Ocala SW 100th PUD

Marion County, Florida

PREPARED FOR

Ocala SW 100th, LLC
4912 Turnbury Wood Drive
Tampa, FL 33647

PREPARED BY

225 East Robinson Street, Suite 300
Landmark Center Two
Orlando, FL 32801
407.839.4006

September 2022

PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a registered professional engineer in the State of Florida, practicing with VHB/Vanasse Hangen Brustlin, Inc., a corporation authorized to operate as a Professional Engineering business by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have approved the Transportation Impact Analysis for Ocala SW 100th PUD in Marion County, Florida, dated September 2022.

PROJECT: Ocala SW 100th PUD

LOCATION: Marion County, Florida

CLIENT: Ocala SW 100th, LLC

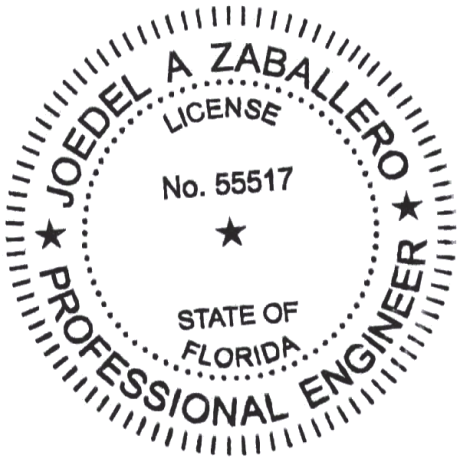
I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through professional judgment and experience.

SIGNATURE:

NAME: Joedel A Zaballero

P.E. NUMBER: 55517

DATE: September 1, 2022



Digitally signed by Joedel A. Zaballero, PE
Date: 2022.09.01 17:32:28 -04'00'

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

Table of Contents

1 **Introduction** **1**

Project Description 1
Trip Generation 3
Trip Distribution and Assignment 3

2 **Existing Conditions** **5**

Study Area 5
Existing Roadway Capacity Analysis 9
Existing Intersection Capacity Analysis 10

3 **Future Conditions** **11**

2024 Future Roadway Capacity Analysis 11
Future Intersection Capacity Analysis 13

4 **Conclusions** **17**

Summary of Study Findings 17

Appendices

Appendix A Methodology

Appendix B ITE Trip Generation

Appendix C Traffic Count Data

Appendix D 2022 Synchro Analysis – Existing Conditions

Appendix E Intersection Volume Derivation

Appendix F 2024 Synchro Analysis – Future Conditions

List of Tables

Figure No.	Description	Page
Table 1	Trip Generation	3
Table 2	Project Impact Significance	7
Table 3	Existing Roadway Capacity Analysis	9
Table 4	Intersection Capacity Analysis – Existing Conditions	10
Table 5	Composite Growth Rate	12
Table 6	Future Roadway Capacity Analysis	12
Table 7	Intersection Capacity Analysis – Future Conditions	14
Table 8	Intersection Capacity Analysis – Future Buildout Improved Condition	14
Table 9	Intersection Queue Analysis – Future Conditions	16

List of Figures

Figure No.	Description	Page
Figure 1	Location Map	2
Figure 2	Trip Distribution	4
Figure 3	Existing PM Peak Hour Turning Movement Volumes	8
Figure 4	Future Turning Movement Volumes - PM Peak Hour	15

1

Introduction

VHB has been retained by Ocala SW 100th, LLC to conduct a traffic study for the proposed Ocala PUD to be located to the west of SW 49th Street and south of the extension of SW 100th Street in Marion County, Florida. The purpose of this study is to fulfill the Concurrency Approval for the project per the requirements set forth by Marion County. The analysis quantifies both the existing traffic conditions along area roadways surrounding the parcel and the projected future traffic conditions expected for the buildout condition. This document provides a detailed description of the study analysis and key findings.

Project Description

The Ocala PUD will be analyzed for a year 2024 buildout and include a maximum of 383 single family detached housing units in two distinct parcels located approximately 800 feet apart. The east parcel is proposed to include 175 residential units and the west parcel is proposed to include 208 residential units. Both parcels will have access to an extension of SW 100th Street, connecting SW 49th Avenue and SW 62nd Avenue Road. Additional access is provided via the surrounding residential streets. The speed limit on the existing portions of SW 100th Street is 30mph, SW 62nd Avenue Rd is 35mph, and SW 49th Avenue is 45mph. The project location is illustrated in **Figure 1**. A preliminary site plan, along with the approved methodology is provided in **Appendix A**.

Figure 1 - Location Map
Ocala PUD
Legend
Intersection
Project Site
SW 95th St at SW 62nd Ave
SW 95th St at SW 49th Ave
West Parcel Access
SW 62nd Ave Rd at SW 100th St
East Parcel Access
SW 49th Ave at SW 100th St
SW 54th Ct at SW 101st Pl
SW 100th Loop at SW 101st Pl
SW 103rd Street Rd at SW 49th Ave
SW 103rd Street Rd at SW 62nd Avenue Rd
SW 95th Street Rd
SW 95th St
SW 93rd Ln
SW 62nd Ave
SW 49th Ave
SW 45th Ave
SW 41st Ave
SW 99th St Rd
SW 59th Cir
SW 63rd Ct
SW 100th St
SW 62nd Cir
SW 62nd Ct
SW 62nd Avenue Rd
SW 103rd Loop
SW 54th Ct
SW 103rd Street Rd
SW 108th Pl
Google Earth
2000 ft
N

Trip Generation

The daily and peak hour trips were calculated based on the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition. As shown in **Table 1**, ITE Land Use Code 210 – Single Family was deemed the most appropriate for the proposed development. The proposed development is expected to generate 3,471 new daily external trips and 351 new PM peak hour external trips for the buildout condition. The ITE Land Use sheets can be found in **Appendix B**.

Table 1 Trip Generation

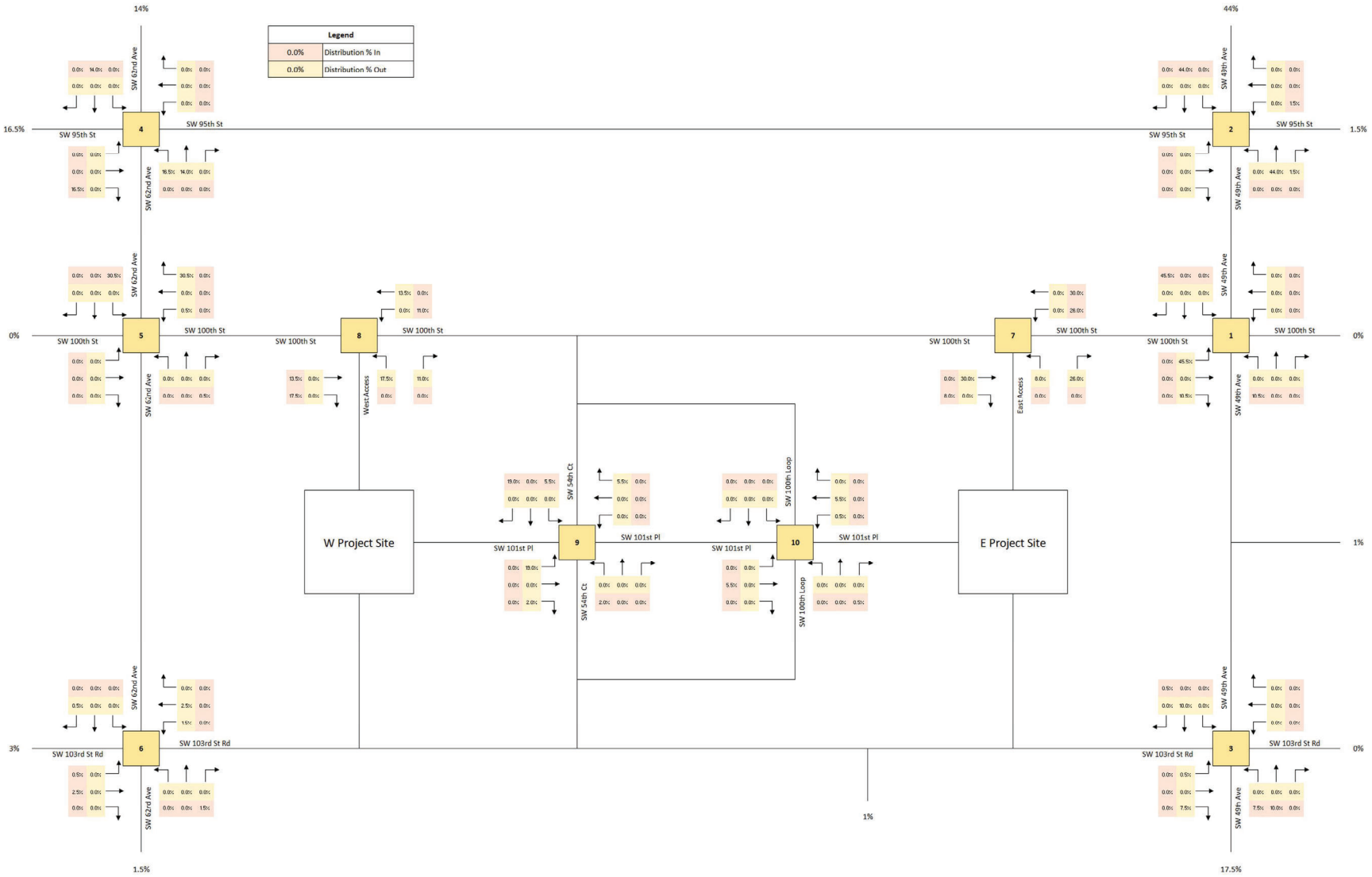
Land Use	ITE Code	Intensity	Daily Trip Ends	PM Peak Period In Trips	PM Peak Period Out Trips	PM Peak Period Total
Single Family	210	383 DU	3,471	221	130	351
Total			**3,471**	**221**	**130**	**351**

Source: *ITE Trip Generation, 11th Edition*

Trip Distribution and Assignment

The distribution of site generated traffic is a function of population in surrounding areas, shopping opportunities, existing travel patterns, ease of access to the site, and traffic conditions on area roadways. The trip distribution assignment is based on the YR 2024 Central Florida Regional Planning Model (CFRPMv7) results. The trip distribution is shown in **Figure 2**.

Figure 2 Trip Distribution



2

Existing Conditions

This section summarizes existing transportation conditions observed in the study area, including roadway and intersection geometry, existing traffic control, daily and PM peak hour traffic volumes.

Study Area

Consistent with Marion County's *Impact Analysis Guidelines*, impacted segments will include any public roadway segment where the net new traffic from the proposed project is a least 3% of the Generalized Peak Hour Directional Maximum Service Volume of the roadway plus one segment beyond. An extension of SW 100th St between SW 62nd Ave Rd and SW 49th Ave will be constructed along with this project and has been included in the study area for future conditions. Additionally, any signalized or major unsignalized intersections will be determined to be in the study area if the number of new site-generated peak hour trips passing through the intersection is equal or exceeds 100. **Table 2** presents the significance of project impacts to the roadway network for the PM peak hour condition. In addition, the following intersections were analyzed:

1. SW 49th Avenue at SW 100th Street
2. SW 49th Avenue at SW 95th Street
3. SW 49th Avenue at SW 103rd Street Road
4. SW 62nd Avenue at SW 95th Street
5. SW 62nd Avenue at SW 100th Street
6. SW 62nd Avenue at SW 103rd Street Road
7. East Parcel Access at SW 100th Street Extension
8. West Parcel Access at SW 100th Street Extension
9. SW 54th Court at SW 101st Place
10. SW 100th Loop at SW 101st Place

Turning movement counts were collected at the study intersections on December 9, 2021, December 14, 2021, January 6, 2022, and February 1, 2022, during the PM (4:00-6:00PM) peak period. These counts were adjusted using the corresponding seasonal factors of 1.0, 1.01, and 1.02, respectively to reflect average conditions. A copy of the data collected is found in **Appendix C**. Seasonal factor adjustments can be found with the intersection volumes in **Appendix E**. The existing turning movement volumes are shown in **Figure 3**.

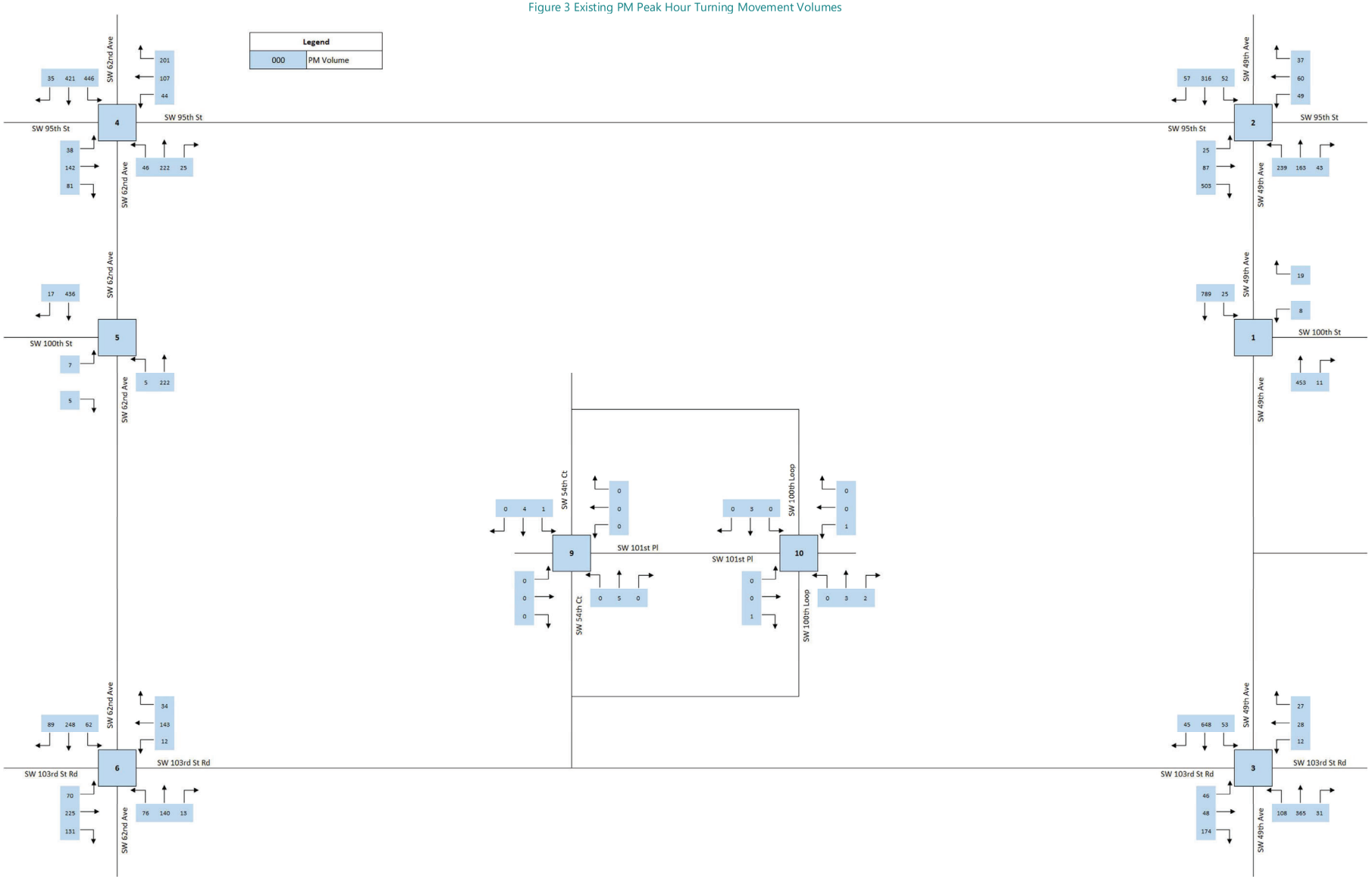
Table 2 Project Impact Significance

PM PEAK HOUR

Roadway	Segment ID #	No. of Lanes	Area Type	Functional Classification	Adopted LOS	Daily MSV	2021 AADT	FTO Factors K	FTO Factors D	Pk Hr Pk Dr	PHPD MSV	% Growth	Project Trip Distribution	Project Trips	Significance %	Significance (Yes/No)	Within Study Area (Yes/No)
SW 95 ST from SR 200 to SW 60 AV	6340	4	Urban	COLLECTOR	E	35,820	12,000	9.0%	54.3%	586	1,800	4.6%	16.44%	36	2.0%	No	No
SW 95 ST from SW 60 AV to SW 49 AV	6350	4	Urban	COLLECTOR	E	35,820	12,000	9.0%	54.3%	586	1,800	4.6%	11.41%	25	1.4%	No	No
SW 95 ST from SW 49 AV to I-75 SB	6360	2	Urban	COLLECTOR	E	29,340	12,000	9.0%	54.3%	586	1,449	4.6%	0.68%	2	0.1%	No	No
SW 49 AV from MARION OAKS to SW 95 ST	6100	4	Urban	COLLECTOR	E	39,800	10,200	9.0%	54.3%	498	2,000	1.0%	56.88%	126	6.3%	Yes	Yes
SW 49 AV from SW 95 ST to SW 85 ST	6110	4	Urban	COLLECTOR	E	67,770	10,200	9.0%	54.3%	498	3,357	1.0%	43.90%	97	2.9%	No	No
SW 49 AV from SW 85 ST to SW 66 ST	8010	4	Urban	COLLECTOR	E	67,770	10,200	9.0%	54.3%	498	3,357	1.0%	40.87%	90	2.7%	No	No
SW 49 AV from SW 66 ST to SW 40 AV	8015	4	Urban	COLLECTOR	E	67,770	10,200	9.0%	54.3%	498	3,357	1.0%	35.73%	79	2.4%	No	No
SW 103 ST RD from SR 200 to SW 49 AV	5550	2	Urban	COLLECTOR	E	12,744	5,800	9.0%	54.3%	283	634	1.0%	3.07%	7	1.1%	No	No
SW 60 AV from SW 103 ST to SW 95 ST RD	6140.1	2	Urban	COLLECTOR	E	30,807	7,000	9.0%	54.3%	342	1,521	1.0%	19.12%	42	2.8%	No	Yes
SW 60 AV from SW 95 ST RD to SR 200	6150	4	Urban	COLLECTOR	E	35,820	17,600	9.0%	54.3%	860	1,800	1.0%	13.98%	31	1.7%	No	No

Sources: Florida Traffic Online
Ocala/Maron TPO 2021 Traffic Count Report
VHB, Inc.

Figure 3 Existing PM Peak Hour Turning Movement Volumes



Existing Roadway Capacity Analysis

VHB conducted an assessment to determine the existing level of service of the study roadways. The level of service (LOS) of a given roadway is related to prevailing traffic volumes and to capacity, which is defined as the maximum number of vehicles that can pass through a roadway section during a specified period. The capacity of a roadway is determined by several factors including composition of traffic (cars, buses, and trucks); roadway alignment; width and number of lanes; posted travel speeds and other variables.

The LOS and remaining capacity for each of the study roadways were determined based on the *Ocala/Marion TPO 2021 Traffic Count Report*. The existing roadway capacity analysis was performed for all roadways within the study area as shown in **Table 3**. In summary, all study roadways have an acceptable v/c ratio in the existing conditions.

Table 3 Existing Roadway Capacity Analysis

PM PEAK HOUR

	Existing Roadway Conditions							
Roadway	**No. of Lanes**	**Adopted LOS**	**2021 AADT**	**PHPD Volume**	**PHPD Capacity**	**v/c Ratio**	**Remaining Capacity**	**Over Capacity?**
SW 49 AV from MARION OAKS to SW 95 ST	4	E	10,200	498	2,000	0.25	1,502	No
SW 60 AV from SW 103 ST to SW 95 ST RD	2	E	7,000	342	1,521	0.22	1,179	No

Source: Florida Traffic Online
Ocala/Marion TPO 2021 Traffic Count Report
VHB, Inc.

Existing Intersection Capacity Analysis

The existing intersections were evaluated using the methodology outlined in the Highway Capacity Manual (HCM) and using the Synchro 11.0 software. Existing counts were adjusted using the corresponding seasonal factors of 1.0, 1.01, and 1.02 to reflect average conditions. The results of the intersection capacity analysis for the PM peak hour are shown in **Table 4**. The existing HCM 6 intersection report printouts are provided in **Appendix D**. As **Table 4** indicates, the study intersections operate at an acceptable overall LOS, with v/c for all approaches under 1.0.

Table 4 Intersection Capacity Analysis – Existing Conditions

Intersection	Control Type	Approach	PM Peak Period		
			v/c	Delay	LOS
SW 49th Ave at SW 100th St	TWSC	WB	0.10	18.00	C
		SB	0.03	8.50	A
SW 49th Ave at SW 95th St	Signal	Overall	0.92	35.20	D
SW 49th Ave at SW 103rd St	Signal	Overall	0.75	12.30	B
SW 62nd Ave at SW 95th St	Signal	Overall	0.88	28.60	C
SW 62nd Ave at SW 100th St	TWSC	EB	0.03	12.10	B
		NB	0.01	8.40	A
SW 62nd Ave at SW 103rd St Rd	AWSC	EB	0.78	28.50	D
		WB	0.39	14.70	B
		NB	0.47	16.80	C
		SB	0.67	21.70	C
SW 54th Ct at SW 101st Pl	TWSC	EB	0.00	0.00	A
		WB	0.00	0.00	A
SW 100th Loop at SW 101st Pl	TWSC	EB	0.00	9.20	A
		WB	0.00	8.60	A

v/c: Volume to Capacity Ratio
Delay: Average delay in seconds per vehicle
LOS: Level of Service
HCM 6th Edition based on Synchro 11 Results are reported

3

Future Conditions

The future background traffic for Year 2024 was developed based on a composite annual growth rate of 6.01%. The 6.01% composite growth rate was developed based off an average of growth rates taken from the Ocala Marion TPO 2021 Traffic Counts Report for segments within the study area. Table 5 below shows how this was developed. Additionally, the anticipated number of trips generated from the development were calculated based on the trip generation rates/equations obtained from the ITE Trip Generation Manual, 11th Edition (found in Appendix B) and distributed to the roadways and intersections based on site layout and trip distribution. The intersection volume derivation is documented in Appendix E. There is a current improvement in progress to widen SW 49th Avenue from Marion Oaks Trail to SW 95th Street. This improvement is fully funded for construction and will be incorporated into the future condition roadway and Synchro analyses.

2024 Future Roadway Capacity Analysis

The future capacity analysis for the study area roadways for the year 2024 project buildout can be found in **Table 6** for the PM peak hour condition. Note that for the future conditions, the extension of SW 100th St between SW 62nd Ave and SW 49th Ave is considered to be in place as a 2-lane undivided roadway. A PHPD capacity of 634 was used as the roadway characteristics match those of SW 103rd St Rd. For a conservative PHPD volume estimate, it is assumed that approximately half of the existing homes bounded by 100th, 62nd, 49th, and 103rd would utilize access via the extension of SW 100th St, therefore contributing an approximate 120 trips. The analysis shows that all study roadways will continue to operate with an acceptable v/c ratio in the buildout condition.

Table 5 Composite Growth Rate

Segment	Growth Rate	AADT	Weighted AADT
SW 95th St	5.5%	11,100	61,050
SW 49th Ave	8.4%	10,900	91,560
SW 103rd St Rd	-0.9%	5,300	-4,770
SW 62nd Avenue Rd (S)	8.3%	8,300	68,890
SW 62nd Avenue Rd (N)	5.7%	8,800	50,160
Sum	27%	44,400	266,890
Composite Growth Rate:	266,890 / 44,400 =		**6.01%**

Source: Florida Traffic Online
Ocala/Marion TPO 2021 Traffic Count Report
VHB, Inc.

Table 6 2024 Future Roadway Capacity Analysis

PM PEAK HOUR

							2024 Background Traffic					2024 Background + Project Traffic				
Roadway	No. of Lanes	Adopted LOS	2021 AADT	PHPD Capacity	2021 PHPD	Annual Growth Rate	PHPD Volume	v/c	Deficient?	Project Distribution	Project Volume	PHPD Volume	v/c	Remaining Capacity	Deficient?	Project Deficiency?
SW 49 AV from MARION OAKS to SW 95 ST	4	E	10200	2000	498	6.01%	588	0.29	No	56.88%	126	714	0.36	1286	No	No
SW 100 ST Extension from SW 62 AVE RD to West Access	2	E	-	634	120	6.01%	142	0.22	No	31.00%	69	211	0.33	423	No	No
SW 100 ST Extension from West Access to SW 54 CT	2	E	-	634	120	6.01%	142	0.22	No	13.5%I + 9%O	42	184	0.29	450	No	No
SW 100 ST Extension from SW 54 CT to East Access	2	E	-	634	120	6.01%	142	0.22	No	26%I + 8%O	67	209	0.33	425	No	No
SW 100 ST Extension from East Access to SW 49 AVE	2	E	-	634	120	6.01%	142	0.22	No	47.00%	104	246	0.39	388	No	No
SW 60 AV from SW 103 ST to SW 95 ST RD	2	E	7000	1521	342	6.01%	404	0.27	No	19.12%	42	446	0.29	1075	No	No

Source: Florida Traffic Online
Ocala/Marion TPO 2021 Traffic Count Report
VHB, Inc.

Future Intersection Capacity Analysis

To determine the operational conditions at the intersections and project driveways, intersections were evaluated for the PM peak hour condition using Synchro 11 software (HCM 6 methodology). The results of the intersection capacity analysis for the PM peak hour are shown in **Table 7**. The future HCM reports are provided in **Appendix F**. **Figure 4** illustrates the PM peak hour future traffic volumes. As **Table 7** indicates, the study intersections operate at an acceptable overall LOS, with v/c for all approaches under 1.0 in both background and buildout conditions with a few exceptions. The eastbound approach of the AWSC at SW 62nd Ave and SW 103rd St Rd approaches a critical v/c ratio with a failing LOS in the background condition. It is recommended that this deficiency be remedied by adding a 200ft exclusive right turn lane with the existing lane shared between left and through movements. As shown in the improved column below, this improvement positively impacts the measures of effectiveness. This improvement was utilized in the buildout analysis.

The only significant deficiency caused by project traffic is a failing overall LOS at the signalized intersection of SW 49th Ave at SW 95th St. To remedy this deficiency, it is recommended that an overlap phase be added to the eastbound right movement to coincide with the protected northbound left. This will allow more vehicles to safely complete the right turn in a single cycle. The improved analysis utilizing this change is shown in **Table 8**, with the overall criteria acceptably raised to LOS D.

It should also be noted that the eastbound approach on SW 100th St at SW 49th Ave will fail during the PM peak hour with a delay of 98 seconds per vehicle. The need for a signal at this location was studied and found to be warranted for full buildout conditions. At 50% buildout however, the volumes only fulfill the peak hour warrant. Recommendation is to signalize this intersection when warranted.

Table 7 Intersection Capacity Analysis – 2024 Future Conditions

PM PEAK HOUR

Intersection	Control Type	Approach	Background			Background - Improved			Buildout		
			v/c	Delay	LOS	v/c	Delay	LOS	v/c	Delay	LOS
SW 49th Ave at SW 100th St	TWSC	EB	-	-	-	-	-	-	0.74	98.20	F
		WB	0.08	15.0	C				0.11	17.90	C
		NB	-	-	-	-	-	-	0.04	10.80	B
		SB	0.03	8.7	A	-	-	-	0.03	8.70	A
SW 49th Ave at SW 95th St	Signal	Overall	-	44.7	D	-	-	-	-	82.70	F
SW 49th Ave at SW 103rd St	Signal	Overall	-	9.9	A	-	-	-	-	10.60	B
SW 62nd Ave at SW 95th St	Signal	Overall	-	30.9	C	-	-	-	-	39.20	D
SW 62nd Ave at SW 100th St	TWSC	EB	0.03	12.7	B	-	-	-	0.06	18.90	C
		WB	-	-	-	-	-	-	0.06	10.30	B
		NB	0.01	8.6	A	-	-	-	0.01	8.60	A
		SB	-	-	-	-	-	-	0.06	8.00	A
SW 62nd Ave at SW 103rd St Rd	AWSC	EB	0.97	62.8	F	0.75	25.70	D	0.86	36.70	E
		WB	0.49	19.1	C	0.51	20.30	C	0.60	25.10	D
		NB	0.60	23.2	C	0.61	24.10	C	0.71	31.20	D
		SB	0.84	36.8	E	0.82	33.30	E	0.93	49.70	F
East Access at SW 100th St	TWSC	WB	-	-	-	-	-	-	0.04	7.40	A
		NB	-	-	-	-	-	-	0.05	9.10	A
West Access at SW 100th St	TWSC	WB	-	-	-	-	-	-	0.02	7.40	A
		NB	-	-	-	-	-	-	0.04	9.10	A
SW 54th Ct at SW 101st Pl	TWSC	EB	0.00	0.0	A	-	-	-	0.03	9.10	A
		WB	0.00	0.0	A	-	-	-	0.01	8.40	A
		NB	-	-	-	-	-	-	0.00	7.30	A
		SB	-	-	-	-	-	-	0.01	7.20	A
SW 100th Loop at SW 101st Pl	TWSC	EB	0.00	9.2	A	-	-	-	0.02	9.10	A
		WB	0.00	8.60	A	-	-	-	0.01	9.00	A

v/c: Volume to Capacity Ratio
Delay: Average delay in seconds per vehicle
LOS: Level of Service
HCM 6th Edition based on Synchro 11 Results are reported

Table 8 Intersection Capacity Analysis – Future Buildout Improved Condition

PM PEAK HOUR

Intersection	Control Type	Approach	Buildout - Improved		
			v/c	Delay	LOS
SW 49th Ave at SW 95th St	Signal	Overall	-	44.8	D

Delay: Average delay in seconds per vehicle
LOS: Level of Service
HCM 6th Edition based on Synchro 11 Results are reported

Intersection Queue Analysis

An intersection queue analysis was performed for turning movements where project traffic is present and project driveways. The analysis compares the existing combined storage and taper length to the 95th percentile queues for future total traffic conditions in the PM peak period. The Synchro movement queue printouts are provided in the **Appendix F**. As shown in **Table 9**, the existing northbound left 95th percentile queue length exceeds its existing length in the background condition by 15 feet and in the buildout condition by 45 feet. Therefore, the project is responsible for a 30 ft difference. An extension of the northbound left turn lane is recommended and a proportionate share calculation relative to the impact from the project will be provided for an extension of 30 ft. All other impacted queues remain acceptably within their existing lengths.

Figure 4 Future Turning Movement Volumes - PM Peak Hour

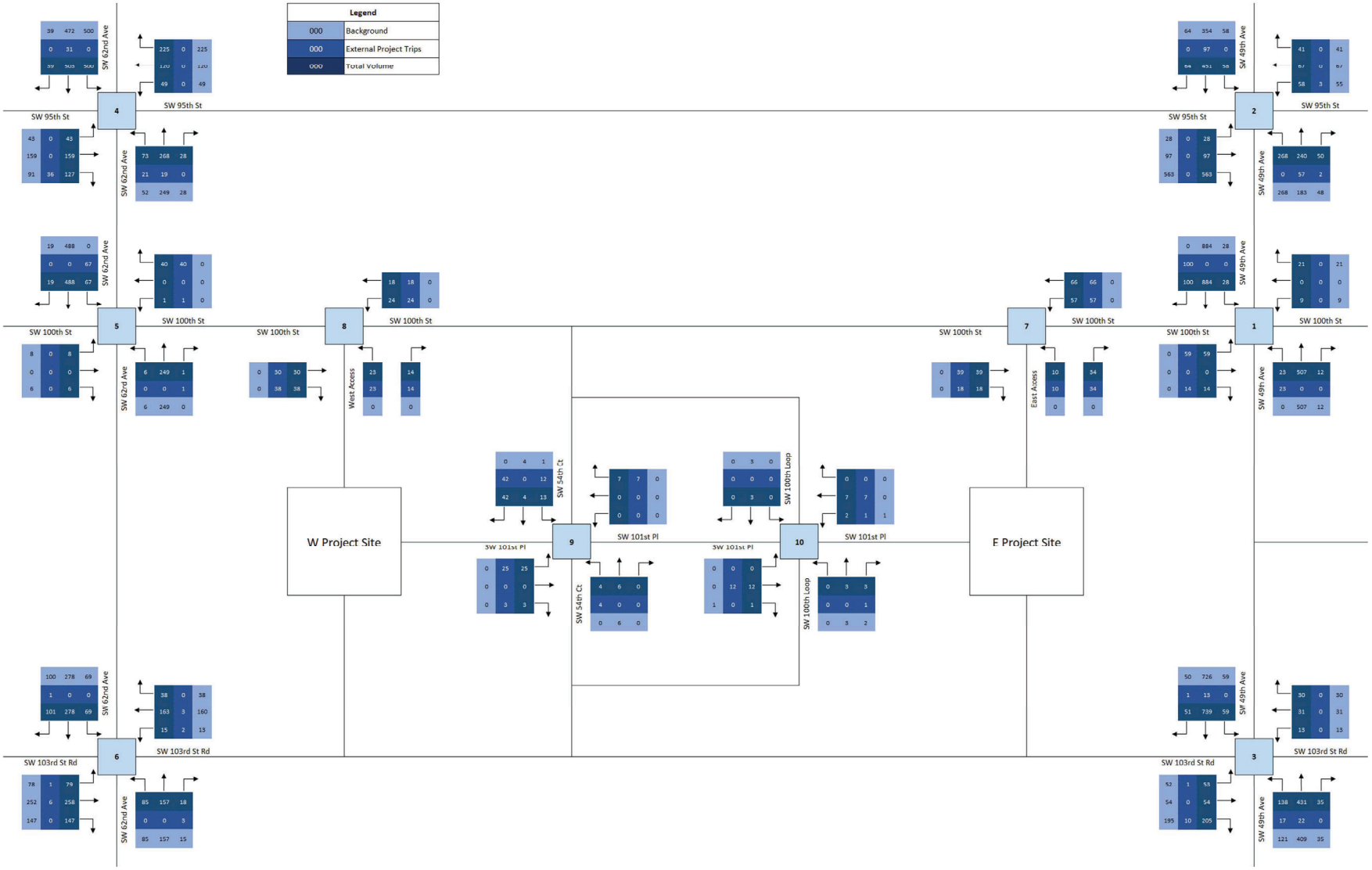


Table 9 Intersection Queue Analysis – Future Conditions

Intersection	Control Type	Movement	Decel Length	Existing Length	Background				Build Out			
					95%-ile Queue (vehicles)	PM Peak Period			95%-ile Queue (vehicles)	PM Peak Period		
						Queue Length	Total Length	Exceeds Existing		Queue Length	Total Length	Exceeds Existing
SW 49th Ave at SW 100th St	TWSC	EBL	145	-	-	-	-	-	3.7	93	238	-
		SBL	240	-	0.1	3	243	No	0.1	3	243	No
SW 49th Ave at SW 95th St	Signal	WBL	145	240	2.2	55	200	No	2.4	60	205	No
SW 49th Ave at SW 103rd St Rd	Signal	EBL	185	250	1.5	38	223	No	1.6	40	225	No
		NBL	240	290	2.6	65	305	Yes	3.8	95	335	Yes
SW 62nd Ave at SW 95th St	Signal	NBL	240	325	1.3	32	272	No	1.7	43	283	No
SW 62nd Ave at SW 100th St	TWSC	SBL	155	-	-	-	-	-	0.2	5	160	-
East Access at SW 100th St	TWSC	WBL	145	-	-	-	-	-	0.1	3	148	-
		NB	145	-	-	-	-	-	0.2	5	150	-
West Access at SW 100th St	TWSC	NB	145	-	-	-	-	-	0.1	3	148	-
SW 54th Ct at SW 101st Pl	TWSC	EB	145	-	0	0	145	-	0.1	3	148	-

Deceleration (Decel) Length based on FDM 212

4

Conclusions

This traffic analysis has been prepared in support of obtaining concurrency approval through Marion County for the proposed Ocala PUD to be located to the west of SW 49th Street and south of the extension of SW 100th Street in Marion County, Florida.

Summary of Study Findings

- The proposed development is expected to generate 3,471 new daily external trips and 351 new PM peak hour external trips for the buildout condition.
- The existing roadway analysis shows all study roadways have an acceptable v/c ratio.
- The existing intersection capacity analysis shows the study intersections operate at an acceptable overall LOS, with v/c for all approaches under 1.0.
- The 2024 future conditions analysis shows that all study roadways will continue to operate with an acceptable v/c ratio in the buildout condition.
- The 2024 future intersection capacity analysis shows that the study intersections operate at an acceptable overall LOS, with v/c for all approaches under 1.0 in both background and buildout conditions with a few exceptions. The eastbound approach of the AWSC at SW 62nd Ave and SW 103rd St Rd approaches a critical v/c ratio with a failing LOS in the background condition. It is recommended that this deficiency be remedied by adding a 200ft exclusive right turn lane with the existing lane shared between left and through movements. The only significant deficiency caused by project traffic impacts the signalized intersection of SW 49th Ave at SW 95th St, causing a failing overall LOS. To remedy this deficiency, it is recommended that an overlap phase be added to the eastbound right movement to coincide with the protected northbound left. This will allow more vehicles to safely complete the right turn in a single cycle.
- It should be noted that the eastbound approach on SW 100th St at SW 49th Ave will fail during the PM peak hour with a delay of 98 seconds per vehicle. The need for a signal at this location was studied and found to be warranted for full buildout conditions. At 50% buildout however, the

volumes only fulfill the peak hour warrant. Recommendation is to signalize this intersection when warranted. The County will require that a Signal Warrant Study be conducted and submitted to the County within 12 months after issuance of the final CO.

- The 2024 intersection queue analysis shows that the existing northbound left 95th percentile queue length exceeds its existing length in the background condition by 15 feet and in the buildout condition by 45 feet. Therefore, the project is responsible for a 30 ft difference. An extension of the northbound left turn lane is recommended and a proportionate share calculation relative to the impact from the project will be provided for an extension of 30 ft. All other impacted queues remain acceptably within their existing lengths.
- The project entrances off the SW 100th St extension will consist of 1 inbound and 1 outbound lane each. The outbound lanes will be stop controlled with northbound left and right movements. Synchro analysis projects a 95th percentile queue length for these movements of less than 25 ft, with recommended deceleration lengths based on FDM 212 of 145 ft.
- The extension of SW 100th St will intersect with both SW 49th Ave and SW 62nd Ave. The intersection with SW 62nd Ave will consist of 1 inbound and 1 outbound lane. Per direction from the County, the intersection with SW 49th Ave will consist of 1 inbound lane paired with 1 outbound shared left/through and 1 outbound right turn only lane. This geometry was utilized in the Synchro analysis for buildout conditions. The outbound lanes will be stop controlled with full access to left, through, and right movements. For the eastbound connection at SW 49th Ave, Synchro analysis projects a 95th percentile queue length of 93 ft plus 145 ft for deceleration. For the westbound connection at SW 62nd Ave, Synchro analysis projects a 95th percentile queue length of less than 25 ft plus 155 ft for deceleration.

The surrounding roadway network does not show any additional deficiencies with the anticipated traffic increases generated by the proposed development. The development impacts have been analyzed for a year 2024 buildout scenario.

Appendices

A

Methodology

Memorandum

To: Mr. Chris Zeigler, CPM
Project Manager II
Office of the county Engineer
412 SE 25th Avenue
Ocala, FL 34471

Date: January 27, 2022

Project #: 64012.00

From: Kok Wan Mah, P.E.
Senior Transportation Engineer
VHB
225 E. Robinson St., Suite 300
Orlando, FL 32801

Re: Ocala PUD
Traffic Study Methodology Statement

CC: David Tillman, P.E. (Tillman Eng.)
Chandler Schramm

PURPOSE:

The purpose of this document is to outline the proposed methodology for the Traffic Impact Analysis (TIA) of Ocala PUD per the requirements set forth in the Guidelines for Traffic Impact Analysis (TIA) in Marion County. The TIA is divided into the following sections:

1. Introduction
2. Site Location and Access
3. Primary Impact Area / Significance Levels
4. Development Traffic Conditions
5. Trip Generation Estimate
6. Trip Distribution & Assignment
7. Data Collection / Existing Conditions
8. Minimum Acceptable Level of Service
9. Traffic Report

1. INTRODUCTION

The following memorandum provides the proposed methodology to evaluate the traffic impacts of the proposed development located to the west of SW 49th Street and south of SW 100th Street in Marion County, Florida. For this study, the development will be analyzed for a YR 2025 scenario, which includes a maximum of 383 single family detached housing units in two distinct parcels located approximately 800 feet apart. The east parcel is proposed to include 175 residential units and the west parcel is proposed to include 208 residential units. Both parcels will have access to an extension of SW 100th Street, connecting SW 49th Avenue and SW 62nd Avenue Road. The methodology was prepared in accordance with Marion County's "Traffic Impact Analysis Guidelines" and will evaluate the transportation impacts within the study area to determine how impacts should be mitigated.

2. SITE LOCATION AND ACCESS

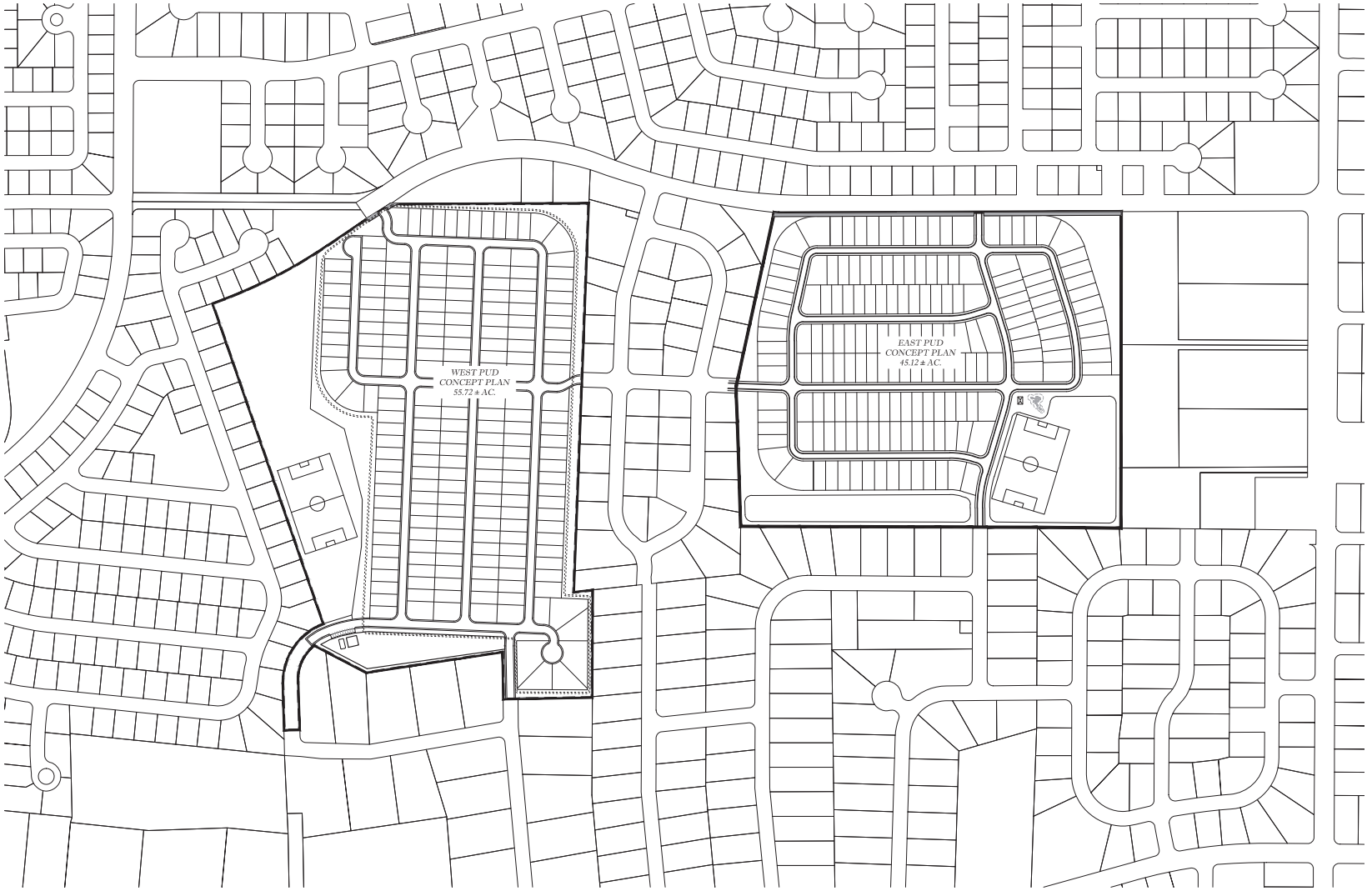
The proposed development is located to the west of SW 49th Street and south of SW 100th Street as shown in ***Figure 1***. The site will have access on the north to an extension of SW 100th Street as well as to the south and west to existing neighborhoods. A preliminary site plan is shown in ***Figure 2***.

Figure 1 - Location Map
Ocala PUD
Legend
Intersection
Project Site
SW 95th St at SW 62nd Ave
SW 95th St at SW 49th Ave
West Parcel Access
SW 62nd Ave Rd at SW 100th St
East Parcel Access
SW 49th Ave at SW 100th St
SW 54th Ct at SW 101st Pl
SW 100th Loop at SW 101st Pl
SW 103rd Street Rd at SW 49th Ave
SW 103rd Street Rd at SW 62nd Avenue Rd
SW 95th Street Rd
SW 95th St
SW 93rd Ln
SW 62nd Ave
SW 49th Ave
SW 45th Ave
SW 41st Ave
SW 99th St Rd
SW 59th Cir
SW 63rd Ct
SW 100th St
SW 62nd Cir
SW 62nd Ct
SW 62nd Avenue Rd
SW 103rd Loop
SW 54th Ct
SW 103rd Street Rd
SW 108th Pl
Google Earth
2000 ft
N

Figure 2 - Conceptual Site Plan

NEW STRATEGY HOLDINGS, LLC EAST AND WEST PUD LOCATION MAP

MARION COUNTY, FLORIDA



Tillman & Associates
ENGINEERING, LLC.
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVIRONMENTAL
1720 SE 16th Ave, Bldg. 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #26795

REVISIONS

DATE

COBA HOMES CORPORATION
NEW STRATEGY HOLDINGS, LLC 51st
MARION COUNTY, FLORIDA

LOCATION MAP

DATE 8/3/2021
DRAWN BY NR
CHKD. BY IMM
JOB NO. 21-7069

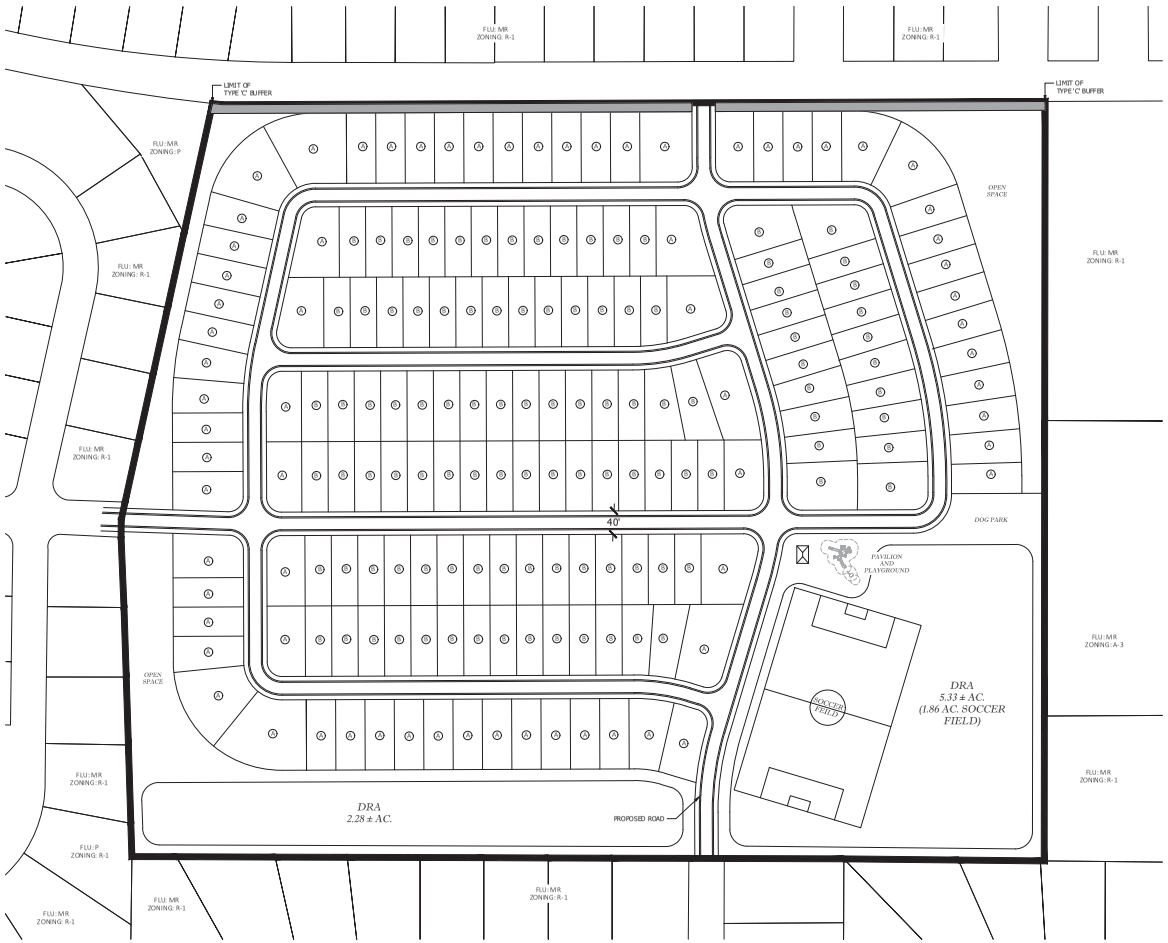
NOT VALID UNLESS SIGNED AND SEALED BY AUTHORIZED PROFESSIONAL

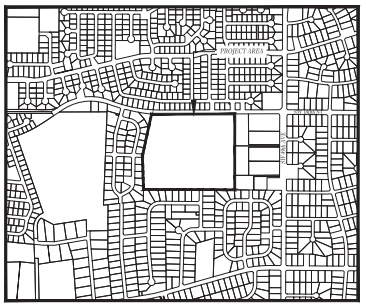
S:\Marion County\Dawson Ransome Combined\PLANNING\PUD\Overall Map.dwg, 01, 8/3/2021 8:52:44 AM

Figure 2a - Conceptual Site Plan A

NEW STRATEGY HOLDINGS, LLC 51st PUD CONCEPT PLAN

MARION COUNTY, FLORIDA





VICINITY MAP
SCALE: 1" = 1,000'

SITE DATA TABLE

OWNER:
DEVELOPER: COBA HOMES CORPORATION
ADDRESS: 19441 SW 134TH CT
MIAMI FL 33177-4126

PARCELS:
33695-033-00 (45.12 ± AC)

PROJECT AREA:
RESIDENTIAL = 45.12 ± AC.
TOTAL = 45.12 ± AC.

LAND USE & ZONING:
EXISTING FUTURE LAND USE: MR
PROPOSED FUTURE LAND USE: MR
EXISTING ZONING: A-1
PROPOSED ZONING: PUD

OPEN SPACE:

REQUIRED:	9.02 ± AC. (45.12 X 0.20)
REMAINDER OPEN SPACE :	6.98 ± AC.
SOCCER FIELD (DRA 100%):	1.86 ± AC.
DRA (25%)	0.98 ± AC. (5.75 X 0.25)
TOTAL PROVIDED (SHOWN):	9.82 ± AC.

MINIMUM OF 9.02 ACRES OF OPEN SPACE TO BE PROVIDED AT TIME OF DEVELOPMENT

NOTE: SIDEWALK WILL BE PROVIDED ALONG ONE SIDE OF INTERNAL STREETS

DENSITY:
TOTAL ALLOWABLE = 180 UNITS (45.12 X 4)

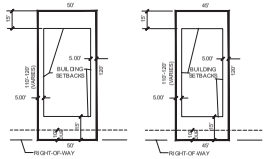
PROPOSED UNITS -
45' X 120' = 105 UNITS
90' x 120' = 70 UNITS
TOTAL PROPOSED = 175 UNITS

FEMA:
NOTE ENTIRE PROJECT IS WITHIN FLOOD ZONE X PER FEMA MAP PANEL #12083C0704E

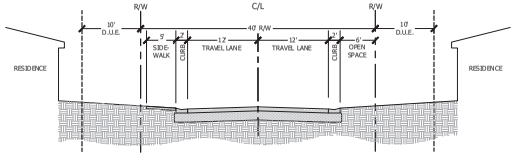
NOTE: FINAL PUD ENTITLEMENT SHALL BE FOR TOTAL ALLOWABLE UNITS BASED AT IMPROVEMENT PLAN NOT TO EXCEED MAXIMUM DENSITY

ARCHITECTURAL STYLES

NOTES: FACADE COLORS SHALL BE LOW REFLECTANCE, SUBTLE, OR NEUTRAL TONE COLORS. BUILDING TRIM AND ACCENT AREAS MAY FEATURE BRIGHTER COLORS, INCLUDING PRIMARY COLORS.



NOTE: LOT DEPTH AS SHOWN IS 120'.



TYPICAL NEIGHBORHOOD CROSS SECTION
40' R.O.W.
NOT TO SCALE

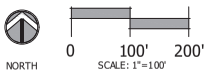
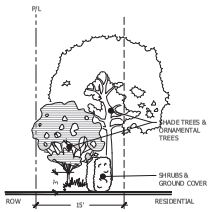


TABLE 1	
LOT AND BUILDING STANDARDS	
SETBACK	BUILDING
FRONT	15'
REAR	15'
SIDE	5'
BUILDING HEIGHT	40'
ACCESSORY STRUCTURE	5' SIDE, 5' REAR



TYPE 'C' BUFFER DETAIL
NOT TO SCALE

TYPE 'C' BUFFER: 15 FOOT WIDE LANDSCAPE STRIP WITHOUT A BUFFER WALL. THE BUFFER SHALL CONTAIN AT LEAST TWO SHADE TREES AND THREE ACCENT/ORNAMENTAL TREES FOR EVERY 100 LINEAL FEET OR FRACTIONAL PART THEREOF. SHRUBS AND GROUND COVERS, EXCLUDING TURFGRASS, SHALL COMPRISE AT LEAST 50 PERCENT OF THE REQUIRED BUFFER AND FORM A LAYERED LANDSCAPE SCREEN WITH A MINIMUM HEIGHT OF THREE FEET ACHIEVED WITHIN ONE YEAR.

Wilson & Associates
ENGINEERING, LLC
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVIRONMENTAL
1720 SE 16th Ave. Bldg. 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #26756

REVISIONS

DATE

COBA HOMES CORPORATION
NEW STRATEGY HOLDINGS, LLC 51st
MARION COUNTY, FLORIDA

P.U.D. CONCEPT PLAN

DATE 7/29/2021
DRAWN BY NR
CHKD. BY JMM
JOB NO. 21-7069

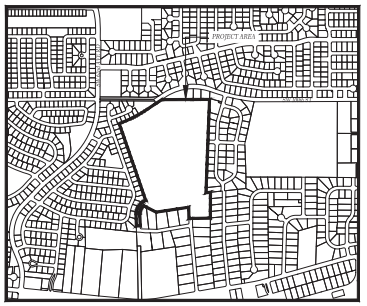
NOT VALID UNLESS SIGNED AND SEALED BY AUTHORIZED PROFESSIONAL

S:\Marion County\Dawson Ransome 51ST\PLANNING\PUD\PUD Concept Plan.dwg, 01 , 7/29/2021 2:59:29 PM

NEW STRATEGY HOLDINGS, LLC 51st WEST PUD CONCEPT PLAN

MARION COUNTY, FLORIDA

Figure 2b - Conceptual Site Plan B



VICINITY MAP
SCALE: 1" = 1,000'

SITE DATA TABLE

OWNER:
DEVELOPER: ENRIQUE SUAREZ
ADDRESS: 12359 SW 132ND CT
MIAMI FL, 33186

PARCELS:
35695-011-01

PROJECT AREA:
RESIDENTIAL = 55.72 ± AC.
TOTAL = 55.72 ± AC.

LAND USE & ZONING:
EXISTING FUTURE LAND USE: MR
PROPOSED FUTURE LAND USE: MR
EXISTING ZONING: PUD
PROPOSED ZONING: PUD

OPEN SPACE:

REQUIRED:	11.14 ± AC. (55.72 X 0.20)
REMAINDER OPEN SPACE :	5.92 ± AC.
IMPROVED DRA SPACE (100%):	3.54 ± AC.
DRA (29%)	2.45 ± AC. (9.79 X 0.25)
TOTAL PROVIDED (SHOWN):	11.85 ± AC.

MINIMUM OF 11.14 ACRES OF OPEN SPACE TO BE PROVIDED AT TIME OF DEVELOPMENT

NOTE: SIDEWALK WILL BE PROVIDED ALONG ONE SIDE OF INTERNAL STREETS

DENSITY:
TOTAL ALLOWABLE = 222 UNITS (55.72 X 4)

PROPOSED UNITS:
50' x 110' = 208 UNITS
TOTAL PROPOSED = 208 UNITS

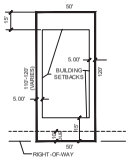
FEMA:
NOTE: ENTIRE PROJECT IS WITHIN FLOOD ZONE X PER FEMA MAP PANEL #12083C0704E

NOTE: FINAL PUD ENTITLEMENT SHALL BE FOR TOTAL ALLOWABLE UNITS BASED AT IMPROVEMENT PLAN NOT TO EXCEED MAXIMUM DENSITY.

NOTE: ALL OUTSIDE LIGHT, IF CONSTRUCTED, SHALL COMPLY WITH SECTION 6.19 OF THE LDC. LIGHTS SHALL BE SHIELDED AS TO NOT CAST GLARE ONTO ADJACENT PROPERTIES.

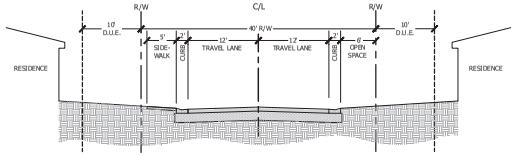
ARCHITECTURAL STYLES

NOTES: FAÇADE COLORS SHALL BE LOW REFLECTANCE, SUBTLE, OR NEUTRAL TONE COLORS. BUILDING TRIM AND ACCENT AREAS MAY FEATURE BRIGHTER COLORS, INCLUDING PRIMARY COLORS.



TYPICAL 50' LOT

NOTE: LOT DEPTH AS SHOWN IS 110'.



TYPICAL NEIGHBORHOOD CROSS SECTION
40' R.O.W.
NOT TO SCALE

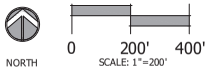
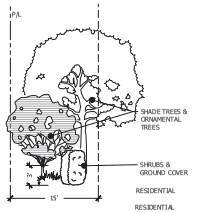


TABLE 1	
LOT AND BUILDING STANDARDS	
SETBACK	BUILDING
FRONT	15'
REAR	15'
SIDE	5'
BUILDING HEIGHT	40'
ACCESSORY STRUCTURE	5' SIDE, 5' REAR



TYPE 'C' BUFFER DETAIL
NOT TO SCALE

TYPE 'C' BUFFER: 15-FOOT WIDE LANDSCAPE STRIP WITHOUT A BUFFER WALL. THE BUFFER SHALL CONTAIN AT LEAST TWO SHADE TREES AND THREE ACCENT/ORNAMENTAL TREES FOR EVERY 100 LINEAL FEET OR FRACTIONAL PART THEREOF. SHRUBS AND GROUNDCOVERS, EXCLUDING TURFGRASS, SHALL COMPRISE AT LEAST 50 PERCENT OF THE REQUIRED BUFFER AND FORM A LAYERED LANDSCAPE SCREEN WITH A MINIMUM HEIGHT OF THREE FEET ACHIEVED WITHIN ONE YEAR.

Tillman & Associates ENGINEERING, LLC.
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVIRONMENTAL
1720 SE 16th Ave. Bldg. 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #28795

REVISIONS

DATE

NEW STRATEGY HOLDINGS, LLC 51st WEST
MARION COUNTY, FLORIDA

P.U.D. CONCEPT PLAN

DATE 10/6/2021
DRAWN BY NR
CHKD. BY IMM
JOB NO. 21-7069

NOT VALID UNLESS SIGNED AND SEALED BY AUTHORIZED PROFESSIONAL
S:\Work\Completed Projects\2021\21-7069\Drawings\Concept Plan\21-7069 CONCEPT PLAN.dwg, 10/6/2021 11:08:49 AM, Nicole Rogers

vhb
Memorandum

3. DEVELOPMENT TRAFFIC CONDITIONS

The project is proposed to be evaluated for the existing year of 2021 and for future project build out year of 2025. The development traffic conditions are to be developed by adding the development traffic (project traffic) to the future background traffic. The background traffic volumes are proposed to be generated for the year of 2025 by using historical traffic growth rates obtained from the *Ocala/Marion County TPO 2021 Traffic Counts Report* for the study roadways.

A composite growth rate of 6.01% has been developed based on the weighted average of growth rates within the study area network as published in the *Ocala Marion TPO 2021 Traffic Counts Report*. ***Table 1*** shows how this was calculated. In addition, any approved or committed developments will be incorporated into this analysis as background traffic. VHB is respectfully requesting that any committed development programs be provided by the City/County/TPO as part of the pre-application process.

Table 1. Calculation of Composite Growth Rates

Segment	Growth Rate	AADT	Weighted AADT
SW 95th St	5.5	11100	61050
SW 49th Ave	8.4	10900	91560
SW 103rd St Rd	-0.9	5300	-4770
SW 62nd Avenue Rd (S)	8.3	8300	68890
SW 62nd Avenue Rd (N)	5.7	8800	50160
Sum	27.00	44400	266890
Composite Growth Rate:	266890 / 44400 =		**6.011036036**

4. TRIP GENERATION ESTIMATE

The proposed development will include a residential land use. Project significance will include the following land uses and intensities:

- Single Family Detached Housing: 383 Dwelling Units

The project traffic volumes for the proposed development will be generated using the trip generation rates and formulas outlined in the *Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition)*. ***Table 2*** is an estimation of the daily, AM peak-hour, and PM peak-hour volumes.

Table 2. Summary of Trip Generation

			Daily	AM Peak Period					PM Peak Period				
	ITE		Trip	In		Out			In		Out		
Land Use	Code	Intensity	Ends	%	Trips	%	Trips	Total	%	Trips	%	Trips	Total
Single Family	210	383 DU	1,786	25%	33	75%	100	133	63%	113	37%	66	179
Total		383 DU	1,786		33		100	133		113		66	179

Source: *ITE Trip Generation, 10th Edition*

Memorandum

5. PRIMARY IMPACT AREA

Consistent with Marion County's "Traffic Impact Analysis Guidelines", impacted segments will include any public roadway segment where the net new traffic from the proposed project is at least 3% of the Generalized Peak Hour Directional Maximum Service Volume of the roadway plus one segment beyond. Additionally, any signalized or major unsignalized intersections will be determined to be in the study area if the number of new site-generated peak hour trips passing through the intersection is equal to or exceeds 100. The test for segments that are significantly impacted is shown in ***Table 3***.

As shown in ***Table 3***, two segments of SW 49th Street Road are significant. No other roadway segments are significant.

Table 3. Project Significance

PM PEAK HOUR

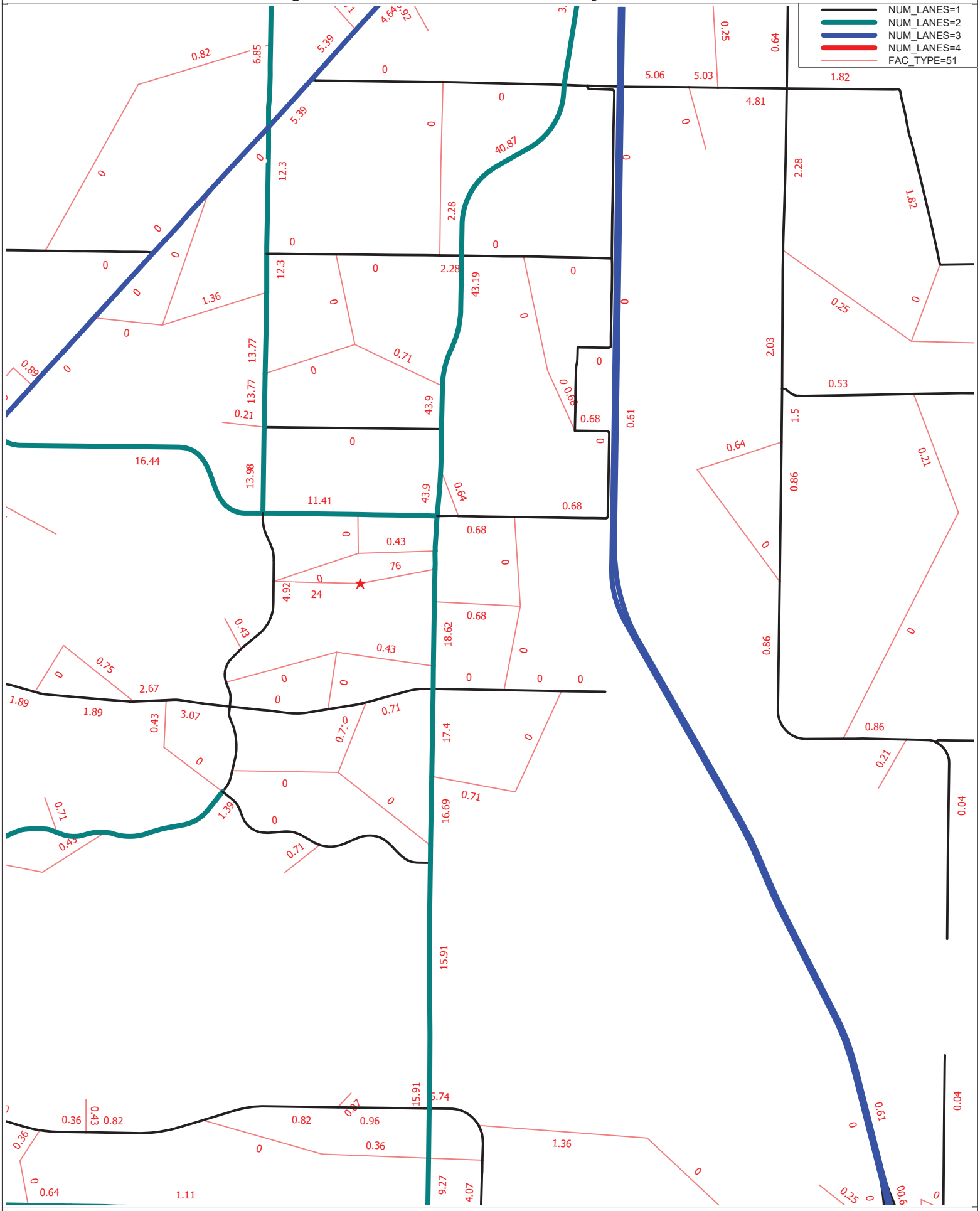
Roadway	Speed Limit	No. of Lanes	Adopted LOS	Daily MSV	2020 FTO AADT	Project Trip Distribution	Project Trips	Significance %	Significance (Yes/No)	Within Study Area (Yes/No)
SW 95th St										
SR 200 to SW 62nd Ave	45	4	D	37,810	9,300	16.44%	19	1.0%	No	No
SW 62nd Ave to SW 49th Ave	45	4	D	37,810	11,100	11.41%	13	0.7%	No	No
SW 49th Ave to SW 38th Ave	30	2	E	10,920	11,100	0.68%	1	0.2%	No	No
SW 49th Ave										
SW 43rd Street Rd to SW 66th St	45	4	D	37,810	19,163	35.73%	40	2.1%	No	No
SW 66th St ro SW 80th St	45	4	D	37,810	19,019	40.87%	46	2.4%	No	No
SW 80th St to SW 95th St	45	4	D	37,810	18,018	43.90%	50	2.6%	No	No
SW 95th St to SW 100th St	45	2	D	16,815	10,900	56.88%	64	7.7%	Yes	Yes
SW 100th St to SW 103rd Street Rd	45	2	D	12,390	10,900	19.19%	22	3.6%	Yes	Yes
SW 103rd Street Rd to SW 115th St	45	2	D	12,390	9,300	17.40%	20	3.2%	Yes	Yes
SW 115th St to Marion Oaks Trail	45	2	D	12,390	9,300	15.91%	18	2.9%	No	No
SW 100th St										
SW 49th Ave to SW 45th Ave	30	2	D	10,360	518	0.68%	1	0.2%	No	No
SW 103rd St										
SW 45th Ave to SW 49th Ave	30	2	E	32,600		0.00%	0	0.0%	No	No
SW 49th Ave to SW 62nd Avenue Rd	40	2	D	12,390	5,300	0.71%	1	0.2%	No	No
SW 62nd Avenue Rd to SW 67th Ct	40	2	D	12,390	5,300	3.07%	3	0.5%	No	No
SW 62nd Avenue Rd										
SW 111th Place Rd to SW 103rd Street Rd	30	2	E	34,230		1.39%	2	0.1%	No	No
SW 103rd Street Rd to SW 95th St	35	2	E	14,040	8,800	19.12%	22	3.1%	Yes	Yes
SW 95th St to SW 80th St	45	4	D	37,810	22,400	13.98%	16	0.8%	No	No

Sources: Florida Traffic Online
Ocala/Maron TPO 2021 Traffic Count Report
VHB, Inc.

6. TRIP DISTRIBUTION & ASSIGNMENT

The project traffic will be distributed to the adjacent roadways and intersections based on the YR 2025 Central Florida Regional Planning Model (CFRPMv7) results, utilizing the existing and committed network. A TAZ representing both parcels was included with a centroid representing the SW 100th Street Extension. The distribution can be found on ***Figure 3***.

Figure 3 - CFRPM7 Year 2025 CF - Project Distribution



C:\FSUTMS\D5\CFRPM7\Base\CF_2025\P64012\OUTPUT\HWYLOAD_SL_AllDay_M25.NET

cube

(Licensed to Vanasse Hangen Brustlin Inc)

Memorandum

7. DATA COLLECTION / EXISTING CONDITIONS

Daily and PM peak-hour traffic counts will be assembled for the study roadway segments and intersections to establish existing traffic conditions. Roadway counts for all study roadways will be identified using the data within the *Ocala/Marion County TPO 2021 Traffic Counts Report*. Intersection turning movement counts will be collected for study intersections with a seasonal factor adjustment applied. The existing condition analysis will evaluate the current capacity of the study roadways identified within the Primary Impact Area.

For the purposes of this study, VHB proposes to evaluate the roadway traffic volumes of the following roadway segments:

- SW 49th Ave
  - SW 95th St to SW 100th St
  - SW 100th St to SW 103rd Street Rd
- SW 62nd Ave Rd
  - SW 103rd Street Rd to SW 95th St

In addition, the following have been identified as "major" intersections along significant roadways and will be analyzed using Synchro 11 and in accordance with the *Highway Capacity Manual* methodology:

- SW 100th St at SW 49th Ave
- SW 95th St at SW 49th Ave
- SW 103rd Street Rd at SW 49th Ave
- SW 95th St at SW 62nd Ave
- SW 62nd Ave at SW 100th St
- SW 103rd Street Rd at SW 62nd Avenue Rd
- East parcel access driveway at future SW 100th St extension
- West parcel access driveway at future SW 100th St extension
- SW 101st Pl at SW 54th Ct (west parcel access)
- SW 101st Pl at SW 100th Loop (east parcel access)

8. MINIMUM ACCEPTABLE LEVEL OF SERVICE

The level of service capacities will be derived from the FDOT Generalized LOS Tables and adopted standards used in this concurrency evaluation are consistent with the Ocala/Marion County TPO Roadway Segment Report from 2009. Non-state roadways were assigned 90% of the associated capacity.

9. TRAFFIC REPORT

As a result of the trip generation, trip distribution, and trip assignment previously mentioned, VHB will evaluate the adjacent transportation system to determine the necessary improvements and timing requirements to accommodate the project for the existing year 2021 and the build-out year 2025 traffic conditions. The assessment of roadway segments and intersection conditions will be conducted for the AM and PM peak-hour conditions. In addition to the level of service and delay reported for intersections, a queue length evaluation will also be conducted for exclusive turn lane needs at project driveways to determine the warrant and length of any turn lanes. The findings of the study will be documented in the traffic report. The traffic report will summarize study procedures, analyses performed, and recommendations, including exhibits to show existing, background, and future with project traffic volumes.

Impacts resulting from project traffic will be identified with recommendations to mitigate adverse segments and intersection lane groups.

B

ITE Trip Generation

Single-Family Detached Housing
(210)

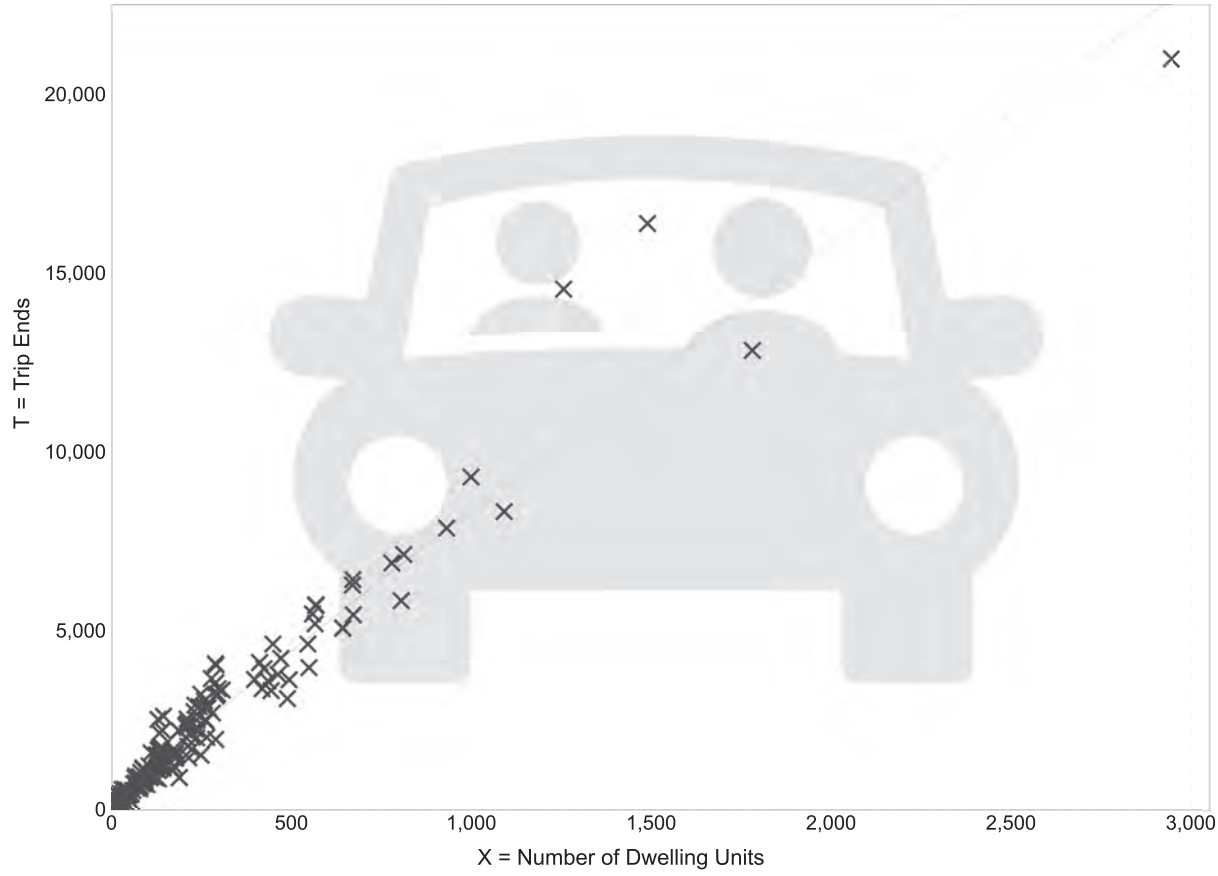
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 174
Avg. Num. of Dwelling Units: 246
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.43	4.45 - 22.61	2.13

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.92 Ln(X) + 2.68 **R^2= 0.95**

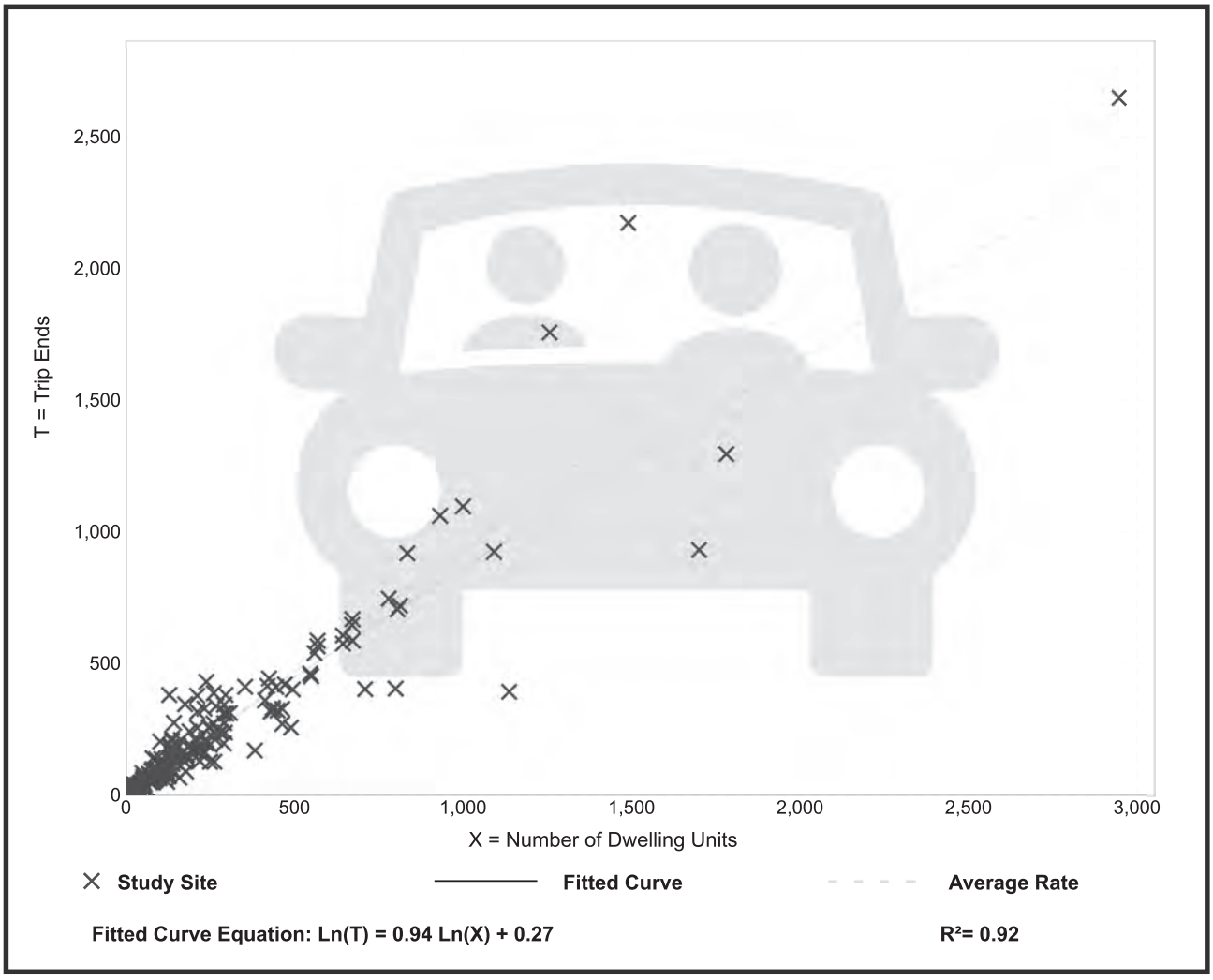
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 208
Avg. Num. of Dwelling Units: 248
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



C

Traffic Count Data

INPUT DATA

SECTION:	64012.00	**CITY:**	Ocala	**COUNTY:**	Marion
STATE ROUTE:	W 100th St	**INTERSECTING ROUTE:**	SW 49th Ave	**MILEPOST:**	3.982
OBSERVER:	VHB	**DATE OF COUNT:**		**COMPLETED BY:**	VV
WEATHER:	Good	**ROAD CONDITION:**	Good	**DATE COMPLETED:**	12/9/21
NORTH APPROACH:	SW 49th Ave	**EAST APPROACH:**	SW 100th St		
SOUTH APPROACH:	SW 49th Ave	**WEST APPROACH:**			
		COUNT HOURS:			

PASSENGER VEHICLE DATA

Miovision Data Entry *Add movements in B2 through CC2 to match raw data*	SBL	SBT	SBR	SBU	SBRTOR	WBL	WBT	WBR	WBU	WBRTOR	NBL	NBT	NBR	NBU	NBRTOR	EBL	EBT	EBR
Paste data into A14 to CC110	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Lights																		
	Southbound					Westbound					Northbound					Eastbound		
	SW 49th Ave					SW 100th St					SW 49th Ave					0		
Start Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right
2:00 PM																		
2:15 PM																		
2:30 PM																		
2:45 PM																		
3:00 PM																		
3:15 PM																		
3:30 PM																		
3:45 PM																		
4:00 PM	3	167		0		0		2	0			95	1	0				
4:15 PM	6	203		0		1		0	0			95	0	0				
4:30 PM	6	148		0		0		1	1			119	1	0				
4:45 PM	5	178		0		1		7	0			113	0	0				
5:00 PM	9	203		0		3		7	0			117	4	0				
5:15 PM	5	188		0		2		4	0			112	4	0				
5:30 PM	6	207		0		2		0	0			98	3	0				
5:45 PM	3	184		0		1		6	1			98	0	0				
6:00 PM																		
6:15 PM																		
6:30 PM																		
6:45 PM																		
7:00 PM																		
7:15 PM																		
7:30 PM																		
7:45 PM																		
8:00 PM																		
8:15 PM																		

Petra Data Entry

1. Match column headers below to Petra headers
2. Select all rows in Petra and "Copy Formatted"
3. Paste data into Cell A14
4. Manually enter U-turns from field sheets if needed
5. Repeat for Trucks
6. Manually enter peds & bikes into "Miovision Peds" and "Miovision Bikes" from field sheets

EBU	EBRTOR																			
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
U-turn	RTOR																				
											PM Totals										
				SBL	SBT	SBR	SBU	SBRTOR	WBL	WBT	WBR	WBU	WBRTOR	NBL	NBT	NBR	NBU	NBRTOR	EBL	EBT	EBR
	1192	276		3	172		0		0		2	0			98	1	0				
	1269	312		6	206		0		1		0	0			99	0	0				
	1276	293		6	151		0		0		2	1			132	1	0				
0.924221	1305	311		5	182		0		1		7	0			116	0	0				
	1294	353		9	207		0		3		8	0			122	4	0				
		319		5	189		0		2		4	0			115	4	0				
		322		6	211		0		2		0	0			100	3	0				
		300		3	186		0		1		6	1			103	0	0				
				43	1504		0		10		29	2			885	13	0				
				25	789		0		8		19	0			453	11	0				
			trucks	0	26		0		0		2	0			38	0	0				
				0	13		0		0		1	0			13	0	0				
					2%						5%				3%						

INPUT DATA

SECTION:	64012.00	**CITY:**	Ocala	**COUNTY:**	Marion
STATE ROUTE:	W 95th St	**INTERSECTING ROUTE:**	SW 49th Ave	**MILEPOST:**	3.982
OBSERVER:	VHB	**DATE OF COUNT:**		**COMPLETED BY:**	VV
WEATHER:	Good	**ROAD CONDITION:**	Good	**DATE COMPLETED:**	12/9/21
NORTH APPROACH:	SW 49th Ave	**EAST APPROACH:**	SW 95th St		
SOUTH APPROACH:	SW 49th Ave	**WEST APPROACH:**	SW 95th St		
		COUNT HOURS:			

PASSENGER VEHICLE DATA

Miovision Data Entry *Add movements in B2 through CC2 to match raw data*	SBL	SBT	SBR	SBU	SBRTOR	WBL	WBT	WBR	WBU	WBRTOR	NBL	NBT	NBR	NBU	NBRTOR	EBL	EBT	EBR	EBU	EBRTOR	
Paste data into A14 to CC110	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Lights																					
	Southbound					Westbound					Northbound					Eastbound					
	SW 49th Ave					SW 95th St					SW 49th Ave					SW 95th S					
Start Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	
2:00 PM																					
2:15 PM																					
2:30 PM																					
2:45 PM																					
3:00 PM																					
3:15 PM																					
3:30 PM																					
3:45 PM																					
4:00 PM	7	66	7	0	7	5	5	5	0	6	57	31	4	0	1	10	11	64	0	53	
4:15 PM	9	71	10	0	6	9	21	8	0	4	52	42	9	0	0	5	22	74	0	49	
4:30 PM	6	72	4	0	8	7	9	9	0	4	59	44	6	0	3	7	11	48	0	42	
4:45 PM	12	71	6	0	4	15	14	4	0	7	62	47	8	0	1	7	21	70	0	42	
5:00 PM	11	81	9	0	6	12	19	6	0	3	65	45	6	0	5	7	17	67	0	66	
5:15 PM	8	75	11	0	8	11	13	5	0	2	57	41	7	0	2	9	17	47	0	72	
5:30 PM	19	87	8	0	5	11	14	4	0	4	50	28	8	0	1	1	23	71	1	56	
5:45 PM	16	87	2	0	4	3	11	5	0	1	70	42	10	0	2	8	26	51	0	52	
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 PM																					
6:30 PM																					
6:45 PM																					
7:00 PM																					
7:15 PM																					
7:30 PM																					
7:45 PM																					
8:00 PM																					
8:15 PM																					
8:30 PM																					
8:45 PM																					
9:00 PM																					
9:15 PM																					
9:30 PM																					
9:45 PM																					
10:00 PM																					
10:15 PM																					
10:30 PM																					
10:45 PM																					
11:00 PM																					
11:15 PM																					
11:30 PM																					
11:45 PM																					

23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
								PM Totals																
	SBL	SBT	SBR	SBU	SBRTOR	WBL	WBT	WBR	WBU	WBRTOR	NBL	NBT	NBR	NBU	NBRTOR	EBL	EBT	EBR	EBU	EBRTOR				
	7	66	7	0	7	5	5	5	0	6	59	31	5	0	1	10	11	66	0	55		346	1508	
	12	72	10	0	6	9	21	8	0	4	55	43	9	0	0	5	22	75	0	50		401	1600	
	7	72	4	0	8	8	10	9	0	4	62	48	10	0	6	7	12	50	0	42		359	1591	
	12	72	6	0	4	15	14	4	0	7	63	49	8	0	2	7	24	70	0	45		402	1631	0.930936
	12	81	9	0	6	12	19	6	0	4	66	45	8	0	6	7	20	68	0	69		438	1625	
	9	75	11	0	8	11	13	6	0	2	59	41	7	0	3	9	18	48	0	72		392		
	19	88	8	0	5	11	14	4	0	4	51	28	8	0	1	1	25	74	1	57		399		
	16	87	2	0	5	3	11	5	0	1	71	43	11	0	2	8	26	53	0	52		396		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0		
	94	613	57	0	49	74	107	47	0	32	486	328	66	0	21	54	158	504	1	442				
	52	316	34	0	23	49	60	20	0	17	239	163	31	0	12	24	87	260	1	243				
trucks	6	3	0	0	1	1	1	1	0	1	14	8	8	0	6	0	10	12	0	10				
	2	2	0	0	0	0	0	1	0	1	5	2	2	0	3	0	9	5	0	7				
	4%	1%						2.7%		6%	2%	1%	5%		25%		10%	1%		3%				
	7		14			5		11			59		6			10		121						
	12		16			9		12			55		9			5		125						
	7		12			8		13			62		16			7		92						
	12		10			15		11			63		10			7		115						
	12		15			12		10			66		14			7		137						
	9		19			11		8			59		10			9		120						
	19		13			11		8			51		9			2		131						
	16		7			3		6			71		13			8		105						
	94		106			74		79	2		486		87	5		55		946	12					
	52		57			49		37	3%		239		43	6%		25		503	1%					

INPUT DATA

SECTION:	64012.00	**CITY:**	Ocala	**COUNTY:**	Marion	***Petra Data Entry***
STATE ROUTE:	W 103rd Street Rd	**INTERSECTING ROUTE:**	SW 49th Ave	**MILEPOST:**	3.982	*1. Match column header*
OBSERVER:	VHB	**DATE OF COUNT:**		**COMPLETED BY:**	VV	*2. Select all rows in Petr*
WEATHER:	Good	**ROAD CONDITION:**	Good	**DATE COMPLETED:**	12/9/21	*3. Paste data into Cell A*
NORTH APPROACH:	W 103rd Street Rd	**EAST APPROACH:**	SW 49th Ave			*4. Manually enter U-turn*
SOUTH APPROACH:	W 103rd Street Rd	**WEST APPROACH:**	W 103rd Street Rd			*5. Repeat for Trucks*
		COUNT HOURS:				*6. Manually enter peds &*

PASSENGER VEHICLE DATA

Miovision Data Entry *Add movements in B2 through CC2 to match raw data*	SBL	SBT	SBR	SBU	SBRTOR	WBL	WBT	WBR	WBU	WBRTOR	NBL	NBT	NBR	NBU	NBRTOR	EBL	EBT	EBR	EBU	EBRTOR	
Paste data into A14 to CC110	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Lights																					
	Southbound					Westbound					Northbound					Eastbound					
	W 103rd Street Rd					SW 49th Ave					W 103rd Street Rd					W 103rd St					
Start Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	
2:00 PM																					
2:15 PM																					
2:30 PM																					
2:45 PM																					
3:00 PM																					
3:15 PM																					
3:30 PM																					
3:45 PM																					
4:00 PM	9	115	6	0	3	3	7	4	0	4	23	79	4	0	1	6	4	35	0	9	
4:15 PM	21	145	6	0	0	5	5	3	0	5	25	71	4	0	2	9	7	34	0	9	
4:30 PM	18	107	11	0	2	3	6	7	0	1	31	90	2	0	1	6	11	32	0	14	
4:45 PM	15	145	15	0	1	2	3	4	0	5	22	99	2	0	0	4	11	38	0	4	
5:00 PM	14	156	8	0	1	3	4	2	0	2	40	104	6	0	0	7	10	30	0	13	
5:15 PM	8	159	17	0	3	3	9	2	0	3	18	90	6	0	0	16	7	32	0	10	
5:30 PM	16	169	6	0	0	3	5	1	0	5	14	81	10	0	1	13	17	44	0	8	
5:45 PM	13	152	9	0	1	3	10	8	0	3	36	75	7	0	1	10	14	27	0	6	
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
6:15 PM																					
6:30 PM																					
6:45 PM																					
7:00 PM																					
7:15 PM																					
7:30 PM																					
7:45 PM																					
8:00 PM																					
8:15 PM																					
8:30 PM																					
8:45 PM																					
9:00 PM																					
9:15 PM																					
9:30 PM																					
9:45 PM																					
10:00 PM																					
10:15 PM																					
10:30 PM																					
10:45 PM																					
11:00 PM																					
11:15 PM																					
11:30 PM																					
11:45 PM																					

below to Petra header
and "Copy Formatted'
4
from field sheets if needed

bikes into "Miovision Peds" and "Miovision Bikes" from field sheet.

23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
								PM Totals																
	SBL	SBT	SBR	SBU	SBRTOR	WBL	WBT	WBR	WBU	WBRTOR	NBL	NBT	NBR	NBU	NBRTOR	EBL	EBT	EBR	EBU	EBRTOR				
	9	120	6		3	3	7	4		4	23	81	4		1	7	4	36		10		322	1414	
	21	147	6		0	5	5	3		5	26	75	4		2	9	7	35		9		359	1505	
	18	110	11		2	3	6	7		2	31	100	2		1	8	11	32		14		358	1537	
	15	147	15		1	2	3	4		5	22	102	2		0	4	11	38		4		375	1578	
	15	161	8		1	3	4	2		2	40	110	6		0	7	10	31		13		413	1585	0.959443
	8	161	17		3	3	9	2		3	18	95	6		0	16	7	33		10		391	1173	
	17	171	6		0	3	5	2		5	14	82	10		1	13	17	45		8		399		
	13	155	9		1	3	10	8		3	36	78	7		1	10	14	27		7		382		
	0	0	0		0	0	0	0		0	0	1	0		0	0	0	0		0		1		
	116	1172	78		11	25	49	32		29	210	724	41		6	74	81	277		75				
	53	648	40		5	12	28	14		13	108	365	29		2	46	48	136		38				
trucks	2	24	0		0	0	0	1		1	1	34	0		0	3	0	5		2				
	2	12	0		0	0	0	1		0	0	15	0		0	0	0	3		1				
	4%	2%						4%				4%						2%		3%				
			9					8					5					46						
			6					8					6					44						
			13					9					3					46						
			16					9					2					42						
			9					4					6					44						
			20					5					6					43						
			6					7					11					53						
			10					11					8					34						
			0					0					0					0						
			89					61					47					352	4					
			45					27					31					174	2%					

INPUT DATA

SECTION:	64012.00	**CITY:**	Ocala	**COUNTY:**	Marion	***Petra Data Entry***
STATE ROUTE:	W 95th Street	**INTERSECTING ROUTE:**	SW 62nd Ave	**MILEPOST:**	3.982	*1. Match column header*
OBSERVER:	VHB	**DATE OF COUNT:**		**COMPLETED BY:**	VV	*2. Select all rows in Petr*
WEATHER:	Good	**ROAD CONDITION:**	Good	**DATE COMPLETED:**	12/14/21	*3. Paste data into Cell A*
NORTH APPROACH:	W 95th Street	**EAST APPROACH:**	SW 62nd Ave			*4. Manually enter U-turn*
SOUTH APPROACH:	W 95th Street	**WEST APPROACH:**	W 95th Street			*5. Repeat for Trucks*
		COUNT HOURS:				*6. Manually enter peds &*

PASSENGER VEHICLE DATA

Miovision Data Entry *Add movements in B2 through CC2 to match raw data*	SBL	SBT	SBR	SBU	SBRTOR	WBL	WBT	WBR	WBU	WBRTOR	NBL	NBT	NBR	NBU	NBRTOR	EBL	EBT	EBR	EBU	EBRTOR	
Paste data into A14 to CC110	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Lights																					
	Southbound					Westbound					Northbound					Eastbound					
	W 95th Street					SW 62nd Ave					W 95th Street					W 95th Str					
Start Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	
2:00 PM																					
2:15 PM																					
2:30 PM																					
2:45 PM																					
3:00 PM																					
3:15 PM																					
3:30 PM																					
3:45 PM																					
4:00 PM	98	102	8	0	6	15	16	18	0	31	8	58	8	0	0	8	50	19	0	3	
4:15 PM	98	82	3	0	2	13	36	13	0	35	9	57	6	0	3	7	53	15	0	0	
4:30 PM	102	88	4	0	5	11	30	15	0	22	10	52	7	0	0	6	59	12	1	2	
4:45 PM	64	105	5	0	4	20	17	18	0	35	12	58	3	0	0	11	38	15	0	1	
5:00 PM	93	109	3	0	4	10	21	9	0	41	10	50	7	0	0	9	43	15	0	0	
5:15 PM	124	117	4	0	4	10	26	10	0	27	10	60	7	0	0	13	27	17	0	6	
5:30 PM	121	91	5	0	5	15	30	12	0	36	14	53	5	0	0	9	33	16	0	7	
5:45 PM	103	102	5	0	3	8	28	31	1	33	11	57	6	0	0	7	28	14	0	5	
6:00 PM																					
6:15 PM																					
6:30 PM																					
6:45 PM																					
7:00 PM																					
7:15 PM																					
7:30 PM																					
7:45 PM																					
8:00 PM																					
8:15 PM																					
8:30 PM																					
8:45 PM																					
9:00 PM																					
9:15 PM																					
9:30 PM																					
9:45 PM																					
10:00 PM																					
10:15 PM																					
10:30 PM																					
10:45 PM																					
11:00 PM																					
11:15 PM																					
11:30 PM																					
11:45 PM																					

below to Petra header
and "Copy Formatted'
4
from field sheets if needed

bikes into "Miovision Peds" and "Miovision Bikes" from field sheet.

23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
								PM Totals																
	SBL	SBT	SBR	SBU	SBRTOR	WBL	WBT	WBR	WBU	WBRTOR	NBL	NBT	NBR	NBU	NBRTOR	EBL	EBT	EBR	EBU	EBRTOR				
	102	102	8	0	6	15	17	19	0	32	8	58	8	0	0	8	52	20	0	3		458	1753	
	101	83	3	0	2	13	39	14	0	36	9	58	6	0	3	7	54	15	0	0		443	1729	
	104	89	4	0	5	11	31	17	0	26	11	53	7	0	0	6	62	12	1	2		441	1756	
	65	106	5	0	4	20	17	19	0	36	12	58	3	0	0	11	39	15	0	1		411	1773	
	96	109	3	0	4	11	22	9	0	41	10	50	7	0	0	9	48	15	0	0		434	1809	0.962234
	125	118	4	0	5	10	27	10	0	28	10	60	7	0	0	13	29	18	0	6		470	1375	
	122	92	5	0	5	15	30	12	0	37	14	54	5	0	0	9	35	16	0	7		458		
	103	102	5	0	4	8	28	31	1	33	12	58	6	0	0	7	30	14	0	5		447		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0		
	818	801	37		35	103	211	131	1	269	86	449	49		3	70	349	125	1	24				
	446	421	17		18	44	107	62		139	46	222	25		0	38	142	63		18				
trucks	15	5	0		2	1	7	5		9	2	4	0		0	0	18	2		0				
	5	2	0		2	1	2	0		2	1	2	0		0	0	11	1		0				
	1%	0%			11%	2%	2%	0%		1%	2%	1%					8%	1%						
			14					51					8					23						
			5					50					9					15						
			9					43					7					14						
			9					55					3					16						
			7					50					7					15						
			9					38					7					24						
			10					49					5					23						
			9					64					6					19						
			0					0					0					0						
			72	2				400					52					149						
			35	6%				201					25					81						

JAMAR Technologies, Inc.

1500 Industry Road, Suite C
Hatfield, PA 19440

Station: 001
Counted by: Maria/ Santiago
Wether: Clear
Location: SW 62nd Ave at SW 100th St

File Name : Int 001_SW 62nd Ave at SW 100th St
Site Code : 001-2331
Start Date : 2/1/2022
Page No : 1

Groups Printed- General Traffic - Truck Traffic - Turn Traffic

	SW 62nd Ave Rd Southbound				Westbound				SW 62nd Ave Rd Northbound				SW 100th St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00	0	12	0	12	0	0	0	0	0	62	0	62	2	0	3	5	79
07:15	0	18	0	18	0	0	0	0	0	101	0	101	3	0	0	3	122
07:30	0	21	4	25	0	0	0	0	1	129	0	130	3	0	1	4	159
07:45	0	43	2	45	0	0	0	0	0	94	0	94	4	0	4	8	147
Total	0	94	6	100	0	0	0	0	1	386	0	387	12	0	8	20	507
08:00	0	38	1	39	0	0	0	0	1	81	0	82	4	0	0	4	125
08:15	0	40	2	42	0	0	0	0	1	97	0	98	5	0	2	7	147
08:30	0	48	2	50	0	0	0	0	0	82	0	82	0	0	0	0	132
08:45	0	43	3	46	0	0	0	0	1	98	0	99	2	0	2	4	149
Total	0	169	8	177	0	0	0	0	3	358	0	361	11	0	4	15	553
*** BREAK ***																	
16:00	0	83	3	86	0	0	0	0	1	65	0	66	1	0	2	3	155
16:15	0	105	4	109	0	0	0	0	0	65	0	65	3	0	4	7	181
16:30	0	96	4	100	0	0	0	0	1	49	0	50	4	0	2	6	156
16:45	0	114	4	118	0	0	0	0	1	54	0	55	0	0	2	2	175
Total	0	398	15	413	0	0	0	0	3	233	0	236	8	0	10	18	667
17:00	0	92	4	96	0	0	0	0	1	54	0	55	2	0	2	4	155
17:15	0	109	5	114	0	0	0	0	2	65	0	67	3	0	0	3	184
17:30	0	112	4	116	0	0	0	0	1	45	0	46	2	0	1	3	165
17:45	0	85	2	87	0	0	0	0	2	55	0	57	2	0	1	3	147
Total	0	398	15	413	0	0	0	0	6	219	0	225	9	0	4	13	651
Grand Total	0	1059	44	1103	0	0	0	0	13	1196	0	1209	40	0	26	66	2378
Apprch %	0	96	4		0	0	0		1.1	98.9	0		60.6	0	39.4		
Total %	0	44.5	1.9	46.4	0	0	0	0	0.5	50.3	0	50.8	1.7	0	1.1	2.8	
General Traffic	0	1051	44	1095	0	0	0	0	13	1185	0	1198	40	0	26	66	2359
% General Traffic	0	99.2	100	99.3	0	0	0	0	100	99.1	0	99.1	100	0	100	100	99.2
Truck Traffic	0	8	0	8	0	0	0	0	0	11	0	11	0	0	0	0	19
% Truck Traffic	0	0.8	0	0.7	0	0	0	0	0	0.9	0	0.9	0	0	0	0	0.8
U-Turn Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% U-Turn Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

JAMAR Technologies, Inc.

1500 Industry Road, Suite C
Hatfield, PA 19440

Station: 001
Counted by: Maria/ Santiago
Wether: Clear
Location: SW 62nd Ave at SW 100th St

File Name : Int 001_SW 62nd Ave at SW 100th St
Site Code : 001-2331
Start Date : 2/1/2022
Page No : 2

	SW 62nd Ave Rd Southbound				Westbound				SW 62nd Ave Rd Northbound				SW 100th St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	21	**4**	25	0	0	0	0	**1**	**129**	0	**130**	3	0	1	4	**159**
07:45	0	**43**	2	**45**	0	0	0	0	0	94	0	94	4	0	**4**	**8**	147
08:00	0	38	1	39	0	0	0	0	1	81	0	82	4	0	0	4	125
08:15	0	40	2	42	0	0	0	0	1	97	0	98	**5**	0	2	7	147
Total Volume	0	142	9	151	0	0	0	0	3	401	0	404	16	0	7	23	578
% App. Total	0	94	6		0	0	0		0.7	99.3	0		69.6	0	30.4		
PHF	.000	.826	.563	.839	.000	.000	.000	.000	.750	.777	.000	.777	.800	.000	.438	.719	.909
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	0	**114**	4	**118**	0	0	0	0	1	54	0	55	0	0	**2**	2	175
17:00	0	92	4	96	0	0	0	0	1	54	0	55	2	0	2	**4**	155
17:15	0	109	**5**	114	0	0	0	0	**2**	**65**	0	**67**	**3**	0	0	3	**184**
17:30	0	112	4	116	0	0	0	0	1	45	0	46	2	0	1	3	165
Total Volume	0	427	17	444	0	0	0	0	5	218	0	223	7	0	5	12	679
% App. Total	0	96.2	3.8		0	0	0		2.2	97.8	0		58.3	0	41.7		
PHF	.000	.936	.850	.941	.000	.000	.000	.000	.625	.838	.000	.832	.583	.000	.625	.750	.923

JAMAR Technologies, Inc.

1500 Industry Road, Suite C
Hatfield, PA 19440

Station: 001
Counted by: Maria/ Santiago
Wether: Clear
Location: SW 62nd Ave at SW 100th St

File Name : Int 001_SW 62nd Ave at SW 100th St
Site Code : 001-2331
Start Date : 2/1/2022
Page No : 1

Groups Printed- General Traffic

	SW 62nd Ave Rd Southbound				Westbound				SW 62nd Ave Rd Northbound				SW 100th St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00	0	11	0	11	0	0	0	0	0	61	0	61	2	0	3	5	77
07:15	0	18	0	18	0	0	0	0	0	101	0	101	3	0	0	3	122
07:30	0	20	4	24	0	0	0	0	1	128	0	129	3	0	1	4	157
07:45	0	43	2	45	0	0	0	0	0	93	0	93	4	0	4	8	146
Total	0	92	6	98	0	0	0	0	1	383	0	384	12	0	8	20	502
08:00	0	38	1	39	0	0	0	0	1	81	0	82	4	0	0	4	125
08:15	0	40	2	42	0	0	0	0	1	97	0	98	5	0	2	7	147
08:30	0	45	2	47	0	0	0	0	0	79	0	79	0	0	0	0	126
08:45	0	43	3	46	0	0	0	0	1	96	0	97	2	0	2	4	147
Total	0	166	8	174	0	0	0	0	3	353	0	356	11	0	4	15	545
*** BREAK ***																	
16:00	0	82	3	85	0	0	0	0	1	65	0	66	1	0	2	3	154
16:15	0	105	4	109	0	0	0	0	0	65	0	65	3	0	4	7	181
16:30	0	95	4	99	0	0	0	0	1	49	0	50	4	0	2	6	155
16:45	0	114	4	118	0	0	0	0	1	52	0	53	0	0	2	2	173
Total	0	396	15	411	0	0	0	0	3	231	0	234	8	0	10	18	663
17:00	0	91	4	95	0	0	0	0	1	54	0	55	2	0	2	4	154
17:15	0	109	5	114	0	0	0	0	2	64	0	66	3	0	0	3	183
17:30	0	112	4	116	0	0	0	0	1	45	0	46	2	0	1	3	165
17:45	0	85	2	87	0	0	0	0	2	55	0	57	2	0	1	3	147
Total	0	397	15	412	0	0	0	0	6	218	0	224	9	0	4	13	649
Grand Total	0	1051	44	1095	0	0	0	0	13	1185	0	1198	40	0	26	66	2359
Apprch %	0	96	4		0	0	0		1.1	98.9	0		60.6	0	39.4		
Total %	0	44.6	1.9	46.4	0	0	0	0	0.6	50.2	0	50.8	1.7	0	1.1	2.8	

JAMAR Technologies, Inc.

1500 Industry Road, Suite C
Hatfield, PA 19440

Station: 001
Counted by: Maria/ Santiago
Wether: Clear
Location: SW 62nd Ave at SW 100th St

File Name : Int 001_SW 62nd Ave at SW 100th St
Site Code : 001-2331
Start Date : 2/1/2022

Groups Printed- Truck Traffic

	SW 62nd Ave Rd Southbound				Westbound				SW 62nd Ave Rd Northbound				SW 100th St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
*** BREAK ***																	
07:30	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
07:45	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
*** BREAK ***																	
08:30	0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
08:45	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Total	0	3	0	3	0	0	0	0	0	5	0	5	0	0	0	0	8
*** BREAK ***																	
16:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
16:30	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Total	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
17:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
17:15	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
*** BREAK ***																	
Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Grand Total	0	8	0	8	0	0	0	0	0	11	0	11	0	0	0	0	19
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	42.1	0	42.1	0	0	0	0	0	57.9	0	57.9	0	0	0	0	

INPUT DATA

SECTION:	64012.00	**CITY:**	Ocala	**COUNTY:**	Marion	***Petra Data***
STATE ROUTE:	W 103rd Street Rd	**INTERSECTING ROUTE:**	SW 62nd Avenue Rd	**MILEPOST:**	3.982	*1. Match col*
OBSERVER:	VHB	**DATE OF COUNT:**		**COMPLETED BY:**	VV	*2. Select all*
WEATHER:	Good	**ROAD CONDITION:**	Good	**DATE COMPLETED:**	12/9/21	*3. Paste dat*
NORTH APPROACH:	W 103rd Street Rd	**EAST APPROACH:**	SW 62nd Avenue Rd			*4. Manually*
SOUTH APPROACH:	W 103rd Street Rd	**WEST APPROACH:**	W 103rd Street Rd			*5. Repeat fo*
		COUNT HOURS:				*6. Manually*

PASSENGER VEHICLE DATA

Miovision Data Entry *Add movements in B2 through CC2 to match raw data*	SBL	SBT	SBR	SBU	SBRTOR	WBL	WBT	WBR	WBU	WBRTOR	NBL	NBT	NBR	NBU	NBRTOR	EBL	EBT	EBR	EBU	EBRTOR
Paste data into A14 to CC110	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Lights																				
	Southbound					Westbound					Northbound					Eastbound				
	W 103rd Street Rd					SW 62nd Avenue Rd					W 103rd Street Rd					W 103rd S				
Start Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR
2:00 PM																				
2:15 PM																				
2:30 PM																				
2:45 PM																				
3:00 PM																				
3:15 PM																				
3:30 PM																				
3:45 PM																				
4:00 PM	14	56	24	0		1	32	7	0		20	34	5	0		23	50	37	0	
4:15 PM	13	69	19	0		2	38	12	0		22	32	3	0		12	48	31	0	
4:30 PM	15	58	21	0		7	35	5	0		13	38	3	0		14	70	36	0	
4:45 PM	19	62	25	0		2	37	10	0		20	34	2	0		21	53	26	0	
5:00 PM	19	45	24	0		0	46	13	0		14	29	0	0		9	59	32	0	
5:15 PM	18	57	25	0		3	37	8	0		19	29	0	0		13	63	25	0	
5:30 PM	16	53	22	0		1	24	10	0		14	42	7	0		15	72	35	0	
5:45 PM	10	54	18	0		1	54	15	0		13	31	1	0		16	48	32	0	
6:00 PM																				
6:15 PM																				
6:30 PM																				
6:45 PM																				
7:00 PM																				
7:15 PM																				
7:30 PM																				
7:45 PM																				
8:00 PM																				
8:15 PM																				
8:30 PM																				
8:45 PM																				

Entry

umn headers below to Petra headers
rows in Petra and "Copy Formatted"
a into Cell A14
enter U-turns from field sheets if needed
r Trucks
enter peds & bikes into "Miovision Peds" and "Miovision Bikes" from field sheet

22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
									PM Totals												
		SBL	SBT	SBR	SBU	SBRTOR	WBL	WBT	WBR	WBU	WBRTOR	NBL	NBT	NBR	NBU	NBRTOR	EBL	EBT	EBR	EBU	EBRTOR
		15	57	24			1	32	7			20	35	5			23	52	37		
		13	69	19			2	39	12			23	32	3			12	48	31		
		15	59	21			7	35	5			13	38	3			14	72	36		
		19	63	25			2	37	10			20	35	2			21	53	27		
		19	45	24			0	46	13			14	29	0			9	60	32		
		19	58	26			3	37	8			19	30	0			13	63	26		
		16	53	22			1	24	10			14	42	7			15	74	35		
		10	54	18			1	54	15			13	31	1			16	48	32		
		126	458	179			17	304	80			136	272	21			123	470	256		
		62	248	89			12	143	34			76	140	13			70	225	131		
	trucks	2	4	1			0	1	0			1	3	0			0	7	2		
		1	3	0			0	1	0			1	2	0			0	4	1		
		2%	1%					1%				1%	1%					2%	1%		

INPUT DATA

SECTION:	64012.00	**CITY:**	Ocala	**COUNTY:**	Marion	***Petra Data***
STATE ROUTE:	W 54th Ct	**INTERSECTING ROUTE:**	SW 101st P	**MILEPOST:**	3.982	*1. Match col*
OBSERVER:	VHB	**DATE OF COUNT:**		**COMPLETED BY:**	VV	*2. Select all*
WEATHER:	Good	**ROAD CONDITION:**	Good	**DATE COMPLETED:**	1/6/22	*3. Paste dat*
NORTH APPROACH:	W 54th Ct	**EAST APPROACH:**	SW 101st P			*4. Manually*
SOUTH APPROACH:	W 54th Ct	**WEST APPROACH:**	W 54th Ct			*5. Repeat fo*
		COUNT HOURS:				*6. Manually*

PASSENGER VEHICLE DATA

Miovision Data Entry *Add movements in B2 through CC2 to match raw data*	SBL	SBT	SBR	SBU	SBRTOR	WBL	WBT	WBR	WBU	WBRTOR	NBL	NBT	NBR	NBU	NBRTOR	EBL	EBT	EBR	EBU	EBRTOR
Paste data into A14 to CC110	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Lights																				
	Southbound					Westbound					Northbound					Eastbound				
	W 54th Ct					SW 101st P					W 54th Ct					W 54th Ct				
Start Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR
2:00 PM																				
2:15 PM																				
2:30 PM																				
2:45 PM																				
3:00 PM																				
3:15 PM																				
3:30 PM																				
3:45 PM																				
4:00 PM	0	0	1	0		0	0	0	0		0	0	0	0		1	0	0	0	
4:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
4:30 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	0	0	0	
4:45 PM	0	2	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
5:00 PM	0	0	0	0		0	0	0	0		0	2	0	0		0	0	0	0	
5:15 PM	0	1	0	0		0	0	0	0		0	1	0	0		0	0	0	0	
5:30 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	0	0	0	
5:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
6:00 PM																				
6:15 PM																				
6:30 PM																				
6:45 PM																				
7:00 PM																				
7:15 PM																				
7:30 PM																				
7:45 PM																				
8:00 PM																				
8:15 PM																				
8:30 PM																				
8:45 PM																				
9:00 PM																				
9:15 PM																				
9:30 PM																				
9:45 PM																				
10:00 PM																				
10:15 PM																				
10:30 PM																				
10:45 PM																				

Entry

umn headers below to Petra headers
rows in Petra and "Copy Formatted"
a into Cell A14
enter U-turns from field sheets if needed
r Trucks
enter peds & bikes into "Miovision Peds" and "Miovision Bikes" from field sheets

22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
									PM Totals												
		SBL	SBT	SBR	SBU	SBRTOR	WBL	WBT	WBR	WBU	WBRTOR	NBL	NBT	NBR	NBU	NBRTOR	EBL	EBT	EBR	EBU	EBRTOR
		0	0	1			0	0	0			0	0	0			1	0	0		
		0	0	0			0	0	1			0	0	0			0	0	0		
		0	0	0			0	0	0			0	1	0			0	0	0		
		0	2	0			0	0	0			0	0	0			0	0	0		
		0	1	0			0	0	0			0	2	0			0	0	0		
		1	1	0			0	0	0			0	1	0			0	0	0		
		0	0	0			0	0	0			0	2	0			0	0	0		
		0	0	0			0	0	0			0	0	0			0	0	0		
		1	4	1			0	0	1			0	6	0			1	0	0		
		1	4	0			0	0	0			0	5	0			0	0	0		
	trucks	1	1	0			0	0	1			0	1	0			0	0	0		
		1	1	0			0	0	0			0	1	0			0	0	0		
		100%	25%										20%								

INPUT DATA

SECTION:	64012.00	**CITY:**	Ocala	**COUNTY:**	Marion
STATE ROUTE:	W 100th Loop	**INTERSECTING ROUTE:**	SW 101st Pl	**MILEPOST:**	3.982
OBSERVER:	VHB	**DATE OF COUNT:**		**COMPLETED BY:**	VV
WEATHER:	Good	**ROAD CONDITION:**	Good	**DATE COMPLETED:**	1/6/22
NORTH APPROACH:	W 100th Loop	**EAST APPROACH:**	SW 101st Pl		
SOUTH APPROACH:	W 100th Loop	**WEST APPROACH:**	W 100th Loop		
		COUNT HOURS:			

PASSENGER VEHICLE DATA

Miovision Data Entry *Add movements in B2 through CC2 to match raw data*	SBL	SBT	SBR	SBU	SBRTOR	WBL	WBT	WBR	WBU	WBRTOR	NBL	NBT	NBR	NBU	NBRTOR	EBL	EBT	EBR	EBU
Paste data into A14 to CC110	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Lights																			
	Southbound					Westbound					Northbound					Eastbound			
	W 100th Loop					SW 101st Pl					W 100th Loop					W 100th Lo			
Start Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn
2:00 PM																			
2:15 PM																			
2:30 PM																			
2:45 PM																			
3:00 PM																			
3:15 PM																			
3:30 PM																			
3:45 PM																			
4:00 PM	0	1	0	0		0	0	0	0		0	0	0	0		0	0	0	0
4:15 PM	0	1	0	0		0	0	0	0		0	2	0	0		0	0	0	0
4:30 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	0	0	0
4:45 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	0	0	0
5:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0
5:15 PM	0	0	0	0		1	0	0	0		0	1	0	0		0	0	0	0
5:30 PM	0	1	0	0		0	0	0	0		0	0	1	0		0	0	0	0
5:45 PM	0	1	0	0		0	0	0	0		0	0	1	0		0	0	0	0
6:00 PM																			
6:15 PM																			
6:30 PM																			
6:45 PM																			
7:00 PM																			
7:15 PM																			
7:30 PM																			
7:45 PM																			
8:00 PM																			
8:15 PM																			
8:30 PM																			
8:45 PM																			
9:00 PM																			
9:15 PM																			

Petra Data Entry

1. Match column headers below to Petra headers
2. Select all rows in Petra and "Copy Formatted"
3. Paste data into Cell A14
4. Manually enter U-turns from field sheets if needed
5. Repeat for Trucks
6. Manually enter peds & bikes into "Miovision Peds" and "Miovision Bikes" from field sheets

EBRTOR																					
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
RTOR																						
										PM Totals												
			SBL	SBT	SBR	SBU	SBRTOR	WBL	WBT	WBR	WBU	WBRTOR	NBL	NBT	NBR	NBU	NBRTOR	EBL	EBT	EBR	EBU	EBRTOR
			0	1	0			0	0	0			0	0	0			0	0	0		
			0	2	0			0	0	0			1	2	0			0	0	0		
			0	0	0			0	0	0			0	1	0			0	0	0		
			0	0	0			0	0	0			0	1	0			0	0	0		
			0	0	0			0	0	0			0	2	0			0	0	0		
			0	0	0			1	0	0			0	1	0			0	0	1		
			0	2	0			0	0	0			0	0	1			0	0	0		
			0	1	0			0	0	0			0	0	1			0	0	0		
			0	6	0			1	0	0			1	7	2			0	0	1		
			0	3	0			1	0	0			0	3	2			0	0	1		
		trucks	0	2	0			0	0	0			1	2	0			0	0	1		
			0	1	0			0	0	0			0	2	0			0	0	1		
				33%										67%						100%		

D

2022 Synchro Analysis

Existing Conditions

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	19	453	11	25	789
Future Vol, veh/h	8	19	453	11	25	789
Conflicting Peds, #/hr	0	0	0	0	0	0
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	92	92	92	92	92	92
Heavy Vehicles, %	2	5	3	2	2	2
Mvmt Flow	9	21	492	12	27	858

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1410	498	0	0	504	0
Stage 1	498	-	-	-	-	-
Stage 2	912	-	-	-	-	-
Critical Hdwy	6.42	6.25	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.345	-	-	2.218	-
Pot Cap-1 Maneuver	153	566	-	-	1061	-
Stage 1	611	-	-	-	-	-
Stage 2	392	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	146	566	-	-	1061	-
Mov Cap-2 Maneuver	146	-	-	-	-	-
Stage 1	611	-	-	-	-	-
Stage 2	373	-	-	-	-	-

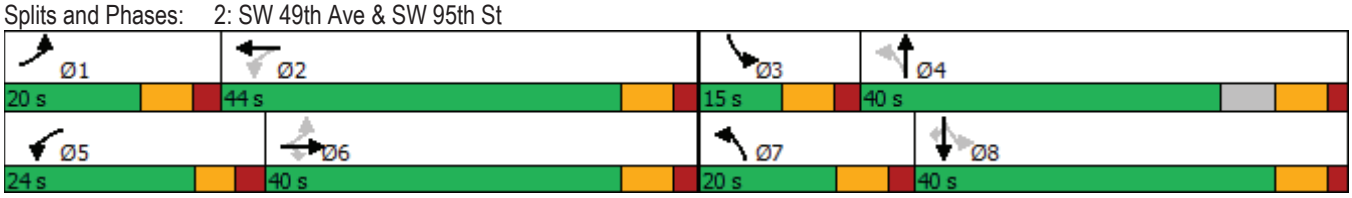
Approach	WB	NB	SB
HCM Control Delay, s	18	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	306	1061	-
HCM Lane V/C Ratio	-	-	0.096	0.026	-
HCM Control Delay (s)	-	-	18	8.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	25	87	503	49	60	239	163	52	316	57
Future Volume (vph)	25	87	503	49	60	239	163	52	316	57
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2	7	4	3	8	
Permitted Phases	6		6	2		4		8		8
Detector Phase	1	6	6	5	2	7	4	3	8	8
Switch Phase										
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	7.0	15.0	7.0	15.0	15.0
Minimum Split (s)	14.4	22.5	22.5	13.4	22.5	14.2	22.5	14.2	22.5	22.5
Total Split (s)	20.0	40.0	40.0	24.0	44.0	20.0	40.0	15.0	40.0	40.0
Total Split (%)	16.1%	32.3%	32.3%	19.4%	35.5%	16.1%	32.3%	12.1%	32.3%	32.3%
Yellow Time (s)	4.8	4.8	4.8	3.7	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.6	2.4	2.4	2.7	2.4	2.4	2.0	2.4	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.2	7.2	6.4	7.2	7.2	6.8	7.2	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	21.3	17.6	17.6	24.6	20.7	40.1	30.5	28.7	21.6	21.6
Actuated g/C Ratio	0.26	0.21	0.21	0.30	0.25	0.49	0.37	0.35	0.26	0.26
v/c Ratio	0.07	0.25	0.74	0.13	0.12	0.57	0.17	0.12	0.70	0.11
Control Delay	20.7	32.8	11.8	20.3	18.8	19.8	18.7	14.7	37.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.7	32.8	11.8	20.3	18.8	19.8	18.7	14.7	37.3	0.4
LOS	C	C	B	C	B	B	B	B	D	A
Approach Delay		15.2			19.3		19.3		29.6	
Approach LOS		B			B		B		C	

Intersection Summary	
Cycle Length: 124	
Actuated Cycle Length: 82.1	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 20.4	Intersection LOS: C
Intersection Capacity Utilization 70.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: SW 49th Ave & SW 95th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	87	503	49	60	37	239	163	43	52	316	57
Future Volume (veh/h)	25	87	503	49	60	37	239	163	43	52	316	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1752	1870	1870	1870	1856	1870	1870	1811	1841	1870	1870
Adj Flow Rate, veh/h	27	94	433	53	65	36	257	175	42	56	340	51
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	10	2	2	2	3	2	2	6	4	2	2
Cap, veh/h	513	523	473	405	694	357	350	820	192	426	402	340
Arrive On Green	0.04	0.30	0.30	0.06	0.31	0.31	0.13	0.29	0.29	0.06	0.21	0.21
Sat Flow, veh/h	1781	1752	1585	1781	2269	1168	1781	2858	669	1753	1870	1585
Grp Volume(v), veh/h	27	94	433	53	50	51	257	107	110	56	340	51
Grp Sat Flow(s),veh/h/ln	1781	1752	1585	1781	1777	1660	1781	1777	1750	1753	1870	1585
Q Serve(g_s), s	0.9	3.7	24.2	1.8	1.8	2.0	9.9	4.2	4.4	2.2	16.0	2.4
Cycle Q Clear(g_c), s	0.9	3.7	24.2	1.8	1.8	2.0	9.9	4.2	4.4	2.2	16.0	2.4
Prop In Lane	1.00		1.00	1.00		0.70	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	513	523	473	405	544	508	350	510	502	426	402	340
V/C Ratio(X)	0.05	0.18	0.92	0.13	0.09	0.10	0.73	0.21	0.22	0.13	0.85	0.15
Avail Cap(c_a), veh/h	690	625	566	646	712	665	366	642	632	473	676	573
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	23.9	31.1	19.8	22.8	22.8	24.1	24.9	24.9	25.1	34.6	29.3
Incr Delay (d2), s/veh	0.0	0.2	17.8	0.1	0.1	0.1	7.1	0.2	0.2	0.1	5.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.4	10.9	0.8	0.8	0.8	4.5	1.7	1.7	0.9	7.4	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	24.1	48.9	19.9	22.8	22.9	31.2	25.1	25.1	25.2	39.7	29.5
LnGrp LOS	C	C	D	B	C	C	C	C	C	C	D	C
Approach Vol, veh/h		554			154			474			447	
Approach Delay, s/veh		43.3			21.9			28.4			36.7	
Approach LOS		D			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	35.3	12.5	33.2	11.6	34.6	19.2	26.5
Change Period (Y+Rc), s	7.4	* 7.2	* 7.2	6.8	6.4	* 7.2	* 7.2	6.8
Max Green Setting (Gmax), s	12.6	* 37	* 7.8	33.2	17.6	* 33	* 13	33.2
Max Q Clear Time (g_c+I1), s	2.9	4.0	4.2	6.4	3.8	26.2	11.9	18.0
Green Ext Time (p_c), s	0.0	0.6	0.0	1.1	0.1	1.2	0.1	1.7

Intersection Summary	
HCM 6th Ctrl Delay	35.2
HCM 6th LOS	D

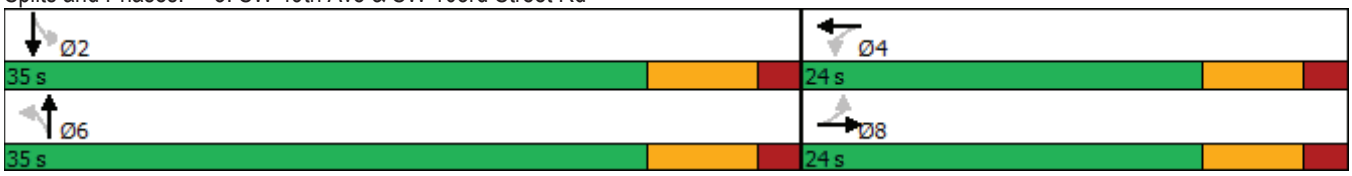
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	46	48	12	28	108	365	53	648
Future Volume (vph)	46	48	12	28	108	365	53	648
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	20.0	20.0	20.0	20.0
Minimum Split (s)	22.5	22.5	22.5	22.5	26.8	26.8	26.8	26.8
Total Split (s)	24.0	24.0	24.0	24.0	35.0	35.0	35.0	35.0
Total Split (%)	40.7%	40.7%	40.7%	40.7%	59.3%	59.3%	59.3%	59.3%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.8	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4		6.4	6.8	6.8	6.8	6.8
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	10.6	10.6		10.6	25.0	25.0	25.0	25.0
Actuated g/C Ratio	0.22	0.22		0.22	0.51	0.51	0.51	0.51
v/c Ratio	0.17	0.47		0.19	0.48	0.44	0.11	0.76
Control Delay	18.2	9.7		13.0	16.2	9.2	7.0	16.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	9.7		13.0	16.2	9.2	7.0	16.3
LOS	B	A		B	B	A	A	B
Approach Delay		11.2		13.0		10.7		15.7
Approach LOS		B		B		B		B

Intersection Summary	
Cycle Length: 59	
Actuated Cycle Length: 48.8	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 13.2	Intersection LOS: B
Intersection Capacity Utilization 84.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: SW 49th Ave & SW 103rd Street Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	48	174	12	28	27	108	365	31	53	648	45
Future Volume (veh/h)	46	48	174	12	28	27	108	365	31	53	648	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1841	1870	1841	1870	1841	1870	1870
Adj Flow Rate, veh/h	48	50	163	12	29	25	112	380	29	55	675	47
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
Percent Heavy Veh, %	2	2	2	2	2	4	2	4	2	4	2	2
Cap, veh/h	416	79	259	114	186	129	304	877	67	515	897	62
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1350	386	1258	123	906	627	731	1689	129	961	1728	120
Grp Volume(v), veh/h	48	0	213	66	0	0	112	0	409	55	0	722
Grp Sat Flow(s),veh/h/ln	1350	0	1644	1655	0	0	731	0	1818	961	0	1849
Q Serve(g_s), s	0.0	0.0	5.7	0.0	0.0	0.0	6.8	0.0	6.7	1.8	0.0	14.8
Cycle Q Clear(g_c), s	1.5	0.0	5.7	5.7	0.0	0.0	21.6	0.0	6.7	8.5	0.0	14.8
Prop In Lane	1.00		0.77	0.18		0.38	1.00		0.07	1.00		0.07
Lane Grp Cap(c), veh/h	416	0	338	429	0	0	304	0	944	515	0	960
V/C Ratio(X)	0.12	0.00	0.63	0.15	0.00	0.00	0.37	0.00	0.43	0.11	0.00	0.75
Avail Cap(c_a), veh/h	634	0	603	685	0	0	354	0	1068	581	0	1086
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.7	0.0	17.4	15.7	0.0	0.0	17.6	0.0	7.2	9.8	0.0	9.1
Incr Delay (d2), s/veh	0.1	0.0	1.9	0.2	0.0	0.0	0.7	0.0	0.3	0.1	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.0	0.5	0.0	0.0	1.0	0.0	1.6	0.3	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.9	0.0	19.3	15.9	0.0	0.0	18.4	0.0	7.5	9.9	0.0	11.7
LnGrp LOS	B	A	B	B	A	A	B	A	A	A	A	B
Approach Vol, veh/h		261			66			521			777	
Approach Delay, s/veh		18.7			15.9			9.8			11.6	
Approach LOS		B			B			A			B	

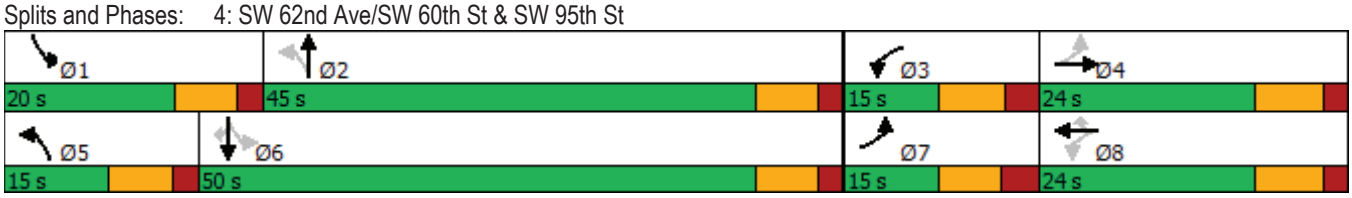
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		31.7		16.3		31.7		16.3				
Change Period (Y+Rc), s		6.8		6.4		6.8		6.4				
Max Green Setting (Gmax), s		28.2		17.6		28.2		17.6				
Max Q Clear Time (g_c+I1), s		16.8		7.7		23.6		7.7				
Green Ext Time (p_c), s		3.7		0.2		1.3		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			12.3									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	38	142	44	107	201	46	222	446	421	35
Future Volume (vph)	38	142	44	107	201	46	222	446	421	35
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2	1	6	
Permitted Phases	4		8		8	2		6		6
Detector Phase	7	4	3	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	15.0	7.0	15.0	15.0
Minimum Split (s)	14.7	22.5	14.8	22.5	22.5	14.0	25.0	13.8	22.5	22.5
Total Split (s)	15.0	24.0	15.0	24.0	24.0	15.0	45.0	20.0	50.0	50.0
Total Split (%)	14.4%	23.1%	14.4%	23.1%	23.1%	14.4%	43.3%	19.2%	48.1%	48.1%
Yellow Time (s)	4.8	5.2	5.2	5.2	5.2	5.0	5.0	4.8	5.0	5.0
All-Red Time (s)	2.9	2.0	2.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.7	7.2	7.8	7.2	7.2	7.0	7.0	6.8	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	14.5	11.2	14.4	11.2	11.2	27.9	20.2	40.0	32.8	32.8
Actuated g/C Ratio	0.19	0.15	0.19	0.15	0.15	0.37	0.27	0.54	0.44	0.44
v/c Ratio	0.13	0.42	0.16	0.21	0.50	0.11	0.51	0.78	0.54	0.05
Control Delay	23.2	23.0	23.7	32.8	10.2	11.3	27.5	24.4	22.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	23.0	23.7	32.8	10.2	11.3	27.5	24.4	22.6	0.1
LOS	C	C	C	C	B	B	C	C	C	A
Approach Delay		23.1		18.7			24.9		22.6	
Approach LOS		C		B			C		C	

Intersection Summary	
Cycle Length: 104	
Actuated Cycle Length: 74.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 22.3	Intersection LOS: C
Intersection Capacity Utilization 76.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: SW 62nd Ave/SW 60th St & SW 95th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	142	81	44	107	201	46	222	25	446	421	35
Future Volume (veh/h)	38	142	81	44	107	201	46	222	25	446	421	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1870	1870	1870	1870	1870	1870	1870	1870	1870	1811
Adj Flow Rate, veh/h	40	148	76	46	111	167	48	231	24	465	439	27
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
Percent Heavy Veh, %	2	8	2	2	2	2	2	2	2	2	2	6
Cap, veh/h	328	310	151	293	522	233	328	351	36	526	623	511
Arrive On Green	0.05	0.14	0.14	0.06	0.15	0.15	0.06	0.21	0.21	0.19	0.33	0.33
Sat Flow, veh/h	1781	2204	1076	1781	3554	1585	1781	1666	173	1781	1870	1535
Grp Volume(v), veh/h	40	112	112	46	111	167	48	0	255	465	439	27
Grp Sat Flow(s),veh/h/ln	1781	1692	1588	1781	1777	1585	1781	0	1839	1781	1870	1535
Q Serve(g_s), s	1.3	4.3	4.7	1.5	2.0	7.2	1.4	0.0	9.0	13.2	14.6	0.9
Cycle Q Clear(g_c), s	1.3	4.3	4.7	1.5	2.0	7.2	1.4	0.0	9.0	13.2	14.6	0.9
Prop In Lane	1.00		0.68	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	328	238	223	293	522	233	328	0	388	526	623	511
V/C Ratio(X)	0.12	0.47	0.50	0.16	0.21	0.72	0.15	0.00	0.66	0.88	0.70	0.05
Avail Cap(c_a), veh/h	415	399	375	368	839	374	420	0	982	526	1130	927
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	28.2	28.3	23.6	26.7	29.0	19.7	0.0	25.7	18.2	20.7	16.1
Incr Delay (d2), s/veh	0.2	1.7	2.1	0.3	0.2	4.9	0.2	0.0	2.3	16.5	1.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.7	1.8	0.6	0.8	2.8	0.6	0.0	3.8	7.3	5.8	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	29.9	30.4	23.9	27.0	33.9	19.9	0.0	28.0	34.8	22.5	16.2
LnGrp LOS	C	C	C	C	C	C	B	A	C	C	C	B
Approach Vol, veh/h		264			324			303			931	
Approach Delay, s/veh		29.2			30.1			26.8			28.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	22.0	12.0	17.2	11.3	30.7	11.5	17.7
Change Period (Y+Rc), s	6.8	7.0	* 7.8	7.2	7.0	7.0	* 7.7	7.2
Max Green Setting (Gmax), s	13.2	38.0	* 7.2	16.8	8.0	43.0	* 7.3	16.8
Max Q Clear Time (g_c+I1), s	15.2	11.0	3.5	6.7	3.4	16.6	3.3	9.2
Green Ext Time (p_c), s	0.0	1.6	0.0	0.9	0.0	3.2	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	5	5	222	436	17
Future Vol, veh/h	7	5	5	222	436	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	200	-	-	-
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	8	5	5	241	474	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	734	483	492	0	-	0
Stage 1	483	-	-	-	-	-
Stage 2	251	-	-	-	-	-
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	387	584	1071	-	-	-
Stage 1	620	-	-	-	-	-
Stage 2	791	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	385	584	1071	-	-	-
Mov Cap-2 Maneuver	486	-	-	-	-	-
Stage 1	617	-	-	-	-	-
Stage 2	791	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1071	-	523	-	-
HCM Lane V/C Ratio	0.005	-	0.025	-	-
HCM Control Delay (s)	8.4	-	12.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	22.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	225	131	12	143	34	76	140	13	62	248	89
Future Vol, veh/h	70	225	131	12	143	34	76	140	13	62	248	89
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	230	134	12	146	35	78	143	13	63	253	91
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	28.5	14.7	16.8	21.7
HCM LOS	D	B	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	33%	16%	6%	100%	0%
Vol Thru, %	61%	53%	76%	0%	74%
Vol Right, %	6%	31%	18%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	229	426	189	62	337
LT Vol	76	70	12	62	0
Through Vol	140	225	143	0	248
RT Vol	13	131	34	0	89
Lane Flow Rate	234	435	193	63	344
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.474	0.775	0.386	0.137	0.679
Departure Headway (Hd)	7.306	6.531	7.214	7.812	7.11
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	495	556	500	462	512
Service Time	5.333	4.531	5.25	5.512	4.81
HCM Lane V/C Ratio	0.473	0.782	0.386	0.136	0.672
HCM Control Delay	16.8	28.5	14.7	11.7	23.5
HCM Lane LOS	C	D	B	B	C
HCM 95th-tile Q	2.5	7.1	1.8	0.5	5.1

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	5	0	1	4	0
Future Vol, veh/h	0	0	0	0	0	0	0	5	0	1	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	20	2	100	25	2
Mvmt Flow	0	0	0	0	0	0	0	6	0	1	5	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	13	13	5	13	13	6	5	0	0	6	0	0
Stage 1	7	7	-	6	6	-	-	-	-	-	-	-
Stage 2	6	6	-	7	7	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	5.1	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	3.1	-	-
Pot Cap-1 Maneuver	1004	881	1078	1004	881	1077	1616	-	-	1154	-	-
Stage 1	1015	890	-	1016	891	-	-	-	-	-	-	-
Stage 2	1016	891	-	1015	890	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	1003	880	1078	1003	880	1077	1616	-	-	1154	-	-
Mov Cap-2 Maneuver	1003	880	-	1003	880	-	-	-	-	-	-	-
Stage 1	1015	889	-	1016	891	-	-	-	-	-	-	-
Stage 2	1016	891	-	1014	889	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	1.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1616	-	-	-	-	1154	-	-
HCM Lane V/C Ratio	-	-	-	-	-	0.001	-	-
HCM Control Delay (s)	0	-	-	0	0	8.1	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	1	0	0	0	3	2	0	3	0
Future Vol, veh/h	0	0	1	1	0	0	0	3	2	0	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	100	2	2	2	2	67	2	2	33	2
Mvmt Flow	0	0	1	1	0	0	0	4	2	0	4	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	9	10	4	10	9	5	4	0	0	6	0	0
Stage 1	4	4	-	5	5	-	-	-	-	-	-	-
Stage 2	5	6	-	5	4	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	7.2	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	4.2	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	1010	885	852	1008	886	1078	1618	-	-	1615	-	-
Stage 1	1018	892	-	1017	892	-	-	-	-	-	-	-
Stage 2	1017	891	-	1017	892	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	1010	885	852	1007	886	1078	1618	-	-	1615	-	-
Mov Cap-2 Maneuver	1010	885	-	1007	886	-	-	-	-	-	-	-
Stage 1	1018	892	-	1017	892	-	-	-	-	-	-	-
Stage 2	1017	891	-	1016	892	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.2	8.6	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1618	-	-	852	1007	1615	-	-
HCM Lane V/C Ratio	-	-	-	0.001	0.001	-	-	-
HCM Control Delay (s)	0	-	-	9.2	8.6	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

E

Intersection Volume Derivation

TIA

Inputs:	Analysis Years			External Project Trips			Passby Project Trips			PM Peak
	Existing Year	Future Year	Total	In	Out	Total	In	Out	Total	
	2022	2024	2	221	130	351	N/A			

Existing Turning Movement Counts

Location	Intersection NB/SB	Intersection EB/WB	Peak Hour	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right
1	SW 49th Ave	SW 100th St	PM	0	453	11	25	789	0	0	0	0	8	0	19
2	SW 49th Ave	SW 95th St	PM	239	163	43	52	316	57	25	87	503	49	60	37
3	SW 49th Ave	SW 103rd St Rd	PM	108	365	31	53	648	45	46	48	174	12	28	27
4	SW 62nd Ave	SW 95th St	PM	46	222	25	446	421	35	38	142	81	44	107	201
5	SW 62nd Ave	SW 100th St	PM	5	218	0	0	427	17	7	0	5	0	0	0
6	SW 62nd Ave	SW 103rd St Rd	PM	76	140	13	62	248	89	70	225	131	12	143	34
7	East Access	SW 100th St	PM												
8	West Access	SW 100th St	PM												
9	SW 54th Ct	SW 101st Pl	PM	0	5	0	1	4	0	0	0	0	0	0	0
10	SW 100th Loop	SW 101st Pl	PM	0	3	2	0	3	0	0	0	1	1	0	0

Truck Factors

Location	Intersection NB/SB	Intersection EB/WB	PHF	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right
1	SW 49th Ave	SW 100th St	0.92		3.0%			2.0%							5.0%
2	SW 49th Ave	SW 95th St	0.93	2.0%	1.0%	6.0%	4.0%	1.0%			10.0%	1.0%			3.0%
3	SW 49th Ave	SW 103rd St Rd	0.96		4.0%		4.0%	2.0%				2.0%			4.0%
4	SW 62nd Ave	SW 95th St	0.96	2.0%	1.0%		1.0%		6.0%		8.0%	1.0%	2.0%	2.0%	
5	SW 62nd Ave	SW 100th St	0.92		1.4%			0.23%							
6	SW 62nd Ave	SW 103rd St Rd	0.98	1.0%	1.0%		2.0%	1.0%			2.0%	1.0%		1.0%	
7	East Access	SW 100th St													
8	West Access	SW 100th St													
9	SW 54th Ct	SW 101st Pl	0.83		20.0%		100.0%	25.0%							
10	SW 100th Loop	SW 101st Pl	0.83		67.0%			33.0%				100.0%			

2022 TMC Projected

Location	Intersection NB/SB	Intersection EB/WB	Seasonal Factor	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right
1	SW 49th Ave	SW 100th St	1.00	0	453	11	25	789	0	0	0	0	8	0	19
2	SW 49th Ave	SW 95th St	1.00	239	163	43	52	316	57	25	87	503	49	60	37
3	SW 49th Ave	SW 103rd St Rd	1.00	108	365	31	53	648	45	46	48	174	12	28	27
4	SW 62nd Ave	SW 95th St	1.00	46	222	25	446	421	35	38	142	81	44	107	201
5	SW 62nd Ave	SW 100th St	1.02	5	222	0	0	436	17	7	0	5	0	0	0
6	SW 62nd Ave	SW 103rd St Rd	1.00	76	140	13	62	248	89	70	225	131	12	143	34
7	East Access	SW 100th St		0	0	0	0	0	0	0	0	0	0	0	0
8	West Access	SW 100th St		0	0	0	0	0	0	0	0	0	0	0	0
9	SW 54th Ct	SW 101st Pl	1.01	0	5	0	1	4	0	0	0	0	0	0	0
10	SW 100th Loop	SW 101st Pl	1.01	0	3	2	0	3	0	0	0	1	1	0	0

Annual Growth Rates

Location	Intersection NB/SB	Intersection EB/WB	Peak Hour	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right
1	SW 49th Ave	SW 100th St	PM	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
2	SW 49th Ave	SW 95th St	PM	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
3	SW 49th Ave	SW 103rd St Rd	PM	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
4	SW 62nd Ave	SW 95th St	PM	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
5	SW 62nd Ave	SW 100th St	PM	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
6	SW 62nd Ave	SW 103rd St Rd	PM	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
7	East Access	SW 100th St	PM	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
8	West Access	SW 100th St	PM	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
9	SW 54th Ct	SW 101st Pl	PM	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
10	SW 100th Loop	SW 101st Pl	PM	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%

Future Background

Location	Intersection NB/SB	Intersection EB/WB	Peak Hour	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right
1	SW 49th Ave	SW 100th St	PM	0	507	12	28	884	0	0	0	0	9	0	21
2	SW 49th Ave	SW 95th St	PM	268	183	48	58	354	64	28	97	563	55	67	41
3	SW 49th Ave	SW 103rd St Rd	PM	121	409	35	59	726	50	52	54	195	13	31	30
4	SW 62nd Ave	SW 95th St	PM	52	249	28	500	472	39	43	159	91	49	120	225
5	SW 62nd Ave	SW 100th St	PM	6	249	0	0	488	19	8	0	6	0	0	0
6	SW 62nd Ave	SW 103rd St Rd	PM	85	157	15	69	278	100	78	252	147	13	160	38
7	East Access	SW 100th St	PM	0	0	0	0	0	0	0	0	0	0	0	0
8	West Access	SW 100th St	PM	0	0	0	0	0	0	0	0	0	0	0	0
9	SW 54th Ct	SW 101st Pl	PM	0	6	0	1	4	0	0	0	0	0	0	0
10	SW 100th Loop	SW 101st Pl	PM	0	3	2	0	3	0	0	0	1	1	0	0

Future Trip Distribution Out (Movement)

Location	Intersection NB/SB	Intersection EB/WB	Peak Hour	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right
1	SW 49th Ave	SW 100th St	PM	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	45.50%	0.00%	10.50%	0.00%	0.00%	0.00%
2	SW 49th Ave	SW 95th St	PM	0.00%	44.00%	1.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3	SW 49th Ave	SW 103rd St Rd	PM	0.00%	0.00%	0.00%	0.00%	10.00%	0.00%	0.50%	0.00%	7.50%	0.00%	0.00%	0.00%
4	SW 62nd Ave	SW 95th St	PM	16.50%	14.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5	SW 62nd Ave	SW 100th St	PM	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.50%	0.00%	30.50%
6	SW 62nd Ave	SW 103rd St Rd	PM	0.00%	0.00%	0.00%	0.00%	0.00%	0.50%	0.00%	0.00%	0.00%	1.50%	2.50%	0.00%
7	East Access	SW 100th St	PM	8.00%	0.00%	26.00%	0.00%	0.00%	0.00%	0.00%	30.00%	0.00%	0.00%	0.00%	0.00%
8	West Access	SW 100th St	PM	17.50%	0.00%	11.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	13.50%	0.00%
9	SW 54th Ct	SW 101st Pl	PM	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	19.00%	0.00%	2.00%	0.00%	0.00%	5.50%
10	SW 100th Loop	SW 101st Pl	PM	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.50%	5.50%	0.00%

Future Trip Distribution In (Leg)

Location	Intersection NB/SB	Intersection EB/WB	Peak Hour	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right
1	SW 49th Ave	SW 100th St	PM	10.5%					45.5%						
2	SW 49th Ave	SW 95th St	PM					44.0%					1.5%		
3	SW 49th Ave	SW 103rd St Rd	PM	7.5%	10.0%				0.5%						
4	SW 62nd Ave	SW 95th St	PM					14.0%				16.5%			
5	SW 62nd Ave	SW 100th St	PM			0.5%	30.5%								
6	SW 62nd Ave	SW 103rd St Rd	PM			1.5%				0.5%	2.5%				
7	East Access	SW 100th St	PM									8.0%	26.0%	30.0%	
8	West Access	SW 100th St	PM								13.5%	17.5%	11.0%		
9	SW 54th Ct	SW 101st Pl	PM	2.0%			5.5%		19.0%						
10	SW 100th Loop	SW 101st Pl	PM			0.5%					5.5%				

In / Out (Input: I/O)

Location	Intersection NB/SB	Intersection EB/WB	Peak Hour	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right
1	SW 49th Ave	SW 100th St	PM	I					I	O		O			
2	SW 49th Ave	SW 95th St	PM		O	O		I					I		
3	SW 49th Ave	SW 103rd St Rd	PM	I	I			O	I	O		O			
4	SW 62nd Ave	SW 95th St	PM	O	O			I				I			
5	SW 62nd Ave	SW 100th St	PM			I	I						O		O
6	SW 62nd Ave	SW 103rd St Rd	PM			I			O	I	I		O	O	
7	East Access	SW 100th St	PM	O		O					O	I	I	I	
8	West Access	SW 100th St	PM	O		O					I	I	I	O	
9	SW 54th Ct	SW 101st Pl	PM	I			I		I	O		O			O
10	SW 100th Loop	SW 101st Pl	PM			I					I		O	O	

Trip Adjustment

Location	Intersection NB/SB	Intersection EB/WB	Peak Hour	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right
1	SW 49th Ave	SW 100th St	PM						-1						
2	SW 49th Ave	SW 95th St	PM												
3	SW 49th Ave	SW 103rd St Rd	PM												
4	SW 62nd Ave	SW 95th St	PM		1										
5	SW 62nd Ave	SW 100th St	PM												
6	SW 62nd Ave	SW 103rd St Rd	PM												
7	East Access	SW 100th St	PM												
8	West Access	SW 100th St	PM									-1			
9	SW 54th Ct	SW 101st Pl	PM												
10	SW 100th Loop	SW 101st Pl	PM												

External Project Trips

External Trip Generation — Entering: 221 — Exiting: 130 — Total: 351

Location	Intersection NB/SB	Intersection EB/WB	Peak Hour	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right
1	SW 49th Ave	SW 100th St	PM	23	0	0	0	0	100	59	0	14	0	0	0
2	SW 49th Ave	SW 95th St	PM	0	57	2	0	97	0	0	0	0	3	0	0
3	SW 49th Ave	SW 103rd St Rd	PM	17	22	0	0	13	1	1	0	10	0	0	0
4	SW 62nd Ave	SW 95th St	PM	21	19	0	0	31	0	0	0	36	0	0	0
5	SW 62nd Ave	SW 100th St	PM	0	0	1	67	0	0	0	0	0	1	0	40
6	SW 62nd Ave	SW 103rd St Rd	PM	0	0	3	0	0	1	1	6	0	2	3	0
7	East Access	SW 100th St	PM	10	0	34	0	0	0	0	39	18	57	66	0
8	West Access	SW 100th St	PM	23	0	14	0	0	0	0	30	38	24	18	0
9	SW 54th Ct	SW 101st Pl	PM	4	0	0	12	0	42	25	0	3	0	0	7
10	SW 100th Loop	SW 101st Pl	PM	0	0	1	0	0	0	0	12	0	1	7	0

Future Project Trips

Location	Intersection NB/SB	Intersection EB/WB	Peak Hour	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right
1	SW 49th Ave	SW 100th St	PM	23	0	0	0	0	100	59	0	14	0	0	0
2	SW 49th Ave	SW 95th St	PM	0	57	2	0	97	0	0	0	0	3	0	0
3	SW 49th Ave	SW 103rd St Rd	PM	17	22	0	0	13	1	1	0	10	0	0	0
4	SW 62nd Ave	SW 95th St	PM	21	19	0	0	31	0	0	0	36	0	0	0
5	SW 62nd Ave	SW 100th St	PM	0	0	1	67	0	0	0	0	0	1	0	40
6	SW 62nd Ave	SW 103rd St Rd	PM	0	0	3	0	0	1	1	6	0	2	3	0
7	East Access	SW 100th St	PM	10	0	34	0	0	0	0	39	18	57	66	0
8	West Access	SW 100th St	PM	23	0	14	0	0	0	0	30	38	24	18	0
9	SW 54th Ct	SW 101st Pl	PM	4	0	0	12	0	42	25	0	3	0	0	7
10	SW 100th Loop	SW 101st Pl	PM	0	0	1	0	0	0	0	12	0	1	7	0

Future Buildout

Location	Intersection NB/SB	Intersection EB/WB	Peak Hour	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right
1	SW 49th Ave	SW 100th St	PM	23	507	12	28	884	100	59	0	14	9	0	21
2	SW 49th Ave	SW 95th St	PM	268	240	50	58	451	64	28	97	563	58	67	41
3	SW 49th Ave	SW 103rd St Rd	PM	138	431	35	59	739	51	53	54	205	13	31	30
4	SW 62nd Ave	SW 95th St	PM	73	268	28	500	503	39	43	159	127	49	120	225
5	SW 62nd Ave	SW 100th St	PM	6	249	1	67	488	19	8	0	6	1	0	40
6	SW 62nd Ave	SW 103rd St Rd	PM	85	157	18	69	278	101	79	258	147	15	163	38
7	East Access	SW 100th St	PM	10	0	34	0	0	0	0	39	18	57	66	0
8	West Access	SW 100th St	PM	23	0	14	0	0	0	0	30	38	24	18	0
9	SW 54th Ct	SW 101st Pl	PM	4	6	0	13	4	42	25	0	3	0	0	7
10	SW 100th Loop	SW 101st Pl	PM	0	3	3	0	3	0	0	12	1	2	7	0

F

2024 Synchro Analysis

Future Conditions

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	21	507	12	28	884
Future Vol, veh/h	9	21	507	12	28	884
Conflicting Peds, #/hr	0	0	0	0	0	0
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	92	92	92	92	92	92
Heavy Vehicles, %	2	5	3	2	2	2
Mvmt Flow	10	23	551	13	30	961

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1099	282	0	0	564	0
Stage 1	558	-	-	-	-	-
Stage 2	541	-	-	-	-	-
Critical Hdwy	6.84	7	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.35	-	-	2.22	-
Pot Cap-1 Maneuver	207	706	-	-	1004	-
Stage 1	537	-	-	-	-	-
Stage 2	548	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	194	706	-	-	1004	-
Mov Cap-2 Maneuver	194	-	-	-	-	-
Stage 1	537	-	-	-	-	-
Stage 2	513	-	-	-	-	-

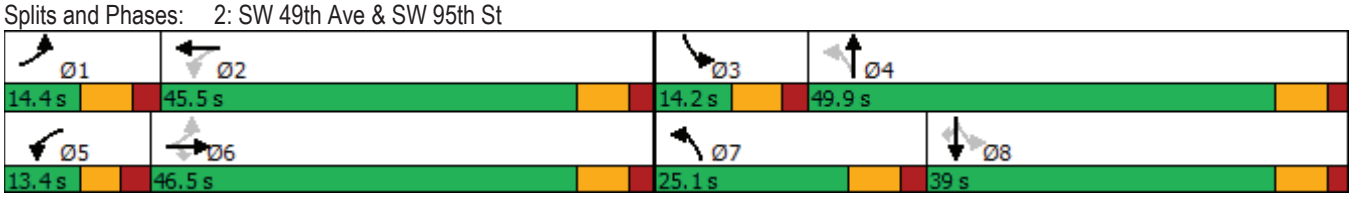
Approach	WB	NB	SB
HCM Control Delay, s	15	0	0.6
HCM LOS	C		

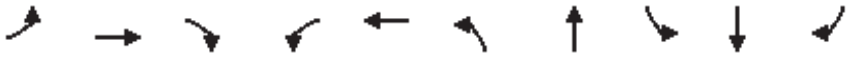
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	394	1004	-
HCM Lane V/C Ratio	-	-	0.083	0.03	-
HCM Control Delay (s)	-	-	15	8.7	0.3
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	28	97	563	55	67	268	183	58	354	64
Future Volume (vph)	28	97	563	55	67	268	183	58	354	64
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2	7	4	3	8	
Permitted Phases	6		6	2		4		8		8
Detector Phase	1	6	6	5	2	7	4	3	8	8
Switch Phase										
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	7.0	15.0	7.0	15.0	15.0
Minimum Split (s)	14.4	22.5	22.5	13.4	22.5	14.2	22.5	14.2	22.5	22.5
Total Split (s)	14.4	46.5	46.5	13.4	45.5	25.1	49.9	14.2	39.0	39.0
Total Split (%)	11.6%	37.5%	37.5%	10.8%	36.7%	20.2%	40.2%	11.5%	31.5%	31.5%
Yellow Time (s)	4.8	4.8	4.8	3.7	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.6	2.4	2.4	2.7	2.4	2.4	2.0	2.4	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.2	7.2	6.4	7.2	7.2	6.8	7.2	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	28.0	22.9	22.9	29.9	25.4	48.2	38.0	31.5	24.5	24.5
Actuated g/C Ratio	0.29	0.24	0.24	0.31	0.26	0.50	0.39	0.33	0.25	0.25
v/c Ratio	0.07	0.25	0.84	0.14	0.13	0.66	0.18	0.15	0.81	0.12
Control Delay	22.3	33.9	21.2	22.4	20.5	25.1	20.6	18.0	50.0	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	33.9	21.2	22.4	20.5	25.1	20.6	18.0	50.0	0.4
LOS	C	C	C	C	C	C	C	B	D	A
Approach Delay		23.1			21.1		23.0		39.4	
Approach LOS		C			C		C		D	

Intersection Summary	
Cycle Length: 124	
Actuated Cycle Length: 96.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 27.1	Intersection LOS: C
Intersection Capacity Utilization 76.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: SW 49th Ave & SW 95th St





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	30	104	605	59	116	288	249	62	381	69
v/c Ratio	0.07	0.25	0.84	0.14	0.13	0.66	0.18	0.15	0.81	0.12
Control Delay	22.3	33.9	21.2	22.4	20.5	25.1	20.6	18.0	50.0	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	33.9	21.2	22.4	20.5	25.1	20.6	18.0	50.0	0.4
Queue Length 50th (ft)	12	55	92	24	19	99	47	18	220	0
Queue Length 95th (ft)	34	106	261	55	44	#230	97	54	#429	0
Internal Link Dist (ft)		5250			3635		2576		1250	
Turn Bay Length (ft)	370			190		370		300		
Base Capacity (vph)	405	744	940	429	1422	469	1624	406	658	701
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.14	0.64	0.14	0.08	0.61	0.15	0.15	0.58	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	97	563	55	67	41	268	183	48	58	354	64
Future Volume (veh/h)	28	97	563	55	67	41	268	183	48	58	354	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1752	1870	1870	1870	1856	1870	1870	1811	1841	1870	1870
Adj Flow Rate, veh/h	30	104	497	59	72	40	288	197	48	62	381	59
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	10	2	2	2	3	2	2	6	4	2	2
Cap, veh/h	534	580	525	396	763	395	341	892	212	414	427	362
Arrive On Green	0.04	0.33	0.33	0.05	0.34	0.34	0.14	0.31	0.31	0.05	0.23	0.23
Sat Flow, veh/h	1781	1752	1585	1781	2265	1171	1781	2847	678	1753	1870	1585
Grp Volume(v), veh/h	30	104	497	59	55	57	288	121	124	62	381	59
Grp Sat Flow(s),veh/h/ln	1781	1752	1585	1781	1777	1660	1781	1777	1748	1753	1870	1585
Q Serve(g_s), s	1.2	4.7	33.9	2.3	2.4	2.6	13.2	5.6	5.8	2.9	21.9	3.3
Cycle Q Clear(g_c), s	1.2	4.7	33.9	2.3	2.4	2.6	13.2	5.6	5.8	2.9	21.9	3.3
Prop In Lane	1.00		1.00	1.00		0.71	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	534	580	525	396	599	559	341	557	548	414	427	362
V/C Ratio(X)	0.06	0.18	0.95	0.15	0.09	0.10	0.84	0.22	0.23	0.15	0.89	0.16
Avail Cap(c_a), veh/h	579	621	562	414	614	573	382	690	679	431	543	460
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	26.4	36.1	21.9	25.2	25.2	28.2	28.1	28.1	29.6	41.5	34.3
Incr Delay (d2), s/veh	0.0	0.1	24.6	0.2	0.1	0.1	14.5	0.2	0.2	0.2	14.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.9	15.9	1.0	1.0	1.0	6.6	2.3	2.4	1.2	11.4	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	26.5	60.7	22.0	25.2	25.3	42.7	28.3	28.4	29.8	55.8	34.5
LnGrp LOS	C	C	E	C	C	C	D	C	C	C	E	C
Approach Vol, veh/h		631			171			533			502	
Approach Delay, s/veh		53.3			24.2			36.1			50.1	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	44.6	13.2	41.6	12.3	43.9	22.6	32.1
Change Period (Y+Rc), s	7.4	* 7.2	* 7.2	6.8	6.4	* 7.2	* 7.2	6.8
Max Green Setting (Gmax), s	7.0	* 38	* 7	43.1	7.0	* 39	* 18	32.2
Max Q Clear Time (g_c+I1), s	3.2	4.6	4.9	7.8	4.3	35.9	15.2	23.9
Green Ext Time (p_c), s	0.0	0.6	0.0	1.3	0.0	0.9	0.2	1.4

Intersection Summary	
HCM 6th Ctrl Delay	44.7
HCM 6th LOS	D

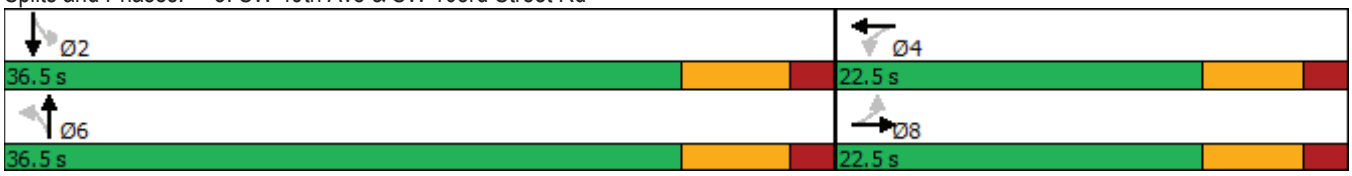
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	52	54	13	31	121	409	59	726
Future Volume (vph)	52	54	13	31	121	409	59	726
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	20.0	20.0	20.0	20.0
Minimum Split (s)	22.5	22.5	22.5	22.5	26.8	26.8	26.8	26.8
Total Split (s)	22.5	22.5	22.5	22.5	36.5	36.5	36.5	36.5
Total Split (%)	38.1%	38.1%	38.1%	38.1%	61.9%	61.9%	61.9%	61.9%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.8	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4		6.4	6.8	6.8	6.8	6.8
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	11.2	11.2		11.2	21.7	21.7	21.7	21.7
Actuated g/C Ratio	0.24	0.24		0.24	0.47	0.47	0.47	0.47
v/c Ratio	0.17	0.51		0.19	0.43	0.29	0.15	0.49
Control Delay	16.0	11.1		11.3	14.2	7.8	8.4	9.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	11.1		11.3	14.2	7.8	8.4	9.6
LOS	B	B		B	B	A	A	A
Approach Delay		11.9		11.3		9.2		9.5
Approach LOS		B		B		A		A

Intersection Summary	
Cycle Length: 59	
Actuated Cycle Length: 46.2	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 9.9	Intersection LOS: A
Intersection Capacity Utilization 70.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: SW 49th Ave & SW 103rd Street Rd



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	259	77	126	462	61	808
v/c Ratio	0.17	0.51	0.19	0.43	0.29	0.15	0.49
Control Delay	16.0	11.1	11.3	14.2	7.8	8.4	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	11.1	11.3	14.2	7.8	8.4	9.6
Queue Length 50th (ft)	11	22	9	19	31	8	64
Queue Length 95th (ft)	37	82	39	65	67	28	126
Internal Link Dist (ft)		4180	2909		2272		2594
Turn Bay Length (ft)	200			240		240	
Base Capacity (vph)	465	678	573	407	2247	578	2290
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.38	0.13	0.31	0.21	0.11	0.35

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	54	195	13	31	30	121	409	35	59	726	50
Future Volume (veh/h)	52	54	195	13	31	30	121	409	35	59	726	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1841	1870	1841	1870	1841	1870	1870
Adj Flow Rate, veh/h	54	56	185	14	32	28	126	426	33	61	756	52
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
Percent Heavy Veh, %	2	2	2	2	2	4	2	4	2	4	2	2
Cap, veh/h	463	88	289	128	204	142	376	1527	118	520	1566	108
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	1343	382	1261	126	890	618	675	3290	254	918	3373	232
Grp Volume(v), veh/h	54	0	241	74	0	0	126	226	233	61	398	410
Grp Sat Flow(s),veh/h/ln	1343	0	1643	1634	0	0	675	1749	1795	918	1777	1829
Q Serve(g_s), s	0.0	0.0	5.7	0.0	0.0	0.0	6.8	3.4	3.4	1.9	6.7	6.7
Cycle Q Clear(g_c), s	1.5	0.0	5.7	5.7	0.0	0.0	13.5	3.4	3.4	5.3	6.7	6.7
Prop In Lane	1.00		0.77	0.19		0.38	1.00		0.14	1.00		0.13
Lane Grp Cap(c), veh/h	463	0	377	474	0	0	376	812	833	520	825	849
V/C Ratio(X)	0.12	0.00	0.64	0.16	0.00	0.00	0.34	0.28	0.28	0.12	0.48	0.48
Avail Cap(c_a), veh/h	657	0	614	701	0	0	528	1206	1238	727	1225	1261
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.4	0.0	15.0	13.4	0.0	0.0	12.6	7.1	7.1	8.7	8.0	8.0
Incr Delay (d2), s/veh	0.1	0.0	1.8	0.2	0.0	0.0	0.5	0.2	0.2	0.1	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.8	0.5	0.0	0.0	0.8	0.8	0.8	0.3	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.5	0.0	16.8	13.5	0.0	0.0	13.2	7.3	7.3	8.8	8.4	8.4
LnGrp LOS	B	A	B	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h		295			74			585			869	
Approach Delay, s/veh		16.2			13.5			8.5			8.4	
Approach LOS		B			B			A			A	

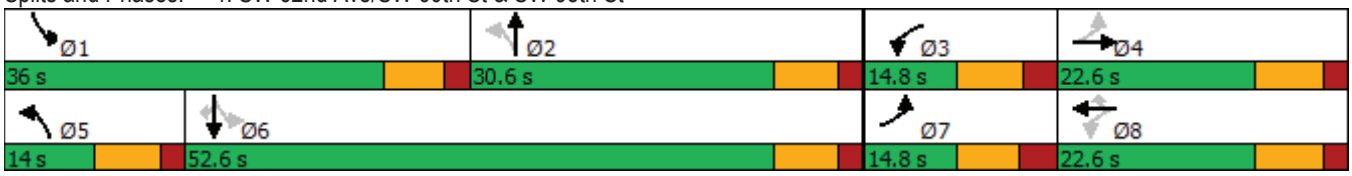
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.8		16.3		26.8		16.3				
Change Period (Y+Rc), s		6.8		6.4		6.8		6.4				
Max Green Setting (Gmax), s		29.7		16.1		29.7		16.1				
Max Q Clear Time (g_c+I1), s		8.7		7.7		15.5		7.7				
Green Ext Time (p_c), s		4.9		0.2		3.0		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			9.9									
HCM 6th LOS			A									

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	43	159	49	120	225	52	249	500	472	39
Future Volume (vph)	43	159	49	120	225	52	249	500	472	39
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2	1	6	
Permitted Phases	4		8		8	2		6		6
Detector Phase	7	4	3	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	15.0	7.0	15.0	15.0
Minimum Split (s)	14.7	22.5	14.8	22.5	22.5	14.0	25.0	13.8	22.5	22.5
Total Split (s)	14.8	22.6	14.8	22.6	22.6	14.0	30.6	36.0	52.6	52.6
Total Split (%)	14.2%	21.7%	14.2%	21.7%	21.7%	13.5%	29.4%	34.6%	50.6%	50.6%
Yellow Time (s)	4.8	5.2	5.2	5.2	5.2	5.0	5.0	4.8	5.0	5.0
All-Red Time (s)	2.9	2.0	2.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.7	7.2	7.8	7.2	7.2	7.0	7.0	6.8	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	15.1	12.0	15.0	12.0	12.0	27.1	19.8	49.6	42.2	42.2
Actuated g/C Ratio	0.18	0.14	0.18	0.14	0.14	0.32	0.24	0.59	0.50	0.50
v/c Ratio	0.17	0.48	0.20	0.25	0.51	0.15	0.66	0.77	0.53	0.05
Control Delay	28.6	27.2	29.2	37.9	7.4	14.0	39.8	20.1	20.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.6	27.2	29.2	37.9	7.4	14.0	39.8	20.1	20.4	0.1
LOS	C	C	C	D	A	B	D	C	C	A
Approach Delay		27.4		19.4			35.8		19.5	
Approach LOS		C		B			D		B	

Intersection Summary	
Cycle Length: 104	
Actuated Cycle Length: 84	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 23.2	Intersection LOS: C
Intersection Capacity Utilization 80.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: SW 62nd Ave/SW 60th St & SW 95th St



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	45	261	51	125	234	54	288	521	492	41
v/c Ratio	0.17	0.48	0.20	0.25	0.51	0.15	0.66	0.77	0.53	0.05
Control Delay	28.6	27.2	29.2	37.9	7.4	14.0	39.8	20.1	20.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.6	27.2	29.2	37.9	7.4	14.0	39.8	20.1	20.4	0.1
Queue Length 50th (ft)	19	47	21	34	0	13	149	172	222	0
Queue Length 95th (ft)	50	94	55	67	45	32	266	294	351	0
Internal Link Dist (ft)		1677		5250			2653		2631	
Turn Bay Length (ft)	300		465		600	275		550		
Base Capacity (vph)	271	696	255	683	522	367	546	791	1065	956
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.38	0.20	0.18	0.45	0.15	0.53	0.66	0.46	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	159	91	49	120	225	52	249	28	500	472	39
Future Volume (veh/h)	43	159	91	49	120	225	52	249	28	500	472	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1870	1870	1870	1870	1870	1870	1870	1870	1870	1811
Adj Flow Rate, veh/h	45	166	87	51	125	192	54	259	27	521	492	32
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
Percent Heavy Veh, %	2	8	2	2	2	2	2	2	2	2	2	6
Cap, veh/h	309	313	156	269	527	235	341	313	33	594	722	592
Arrive On Green	0.05	0.14	0.14	0.06	0.15	0.15	0.06	0.19	0.19	0.26	0.39	0.39
Sat Flow, veh/h	1781	2185	1092	1781	3554	1585	1781	1665	174	1781	1870	1535
Grp Volume(v), veh/h	45	127	126	51	125	192	54	0	286	521	492	32
Grp Sat Flow(s),veh/h/ln	1781	1692	1585	1781	1777	1585	1781	0	1839	1781	1870	1535
Q Serve(g_s), s	1.7	5.7	6.1	1.9	2.6	9.7	1.9	0.0	12.3	17.9	18.1	1.1
Cycle Q Clear(g_c), s	1.7	5.7	6.1	1.9	2.6	9.7	1.9	0.0	12.3	17.9	18.1	1.1
Prop In Lane	1.00		0.69	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	309	242	227	269	527	235	341	0	345	594	722	592
V/C Ratio(X)	0.15	0.52	0.56	0.19	0.24	0.82	0.16	0.00	0.83	0.88	0.68	0.05
Avail Cap(c_a), veh/h	366	316	296	316	664	296	385	0	527	761	1035	850
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	32.7	32.9	27.3	31.0	34.0	24.0	0.0	32.2	17.9	21.1	15.9
Incr Delay (d2), s/veh	0.3	2.1	2.6	0.4	0.3	14.0	0.3	0.0	7.4	9.8	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.3	2.4	0.8	1.1	4.4	0.8	0.0	5.8	7.9	7.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	34.8	35.4	27.7	31.2	48.0	24.3	0.0	39.6	27.7	22.4	15.9
LnGrp LOS	C	C	D	C	C	D	C	A	D	C	C	B
Approach Vol, veh/h		298			368			340			1045	
Approach Delay, s/veh		34.0			39.5			37.2			24.9	
Approach LOS		C			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.3	22.5	12.6	19.0	12.0	38.8	12.2	19.4
Change Period (Y+Rc), s	6.8	7.0	* 7.8	7.2	7.0	7.0	* 7.7	7.2
Max Green Setting (Gmax), s	29.2	23.6	* 7	15.4	7.0	45.6	* 7.1	15.4
Max Q Clear Time (g_c+I1), s	19.9	14.3	3.9	8.1	3.9	20.1	3.7	11.7
Green Ext Time (p_c), s	1.5	1.1	0.0	0.8	0.0	3.7	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	30.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	6	6	249	488	19
Future Vol, veh/h	8	6	6	249	488	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	200	-	-	-
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	9	7	7	271	530	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	826	541	551	0	-	0
Stage 1	541	-	-	-	-	-
Stage 2	285	-	-	-	-	-
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	342	541	1019	-	-	-
Stage 1	583	-	-	-	-	-
Stage 2	763	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	340	541	1019	-	-	-
Mov Cap-2 Maneuver	450	-	-	-	-	-
Stage 1	579	-	-	-	-	-
Stage 2	763	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.7	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1019	-	485	-	-
HCM Lane V/C Ratio	0.006	-	0.031	-	-
HCM Control Delay (s)	8.6	-	12.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	40.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	78	252	147	13	160	38	85	157	15	69	278	100
Future Vol, veh/h	78	252	147	13	160	38	85	157	15	69	278	100
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	80	257	150	13	163	39	87	160	15	70	284	102
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	62.8	19.1	23.2	36.8
HCM LOS	F	C	C	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	33%	16%	6%	100%	0%
Vol Thru, %	61%	53%	76%	0%	74%
Vol Right, %	6%	31%	18%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	257	477	211	69	378
LT Vol	85	78	13	69	0
Through Vol	157	252	160	0	278
RT Vol	15	147	38	0	100
Lane Flow Rate	262	487	215	70	386
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.602	0.981	0.492	0.168	0.847
Departure Headway (Hd)	8.27	7.255	8.233	8.613	7.905
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	435	501	437	418	459
Service Time	6.341	5.276	6.31	6.345	5.636
HCM Lane V/C Ratio	0.602	0.972	0.492	0.167	0.841
HCM Control Delay	23.2	62.8	19.1	13.1	41.1
HCM Lane LOS	C	F	C	B	E
HCM 95th-tile Q	3.8	12.9	2.7	0.6	8.4

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	6	0	1	4	0
Future Vol, veh/h	0	0	0	0	0	0	0	6	0	1	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	20	2	100	25	2
Mvmt Flow	0	0	0	0	0	0	0	7	0	1	5	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	14	14	5	14	14	7	5	0	0	7	0	0
Stage 1	7	7	-	7	7	-	-	-	-	-	-	-
Stage 2	7	7	-	7	7	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	5.1	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	3.1	-	-
Pot Cap-1 Maneuver	1002	880	1078	1002	880	1075	1616	-	-	1153	-	-
Stage 1	1015	890	-	1015	890	-	-	-	-	-	-	-
Stage 2	1015	890	-	1015	890	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	1001	879	1078	1001	879	1075	1616	-	-	1153	-	-
Mov Cap-2 Maneuver	1001	879	-	1001	879	-	-	-	-	-	-	-
Stage 1	1015	889	-	1015	890	-	-	-	-	-	-	-
Stage 2	1015	890	-	1014	889	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	1.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1616	-	-	-	-	1153	-	-
HCM Lane V/C Ratio	-	-	-	-	-	0.001	-	-
HCM Control Delay (s)	0	-	-	0	0	8.1	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	1	0	0	0	3	2	0	3	0
Future Vol, veh/h	0	0	1	1	0	0	0	3	2	0	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	100	2	2	2	2	67	2	2	33	2
Mvmt Flow	0	0	1	1	0	0	0	4	2	0	4	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	9	10	4	10	9	5	4	0	0	6	0	0
Stage 1	4	4	-	5	5	-	-	-	-	-	-	-
Stage 2	5	6	-	5	4	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	7.2	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	4.2	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	1010	885	852	1008	886	1078	1618	-	-	1615	-	-
Stage 1	1018	892	-	1017	892	-	-	-	-	-	-	-
Stage 2	1017	891	-	1017	892	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	1010	885	852	1007	886	1078	1618	-	-	1615	-	-
Mov Cap-2 Maneuver	1010	885	-	1007	886	-	-	-	-	-	-	-
Stage 1	1018	892	-	1017	892	-	-	-	-	-	-	-
Stage 2	1017	891	-	1016	892	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.2	8.6	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1618	-	-	852	1007	1615	-	-
HCM Lane V/C Ratio	-	-	-	0.001	0.001	-	-	-
HCM Control Delay (s)	0	-	-	9.2	8.6	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Intersection Delay, s/veh	27
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	78	252	147	13	160	38	85	157	15	69	278	100
Future Vol, veh/h	78	252	147	13	160	38	85	157	15	69	278	100
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	80	257	150	13	163	39	87	160	15	70	284	102
Number of Lanes	0	1	1	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	25.7	20.3	24.1	33.3
HCM LOS	D	C	C	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	33%	24%	0%	6%	100%	0%
Vol Thru, %	61%	76%	0%	76%	0%	74%
Vol Right, %	6%	0%	100%	18%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	257	330	147	211	69	378
LT Vol	85	78	0	13	69	0
Through Vol	157	252	0	160	0	278
RT Vol	15	0	147	38	0	100
Lane Flow Rate	262	337	150	215	70	386
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.614	0.751	0.299	0.511	0.164	0.821
Departure Headway (Hd)	8.423	8.03	7.186	8.55	8.374	7.667
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	427	451	500	422	429	471
Service Time	6.48	5.781	4.937	6.614	6.122	5.416
HCM Lane V/C Ratio	0.614	0.747	0.3	0.509	0.163	0.82
HCM Control Delay	24.1	31.4	13	20.3	12.8	37
HCM Lane LOS	C	D	B	C	B	E
HCM 95th-tile Q	4	6.2	1.2	2.8	0.6	7.9

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	59	0	14	9	0	21	23	507	12	28	884	100
Future Vol, veh/h	59	0	14	9	0	21	23	507	12	28	884	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	250	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	0	15	10	0	23	25	551	13	30	961	109

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1402	1690	535	1149	1738	282	1070	0	0	564	0	0
Stage 1	1076	1076	-	608	608	-	-	-	-	-	-	-
Stage 2	326	614	-	541	1130	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	100	92	490	153	86	715	647	-	-	1004	-	-
Stage 1	234	294	-	450	484	-	-	-	-	-	-	-
Stage 2	661	481	-	493	277	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	87	80	490	134	75	715	647	-	-	1004	-	-
Mov Cap-2 Maneuver	87	80	-	134	75	-	-	-	-	-	-	-
Stage 1	221	272	-	425	457	-	-	-	-	-	-	-
Stage 2	604	454	-	441	256	-	-	-	-	-	-	-

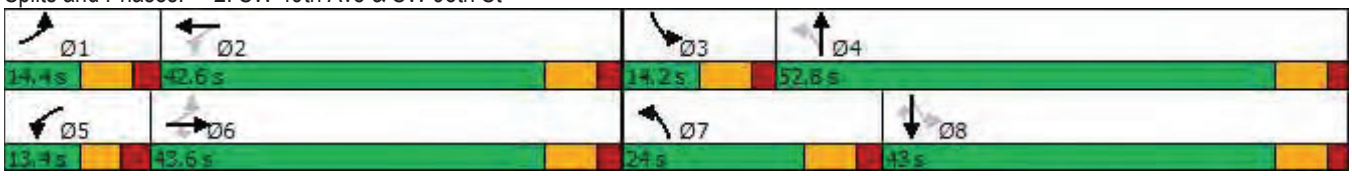
Approach	EB	WB	NB	SB
HCM Control Delay, s	98.2	17.9	0.7	0.5
HCM LOS	F	C		

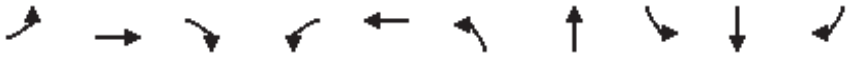
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	647	-	-	87	490	311	1004	-	-
HCM Lane V/C Ratio	0.039	-	-	0.737	0.031	0.105	0.03	-	-
HCM Control Delay (s)	10.8	0.3	-	118.5	12.6	17.9	8.7	0.3	-
HCM Lane LOS	B	A	-	F	B	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	3.7	0.1	0.3	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	28	97	563	58	67	268	240	58	451	64
Future Volume (vph)	28	97	563	58	67	268	240	58	451	64
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2	7	4	3	8	
Permitted Phases	6		6	2		4		8		8
Detector Phase	1	6	6	5	2	7	4	3	8	8
Switch Phase										
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	7.0	15.0	7.0	15.0	15.0
Minimum Split (s)	14.4	22.5	22.5	13.4	22.5	14.2	22.5	14.2	22.5	22.5
Total Split (s)	14.4	43.6	43.6	13.4	42.6	24.0	52.8	14.2	43.0	43.0
Total Split (%)	11.6%	35.2%	35.2%	10.8%	34.4%	19.4%	42.6%	11.5%	34.7%	34.7%
Yellow Time (s)	4.8	4.8	4.8	3.7	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.6	2.4	2.4	2.7	2.4	2.4	2.0	2.4	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.2	7.2	6.4	7.2	7.2	6.8	7.2	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	31.9	26.9	26.9	33.8	29.2	56.3	46.2	38.7	31.9	31.9
Actuated g/C Ratio	0.29	0.25	0.25	0.31	0.27	0.52	0.43	0.36	0.29	0.29
v/c Ratio	0.07	0.23	0.90	0.15	0.13	0.78	0.21	0.15	0.89	0.11
Control Delay	23.8	34.9	31.7	24.2	21.1	39.4	22.1	18.3	58.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	34.9	31.7	24.2	21.1	39.4	22.1	18.3	58.4	0.4
LOS	C	C	C	C	C	D	C	B	E	A
Approach Delay		31.8			22.2		30.4		47.8	
Approach LOS		C			C		C		D	

Intersection Summary	
Cycle Length: 124	
Actuated Cycle Length: 108.2	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 35.2	Intersection LOS: D
Intersection Capacity Utilization 81.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: SW 49th Ave & SW 95th St





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	30	105	612	63	118	291	315	63	490	70
v/c Ratio	0.07	0.23	0.90	0.15	0.13	0.78	0.21	0.15	0.89	0.11
Control Delay	23.8	34.9	31.7	24.2	21.1	39.4	22.1	18.3	58.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	34.9	31.7	24.2	21.1	39.4	22.1	18.3	58.4	0.4
Queue Length 50th (ft)	14	63	183	31	22	138	75	23	343	0
Queue Length 95th (ft)	35	110	#376	60	46	#320	120	52	#575	0
Internal Link Dist (ft)		5250			3635		2576		1250	
Turn Bay Length (ft)	370			190		370		300		
Base Capacity (vph)	406	651	805	427	1165	375	1536	422	648	694
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.16	0.76	0.15	0.10	0.78	0.21	0.15	0.76	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	97	563	58	67	41	268	240	50	58	451	64
Future Volume (veh/h)	28	97	563	58	67	41	268	240	50	58	451	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	105	612	63	73	45	291	261	54	63	490	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	489	570	483	345	677	386	317	1063	217	451	526	445
Arrive On Green	0.04	0.30	0.30	0.05	0.31	0.31	0.13	0.36	0.36	0.05	0.28	0.28
Sat Flow, veh/h	1781	1870	1585	1781	2180	1243	1781	2941	599	1781	1870	1585
Grp Volume(v), veh/h	30	105	612	63	58	60	291	156	159	63	490	70
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1647	1781	1777	1763	1781	1870	1585
Q Serve(g_s), s	1.3	4.9	36.4	2.8	2.8	3.1	13.7	7.3	7.6	2.9	30.5	4.0
Cycle Q Clear(g_c), s	1.3	4.9	36.4	2.8	2.8	3.1	13.7	7.3	7.6	2.9	30.5	4.0
Prop In Lane	1.00		1.00	1.00		0.75	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	489	570	483	345	552	512	317	643	637	451	526	445
V/C Ratio(X)	0.06	0.18	1.27	0.18	0.11	0.12	0.92	0.24	0.25	0.14	0.93	0.16
Avail Cap(c_a), veh/h	527	570	483	358	552	512	333	684	679	464	567	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	30.6	41.5	25.8	29.3	29.5	29.7	26.7	26.8	27.6	41.8	32.3
Incr Delay (d2), s/veh	0.1	0.2	135.9	0.3	0.1	0.1	28.6	0.2	0.2	0.1	21.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.2	31.8	1.2	1.2	1.3	8.0	3.1	3.1	1.2	16.7	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	30.8	177.5	26.0	29.4	29.6	58.2	26.9	27.0	27.7	63.6	32.5
LnGrp LOS	C	C	F	C	C	C	E	C	C	C	E	C
Approach Vol, veh/h		747			181			606			623	
Approach Delay, s/veh		150.8			28.3			42.0			56.4	
Approach LOS		F			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	44.3	13.3	50.0	12.5	43.6	23.0	40.4
Change Period (Y+Rc), s	7.4	* 7.2	* 7.2	6.8	6.4	* 7.2	* 7.2	6.8
Max Green Setting (Gmax), s	7.0	* 35	* 7	46.0	7.0	* 36	* 17	36.2
Max Q Clear Time (g_c+I1), s	3.3	5.1	4.9	9.6	4.8	38.4	15.7	32.5
Green Ext Time (p_c), s	0.0	0.6	0.0	1.7	0.0	0.0	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	82.7
HCM 6th LOS	F

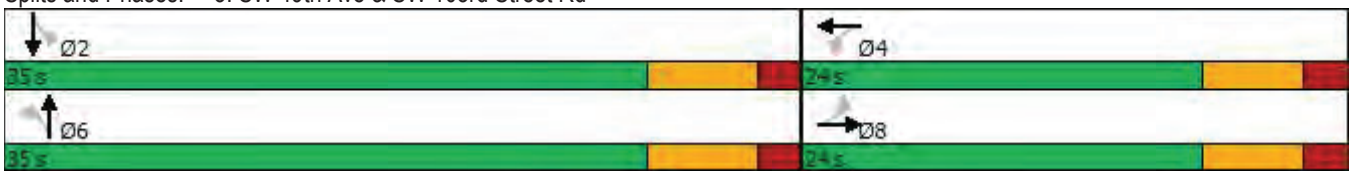
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	53	54	13	31	138	431	59	739
Future Volume (vph)	53	54	13	31	138	431	59	739
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	20.0	20.0	20.0	20.0
Minimum Split (s)	22.5	22.5	22.5	22.5	26.8	26.8	26.8	26.8
Total Split (s)	24.0	24.0	24.0	24.0	35.0	35.0	35.0	35.0
Total Split (%)	40.7%	40.7%	40.7%	40.7%	59.3%	59.3%	59.3%	59.3%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.8	4.8	4.8	4.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4		6.4	6.8	6.8	6.8	6.8
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	12.0	12.0		12.0	22.7	22.7	22.7	22.7
Actuated g/C Ratio	0.25	0.25		0.25	0.47	0.47	0.47	0.47
v/c Ratio	0.18	0.57		0.19	0.56	0.31	0.16	0.52
Control Delay	16.4	14.6		11.3	19.8	8.4	9.1	10.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	14.6		11.3	19.8	8.4	9.1	10.3
LOS	B	B		B	B	A	A	B
Approach Delay		14.9		11.3		11.0		10.2
Approach LOS		B		B		B		B

Intersection Summary	
Cycle Length: 59	
Actuated Cycle Length: 48.1	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 11.3	Intersection LOS: B
Intersection Capacity Utilization 70.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: SW 49th Ave & SW 103rd Street Rd



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	58	282	81	150	506	64	858
v/c Ratio	0.18	0.57	0.19	0.56	0.31	0.16	0.52
Control Delay	16.4	14.6	11.3	19.8	8.4	9.1	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	14.6	11.3	19.8	8.4	9.1	10.3
Queue Length 50th (ft)	11	34	9	24	35	8	69
Queue Length 95th (ft)	39	105	39	#95	78	31	144
Internal Link Dist (ft)		4180	2909		2272		2594
Turn Bay Length (ft)	200			240		240	
Base Capacity (vph)	487	684	609	339	2093	517	2094
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.41	0.13	0.44	0.24	0.12	0.41

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	54	205	13	31	30	138	431	35	59	739	51
Future Volume (veh/h)	53	54	205	13	31	30	138	431	35	59	739	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	59	223	14	34	33	150	468	38	64	803	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	413	78	297	112	177	134	362	1590	129	510	1612	110
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	1334	343	1295	81	771	586	644	3329	269	893	3375	231
Grp Volume(v), veh/h	58	0	282	81	0	0	150	249	257	64	423	435
Grp Sat Flow(s),veh/h/ln	1334	0	1637	1438	0	0	644	1777	1822	893	1777	1829
Q Serve(g_s), s	0.0	0.0	7.2	0.1	0.0	0.0	9.4	3.8	3.9	2.1	7.3	7.3
Cycle Q Clear(g_c), s	2.1	0.0	7.2	7.3	0.0	0.0	16.7	3.8	3.9	6.0	7.3	7.3
Prop In Lane	1.00		0.79	0.17		0.41	1.00		0.15	1.00		0.13
Lane Grp Cap(c), veh/h	413	0	375	423	0	0	362	849	870	510	849	874
V/C Ratio(X)	0.14	0.00	0.75	0.19	0.00	0.00	0.41	0.29	0.30	0.13	0.50	0.50
Avail Cap(c_a), veh/h	629	0	640	677	0	0	458	1113	1141	643	1113	1146
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.2	0.0	16.2	14.1	0.0	0.0	13.8	7.1	7.1	9.0	8.1	8.1
Incr Delay (d2), s/veh	0.2	0.0	3.1	0.2	0.0	0.0	0.8	0.2	0.2	0.1	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.5	0.6	0.0	0.0	1.1	0.9	0.9	0.3	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	0.0	19.2	14.3	0.0	0.0	14.5	7.3	7.3	9.1	8.5	8.5
LnGrp LOS	B	A	B	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h		340			81			656			922	
Approach Delay, s/veh		18.4			14.3			9.0			8.5	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.3		16.7		28.3		16.7				
Change Period (Y+Rc), s		6.8		6.4		6.8		6.4				
Max Green Setting (Gmax), s		28.2		17.6		28.2		17.6				
Max Q Clear Time (g_c+I1), s		9.3		9.3		18.7		9.2				
Green Ext Time (p_c), s		5.1		0.2		2.8		1.1				

Intersection Summary												
HCM 6th Ctrl Delay			10.6									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	43	159	49	120	225	73	268	500	503	39
Future Volume (vph)	43	159	49	120	225	73	268	500	503	39
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2	1	6	
Permitted Phases	4		8		8	2		6		6
Detector Phase	7	4	3	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	15.0	7.0	15.0	15.0
Minimum Split (s)	14.7	22.5	14.8	22.5	22.5	14.0	25.0	13.8	22.5	22.5
Total Split (s)	14.7	22.6	14.8	22.7	22.7	14.0	30.0	36.6	52.6	52.6
Total Split (%)	14.1%	21.7%	14.2%	21.8%	21.8%	13.5%	28.8%	35.2%	50.6%	50.6%
Yellow Time (s)	4.8	5.2	5.2	5.2	5.2	5.0	5.0	4.8	5.0	5.0
All-Red Time (s)	2.9	2.0	2.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.7	7.2	7.8	7.2	7.2	7.0	7.0	6.8	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	16.8	12.1	18.4	15.2	15.2	28.0	20.7	52.5	41.9	41.9
Actuated g/C Ratio	0.19	0.13	0.20	0.17	0.17	0.31	0.23	0.58	0.46	0.46
v/c Ratio	0.17	0.55	0.21	0.22	0.50	0.23	0.76	0.85	0.63	0.05
Control Delay	29.2	26.0	29.9	37.9	7.8	15.7	46.9	29.6	24.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	26.0	29.9	37.9	7.8	15.7	46.9	29.6	24.9	0.1
LOS	C	C	C	D	A	B	D	C	C	A
Approach Delay		26.4		19.7			40.8		26.3	
Approach LOS		C		B			D		C	

Intersection Summary	
Cycle Length: 104	
Actuated Cycle Length: 90.2	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 27.6	Intersection LOS: C
Intersection Capacity Utilization 81.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: SW 62nd Ave/SW 60th St & SW 95th St

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	47	311	53	130	245	79	321	543	547	42
v/c Ratio	0.17	0.55	0.21	0.22	0.50	0.23	0.76	0.85	0.63	0.05
Control Delay	29.2	26.0	29.9	37.9	7.8	15.7	46.9	29.6	24.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	26.0	29.9	37.9	7.8	15.7	46.9	29.6	24.9	0.1
Queue Length 50th (ft)	22	54	25	40	0	20	184	197	259	0
Queue Length 95th (ft)	51	99	56	69	54	43	#332	#404	405	0
Internal Link Dist (ft)		1677		5250			2653		2631	
Turn Bay Length (ft)	300		465		600	275		550		
Base Capacity (vph)	274	701	250	709	530	339	492	729	982	928
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.44	0.21	0.18	0.46	0.23	0.65	0.74	0.56	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	159	127	49	120	225	73	268	28	500	503	39
Future Volume (veh/h)	43	159	127	49	120	225	73	268	28	500	503	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	173	138	53	130	245	79	291	30	543	547	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	310	317	238	259	597	266	321	334	34	587	748	634
Arrive On Green	0.05	0.16	0.16	0.06	0.17	0.17	0.07	0.20	0.20	0.27	0.40	0.40
Sat Flow, veh/h	1781	1934	1451	1781	3554	1585	1781	1668	172	1781	1870	1585
Grp Volume(v), veh/h	47	158	153	53	130	245	79	0	321	543	547	42
Grp Sat Flow(s),veh/h/ln	1781	1777	1609	1781	1777	1585	1781	0	1839	1781	1870	1585
Q Serve(g_s), s	2.0	7.5	8.1	2.2	2.9	14.0	3.1	0.0	15.6	21.3	22.9	1.5
Cycle Q Clear(g_c), s	2.0	7.5	8.1	2.2	2.9	14.0	3.1	0.0	15.6	21.3	22.9	1.5
Prop In Lane	1.00		0.90	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	310	291	263	259	597	266	321	0	369	587	748	634
V/C Ratio(X)	0.15	0.54	0.58	0.20	0.22	0.92	0.25	0.00	0.87	0.92	0.73	0.07
Avail Cap(c_a), veh/h	351	297	269	294	597	266	339	0	459	687	924	783
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	35.4	35.7	29.3	33.1	37.8	26.1	0.0	35.7	20.6	23.5	17.1
Incr Delay (d2), s/veh	0.3	2.3	3.4	0.5	0.2	34.8	0.5	0.0	14.6	17.2	2.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.3	3.3	0.9	1.2	7.7	1.3	0.0	8.1	10.6	9.7	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.4	37.7	39.0	29.8	33.4	72.6	26.6	0.0	50.3	37.8	26.0	17.1
LnGrp LOS	C	D	D	C	C	E	C	A	D	D	C	B
Approach Vol, veh/h		358			428			400			1132	
Approach Delay, s/veh		37.2			55.4			45.6			31.4	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.5	25.5	13.0	22.3	13.1	43.9	12.6	22.7
Change Period (Y+Rc), s	6.8	7.0	* 7.8	7.2	7.0	7.0	* 7.7	7.2
Max Green Setting (Gmax), s	29.8	23.0	* 7	15.4	7.0	45.6	* 7	15.5
Max Q Clear Time (g_c+I1), s	23.3	17.6	4.2	10.1	5.1	24.9	4.0	16.0
Green Ext Time (p_c), s	1.3	0.9	0.0	0.9	0.0	4.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	0	6	1	0	40	6	249	1	67	488	19
Future Vol, veh/h	8	0	6	1	0	40	6	249	1	67	488	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	0	7	1	0	43	7	271	1	73	530	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	994	973	541	976	983	272	551	0	0	272	0	0
Stage 1	687	687	-	286	286	-	-	-	-	-	-	-
Stage 2	307	286	-	690	697	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	224	252	541	230	249	767	1019	-	-	1291	-	-
Stage 1	437	447	-	721	675	-	-	-	-	-	-	-
Stage 2	703	675	-	435	443	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	201	236	541	216	233	767	1019	-	-	1291	-	-
Mov Cap-2 Maneuver	201	236	-	216	233	-	-	-	-	-	-	-
Stage 1	434	422	-	716	670	-	-	-	-	-	-	-
Stage 2	659	670	-	405	418	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.9	10.3	0.2	0.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1019	-	-	275	722	1291	-	-
HCM Lane V/C Ratio	0.006	-	-	0.055	0.062	0.056	-	-
HCM Control Delay (s)	8.6	-	-	18.9	10.3	8	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0.2	-	-

Intersection	
Intersection Delay, s/veh	38
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	79	258	147	15	163	38	85	157	18	69	278	101
Future Vol, veh/h	79	258	147	15	163	38	85	157	18	69	278	101
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	280	160	16	177	41	92	171	20	75	302	110
Number of Lanes	0	1	1	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	36.7	25.1	31.2	49.7
HCM LOS	E	D	D	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	33%	23%	0%	7%	100%	0%
Vol Thru, %	60%	77%	0%	75%	0%	73%
Vol Right, %	7%	0%	100%	18%	0%	27%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	260	337	147	216	69	379
LT Vol	85	79	0	15	69	0
Through Vol	157	258	0	163	0	278
RT Vol	18	0	147	38	0	101
Lane Flow Rate	283	366	160	235	75	412
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.707	0.866	0.34	0.598	0.185	0.932
Departure Headway (Hd)	9	8.515	7.669	9.167	8.859	8.148
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	401	425	467	392	404	445
Service Time	7.092	6.296	5.448	7.267	6.635	5.924
HCM Lane V/C Ratio	0.706	0.861	0.343	0.599	0.186	0.926
HCM Control Delay	31.2	46.4	14.4	25.1	13.7	56.3
HCM Lane LOS	D	E	B	D	B	F
HCM 95th-tile Q	5.3	8.7	1.5	3.7	0.7	10.6

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	39	18	57	66	10	34
Future Vol, veh/h	39	18	57	66	10	34
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	42	20	62	72	11	37

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	62	0	248	52
Stage 1	-	-	-	-	52	-
Stage 2	-	-	-	-	196	-
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	-	-	1541	-	740	1016
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	837	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1541	-	709	1016
Mov Cap-2 Maneuver	-	-	-	-	709	-
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	802	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	925	-	-	1541	-
HCM Lane V/C Ratio	0.052	-	-	0.04	-
HCM Control Delay (s)	9.1	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	30	38	24	18	23	14
Future Vol, veh/h	30	38	24	18	23	14
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	33	41	26	20	25	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	74	0	126	54
Stage 1	-	-	-	-	54	-
Stage 2	-	-	-	-	72	-
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	-	-	1526	-	869	1013
Stage 1	-	-	-	-	969	-
Stage 2	-	-	-	-	951	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1526	-	854	1013
Mov Cap-2 Maneuver	-	-	-	-	854	-
Stage 1	-	-	-	-	969	-
Stage 2	-	-	-	-	935	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.2	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	908	-	-	1526	-
HCM Lane V/C Ratio	0.044	-	-	0.017	-
HCM Control Delay (s)	9.1	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	0	3	0	0	7	4	6	0	13	4	42
Future Vol, veh/h	25	0	3	0	0	7	4	6	0	13	4	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	3	0	0	8	4	7	0	14	4	46

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	74	70	27	72	93	7	50	0	0	7	0	0
Stage 1	55	55	-	15	15	-	-	-	-	-	-	-
Stage 2	19	15	-	57	78	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	916	821	1048	919	797	1075	1557	-	-	1614	-	-
Stage 1	957	849	-	1005	883	-	-	-	-	-	-	-
Stage 2	1000	883	-	955	830	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	901	811	1048	908	787	1075	1557	-	-	1614	-	-
Mov Cap-2 Maneuver	901	811	-	908	787	-	-	-	-	-	-	-
Stage 1	954	841	-	1002	880	-	-	-	-	-	-	-
Stage 2	990	880	-	943	823	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	8.4	2.9	1.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1557	-	-	915	1075	1614	-	-
HCM Lane V/C Ratio	0.003	-	-	0.033	0.007	0.009	-	-
HCM Control Delay (s)	7.3	0	-	9.1	8.4	7.2	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	12	1	2	7	0	0	3	3	0	3	0
Future Vol, veh/h	0	12	1	2	7	0	0	3	3	0	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	1	2	8	0	0	3	3	0	3	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	12	9	3	15	8	5	3	0	0	6	0	0
Stage 1	3	3	-	5	5	-	-	-	-	-	-	-
Stage 2	9	6	-	10	3	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	1005	886	1081	1001	887	1078	1619	-	-	1615	-	-
Stage 1	1020	893	-	1017	892	-	-	-	-	-	-	-
Stage 2	1012	891	-	1011	893	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	998	886	1081	989	887	1078	1619	-	-	1615	-	-
Mov Cap-2 Maneuver	998	886	-	989	887	-	-	-	-	-	-	-
Stage 1	1020	893	-	1017	892	-	-	-	-	-	-	-
Stage 2	1003	891	-	995	893	-	-	-	-	-	-	-

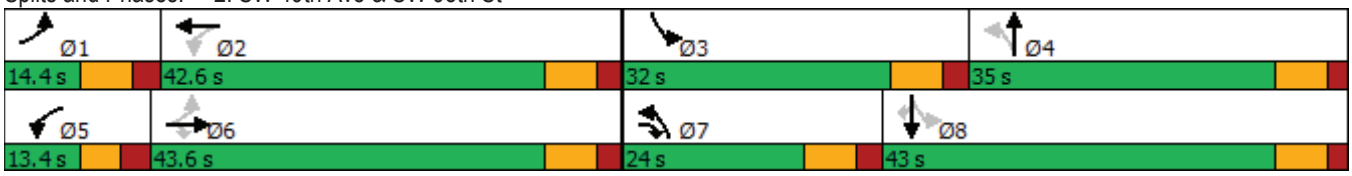
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9	0	0
HCM LOS	A	A		

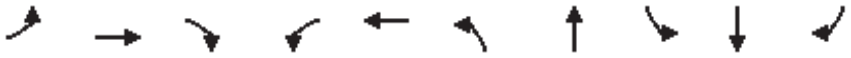
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1619	-	-	898	908	1615	-	-
HCM Lane V/C Ratio	-	-	-	0.016	0.011	-	-	-
HCM Control Delay (s)	0	-	-	9.1	9	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	28	97	563	58	67	268	240	58	451	64
Future Volume (vph)	28	97	563	58	67	268	240	58	451	64
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	1	6	7	5	2	7	4	3	8	
Permitted Phases	6		6	2		4		8		8
Detector Phase	1	6	7	5	2	7	4	3	8	8
Switch Phase										
Minimum Initial (s)	7.0	15.0	7.0	7.0	15.0	7.0	15.0	7.0	15.0	15.0
Minimum Split (s)	14.4	22.5	14.2	13.4	22.5	14.2	22.5	14.2	22.5	22.5
Total Split (s)	14.4	43.6	24.0	13.4	42.6	24.0	35.0	32.0	43.0	43.0
Total Split (%)	11.6%	35.2%	19.4%	10.8%	34.4%	19.4%	28.2%	25.8%	34.7%	34.7%
Yellow Time (s)	4.8	4.8	4.8	3.7	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.6	2.4	2.4	2.7	2.4	2.4	2.0	2.4	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.2	7.2	6.4	7.2	7.2	6.8	7.2	6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None	None
Act Effct Green (s)	20.9	15.8	40.2	22.7	17.9	55.0	44.2	38.2	31.0	31.0
Actuated g/C Ratio	0.22	0.17	0.42	0.24	0.19	0.58	0.46	0.40	0.32	0.32
v/c Ratio	0.10	0.34	0.75	0.19	0.18	0.66	0.20	0.13	0.81	0.11
Control Delay	28.0	41.9	22.2	28.4	25.1	21.0	16.6	11.8	41.8	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	41.9	22.2	28.4	25.1	21.0	16.6	11.8	41.8	0.4
LOS	C	D	C	C	C	C	B	B	D	A
Approach Delay		25.2			26.2		18.7		34.1	
Approach LOS		C			C		B		C	

Intersection Summary	
Cycle Length: 124	
Actuated Cycle Length: 95.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 26.0	Intersection LOS: C
Intersection Capacity Utilization 81.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: SW 49th Ave & SW 95th St





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	30	105	612	63	118	291	315	63	490	70
v/c Ratio	0.10	0.34	0.75	0.19	0.18	0.66	0.20	0.13	0.81	0.11
Control Delay	28.0	41.9	22.2	28.4	25.1	21.0	16.6	11.8	41.8	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	41.9	22.2	28.4	25.1	21.0	16.6	11.8	41.8	0.4
Queue Length 50th (ft)	14	62	212	30	22	91	61	17	284	0
Queue Length 95th (ft)	37	116	#381	63	49	173	93	36	411	0
Internal Link Dist (ft)		5250			3635		2576		1250	
Turn Bay Length (ft)	370			190		370		300		
Base Capacity (vph)	313	722	812	335	1285	445	1603	792	717	706
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.15	0.75	0.19	0.09	0.65	0.20	0.08	0.68	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	97	563	58	67	41	268	240	50	58	451	64
Future Volume (veh/h)	28	97	563	58	67	41	268	240	50	58	451	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	105	612	63	73	45	291	261	54	63	490	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	489	570	692	345	677	386	317	1063	217	451	526	445
Arrive On Green	0.04	0.30	0.30	0.05	0.31	0.31	0.13	0.36	0.36	0.05	0.28	0.28
Sat Flow, veh/h	1781	1870	1585	1781	2180	1243	1781	2941	599	1781	1870	1585
Grp Volume(v), veh/h	30	105	612	63	58	60	291	156	159	63	490	70
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1647	1781	1777	1763	1781	1870	1585
Q Serve(g_s), s	1.3	4.9	36.4	2.8	2.8	3.1	13.7	7.3	7.6	2.9	30.5	4.0
Cycle Q Clear(g_c), s	1.3	4.9	36.4	2.8	2.8	3.1	13.7	7.3	7.6	2.9	30.5	4.0
Prop In Lane	1.00		1.00	1.00		0.75	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	489	570	692	345	552	512	317	643	637	451	526	445
V/C Ratio(X)	0.06	0.18	0.88	0.18	0.11	0.12	0.92	0.24	0.25	0.14	0.93	0.16
Avail Cap(c_a), veh/h	527	570	692	358	552	512	333	643	637	729	567	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	30.6	30.9	25.8	29.3	29.5	29.7	26.7	26.8	27.6	41.8	32.3
Incr Delay (d2), s/veh	0.1	0.2	13.0	0.3	0.1	0.1	28.6	0.2	0.2	0.1	21.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.2	17.6	1.2	1.2	1.3	8.0	3.1	3.1	1.2	16.7	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	30.8	43.9	26.0	29.4	29.6	58.2	26.9	27.0	27.7	63.6	32.5
LnGrp LOS	C	C	D	C	C	C	E	C	C	C	E	C
Approach Vol, veh/h		747			181			606			623	
Approach Delay, s/veh		41.3			28.3			42.0			56.4	
Approach LOS		D			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	44.3	13.3	50.0	12.5	43.6	23.0	40.4
Change Period (Y+Rc), s	7.4	* 7.2	* 7.2	6.8	6.4	* 7.2	* 7.2	6.8
Max Green Setting (Gmax), s	7.0	* 35	* 25	28.2	7.0	* 36	* 17	36.2
Max Q Clear Time (g_c+I1), s	3.3	5.1	4.9	9.6	4.8	38.4	15.7	32.5
Green Ext Time (p_c), s	0.0	0.6	0.1	1.5	0.0	0.0	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	44.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.