS		F			F			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			32.4									C
HCM 2000 Volume to Capacity ratio			0.36									
Actuated Cycle Length (s)			190.0								19.0	
Intersection Capacity Utilization			56.7%									B
Analysis Period (min)			15									

c Critical Lane Group

# Timing Report, Sorted By Phase

## 1: Red Road & San Remo Avenue

01/31/2018



Phase Number	2	4	6	7	8
Movement	SBTL	WBL	NBT	WBL	EBTL
Lead/Lag				Lead	Lag
Lead-Lag Optimize				Yes	Yes
Recall Mode	C-Max	None	C-Max	None	None
Maximum Split (s)	139	51	139	24	27
Maximum Split (%)	73.2%	26.8%	73.2%	12.6%	14.2%
Minimum Split (s)	28	46	28	18	27
Yellow Time (s)	4	4	4	4	4
All-Red Time (s)	3	2	3	2	2
Minimum Initial (s)	5	5	5	5	5
Vehicle Extension (s)	1	2.5	1	2	2.5
Minimum Gap (s)	1	2.5	1	2	2.5
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	7	7	7		7
Flash Dont Walk (s)	10	14	10		14
Dual Entry	Yes	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes
Start Time (s)	152	101	152	101	125
End Time (s)	101	152	101	125	152
Yield/Force Off (s)	94	146	94	119	146
Yield/Force Off 170(s)	84	132	84	119	132
Local Start Time (s)	58	7	58	7	31
Local Yield (s)	0	52	0	25	52
Local Yield 170(s)	180	38	180	25	38

### Intersection Summary

Cycle Length	190
Control Type	Actuated-Coordinated
Natural Cycle	75
Offset: 94 (49%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow	

### Splits and Phases: 1: Red Road & San Remo Avenue



Intersection						
Int Delay, s/veh	6.5					
Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations	↑↑		↖	↑↑	↖	↖
Traffic Vol, veh/h	459	144	161	658	81	87
Future Vol, veh/h	459	144	161	658	81	87
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	92	-	0	50
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	510	160	179	731	90	97

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	672	0	1316 337
Stage 1	-	-	-	-	592 -
Stage 2	-	-	-	-	724 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	915	-	149 659
Stage 1	-	-	-	-	516 -
Stage 2	-	-	-	-	441 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	913	-	119 658
Mov Cap-2 Maneuver	-	-	-	-	119 -
Stage 1	-	-	-	-	414 -
Stage 2	-	-	-	-	441 -

Approach	NB	SB	SW
HCM Control Delay, s	0	1.9	52.1
HCM LOS			F

Minor Lane/Major Mvmt	NBT	NBR	SBL	SBT	SWLn1	SWLn2
Capacity (veh/h)	-	-	913	-	119	658
HCM Lane V/C Ratio	-	-	0.196	-	0.756	0.147
HCM Control Delay (s)	-	-	9.9	-	95.8	11.4
HCM Lane LOS	-	-	A	-	F	B
HCM 95th %tile Q(veh)	-	-	0.7	-	4.3	0.5

Intersection						
Int Delay, s/veh	6.9					
Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations	↑↑		↘	↑↑	↘	↘
Traffic Vol, veh/h	497	92	123	561	120	128
Future Vol, veh/h	497	92	123	561	120	128
Conflicting Peds, #/hr	0	11	11	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	92	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	512	95	127	578	124	132

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	618	0	1114 315
Stage 1	-	-	-	-	571 -
Stage 2	-	-	-	-	543 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	958	-	202 681
Stage 1	-	-	-	-	529 -
Stage 2	-	-	-	-	546 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	948	-	173 674
Mov Cap-2 Maneuver	-	-	-	-	173 -
Stage 1	-	-	-	-	453 -
Stage 2	-	-	-	-	546 -

Approach	NB	SB	SW
HCM Control Delay, s	0	1.7	37.8
HCM LOS			E

Minor Lane/Major Mvmt	NBT	NBR	SBL	SBT	SWLn1	SWLn2
Capacity (veh/h)	-	-	948	-	173	674
HCM Lane V/C Ratio	-	-	0.134	-	0.715	0.196
HCM Control Delay (s)	-	-	9.4	-	65.7	11.6
HCM Lane LOS	-	-	A	-	F	B
HCM 95th %tile Q(veh)	-	-	0.5	-	4.4	0.7



Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	82	67	6	25	3	51	123	8	2	46	4
Future Vol, veh/h	25	82	67	6	25	3	51	123	8	2	46	4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	93	76	7	28	3	58	140	9	2	52	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.8	8.1	9.2	8.1
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	28%	18%	14%	4%
Vol Thru, %	68%	74%	47%	88%
Vol Right, %	4%	9%	39%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	182	34	174	52
LT Vol	51	6	25	2
Through Vol	123	25	82	46
RT Vol	8	3	67	4
Lane Flow Rate	207	39	198	59
Geometry Grp	1	1	1	1
Degree of Util (X)	0.263	0.051	0.242	0.077
Departure Headway (Hd)	4.577	4.775	4.407	4.684
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	784	749	815	764
Service Time	2.605	2.811	2.434	2.717
HCM Lane V/C Ratio	0.264	0.052	0.243	0.077
HCM Control Delay	9.2	8.1	8.8	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0.2	0.9	0.2

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	68	51	16	80	4	70	73	27	12	102	24
Future Vol, veh/h	13	68	51	16	80	4	70	73	27	12	102	24
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	80	60	19	94	5	82	86	32	14	120	28
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	9.1	9.6	9.1
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	41%	16%	10%	9%
Vol Thru, %	43%	80%	52%	74%
Vol Right, %	16%	4%	39%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	170	100	132	138
LT Vol	70	16	13	12
Through Vol	73	80	68	102
RT Vol	27	4	51	24
Lane Flow Rate	200	118	155	162
Geometry Grp	1	1	1	1
Degree of Util (X)	0.266	0.163	0.204	0.214
Departure Headway (Hd)	4.779	5.001	4.738	4.754
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	748	712	752	750
Service Time	2.837	3.068	2.8	2.815
HCM Lane V/C Ratio	0.267	0.166	0.206	0.216
HCM Control Delay	9.6	9.1	9	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0.6	0.8	0.8

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	32	51	31	201	188	18
Future Vol, veh/h	32	51	31	201	188	18
Conflicting Peds, #/hr	0	4	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	67	41	264	247	24

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	608	266	274	0	-	0
Stage 1	262	-	-	-	-	-
Stage 2	346	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	459	773	1289	-	-	-
Stage 1	782	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	439	768	1285	-	-	-
Mov Cap-2 Maneuver	439	-	-	-	-	-
Stage 1	751	-	-	-	-	-
Stage 2	714	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	1.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1285	-	596	-	-
HCM Lane V/C Ratio	0.032	-	0.183	-	-
HCM Control Delay (s)	7.9	0	12.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	33	67	76	340	290	34
Future Vol, veh/h	33	67	76	340	290	34
Conflicting Peds, #/hr	0	7	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	75	85	382	326	38

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	902	357	369	0	-	0
Stage 1	350	-	-	-	-	-
Stage 2	552	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	308	687	1190	-	-	-
Stage 1	713	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	277	679	1184	-	-	-
Mov Cap-2 Maneuver	277	-	-	-	-	-
Stage 1	645	-	-	-	-	-
Stage 2	574	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	1.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1184	-	459	-	-
HCM Lane V/C Ratio	0.072	-	0.245	-	-
HCM Control Delay (s)	8.3	0	15.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1	-	-

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↑			↕			↔	
Traffic Vol, veh/h	62	0	39	29	24	28	21	143	0	0	189	55
Future Vol, veh/h	62	0	39	29	24	28	21	143	0	0	189	55
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	77	0	48	36	30	35	26	177	0	0	233	68
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	9.1	9.8	10.6
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	61%	36%	0%
Vol Thru, %	87%	0%	30%	77%
Vol Right, %	0%	39%	35%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	164	101	81	244
LT Vol	21	62	29	0
Through Vol	143	0	24	189
RT Vol	0	39	28	55
Lane Flow Rate	202	125	100	301
Geometry Grp	1	1	1	1
Degree of Util (X)	0.275	0.178	0.143	0.387
Departure Headway (Hd)	4.885	5.136	5.148	4.619
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	729	691	689	774
Service Time	2.958	3.223	3.239	2.684
HCM Lane V/C Ratio	0.277	0.181	0.145	0.389
HCM Control Delay	9.8	9.4	9.1	10.6
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	1.1	0.6	0.5	1.8

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↑			↕			↑	
Traffic Vol, veh/h	173	0	122	38	62	31	37	214	0	0	242	101
Future Vol, veh/h	173	0	122	38	62	31	37	214	0	0	242	101
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	180	0	127	40	65	32	39	223	0	0	252	105
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.7	11.4	13.6	15.5
HCM LOS	B	B	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	59%	29%	0%
Vol Thru, %	85%	0%	47%	71%
Vol Right, %	0%	41%	24%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	251	295	131	343
LT Vol	37	173	38	0
Through Vol	214	0	62	242
RT Vol	0	122	31	101
Lane Flow Rate	261	307	136	357
Geometry Grp	1	1	1	1
Degree of Util (X)	0.438	0.497	0.241	0.553
Departure Headway (Hd)	6.031	5.937	6.352	5.675
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	601	612	568	640
Service Time	4.031	3.937	4.368	3.675
HCM Lane V/C Ratio	0.434	0.502	0.239	0.558
HCM Control Delay	13.6	14.7	11.4	15.5
HCM Lane LOS	B	B	B	C
HCM 95th-tile Q	2.2	2.8	0.9	3.4



# HCM Signalized Intersection Capacity Analysis

## 6: SW 72nd Street & Yumuri Street

Future w Project AM  
01/31/2018

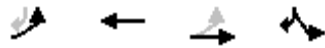


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↷		↶	↷
Traffic Volume (vph)	138	474	321	60	57	135
Future Volume (vph)	138	474	321	60	57	135
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1798		1752	1568
Flt Permitted	0.40	1.00	1.00		0.95	1.00
Satd. Flow (perm)	745	1845	1798		1752	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	153	527	357	67	63	150
RTOR Reduction (vph)	0	0	8	0	0	102
Lane Group Flow (vph)	153	527	416	0	63	48
Confl. Peds. (#/hr)	3			3	4	
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	pm+pt	NA	NA		Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases	6					1
Actuated Green, G (s)	55.0	55.0	45.0		20.0	27.0
Effective Green, g (s)	55.0	55.0	45.0		20.0	27.0
Actuated g/C Ratio	0.65	0.65	0.53		0.24	0.32
Clearance Time (s)	3.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	564	1193	951		412	590
v/s Ratio Prot	0.02	c0.29	0.23		c0.04	0.02
v/s Ratio Perm	0.15					0.01
v/c Ratio	0.27	0.44	0.44		0.15	0.08
Uniform Delay, d1	6.5	7.4	12.2		25.8	20.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.2	1.2	1.5		0.8	0.3
Delay (s)	7.7	8.6	13.7		26.6	20.6
Level of Service	A	A	B		C	C
Approach Delay (s)		8.4	13.7		22.3	
Approach LOS		A	B		C	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			12.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.38			
Actuated Cycle Length (s)			85.0		Sum of lost time (s)	13.0
Intersection Capacity Utilization			45.7%		ICU Level of Service	A
Analysis Period (min)			15			

c Critical Lane Group

Timing Report, Sorted By Phase  
6: SW 72nd Street & Yumuri Street

Future w Project AM  
01/31/2018



Phase Number	1	2	6	8
Movement	EBL	WBT	EBTL	SBL
Lead/Lag	Lead	Lag		
Lead-Lag Optimize	Yes	Yes		
Recall Mode	Max	Max	Max	Max
Maximum Split (s)	10	50	60	25
Maximum Split (%)	11.8%	58.8%	70.6%	29.4%
Minimum Split (s)	9.5	23	23	23
Yellow Time (s)	3	4	4	4
All-Red Time (s)	0	1	1	1
Minimum Initial (s)	5	15	15	7
Vehicle Extension (s)	2	1	1	2.5
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)				
Flash Dont Walk (s)				
Dual Entry	No	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	22.5	32.5	22.5	82.5
End Time (s)	32.5	82.5	82.5	22.5
Yield/Force Off (s)	29.5	77.5	77.5	17.5
Yield/Force Off 170(s)	29.5	77.5	77.5	17.5
Local Start Time (s)	30	40	30	5
Local Yield (s)	37	0	0	25
Local Yield 170(s)	37	0	0	25

Intersection Summary

Cycle Length	85
Control Type	Pretimed
Natural Cycle	60
Offset: 77.5 (91%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow	

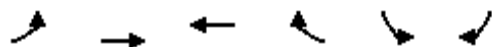
Splits and Phases: 6: SW 72nd Street & Yumuri Street



# HCM Signalized Intersection Capacity Analysis

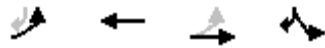
## 6: SW 72nd Street & Yumuri Street

Future w Project PM  
01/31/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↷		↶	↷
Traffic Volume (vph)	149	372	295	59	207	243
Future Volume (vph)	149	372	295	59	207	243
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1797		1752	1559
Flt Permitted	0.43	1.00	1.00		0.95	1.00
Satd. Flow (perm)	802	1845	1797		1752	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	162	404	321	64	225	264
RTOR Reduction (vph)	0	0	8	0	0	180
Lane Group Flow (vph)	162	404	377	0	225	84
Confl. Peds. (#/hr)					9	2
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	pm+pt	NA	NA		Prot	custom
Protected Phases	1	6	2		8	8
Permitted Phases	6					1
Actuated Green, G (s)	55.0	55.0	45.0		20.0	27.0
Effective Green, g (s)	55.0	55.0	45.0		20.0	27.0
Actuated g/C Ratio	0.65	0.65	0.53		0.24	0.32
Clearance Time (s)	3.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	597	1193	951		412	586
v/s Ratio Prot	0.02	c0.22	c0.21		c0.13	0.03
v/s Ratio Perm	0.15					0.02
v/c Ratio	0.27	0.34	0.40		0.55	0.14
Uniform Delay, d1	6.4	6.8	11.9		28.5	20.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.1	0.8	1.2		5.1	0.5
Delay (s)	7.5	7.6	13.1		33.6	21.2
Level of Service	A	A	B		C	C
Approach Delay (s)		7.5	13.1		26.9	
Approach LOS		A	B		C	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			15.6		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.43			
Actuated Cycle Length (s)			85.0		Sum of lost time (s)	13.0
Intersection Capacity Utilization			50.5%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Timing Report, Sorted By Phase  
6: SW 72nd Street & Yumuri Street

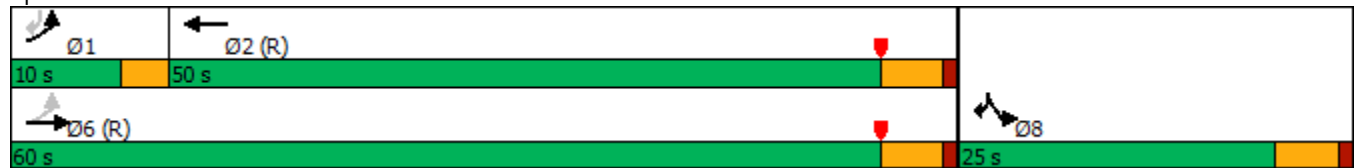


Phase Number	1	2	6	8
Movement	EBL	WBT	EBTL	SBL
Lead/Lag	Lead	Lag		
Lead-Lag Optimize	Yes	Yes		
Recall Mode	Max	Max	Max	Max
Maximum Split (s)	10	50	60	25
Maximum Split (%)	11.8%	58.8%	70.6%	29.4%
Minimum Split (s)	9.5	23	23	23
Yellow Time (s)	3	4	4	4
All-Red Time (s)	0	1	1	1
Minimum Initial (s)	5	15	15	7
Vehicle Extension (s)	2	1	1	2.5
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)				
Flash Dont Walk (s)				
Dual Entry	No	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	22.5	32.5	22.5	82.5
End Time (s)	32.5	82.5	82.5	22.5
Yield/Force Off (s)	29.5	77.5	77.5	17.5
Yield/Force Off 170(s)	29.5	77.5	77.5	17.5
Local Start Time (s)	30	40	30	5
Local Yield (s)	37	0	0	25
Local Yield 170(s)	37	0	0	25

Intersection Summary

Cycle Length	85
Control Type	Pretimed
Natural Cycle	60
Offset: 77.5 (91%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow	

Splits and Phases: 6: SW 72nd Street & Yumuri Street



Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Vol, veh/h	0	0	0	22	40	13	38	126	29	21	86	54
Future Vol, veh/h	0	0	0	22	40	13	38	126	29	21	86	54
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.46
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	34	63	20	59	197	45	33	134	117
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	9.3	10.2	9.8
HCM LOS	A	B	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	20%	29%	13%
Vol Thru, %	65%	53%	53%
Vol Right, %	15%	17%	34%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	193	75	161
LT Vol	38	22	21
Through Vol	126	40	86
RT Vol	29	13	54
Lane Flow Rate	302	117	285
Geometry Grp	1	1	1
Degree of Util (X)	0.376	0.168	0.347
Departure Headway (Hd)	4.493	5.16	4.394
Convergence, Y/N	Yes	Yes	Yes
Cap	799	693	817
Service Time	2.528	3.211	2.429
HCM Lane V/C Ratio	0.378	0.169	0.349
HCM Control Delay	10.2	9.3	9.8
HCM Lane LOS	B	A	A
HCM 95th-tile Q	1.8	0.6	1.6

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Vol, veh/h	0	0	0	54	81	24	41	102	16	21	106	24
Future Vol, veh/h	0	0	0	54	81	24	41	102	16	21	106	24
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	61	92	27	47	116	18	24	120	27
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	9.2	8.9	8.8
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	26%	34%	14%
Vol Thru, %	64%	51%	70%
Vol Right, %	10%	15%	16%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	159	159	151
LT Vol	41	54	21
Through Vol	102	81	106
RT Vol	16	24	24
Lane Flow Rate	181	181	172
Geometry Grp	1	1	1
Degree of Util (X)	0.229	0.236	0.215
Departure Headway (Hd)	4.562	4.712	4.516
Convergence, Y/N	Yes	Yes	Yes
Cap	786	761	794
Service Time	2.591	2.745	2.545
HCM Lane V/C Ratio	0.23	0.238	0.217
HCM Control Delay	8.9	9.2	8.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.9	0.9	0.8



Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	169	404	286	69	24	93
Future Vol, veh/h	169	404	286	69	24	93
Conflicting Peds, #/hr	8	0	0	8	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	194	464	329	79	28	107

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	416	0	-	0	1230 378
Stage 1	-	-	-	-	377 -
Stage 2	-	-	-	-	853 -
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	1143	-	-	-	196 669
Stage 1	-	-	-	-	694 -
Stage 2	-	-	-	-	418 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1134	-	-	-	148 663
Mov Cap-2 Maneuver	-	-	-	-	148 -
Stage 1	-	-	-	-	530 -
Stage 2	-	-	-	-	415 -

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	16.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1134	-	-	-	148	663
HCM Lane V/C Ratio	0.171	-	-	-	0.186	0.161
HCM Control Delay (s)	8.8	0	-	-	34.8	11.5
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0.6	-	-	-	0.7	0.6

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	64	374	281	67	57	84
Future Vol, veh/h	64	374	281	67	57	84
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	398	299	71	61	89

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	379	0	-	0	878 344
Stage 1	-	-	-	-	344 -
Stage 2	-	-	-	-	534 -
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	1179	-	-	-	318 699
Stage 1	-	-	-	-	718 -
Stage 2	-	-	-	-	588 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1169	-	-	-	289 693
Mov Cap-2 Maneuver	-	-	-	-	289 -
Stage 1	-	-	-	-	658 -
Stage 2	-	-	-	-	583 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1169	-	-	-	289	693
HCM Lane V/C Ratio	0.058	-	-	-	0.21	0.129
HCM Control Delay (s)	8.3	0	-	-	20.7	11
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8	0.4

Intersection						
Int Delay, s/veh	4.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	44	6	21	29	33	39
Future Vol, veh/h	44	6	21	29	33	39
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	7	23	32	36	42

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	55	0	130
Stage 1	-	-	-	-	52
Stage 2	-	-	-	-	78
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1550	-	864
Stage 1	-	-	-	-	970
Stage 2	-	-	-	-	945
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1550	-	851
Mov Cap-2 Maneuver	-	-	-	-	851
Stage 1	-	-	-	-	955
Stage 2	-	-	-	-	945

Approach	EB	WB	NB
HCM Control Delay, s	0	3.1	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	933	-	-	1550	-
HCM Lane V/C Ratio	0.084	-	-	0.015	-
HCM Control Delay (s)	9.2	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection						
Int Delay, s/veh	4.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	71	20	64	46	28	32
Future Vol, veh/h	71	20	64	46	28	32
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	77	22	70	50	30	35

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	99	0	278 88
Stage 1	-	-	-	-	88 -
Stage 2	-	-	-	-	190 -
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	-	-	1494	-	712 970
Stage 1	-	-	-	-	935 -
Stage 2	-	-	-	-	842 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1494	-	678 970
Mov Cap-2 Maneuver	-	-	-	-	678 -
Stage 1	-	-	-	-	890 -
Stage 2	-	-	-	-	842 -

Approach	EB	WB	NB
HCM Control Delay, s	0	4.4	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	808	-	-	1494	-
HCM Lane V/C Ratio	0.081	-	-	0.047	-
HCM Control Delay (s)	9.8	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

# **Appendix E**

## **Committed Development Information**

## 7.0 UHG TRIP GENERATION

The UHG will include various medical related uses and activities. The UHG will devote a substantial amount of low intensity space for imaging, more intense space for urgent care and clinic services, and additional medical services that fall more into the general medical office use such as sports clinics, rehabilitation, student health, a prescription center, and other varied medical services. The prescription center housed in the UHG will be for internal use. This combination of uses provides a diversity of trip generation sources. UHG's area allocation of the floor space for each use (in square feet) is shown in detail in **Table 2-1**.

The AM and PM peak hour trip estimates for the proposed UHG were determined based on the trip rates and/or formulas provided in the Institute of Transportation Engineers' (ITE) *Trip Generation, 9<sup>th</sup> Edition*. For trip generation estimation purposes, the UHG uses presented in **Table 2-1** were consolidated into similar trip generating groups. The Medical Office uses were consolidated with the Surgery/Imaging use; whereas, the Clinic use was maintained as a separate use. Furthermore, the Lobby space was proportionately distributed between the Medical Office/Surgery-Imaging and Clinic uses. **Table 7-1** summarizes the final UHG use/space allocation for trip generation.

**Table 7-1  
UHG Use Allocation for Trip Generation**

UHG USE	Gross Floor Area (square feet)	Total Net Area UHG (square feet)	Percent (%) Gross Floor Area	Percent (%) Gross Floor Area w/o Mechanical	Proportionate Lobby Area (square feet)	Total Floor Area per UHG Use (square feet)
Office + Imagery	99,271		54.3%	58.5%	15,310	<b>114,581</b>
Clinic	64,827		35.5%	38.2%	9,998	<b>74,825</b>
Student Health (1)	5,666		3.1%	3.3%	874	<b>6,540</b>
Mechanical Area (2)	12,927		7.1%			<b>12,927</b>
Total Use Gross Area	182,691		100.0%	100.0%		
Gross Area minus Mechanical	169,764					
Total Lobby Space	26,181					
<b>Total Net (Gross Area plus Lobby Space) (3)</b>		<b>208,872</b>				<b>208,872</b>

Notes:

- (1) The existing on-campus Daystar Clinic Health Center currently located at Pavia Street will be relocated to the new UHG facility.
- (2) The rooftop mechanical room will be covered. No other uses proposed for this level.
- (3) Total GFA based on latest available Floor Level Distribution information provided by P+W, April 2014.

The following ITE land use categories were used to determine trip generation in this analysis:

- #720 Medical-Dental Office Building (including Surgery/Imaging and pharmacy); and
- #630 Clinic (including urgent care).



All UM commuters currently assigned the Ponce de Leon Garage will be reassigned to other parking facilities. As such, the UHG area allocated to the Student Health Service Clinic is deducted from the overall gross area and no trips are assigned for this use.

The UHG building's roof level will have about 12,927 square feet of utility/mechanical space. This use does not generate trips and as such is also deducted from the overall UHG gross floor area. The City of Coral Gables has indicated that this space may be exempted from the parking requirements as well (see **Appendix B**).

**Tables 7-2** and **7-3** present, respectively, the AM and PM trip generation calculations based on the UHG facility uses in **Table 7-1**. There are no AM peak hour rates or formula for the Clinic (ITE #630) land use in the ITE's Trip Generation, 8<sup>th</sup> Edition. As such, the AM peak hour estimate was made assuming an equivalent proportional split between the AM and PM peak hour trips for the Medical Office/Surgery-Imaging use (45 percent).

The following is a summary of the estimated AM and PM peak hour volumes for the UHG:

**UHG AM Peak Hour Trips:**

<b>Total</b>	<b>567</b>
Inbound	447
Outbound	120

**UHG PM Peak Hour Trips:**

<b>Total</b>	<b>681</b>
Inbound	187
Outbound	494

**[Remainder of this page intentionally blank]**

**Table 7-2  
UHG AM Peak Hour Trip Generation**

Land Use	Area (Square Feet) (1)	ITE Code	Formula or Rate	Total Trips	IN	OUT
Medical Offices /Surgery/Imaging	114,580	720	$T = 2.39 (X)$	274	216	58
Clinic	74,825	630	$T = 5.18 (X) (.80)$ (2)	323	255	68
Mechanical Room	12,927	N/A	No new trips associated with use.(3)	0	0	0
Student Health	6,540	N/A	No new trips associated with use.(4)	0	0	0
<b>Subtotal UHC</b>	<b>208,872</b>			<b>597</b>	<b>471</b>	<b>126</b>
Minus Transit Use -All Populations (5) @ 5.0%				30	24	6
<b>Total UHC AM Peak Hour Trips</b>				<b>567</b>	<b>447</b>	<b>120</b>

**Notes:**

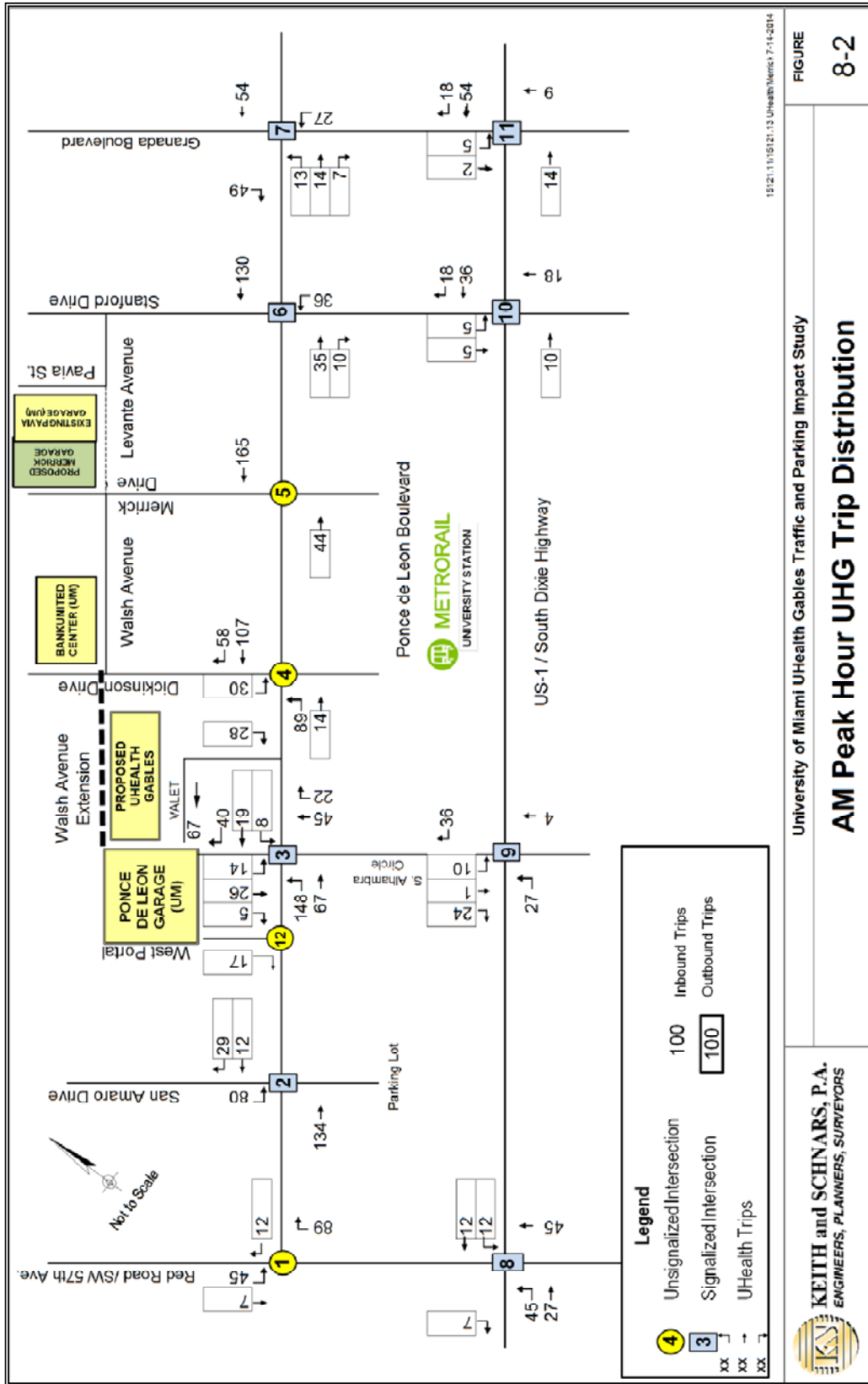
- (1) Area includes proportionate distribution of Lobby Space as shown in **Table 7-1**.
- (2) Clinic AM Peak Hour trip rate/formula not available in ITE. Used AM/PM ratio (0.80) & in/out split for Medical Office.
- (3) No trips associated with mechanic room/roof level. No office or medical facilities on this level.
- (4) Existing UM Campus student health facility to be relocated to UHG. No new trips associated with this use.
- (5) Used 5% transit share as per ITE information (Table B.3 Transportation Impact Factors, Development Around Transit Centers and Light Rail Stations, Trip Generation Handbook, An ITE Proposed Recommended Practice, October 1998): Site on major transit corridor, METRORAIL.

**Table 7-3  
UHG PM Peak Hour Trip Generation**

Land Use	Area (Square Feet) (1)	ITE Code	Formula or Rate	Total Trips	IN	OUT
Medical Offices /Surgery/Imaging	114,580	720	$\ln(T) = 0.90 \ln(X) + 1.53$	329	92	237
Clinic	74,825	630	$T = 5.18 (X)$	388	105	283
Mechanical Room	12,927	N/A	No new trips associated with use.(2)	0	0	0
Student Health	6,540	N/A	No new trips associated with use.(3)	0	0	0
<b>Subtotal UHC</b>	<b>208,872</b>			<b>717</b>	<b>197</b>	<b>520</b>
Minus Transit Use -All Populations (4) 5.0%				36	10	26
<b>Total UHC AM Peak Hour Trips</b>				<b>681</b>	<b>187</b>	<b>494</b>

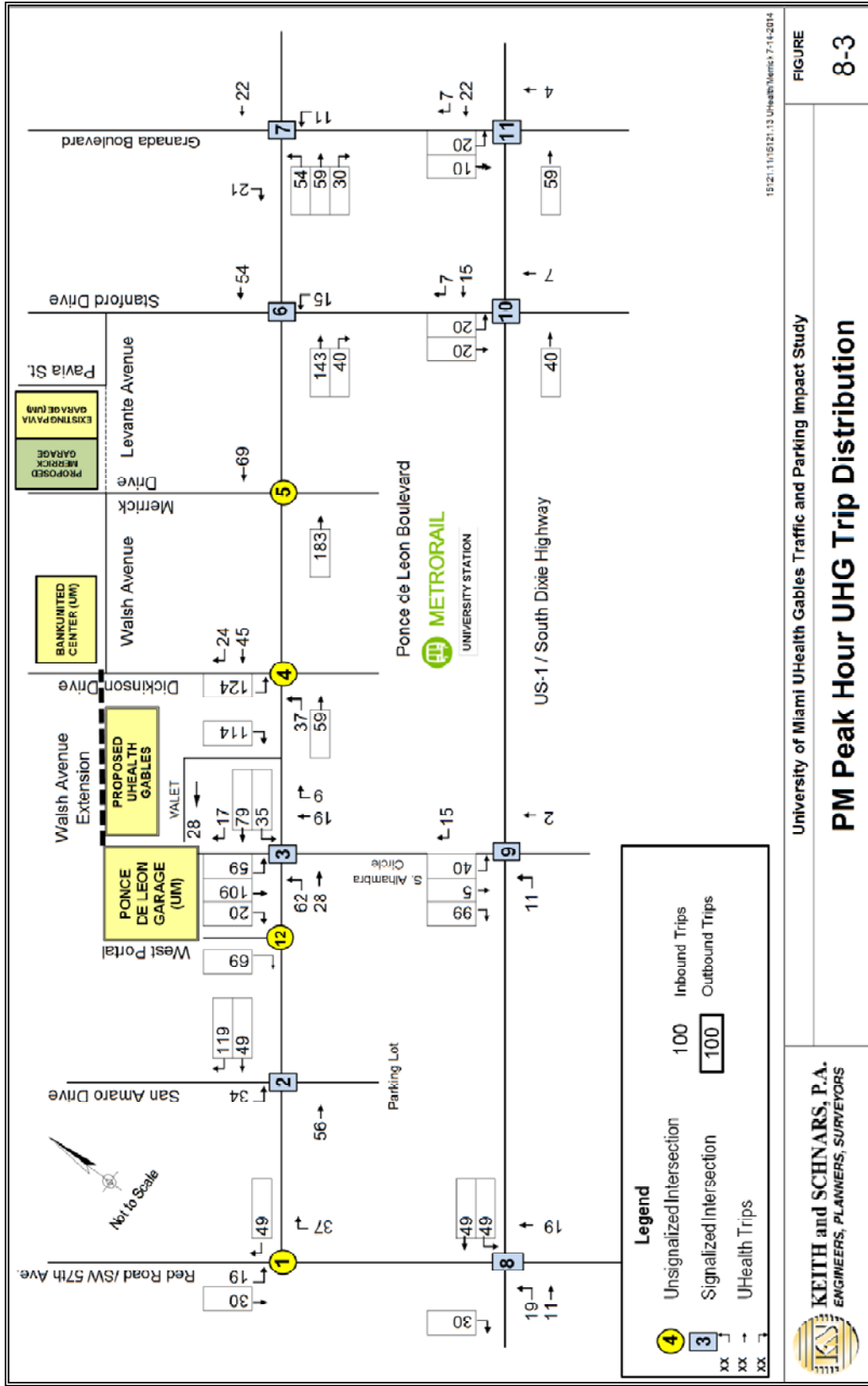
**Notes:**

- (1) Area includes proportionate distribution of Lobby Space as shown in **Table 7-1**.
- (2) No trips associated with mechanic room/roof level. No office or medical facilities on this level.
- (3) Existing UM Campus student health facility to be relocated to UHG. No new trips associated with this use.
- (4) Used 5% transit share as per ITE information (Table B.3 Transportation Impact Factors, Development Around Transit Centers and Light Rail Stations, Trip Generation Handbook, An ITE Proposed Recommended Practice, October 1998): Site on major transit corridor, METRORAIL.



University of Miami UHealth Gables Traffic and Parking Impact Study  
**AM Peak Hour UHG Trip Distribution**

FIGURE  
**8-2**



15121.11/15121.13 UHealth/Merriick 7-14-2014

University of Miami UHealth Gables Traffic and Parking Impact Study  
**PM Peak Hour UHG Trip Distribution**

**KEITH and SCHNARS, P.A.**  
 ENGINEERS, PLANNERS, SURVEYORS

FIGURE  
**8-3**

DISPLAY THIS CARD ON FRONT OF JOB  
 NO INSPECTION WILL BE MADE UNLESS PERMIT CARD IS  
 DISPLAYED AND APPROVED PLANS ARE READILY AVAILABLE.

PERMIT ID: 64234  
 CUSTOMER #: 016001



**CITY OF CORAL GABLES  
 PUBLIC WORKS DEPARTMENT  
 PUBLIC WORKS PERMIT**

2800 SW 72nd AVENUE  
 MIAMI, FLORIDA 33155  
 (305) 460-5026 or 5025

**Site Address:** 1515 SUNSET DR  
 CORAL GABLES, FL 33143-5878

**PERMIT NUMBER:** BL-10-09-4191

**PARCEL NUMBER:** 03-4130-009-1560

**Project Name:** SUNSET OFFICE CENTER

**Legal Description:**

PB 28-32 CORAL GABLES RIVIERA SEC 14 2ND REV BLK 205 W9FT LOT 23 & ALL LOTS 24 THRU 27 & E19.40FT LOT 28  
 LOT SIZE 22840 SQUARE FEET OR 17852-4235 1097 1 - TEXACO INC TAX DEPT STATEWIDE STATIONS INC

**Applicant:**  
 1515 SUNSET LLC  
  
 133 SEVILLA  
  
 CORAL GABLES, FL 33134

**Owner:**  
 1515 SUNSET LLC  
 133 SEVILLA  
 CORAL GABLES, FL 33134

**Contractor:**  
 ARELLANO CONSTRUCTION  
 7051 SW 12 ST  
 MIAMI, FL 33144

**Bus License:** CGCA08520  
**Expires:** 08/31/2014  
**State License:**

**Project Description:** \*\*\*INCLUSIVE\*\*\*REVISED FROM A ( 4 TO A 5 ) STORY COMMERCIAL OFFICE / RETAIL  
 BUILDING\*\*\*SIMPLIFIED\*\*\* REVISED FROM A ( 5 TO A 7 ) LEVEL PARKING, COVERED  
 WALKWAYS, BALCONIES, ROOF TOP TRELLIS, LANDSCAPE\$12,000,000

DATE OF LAST ROUTING	09/06/2012
# OF NEW RESIDENTIAL UNITS	0
# OF STORIES	4
BUILDING REVIEW	N
OFFICE	61538.4
CONCURRENCY REVIEW	N
FIRE REVIEW	N
ELECTRICAL REVIEW	N
RETAIL	0
BANK	0

This department must have: 24 hrs. notice for all inspections  
 (305) 460-5026 or 5025 (fax) 460-5086

**FAILURE TO OBTAIN ALL REQUIRED  
 INSPECTIONS WILL RESULT IN AUTOMATIC  
 REJECTION OF WORK**

**FEES**

COMMERCIAL NEW	366,012.66
ART ACQUISITION FUND	120,000.00
FIRE - NEW BLDGS, ALTER, REPA	1,684.00
CERTIFICATE OF OCCUP/COMPL	152.25
DOCUMENT PRESERVATION FEE	619.15
ORDINANCE 2006-27 FILING FEE	427.00
THRESHOLD BLDG FEE	37,925.07
BLDG INSP CERT & FL CONSTR IN	6,030.19
RADON GAS TRUST FEE	6,030.19

**TOTAL:** \$538,885.51

**Issued Date:** 09/07/2012

**Expiration Date:** 12/08/2014

CALL BEFORE YOU DIG FOR ALL UTILITY LOCATES  
 SUNSHINE STATE ONE CALL  
 1-800-432-4770



**\* REQUIREMENTS & CONDITIONS SHEETS ARE PART OF THIS PERMIT  
 CALL THE AUTOMATED REQUEST SYSTEM TO SCHEDULE AN INSPECTION: 305-722-8700  
 SCHEDULE AN INSPECTION VIA THE WEB: WWW.CORALGABLES.COM**

Summary of Multi-Use Trip Generation  
Average Weekday Driveway Volumes (Unadjusted for Internal Trips)

Project: Shoma Park Tower  
Phase:

Open Date: 07/14/2014  
Analysis Date: 07/14/2014

Description: Committed Development #14194

ITE:Land Use	24 Hour Two-Way Volume	AM Pk Hour		PM Pk Hour	
		Enter	Exit	Enter	Exit
710: General Office Building 61.5384 Th.Sq.Ft. GFA [E]	908	114	16	25	122
Total Driveway Volume	908	114	16	25	122
Total Peak Hour Pass-By Trips		0	0	0	0
Total Peak Hour Vol. Added to Adjacent Streets		114	16	25	122

Note: A zero indicates no data available.  
Source: Institute of Transportation Engineers  
Trip Generation Manual, 9th Edition, 2012

TRIP GENERATION 2013, TRAFFICWARE, LLC



David Plummer  
& Associates

# Paseo *de la* Riviera

TRAFFIC STUDY





■ Project Location

## EXHIBIT 1

### Location Map





**Exhibit 10**  
**Project Trip Generation Summary**

Proposed ITE Land Use Designation <sup>1</sup>	Size/Units	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
		In	Out	Total	In	Out	Total
Apartments (Land Use 223)	236 DU	21	50	71	54	38	92
		$Rate = \frac{0.30 \text{ trips}}{DU}$			$Rate = \frac{0.39 \text{ trips}}{DU}$		
		31% In		69% Out	58% In		42% Out
Hotel (Land Use 310)	252 Rooms	78	56	134	78	73	151
		$Rate = \frac{0.53 \text{ trips}}{Rooms}$			$Rate = \frac{0.60 \text{ trips}}{Rooms}$		
		59% In		41% Out	51% In		49% Out
Restaurant (Land Use 931)	4,380 SF	0	0	0	22	11	33
		-			$Rate = \frac{7.48 \text{ trips}}{1000 \text{ SF GFA}}$		
		- In		- Out	67% In		33% Out
Specialty Retail (Land Use 826)	14,094 SF	0	0	0	17	21	38
		-			$Rate = \frac{2.71 \text{ trips}}{1000 \text{ SF GLA}}$		
		- In		- Out	44% In		56% Out
Subtotal Gross Trips		99	106	205	171	143	314
Transit Trips	10%	-10	-11	-21	-17	-14	-31
Pedestrian Trips (Apartment only)	10%	-2	-5	-7	-5	-4	-9
Internal Capture <sup>2</sup>	0% (AM) 12.4% (PM)	0	0	0	-16	-18	-34
Pass-by Trip <sup>2</sup> (Restaurant only)	44%	0	0	0	-10	-5	-15
<b>Net External Trips (Proposed)</b>		<b>87</b>	<b>90</b>	<b>177</b>	<b>123</b>	<b>102</b>	<b>225</b>

<sup>1</sup> Based on ITE Trip Generation Manual, Ninth Edition,

<sup>2</sup> Based on ITE Trip Generation Manual User's Guide and Handbook, Ninth Edition

**Exhibit 10 - continued**

Existing ITE Land Use Designation <sup>1</sup>	Size/Units	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
		In	Out	Total	In	Out	Total
Hotel (Land Use 310)	155 Rooms	48	34	82	48	45	93
Transit/Pedestrian Trips	10%	-5	-3	-8	-5	-4	-9
<b>Net External Trips (Existing)</b>		<b>43</b>	<b>31</b>	<b>74</b>	<b>43</b>	<b>41</b>	<b>84</b>

Proposed Uses	87	90	177	123	102	225
Existing Uses	-43	-31	-74	-43	-41	-84
<b>Net New External Trips</b>	<b>44</b>	<b>59</b>	<b>103</b>	<b>80</b>	<b>61</b>	<b>141</b>





## EXHIBIT 12

### Project Trip Distribution



# **Appendix F**

## **Project Trip Generation**



## Trip Generation Summary

Alternative: Alternative 1

Phase:

Open Date: 1/31/2018

Project: 1500 Venera & 1537 Sam Remo

Analysis Date: 1/31/2018

ITE	Land Use	Weekday Average Daily Trips			Weekday AM Peak Hour of Adjacent Street Traffic			Weekday PM Peak Hour of Adjacent Street Traffic					
		*	Enter	Exit	Total	*	Enter	Exit	Total	*	Enter	Exit	Total
230	CONDO 189 Dwelling Units		560	559	1119		15	71	86		68	33	101
820	CENTER SHOPPING 31.74 Gross Leasable Area 1000 SF		1611	1610	3221		48	29	77		133	145	278
							Total: 77 / 278 * 98 = 27						
826	CENTER SPECIALTY 31.74 Gross Leasable Area 1000 SF		704	703	1407		In: 48 / 77 * 27 = 17				43	55	98
							Out: 29 / 77 * 27 = 10						
Unadjusted Volume			2875	2872	5747		63	100	163		244	233	477
Internal Capture Trips			0	0	0		1	1	2		45	45	90
Pass-By Trips			0	0	0		0	0	0		42	42	84
Volume Added to Adjacent Streets			2875	2872	5747		62	99	161		157	146	303

Total Weekday Average Daily Trips Internal Capture = 0 Percent

Total Weekday AM Peak Hour of Adjacent Street Traffic Internal Capture = 1 Percent

Total Weekday PM Peak Hour of Adjacent Street Traffic Internal Capture = 19 Percent

Note: AM peak hour for Specialty Retail was obtained by applying an AM to daily ratio for shopping center.

\* - Custom rate used for selected time period.

## AM Peak Hour Trip Generation and Internalization

1500 Venera & 1537 San Remo

Residential Condo Land Use 230 189 Dwelling Units		Specialty Retail Land Use 826 31,741 Sq Ft		
In	Out	In	Out	
15	71	17	10	113 ITE Trips
<b>UNBALANCED INTERNALIZATION</b>				
2% 0	1% 1	17% 3	14% 1	0
<b>BALANCED INTERNALIZATION</b>				
0	-1	-1	0	-2 Internal
15	70 1.2%	16	10 3.7%	111 External Trips 1.8% % Internal
15	70	16	10	0 0% Quality Restaurant <b>111</b>
-2	-7	-2	-1	-11 -10.0% Transit
14	63	14	9	<b>100 Net New External Trips</b>

## PM Peak Hour Trip Generation and Internalization

1500 Venera & 1537 San Remo

Residential Condo Land Use 230 189 Dwelling Units		Specialty Retail Land Use 826 31,741 Sq Ft		
In	Out	In	Out	
68	33	43	55	199 ITE Trips
<b>UNBALANCED INTERNALIZATION</b>				
46% 31	42% 14	10% 4	26% 14	
<b>4</b>		<b>14</b>		
Residential Condo		Specialty Retail		
In	Out	In	Out	
68	33	43	55	199
<b>BALANCED INTERNALIZATION</b>				
-14	-4	-4	-14	
<b>-4</b>		<b>-4</b>		
54	29	39	41	-36 Internal
17.8%		18.4%		163 External Trips
		0		18.1% % Internal
		0		0 0% Passby
<b>54</b>	<b>29</b>	<b>39</b>	<b>41</b>	<b>163</b>
-5	-3	-4	-4	-16 -10.0% Transit
<b>49</b>	<b>26</b>	<b>35</b>	<b>37</b>	<b>147 Net New External Trips</b>

## Trip Generation Summary

Alternative: Alternative 1

Phase:

Open Date: 1/31/2018

Project: 1500 Venera & 1537 S Remo Existing

Analysis Date: 1/31/2018

ITE	Land Use	Weekday Average Daily Trips			Weekday AM Peak Hour of Adjacent Street Traffic			Weekday PM Peak Hour of Adjacent Street Traffic					
		*	Enter	Exit	Total	*	Enter	Exit	Total	*	Enter	Exit	Total
220	APT 40 Dwelling Units		183	183	366		5	18	23		26	14	40
230	CONDO 47 Dwelling Units		167	166	333		5	23	28		21	11	32
710	OFFICE GENERAL 2.11 Gross Floor Area 1000 SF		35	35	70		3	0	3		1	2	3
Unadjusted Volume			385	384	769		13	41	54		48	27	75
Internal Capture Trips			0	0	0		0	0	0		1	1	2
Pass-By Trips			0	0	0		0	0	0		0	0	0
Volume Added to Adjacent Streets			385	384	769		13	41	54		47	26	73

Total Weekday Average Daily Trips Internal Capture = 0 Percent

Total Weekday AM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent

Total Weekday PM Peak Hour of Adjacent Street Traffic Internal Capture = 3 Percent

\* - Custom rate used for selected time period.

Source: Institute of Transportation Engineers, Trip Generation Manual 9th Edition, 2012

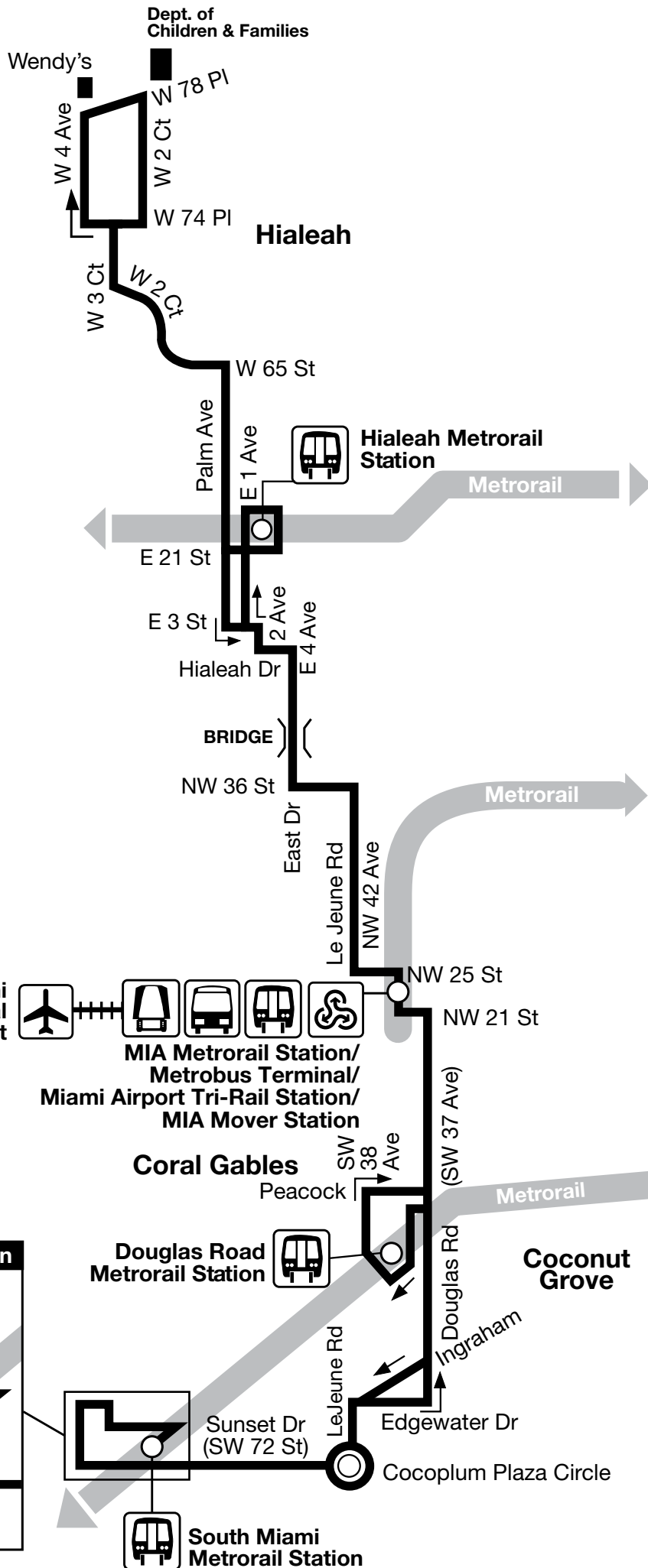
**TRIP GENERATION 2014, TRAFFICWARE, LLC**

# **Appendix G**

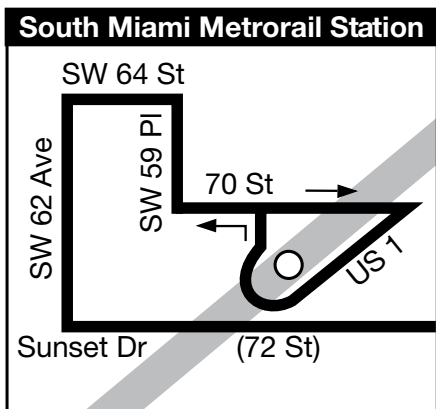
## **Transit Routes Documentation**



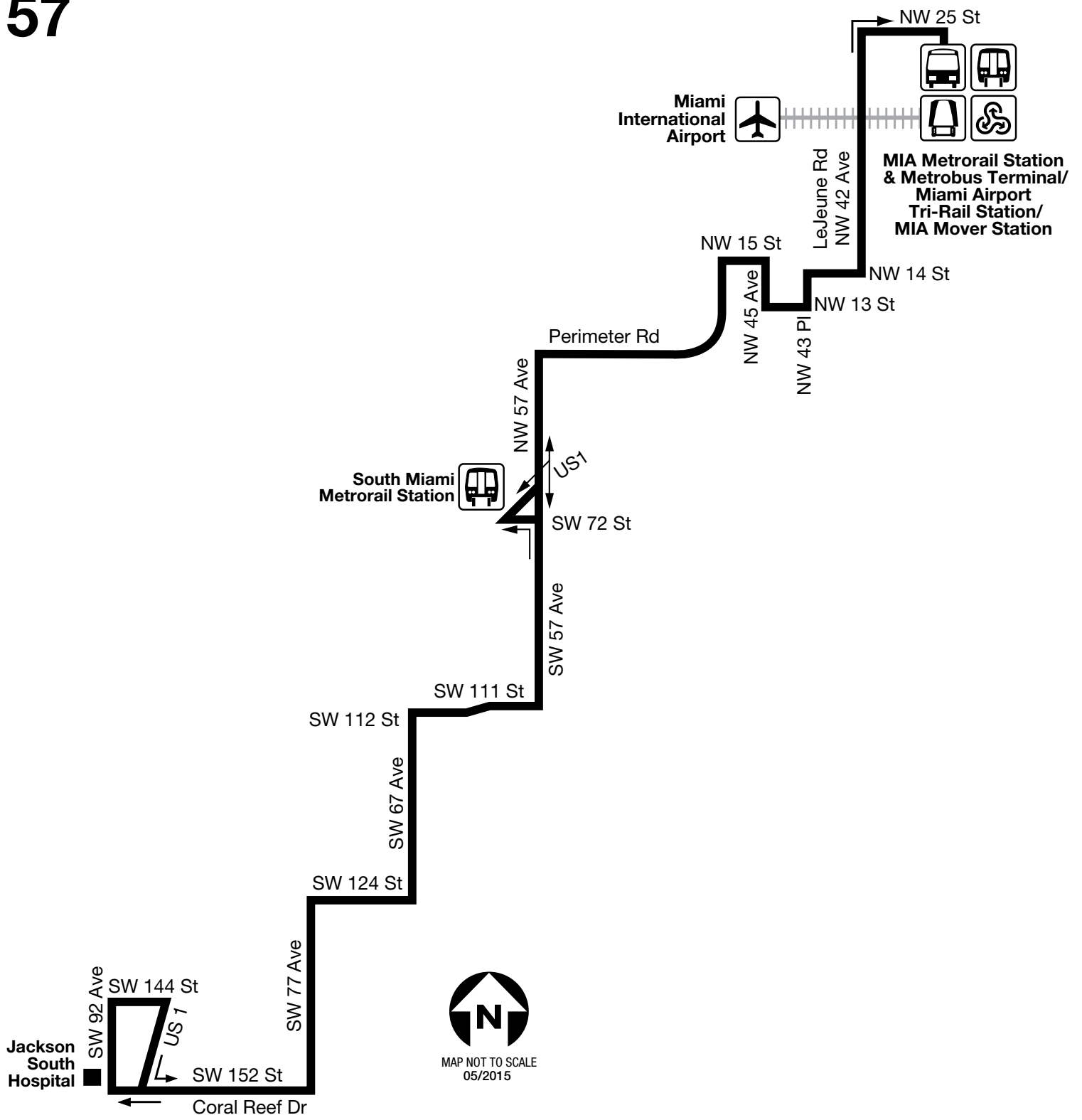
# Route 37



MAP NOT TO SCALE  
06/2015



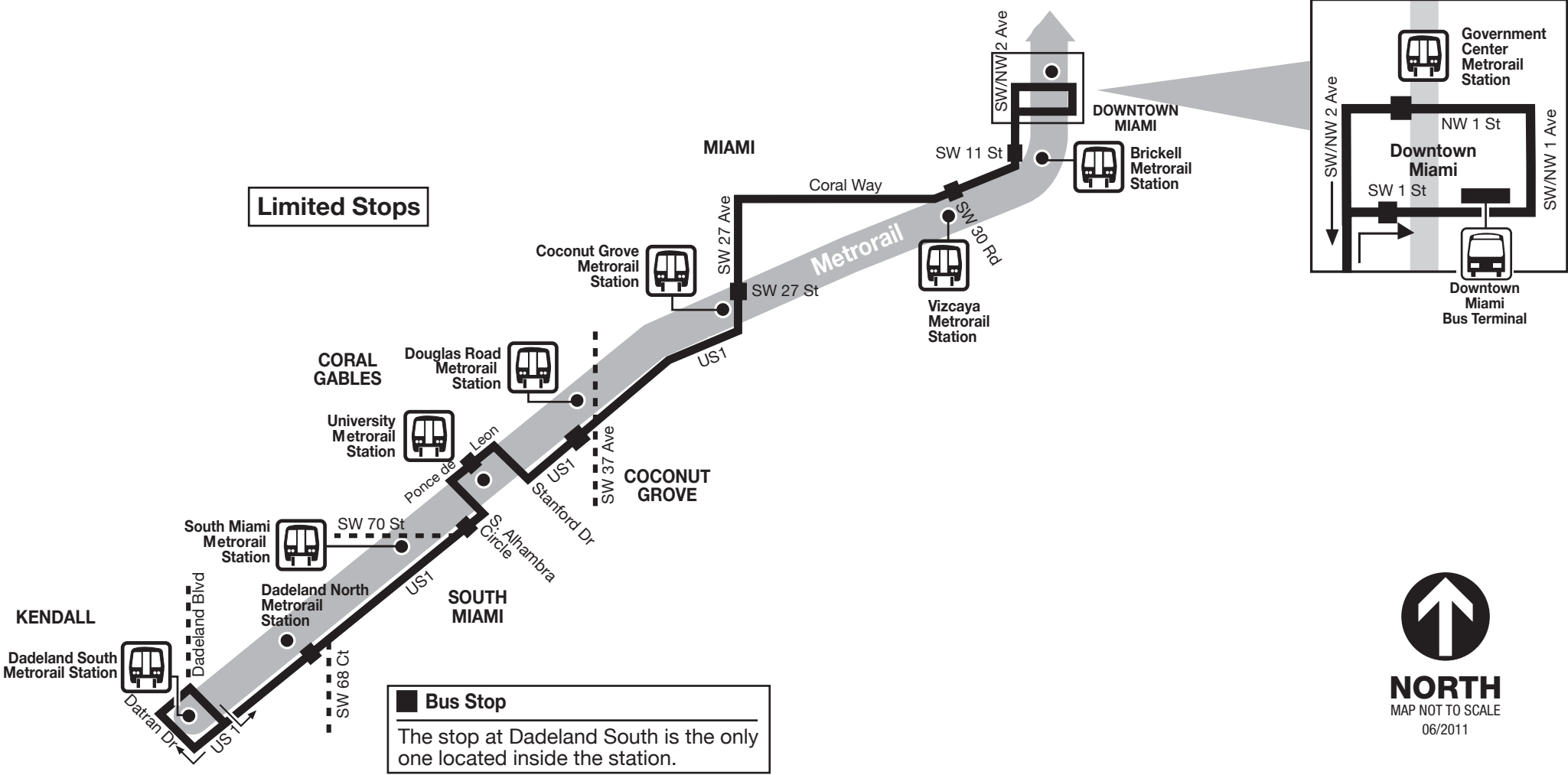
# Route 57



MAP NOT TO SCALE  
05/2015

# Route 500 Midnight Owl

Limited Stops



**NORTH**  
MAP NOT TO SCALE  
06/2011

# METRORAIL

SEPTEMBER 2016



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