TRAFFIC OPERATIONS ANALYSIS STUDY

CORNERSTONE CHARTER ACADEMY

CITY OF BELLE ISLE, FLORIDA

Prepared for:

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February 2023

TPD № 5725

PROFESSIONAL ENGINEERING CERTIFICATION

I hereby certify that I am a Professional Engineer properly registered in the State of Florida practicing with Traffic Planning & Design, Inc., a corporation authorized to operate as an engineering business, EB-3702, by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have prepared or approved the evaluations, findings, opinions, conclusions, or technical advice attached hereto for:

PROJECT: Cornerstone Charter Academy

LOCATION: City of Belle Isle, Florida

CLIENT: Florida Engineering Group

I hereby acknowledge that the procedures and references used to develop the results contained in these computations are standard to the professional practice of Transportation Engineering as applied through professional judgment and experience.

NAME: Turgut Dervish

P.E. No.: 20400

DATE: February 2nd, 2023

SIGNATURE:

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INTRODUCTION

Cornerstone Charter Academy is a charter school located along the east side of Hansel Avenue, south of Waltham Avenue in the City of Belle Isle, Florida. **Figure 1** depicts the site location and surrounding roadways.

This traffic analysis study was performed to evaluate the proposed expansion in terms of traffic operations and related queueing and evaluate the ability of adjacent roadways to accommodate the additional traffic volumes, and to recommend transportation improvements, including traffic circulation and transportation improvements to mitigate congestion resulting from additional site traffic. The primary purpose of this traffic study is to ensure on-site vehicular and pedestrian facilities and circulation are adequately provided to protect public safety and maintain traffic flow efficiency for all users accessing the campus before, during and after school construction.

The existing school enrollment consists of 574 students (K-5) students, and 905 (grades 6-12) students with a total of 1,479 students operating in two drop-off/pick-up shifts. With the proposed expansion, the school will have a total enrollment of 2,420 students (750 k-5 students, 570 grades 5-8 students and 1,100 grades 9-12 students) operating in 3 shifts. The expansion will be on the existing school site in addition to the property on the south side of Fairlane Avenue that is currently occupied by a bank. **Figure 2** depicts the proposed site plan of the school expansion.

Cornerstone Charter Academy
Project № 5725
Figure 1

Site Location

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Cornerstone Charter Academy
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Figure 2

Proposed Site Plan

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INVENTORY OF TRAFFIC CONDITIONS

The following section provides an overview of the data collected in support of the traffic analysis for the proposed school.

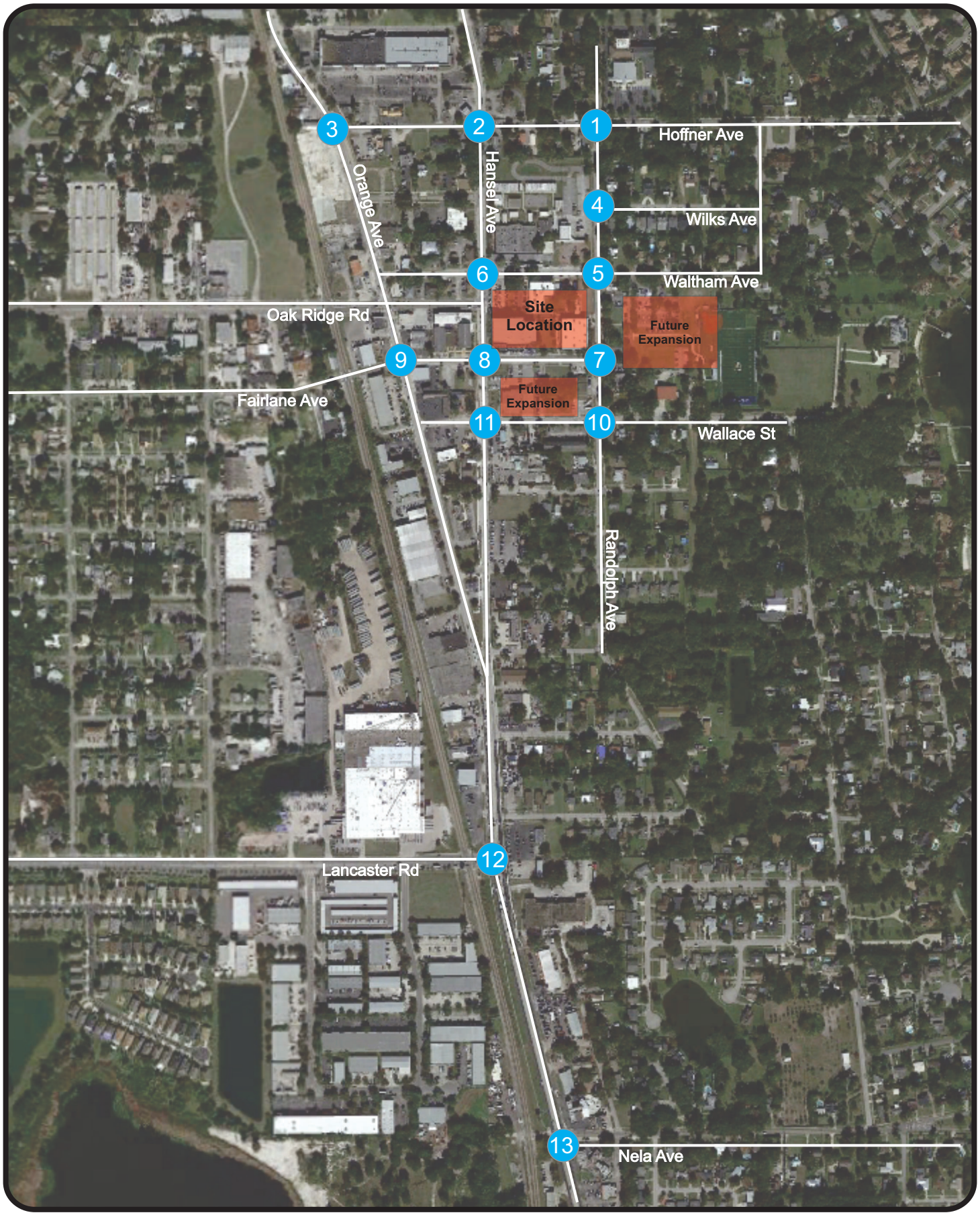
Study Area

The following roadways were identified from Orange County's CMS database to be included in the project's one-mile area:
Hoffner Avenue, Orange Avenue to Oak Island Road
Lancaster Road, Winegard Road to Orange Avenue
Nela Avenue, Orange Avenue to Indian Drive
Oak Ridge Road, Orange Blossom Trail to Orange Avenue
Orange Avenue, Sand Lake Road to Hansel Avenue (S)
Hansel Avenue (S) to Hansel Avenue (N)
Hansel Avenue (N) to Holden Avenue
Orange Avenue/Hansel Avenue, Orange Avenue to Orange Avenue

Additionally, the following intersections were included in the study area:

- Hansel Avenue & Hoffner Avenue
- Hansel Avenue & Waltham Avenue
- Hansel Avenue & Fairlane Avenue
- Hansel Avenue & Wallace Street
- Randolph Avenue & Hoffner Avenue
- Randolph Avenue & Wilks Avenue
- Randolph Avenue & Waltham Avenue
- Randolph Avenue & Fairlane Avenue
- Randolph Avenue & Wallace Street
- Orange Avenue & Hoffner Avenue
- Orange Avenue & Fairlane Avenue
- Orange Avenue & Lancaster Road
- Orange Avenue & Nela Avenue

Figure 3 provides a diagram of the study intersection locations in the study area.



Cornerstone Charter Academy
Project № 5725
Figure 3

Study Intersections

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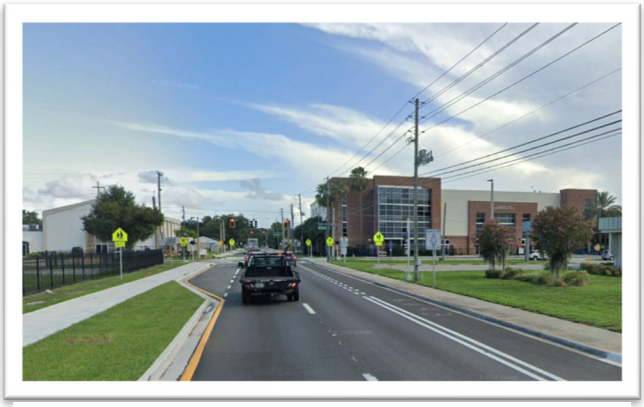
Existing Conditions

Hansel Avenue is one-way state roadway running two-lanes northbound connecting to Orange Avenue from the south at Prince Street to the north at Mandalay Road. The posted speed limit along the school's site is 40 mile per hour (mph) and is provided with sidewalks on both sides in the vicinity of the school site.



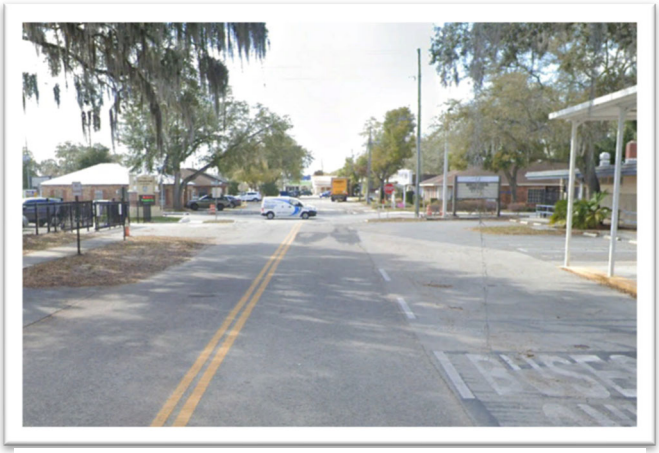
Hansel Ave South of Fairlane Ave

Randolph Ave South of Waltham Ave

Randolph Avenue is a two-lane undivided local roadway running north-south from Locust Avenue to Hoffner Avenue with a speed limit of 25 mph. The street has sidewalks on both sides along the vicinity of the school site.

Fairlane Avenue is a two-lane undivided local roadway running east-west from Randolph Avenue on the east and terminates at Jason Street to the west of Orange Avenue. The street gives direct access to Cornerstone Academy and is signalized at Hansel Avenue. The speed limit in the vicinity of the school is 25 mph. There is on-street parking on the north side of the roadway adjacent to the school site.

Fairlane Ave East of Hansel Ave



Waltham Ave East of Hansel Ave

Waltham Avenue is a two-lane undivided facility running east-west from Marinell Drive to the east and terminates at Orange Avenue to the west with a speed limit of 25 mph. The street is used for Elementary School drop-off/pick-up during school opening and dismissal times.

Wallace Street is a two-lane undivided facility running east-west from Matchett Road to the east and terminates at Orange Avenue to the west with a speed limit of 25 mph. The street provides access to vehicles arriving to the site from the south to Randolph Avenue and Fairlane Avenue.

Wallace St East of Hansel Ave

Existing Traffic Patterns and Queueing

Traffic counts were collected at the study intersections and traffic patterns and queueing were observed.

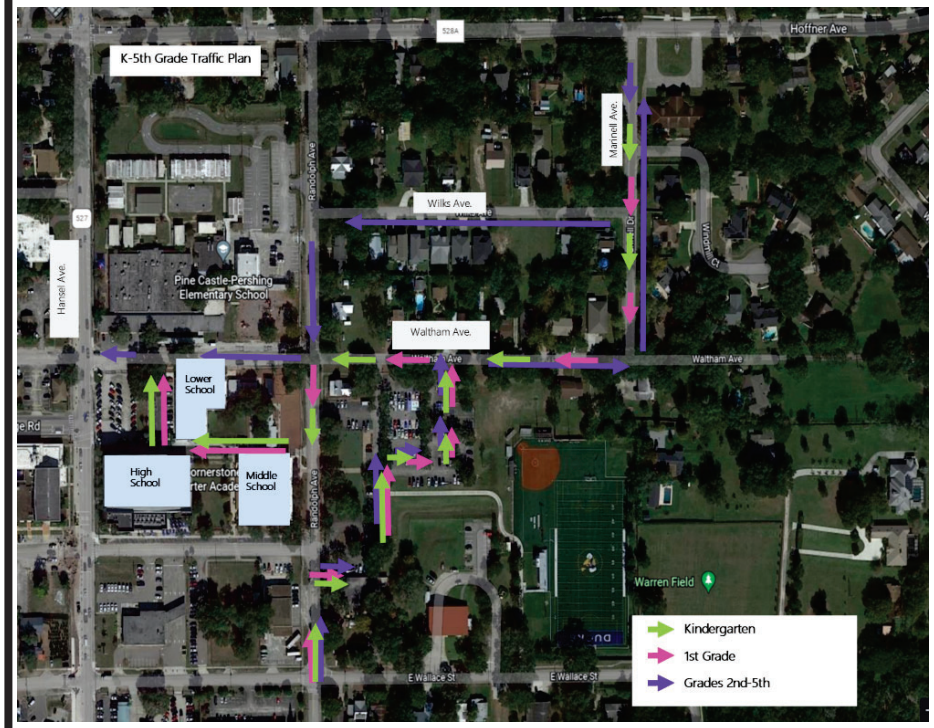
The school currently operates in two shifts, one for lower school grades (Elementary K-5th) with drop-off at 7:15 AM and dismissal at 2:35 PM, and another for upper school grades (6^{th}-12^{th}) with drop-off at 7:30 AM and pick-up at 2:45 PM.

The school currently has two traffic circulation patterns. Elementary school students are picked up on the north side of the property. Kindergarten and 1^{st} grade students are picked up inside the school campus with vehicles entering on Randolph Avenue and exiting on Waltham Avenue. The 2^{nd} to 5^{th} grade students drop-off/pick-up location is on Waltham Avenue. Middle and high school students drop-off and pick-up location is on Fairlane Avenue. Existing traffic circulation patterns are illustrated in **Figure 4**.

The observation during the morning and afternoon queuing showed significant queues forming on the adjacent roadways during drop-off/pickup.

Planned and Programmed Improvements

Based on Orange County's 2030 Long Range Transportation plan, there are no roadway improvements planned in the vicinity of the project area.



Elementary School
Traffic Pattern

Middle/High School
Traffic Pattern

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Figure 4

Existing Traffic Circulation Pattern

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EXISTING OPERATIONAL ANALYSIS

Roadway Segment Analysis

The study roadway segments, obtained from Orange County's CMS database and supplemented with counts obtained by Traffic Planning and Design (TPD), were analyzed by comparing the existing P.M. peak hour directional volume for each roadway segment with the corresponding peak hour directional capacity at the adopted Level of Service (LOS) E standard. A summary of the existing roadway capacity analysis is presented in **Table 1**, which shows all the roadway segments are currently operating within their adopted LOS standard except for Hoffner Avenue from Orange Avenue to Oak Island Road, and Orange Avenue from Hansel Avenue (S) to Hansel Avenue (N), and from Hansel Avenue (N) to Holden Avenue. These segments are operating below their Level of Service standards in the existing conditions. The County's CMS Database is included in **Appendix A**.

Intersection Analysis

A capacity analysis was conducted for each intersection using the latest version of *Synchro Software* in accordance with the procedures of the latest *Highway Capacity Manual (HCM)*. The capacity analysis was performed using the existing intersection geometry and traffic volumes during the A.M. and P.M. peak hours. Turning movement counts were collected by TPD during the A.M. and P.M. peak hours to properly evaluate peak hour conditions. The counts were obtained on December 6, 2022 and on January 19, 2023 when the Florida Department of Transportation seasonal factor was 0.99 and 1.08, respectively. The counts were adjusted for the intersections with a seasonal factor higher than 1.00. The peak hour volumes at the study intersections are displayed in **Figures 5(a)** through **5(d)**, and the raw turning movement counts along with signal timings and SF reports are included in **Appendix B**.

The intersection capacity analysis as summarized in **Table 2** indicates that the study intersections currently operate at satisfactory Level is Service except for the following:

- Waltham Avenue & Hansel Avenue (EB and WB approaches) - A.M. and P.M.
- Fairlane Avenue & Orange Avenue (WB approach) – A.M. and P.M.
- Orange Avenue & Nela Avenue (WB Approach) – A.M. only

Some of these deficient Levels of Service, as shown in Table 2, have V/C ratio less than 1.0, which indicates that the Level of Service is caused by delay, not a capacity deficiency. Detailed *Synchro* analysis worksheets are included in **Appendix C**.

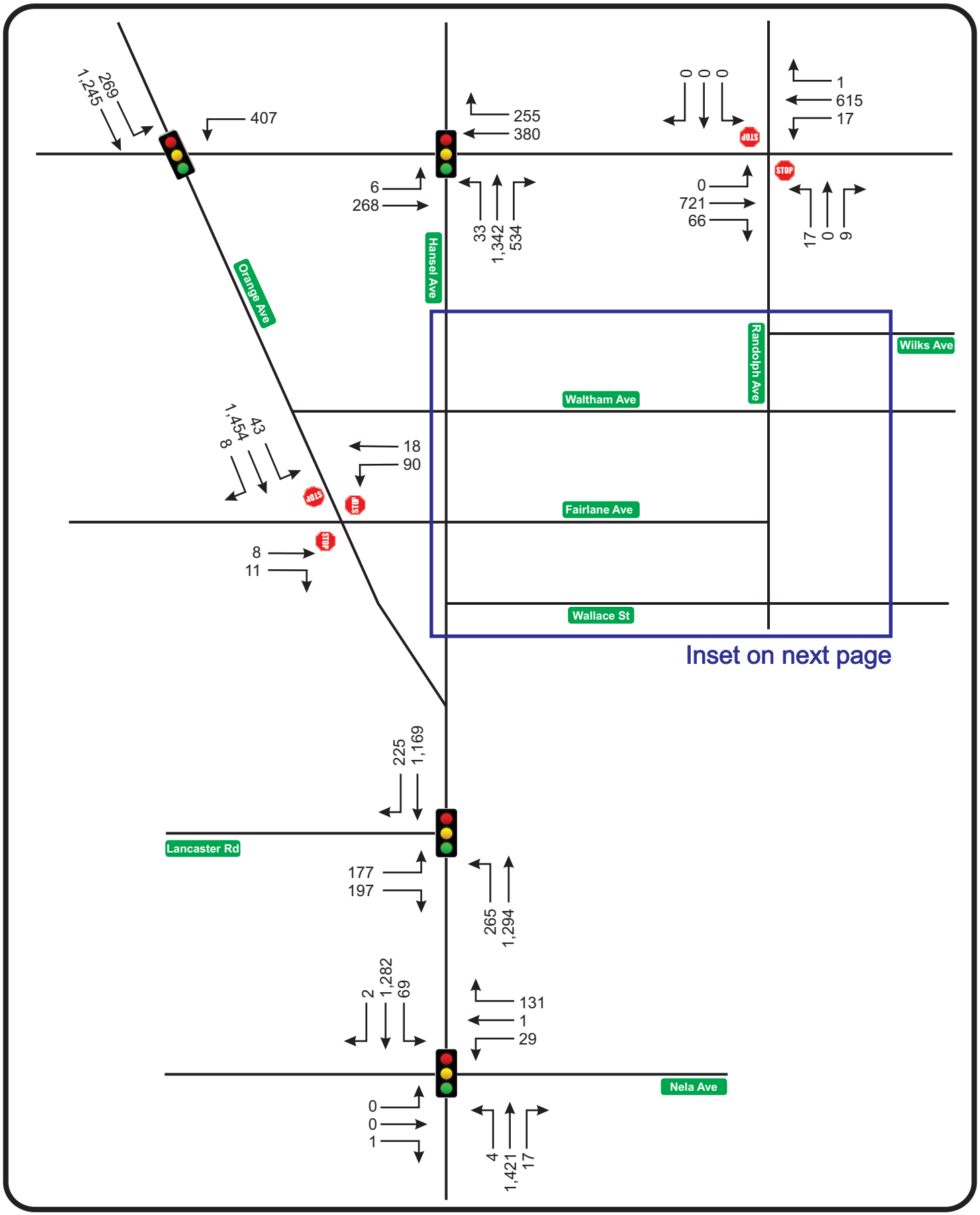
Table 1: Existing Roadway Capacity Analysis

Roadway Segment	Num	Seg Length	# of Lns	LOS Std	Total Cap	PM Pk	Peak Dir	Available Cap	LOS Met?
Hoffner Avenue									
Orange Ave to Oak Island Rd	185	1.33	2	E	800	998	EB	0	N
Lancaster Road									
Winegard Rd to Orange Ave	248	1.01	4	E	2,000	706	EB	1,294	Y
Nela Avenue									
Orange Ave to Indian Dr	293	1.46	2	E	800	151	EB	649	Y
Oak Ridge Road									
Orange Blossom Tr to Orange Ave	298	1.67	4	E	1,700	1,518	EB	182	Y
Orange Avenue									
Sand Lake Rd to Hansel Ave (S)	330	1.14	5	E	2,510	2,102	NB	408	Y
Hansel Ave (S) to Hansel Ave (N)	331	1.22	2 (One-Way)	E	2,040	2,324	NB	0	N
Hansel Ave (N) to Holden Ave	332	0.75	5	E	2,510	2,867	NB	0	N
Orange Avenue / Hansel Avenue									
Orange Ave to Orange Ave	176	1.23	2 (One-Way)	E	2,400	2,337	SB	63	Y

Table 2: Existing Intersection Capacity Analysis

Int	Intersection	Control	Time Period	EB		WB		NB		SB		Overall	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Hoffner Ave & Randolph Ave	Stop	A.M.	0.0	A	0.3	A	41.2	E	0.0	A	0.9	A
			P.M.	0.0	A	0.3	A	31.0	D	40.8	E	1.3	A
2	Hoffner Ave & Hansel Ave	Signal	A.M.	46.3	D	51.2	D	14.2	B	--	--	25.7	C
			P.M.	64.3	E	59.5	E	12.7	B	--	--	27.0	C
3	Hoffner Ave & Orange Ave	Signal	A.M.	--	--	--	--	--	--	0.5	A	0.5	A
			P.M.	--	--	--	--	--	--	0.6	A	0.6	A
4	Randolph Ave & Wilks Ave	Stop	A.M.	--	--	10.6	B	0.0	A	0.0	A	6.8	A
			P.M.	--	--	9.7	A	0.0	A	0.0	A	5.8	A
5	Waltham Ave & Randolph Ave	AWSC	A.M.	7.8	A	11.2	B	8.8	A	9.7	A	10.4	B
			P.M.	7.7	A	8.5	A	7.8	A	7.7	A	8.0	A
6	Waltham Ave & Hansel Ave	Stop	A.M.	--	--	**398.5**	**F**	0.0	A	--	--	**75.5**	**F**
			P.M.	**133.6**	**F ***	**238.3**	**F**	0.0	A	--	--	37.1	E
7	Fairlane Ave Randolph Ave	AWSC	A.M.	7.5	A	--	--	10.4	B	7.3	A	9.7	A
			P.M.	7.3	A	--	--	8.1	A	7.3	A	7.7	A
8	Fairlane Ave & Hansel Ave	Signal	A.M.	51.5	D	57.9	E	11.5	B	--	--	21.0	C
			P.M.	66.3	E	79.9	E	4.5	A	--	--	10.7	B
9	Fairlane Ave & Orange Ave	Stop	A.M.	39.6	E	**127.2**	**F ***	--	--	0.0	A	8.9	A
			P.M.	30.7	D	**100.3**	**F ***	--	--	0.0	A	5.2	A
10	Wallace St & Randolph Ave	AWSC	A.M.	9.4	A	9.8	A	9.6	A	8.6	A	9.6	A
			P.M.	8.0	A	7.7	A	7.8	A	7.9	A	7.8	A
11	Wallace St & Hansel Ave	Stop	A.M.	30.2	D	20.1	C	0.0	A	--	--	1.5	A
			P.M.	48.7	E	25.4	D	0.0	A	--	--	2.9	A
12	Orange Ave & Lancaster Rd	Signal	A.M.	39.9	D	--	--	9.6	A	15.7	B	15.6	B
			P.M.	54.6	D	--	--	14.9	B	33.9	C	28.1	C
13	Orange Ave & Nela Ave	Signal	A.M.	52.4	D	**83.1**	**F ***	12.3	B	5.5	A	13.1	B
			P.M.	66.1	E	79.5	E	8.4	A	1.1	A	7.2	A

* V/C ratio is less than 1.0



Cornerstone Charter Academy
Project № 5725
Figure 5(a)

Existing A.M. Peak Hour Volumes

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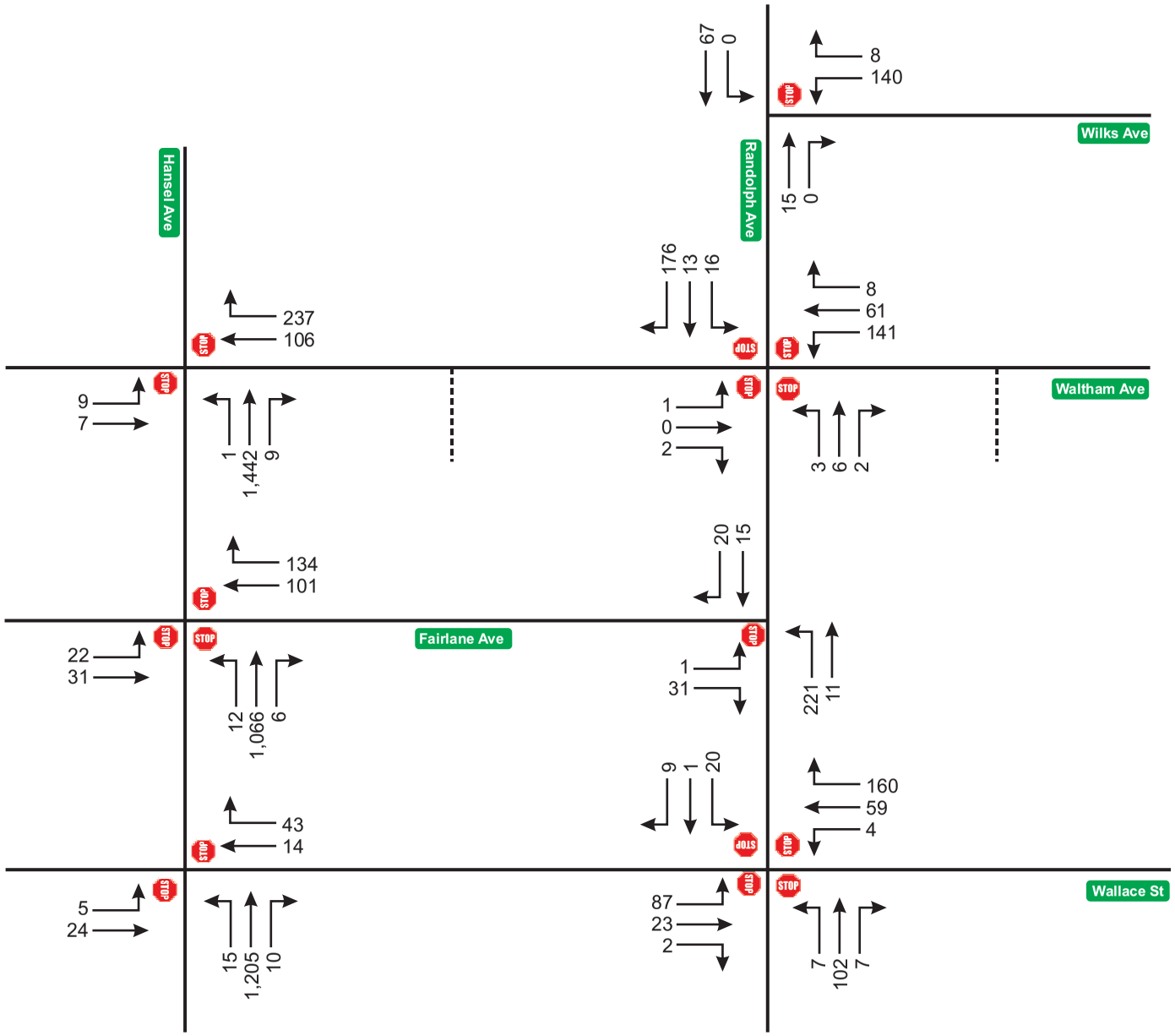

Cornerstone Charter Academy
Project № 5725
Figure 5(b)

Existing A.M. Peak Hour Volumes

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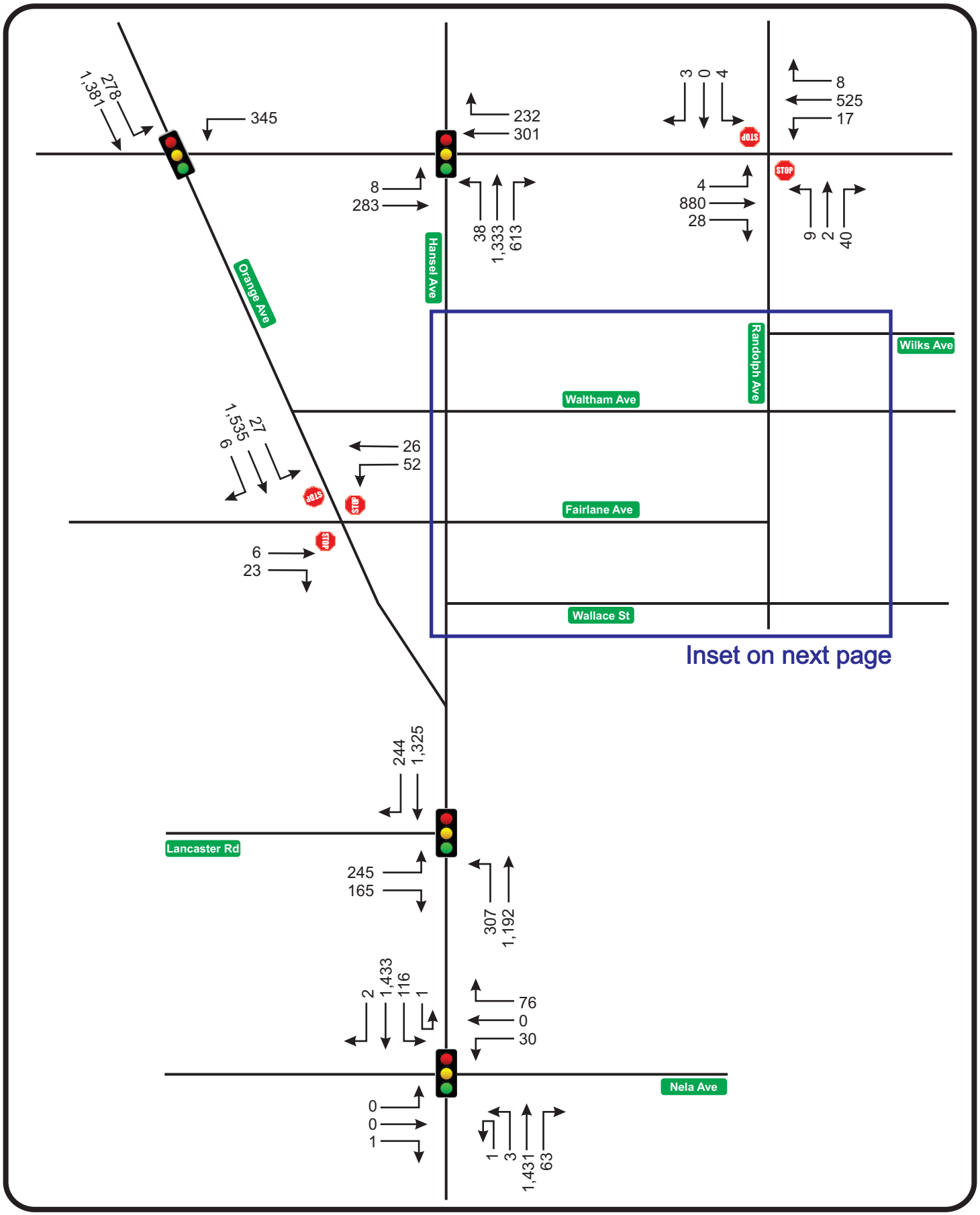

Cornerstone Charter Academy
Project № 5725
Figure 5(c)

Existing P.M. Peak Hour Volumes

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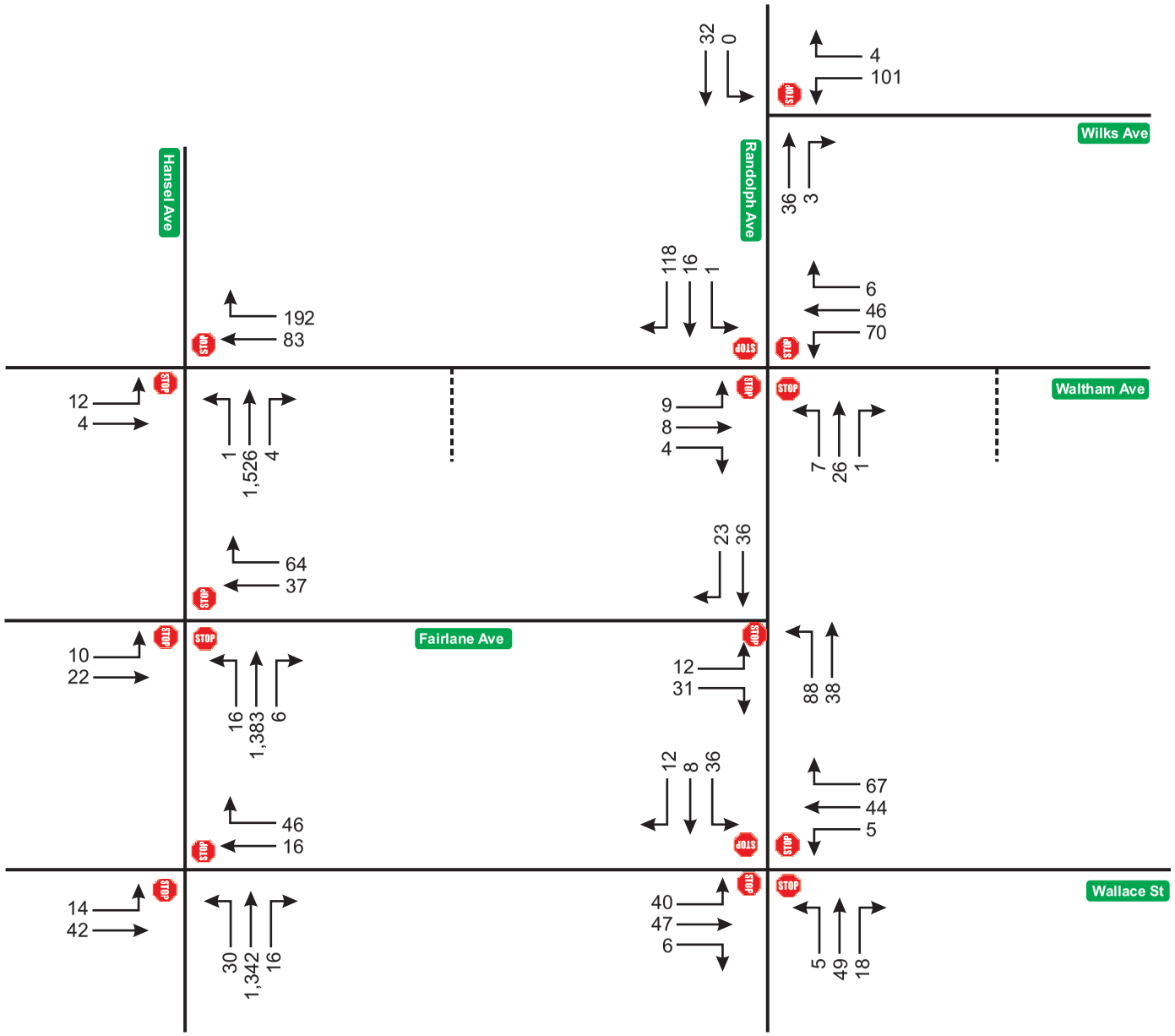

Cornerstone Charter Academy
Project № 5725
Figure 5(d)

Existing P.M. Peak Hour Volumes

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TRIP GENERATION AND ASSIGNMENT

Trip Generation

The charter school currently has a total enrollment of 1,479 students (574 students grades K-5 students and 905 grades 6-12 students). The drop-off/pick up is currently operating in two shifts. The proposed expansion of the school will increase the total student enrollment to 2,420 (750 grades K-5 students, 570 grades 5-8 students and 1,100 grades 9-12 students) operating in 3 shifts. The shifts will occur in 30 minute increments.

Trip generation is performed utilizing data obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*. A summary of the trip generation of the proposed school is shown in **Table 3**. The trip generation was calculated per shift for the existing conditions and proposed expansion as the resultant vehicular trip generation will not occur at the same time. Moreover, the drop-off/pick-up location and traffic pattern is different for lower school (grades K-5) than the upper school (grades 6-12). As shown in Table 3, the school expansion is expected to increase the trips by 782 A.M. peak hour trip and 633 P.M. peak hour trips. Relevant ITE trip generation sheets are included in **Appendix D**. It should be noted that the school currently has a large number of students that walk to school from neighboring residential areas, and that a portion of the high school students will drive and park at the designated parking area. Therefore, the vehicular traffic is expected to be less than the results given by ITE. Nonetheless, ITE rates were used in the traffic analysis to provide a conservative estimate.

Trip Distribution

The distribution of the project trips onto the study area roadways was determined using the Central Florida Regional Planning Model (CFRPM). The trip distribution was adjusted based on enrollment maps provided by the school and utilizing engineering judgement and knowledge of travel patterns in the area. This adjusted trip distribution pattern is illustrated in **Figure 6**. This distribution pattern was utilized to assign school trips to the area roadways. The model distribution plots and enrollment maps are included in **Appendix E.**

Table 3

Trip Generation Summary

ITE Code	Land Use	Size (Students)	A.M. Peak Hour				P.M. Peak Hour			
			Rate	Enter	Exit	Total	Rate	Enter	Exit	Total
Existing										
Shift 1										
538	Charter School (K-12) – Elementary School	574	0.83	243	233	476	0.51	148	147	295
Shift 2										
538	Charter School (K-12) – Middle & High School	905	0.83	383	368	751	0.66	300	300	600
		Total Existing Traffic		**626**	**601**	**1,227**		**448**	**447**	**895**
Proposed										
Shift 1										
538	Charter School (K-12) – Elementary School	750	0.83	317	306	623	0.61	229	228	457
Shift 2										
538	Charter School (K-12) – Middle School	570	0.83	241	232	473	0.51	146	146	292
Shift 3										
538	Charter School (K-12) – High School	1,100	0.83	466	447	913	0.71	390	389	779
		Total Projected Traffic		**1,024**	**985**	**2,009**		**765**	**763**	**1,528**
		Trip Increase Due to Expansion		**398**	**384**	**782**		**317**	**316**	**633**

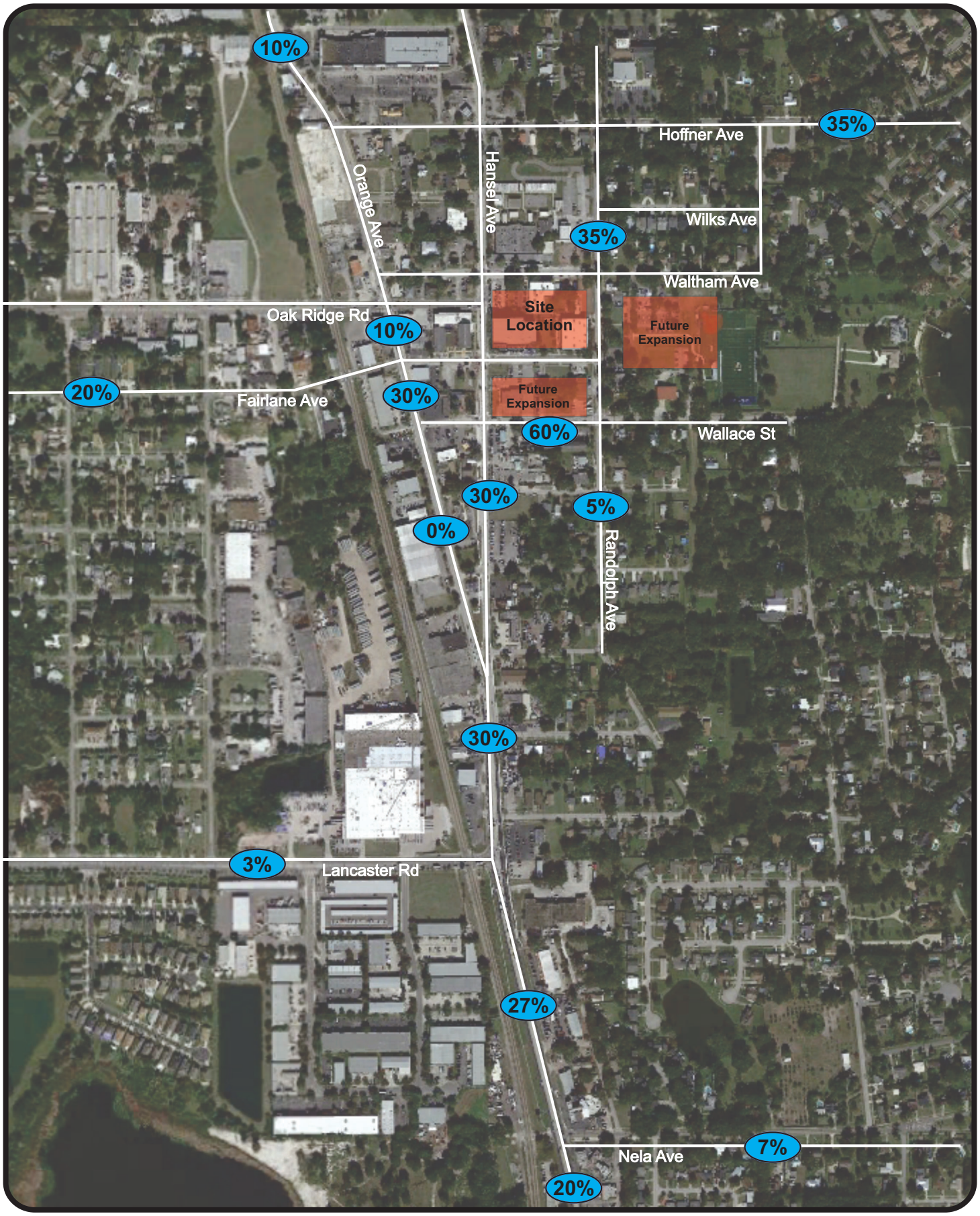
Notes:

1. Daily trip generation is not available for this ITE Land Use Code

2. ITE's peak hour of adjacent street traffic was used for A.M. peak hour

3. ITE's peak hour of generator was used for P.M. peak hour

4. Equations were used where R^2 exceeded 0.75



Cornerstone Charter Academy
Project № 5725
Figure 6

Study Intersections

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PROJECTED OPERATIONAL ANALYSIS

Traffic conditions were analyzed for the study roadways/intersections for the school's anticipated expansion completion in 2024. Projected traffic volumes used in the roadway analysis consisted of existing traffic combined with committed trips and site generated traffic.

For the intersection analysis, background traffic was determined by expanding the traffic using an annual growth factor of 1% to existing traffic volumes. A trends analysis of the historical traffic volumes on the area roadways in the vicinity of the project revealed annual growth trends averaging 1.07%. Therefore, an average of 1.00% annual growth rate was used to develop background traffic. Trends analysis worksheets are included in **Appendix F**. Project trips were added to the background traffic estimation to obtain the total projected traffic volumes.

It should be noted that the school drop-off/dismissal is proposed to take place in three (3) shifts. Therefore, project trips from the most critical (highest trip generation) shift was used for the development of projected traffic volumes.

Roadway Segment Analysis

The projected roadway segment analysis was performed by comparing the projected traffic volume of each segment with the capacity at the adopted LOS E standard. The analysis as summarized in **Table 4** revealed that all the roadway segments are projected to operate satisfactorily within their adopted Levels of Service except for the following four segments;

- Hoffner Avenue from Orange Avenue to Oak Island Road
- Orange Avenue from Hansel Avenue (S) to Hansel Avenue (N)
- Orange Avenue from Hansel Avenue (N) to Holden Avenue
- Hansel Avenue from Orange Avenue (S) to Orange Avenue (N)

The first three segments operate below their Level of Service capacity in the existing conditions. The last segment fails as a result of adding committed and project trips. It should be noted that the school afternoon peak period (2-4 P.M.) is significantly earlier than the typical P.M. peak hour used by Orange County (4-6 P.M.). Nonetheless, the volumes were used to provide a conservative estimate.

Table 4: Projected Roadway Capacity Analysis

Roadway Segment	Num	Seg Length	# of Lns	LOS Std	Total Cap	PM Pk	Peak Dir	Com Trips	Trip Dist*	Project Trips	Total Trips	Available Cap	LOS Met?
Hoffner Avenue													
Orange Ave to Oak Island Rd	185	1.33	2	E	800	998	EB	0	35%	136	1,134	0	N
Lancaster Road													
Winegard Rd to Orange Ave	248	1.01	4	E	2,000	706	EB	9	5%	20	735	1,265	Y
Nela Avenue													
Orange Ave to Indian Dr	293	1.46	2	E	800	151	EB	10	4%	16	177	623	Y
Oak Ridge Road													
Orange Blossom Tr to Orange Ave	298	1.67	4	E	1,700	1,518	EB	5	20%	78	1,601	99	Y
Orange Avenue													
Sand Lake Rd to Hansel Ave (S)	330	1.14	5	E	2,510	2,102	NB	19	32%	125	2,246	264	Y
Hansel Ave (S) to Hansel Ave (N)	331	1.22	2 (One-Way)	E	2,040	2,324	NB	1	45%	175	2,500	0	N
Hansel Ave (N) to Holden Ave	332	0.75	5	E	2,510	2,867	NB	4	10%	39	2,910	0	N
Orange Avenue / Hansel Avenue													
Orange Ave to Orange Ave	176	1.23	2 (One-Way)	E	2,400	2,337	SB	1	55%	214	2,552	0	N

*Highest Percentage on Segment

Intersection Analysis

A capacity analysis was conducted at the study intersections utilizing projected traffic volumes as shown in **Figures 7(a)**through **7(d)**. This was accomplished in accordance with the procedures of the latest version of the Highway Capacity Manual by utilizing *Synchro Software*. The results of this analysis are summarized in **Table 5** and indicate satisfactory traffic operating conditions at all intersections except for the following intersections that are projected to operate at deficient Levels of Service, similar to existing conditions:

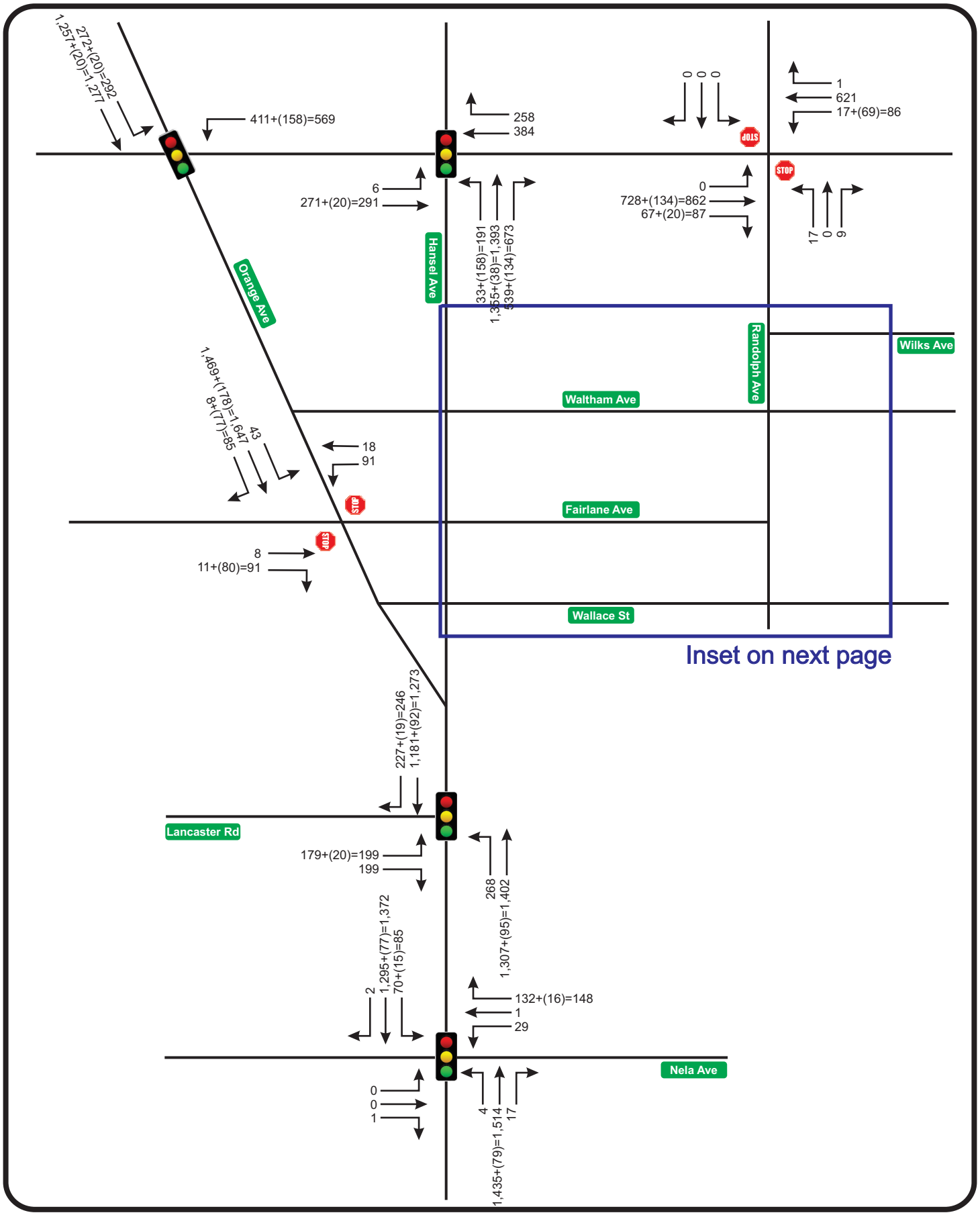
- Waltham Avenue & Hansel Avenue - EB and WB approaches (AM and PM)
- Fairlane Avenue & Orange Avenue - WB approach (AM and PM), EB approach (PM only)
- Orange Avenue & Nela Avenue - WB approach (AM)

Additionally, the following intersections are projected to operate at deficient Levels of Service due to the addition of background traffic and/or project trips:

- Hoffner Avenue & Randolph Avenue- NB approach (AM and PM), SB approach (PM only)
- Wallace Street & Hansel Avenue - EB approach (AM only), WB approach (PM only)
- Orange Avenue & Nela Avenue - WB approach (PM)

Some of these deficient Levels of Service as indicated in Table 5 have V/C ratio less than 1.0, which indicates that the Level of Service is caused by delay, not a capacity deficiency. It should be noted that with the proposed traffic plan, the project is not adding any trips to the stop-controlled intersection of Orange Avenue and Fairlane Avenue failing EB/WB approaches or to the intersection of Wallace Street and Hansel Avenue WB approach.

The intersection of Hansel Avenue and Waltham Avenue is a stop-controlled intersection. However, during pick-up and dismissal, this intersection is controlled by the City's police and/or traffic attendant that regulate the traffic in a pattern that resembles a signal. Reanalyzing this intersection as signalized for pick-up/drop-off times yields a satisfactory Level of Service, as shown in Table 5. Detailed *Synchro* intersection analysis worksheets are included in **Appendix G**.



Cornerstone Charter Academy
Project № 5725
Figure 7(a)

Projected A.M. Peak Hour Volumes

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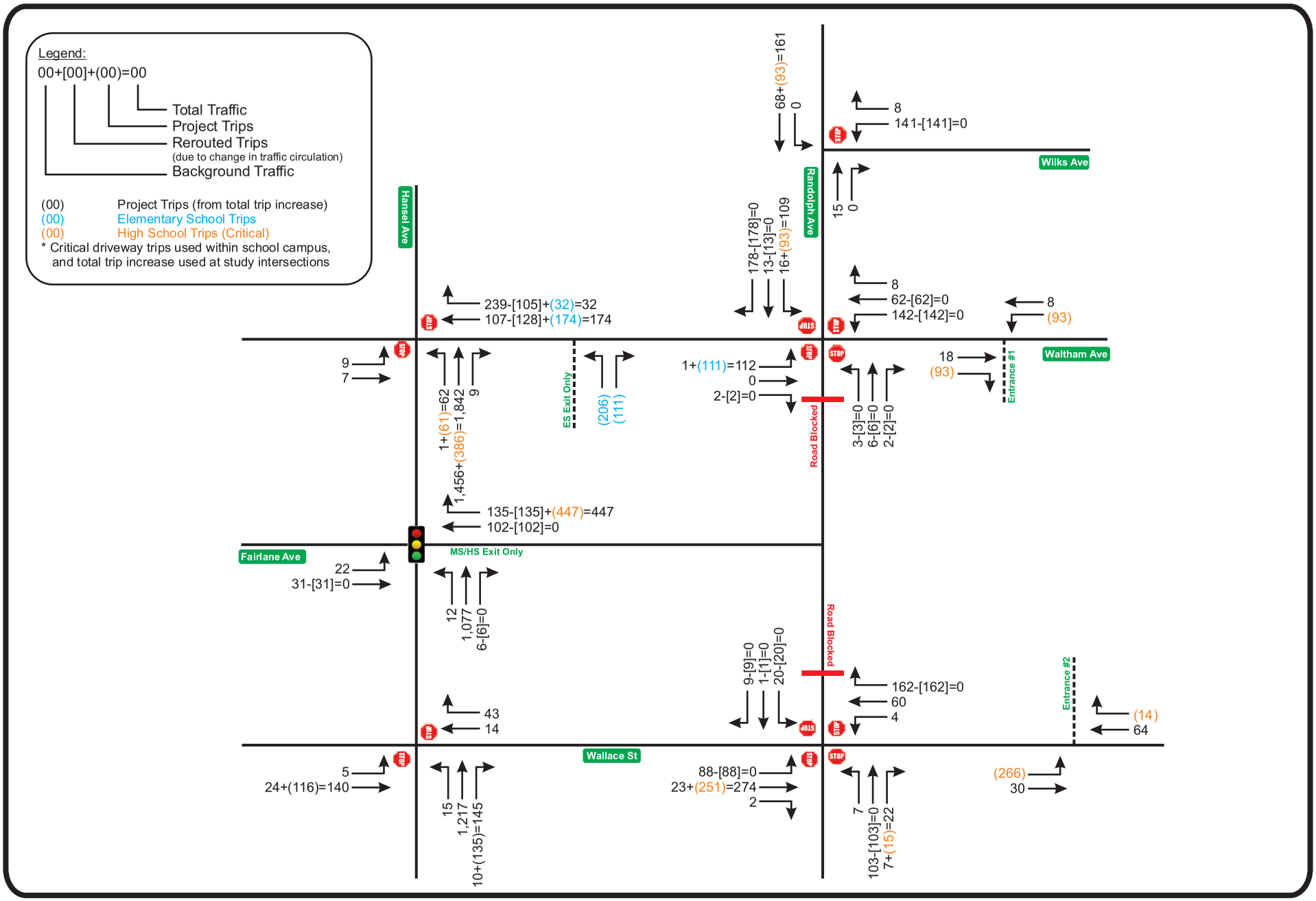
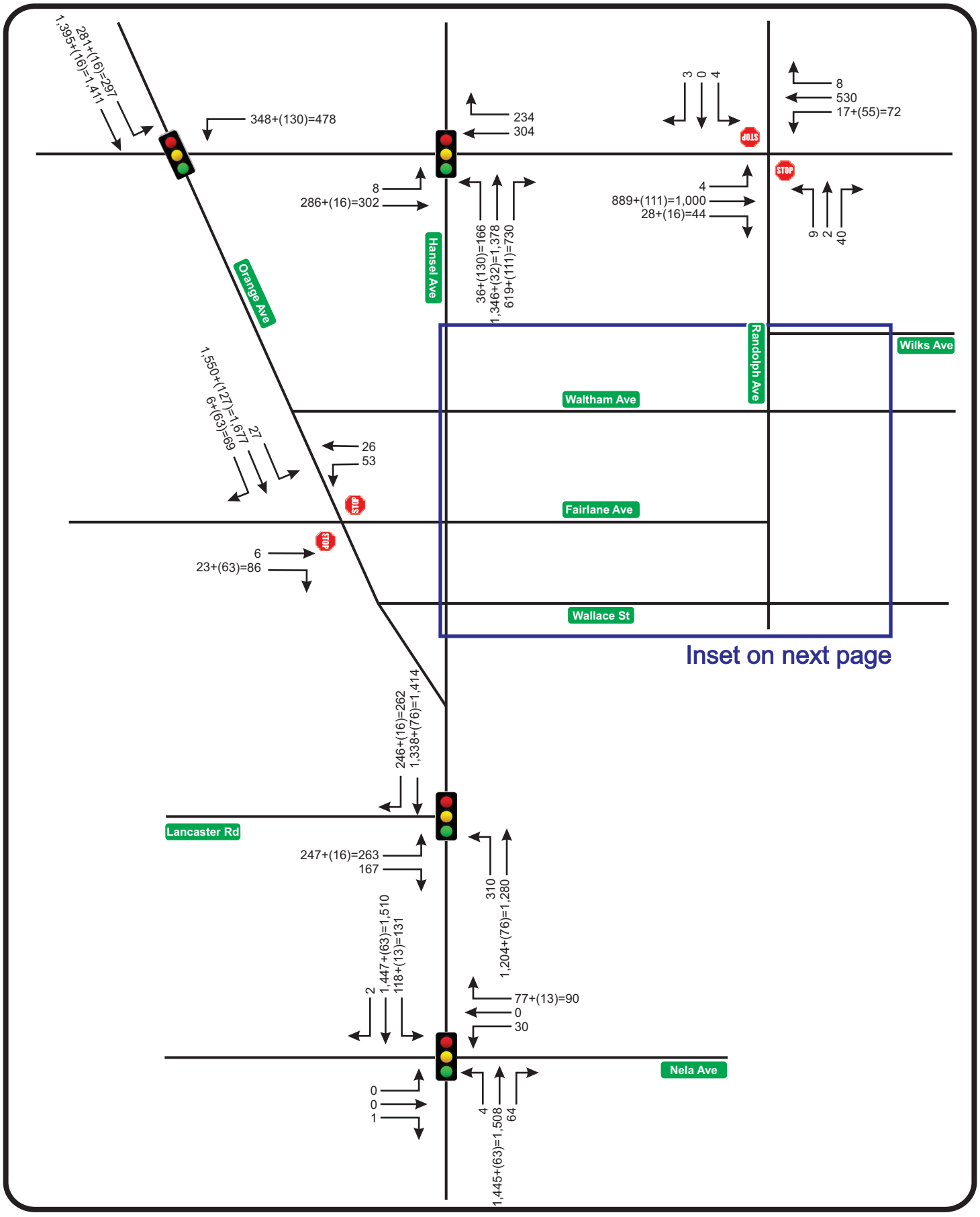


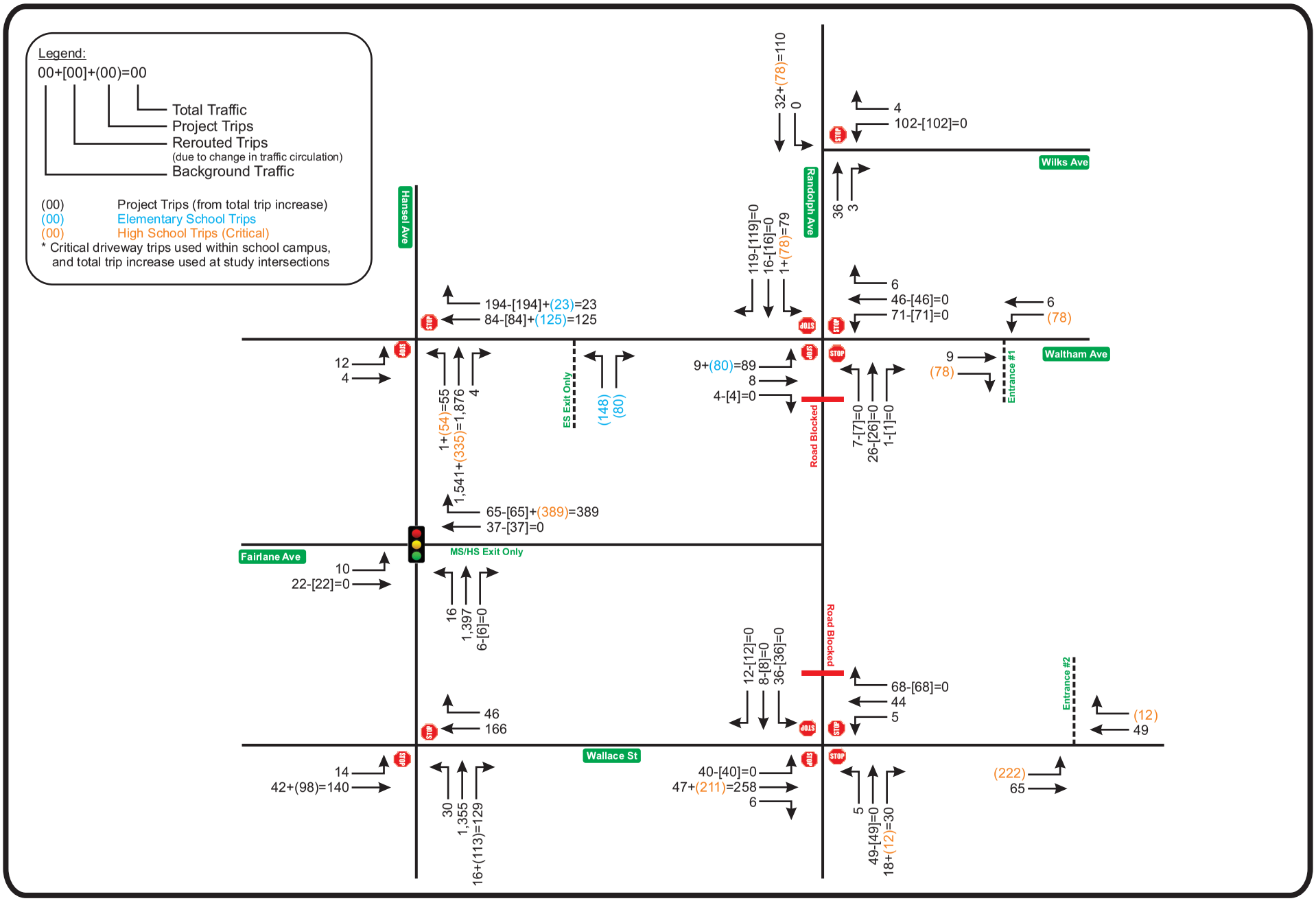
Cornerstone Charter Academy
Project № 5725
Figure 7(b)

Projected A.M. Peak Hour Volumes



Cornerstone Charter Academy
Project № 5725
Figure 7(c)

Projected P.M. Peak Hour Volumes



Cornerstone Charter Academy
Project № 5725
Figure 7(d)

Projected P.M. Peak Hour Volumes

Table 5

Projected Traffic Intersection Capacity Analysis

Int	Intersection	Control	Time Period	EB		WB		NB		SB		Overall	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Hoffner Ave & Randolph Ave	Stop	A.M.	0.0	A	2.4	A	171.9	F *	0.0	A	3.6	A
			P.M.	0.0	A	2.5	A	74.8	F *	103.2	F *	3.5	A
2	Hoffner Ave & Hansel Ave	Signal	A.M.	47.4	D	51.2	D	17.3	B	--	--	26.9	C
			P.M.	64.9	E	58.4	E	15.4	B	--	--	27.7	C
3	Hoffner Ave & Orange Ave	Signal	A.M.	--	--	0.0	A	--	--	0.6	A	0.6	A
			P.M.	--	--	0.0	A	--	--	0.6	A	0.6	A
4	Randolph Ave & Wilks Ave	Stop	A.M.	--	--	8.4	A	0.0	A	0.0	A	0.3	A
			P.M.	--	--	8.5	A	0.0	A	0.0	A	0.1	A
5	Waltham Ave & Randolph Ave	AWSC	A.M.	9.3	A	7.3	A	0.0	A	10.4	B	9.9	A
			P.M.	8.4	A	7.0	A	0.0	A	8.8	A	8.6	A
6	Waltham Ave & Hansel Ave	Stop	A.M.	--	--	1447.0	F	0.0	A	--	--	139.6	F
			P.M.	--	--	769.3	F	0.0	A	--	--	54.2	F
		Signal	A.M.	67.0	E	55.4	E	55.5	E	--	--	55.6	E
			P.M.	76.8	E	49.5	D	26.9	C	--	--	28.9	C
7	Fairlane Ave & Randolph Ave (Closed)	AWSC	A.M.	--	--	--	--	--	--	--	--	--	--
			P.M.	--	--	--	--	--	--	--	--	--	--
8	Fairlane Ave & Hansel Ave	Signal	A.M.	71.5	E	77.1	E	16.9	B	--	--	34.9	C
			P.M.	72.1	E	72.3	E	18.5	B	--	--	30.4	C

* V/C ratio is less than 1.0

Table 5

Projected Traffic Intersection Capacity Analysis (Cont'd)

Int	Intersection	Control	Time Period	EB		WB		NB		SB		Overall	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
9	Fairlane Ave & Orange Ave	Stop	A.M.	**63.5**	**F ***	**637.2**	**F**	--	--	0.0	A	38.2	E
			P.M.	47.3	E	**303.0**	**F**	--	--	0.0	A	14.6	B
10	Wallace St & Randolph Ave	AWSC	A.M.	10.4	B	8.0	A	7.8	A	0.0	A	9.8	A
			P.M.	9.1	A	7.6	A	7.4	A	0.0	A	8.7	A
11	Wallace St & Hansel Ave	Stop	A.M.	**195.3**	**F**	22.5	C	0.0	A	--	--	18.7	C
			P.M.	--	--	**437.0**	**F**	0.0	A	--	--	49.3	E
12	Orange Ave & Lancaster Rd	Signal	A.M.	41.3	D	--	--	11.9	B	18.5	B	18.0	B
			P.M.	54.6	D	--	--	17.4	B	39.9	D	31.9	C
13	Orange Ave & Nela Ave	Signal	A.M.	51.8	D	**98.0**	**F ***	9.6	A	3.8	A	11.9	B
			P.M.	64.8	E	**84.9**	**F ***	9.6	A	1.3	A	8.2	A

* V/C ratio is less than 1.0

ON-SITE QUEUING ANALYSIS

Existing Queues

A preliminary analysis was conducted in order to ensure that the proposed site can accommodate parent vehicles during drop-off/pick-up times. This preliminary analysis was conducted using queuing data collecting in the field during drop-off and pick-up times. The longest queues is recorded in **Table 6**, and the queue data collection is included in **Appendix H**. The longest queue was observed for the High/Middle School afternoon pick-up, on the south side of Randolph Avenue extending east and west on Wallace Street, and on Randolph Avenue south of Wallace Street.

Table 6
Observed Queue Length Summary

	Elementary School		Middle/High School	
	Queue (veh)	Queue (ft)*	Queue (veh)	Queue (ft)*
Drop-off	10	250	26	650
Pick-up	19	475	34	850

* veh X 25 ft/veh

The following is a summary of observations of queues and site circulation:

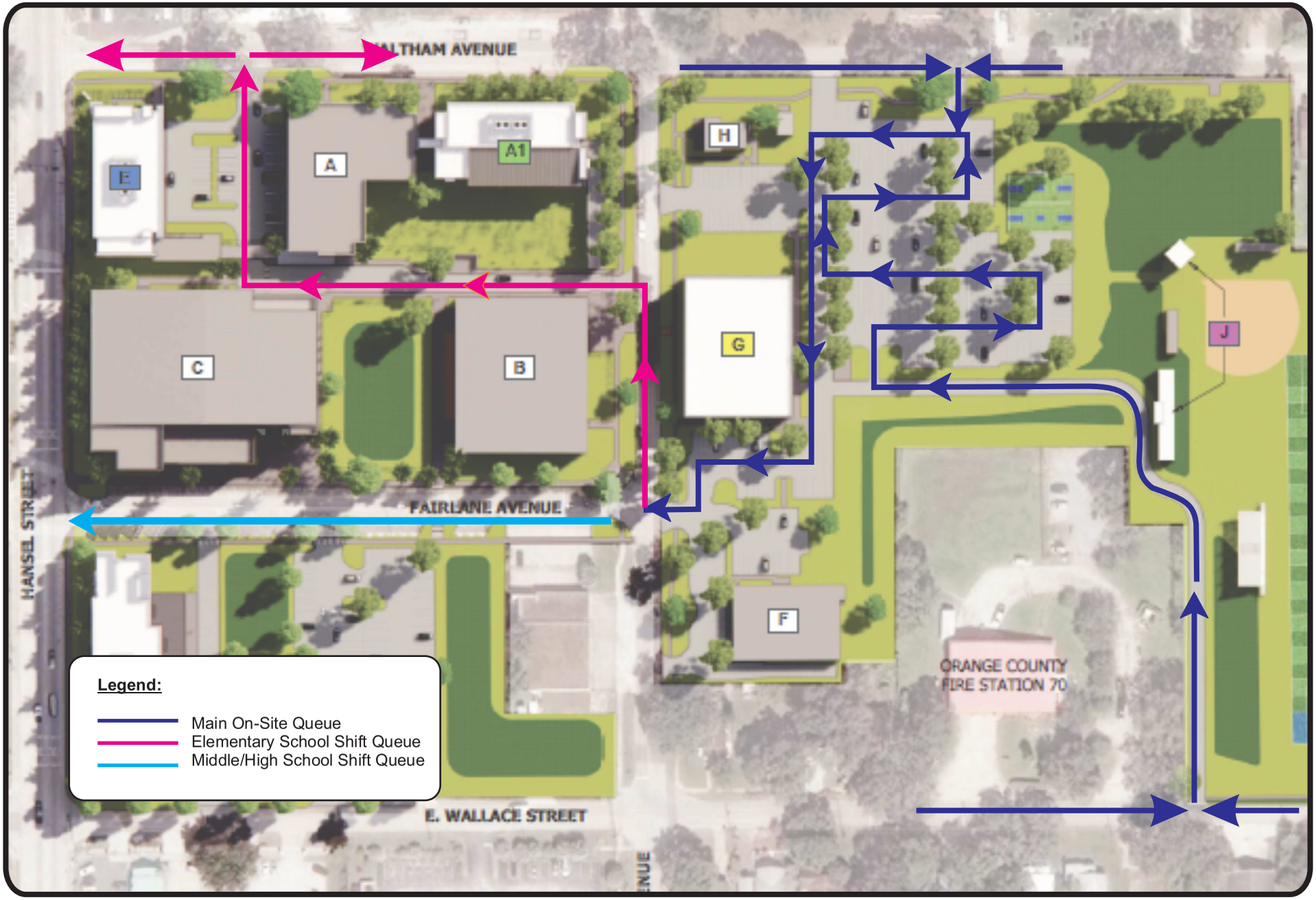
- The pick-up/drop-off for Elementary School and Middle/High School shifts happen ten (10) minutes apart.
- Elementary School pick-up and drop-off currently occurs on Waltham Avenue at designated stops. Kindergarten and 1st grade students are picked up inside the school campus with vehicles entering on Randolph Avenue and exiting on Waltham Avenue. The 2nd to 5th grade students drop-off/pick-up location is on Waltham Avenue. No significant queues were observed during the morning drop-off. However, vehicles start queueing and stop on the adjacent streets prior to dismissal, and queues are observed on Waltham Avenue, Wilks Avenue and Randolph Avenue.
- Traffic attendants and police are present at the intersection of Hansel Avenue and Waltham Avenue, and at the intersection of Waltham Avenue and Randolph Avenue, to direct exiting traffic onto Hansel Avenue.

- Middle and high school students drop-off and pick-up location is on Fairlane Avenue. Queues are observed in the morning and afternoon with higher queues in the afternoon extending east and west of Randolph Avenue on Wallace Street, and on Randolph Avenue south of Wallace Street. Police directs the exiting traffic from Fairlane Avenue onto Hansel Avenue. Exiting traffic yields to large numbers of pedestrians crossing Hansel Avenue to and from the school.

Proposed Site Circulation

The proposed school expansion will include changes to traffic pattern in efforts to accommodate all incoming morning and afternoon traffic within the school site. This can be achieved by creating on-site queueing on the property east of Randolph Avenue. It is proposed that traffic for all three shifts have two entry points, one on Wallace Street east of Randolph Avenue, and the other on Waltham Avenue east of Randolph Avenue. Traffic from the north and the south entry points will merge with the assistance of traffic attendants, and will be routed to the drop-off/pick up area through Randolph Avenue. Traffic will then be allowed to exit on Waltham Avenue for Elementary School shift, and on Fairlane Avenue for Middle/High School shifts. Randolph Avenue will be blocked during these times from both the north on Waltham Avenue and from the south on Wallace Street. Fairlane Avenue will become a one-way westbound street utilized for exiting traffic on Hansel Avenue.

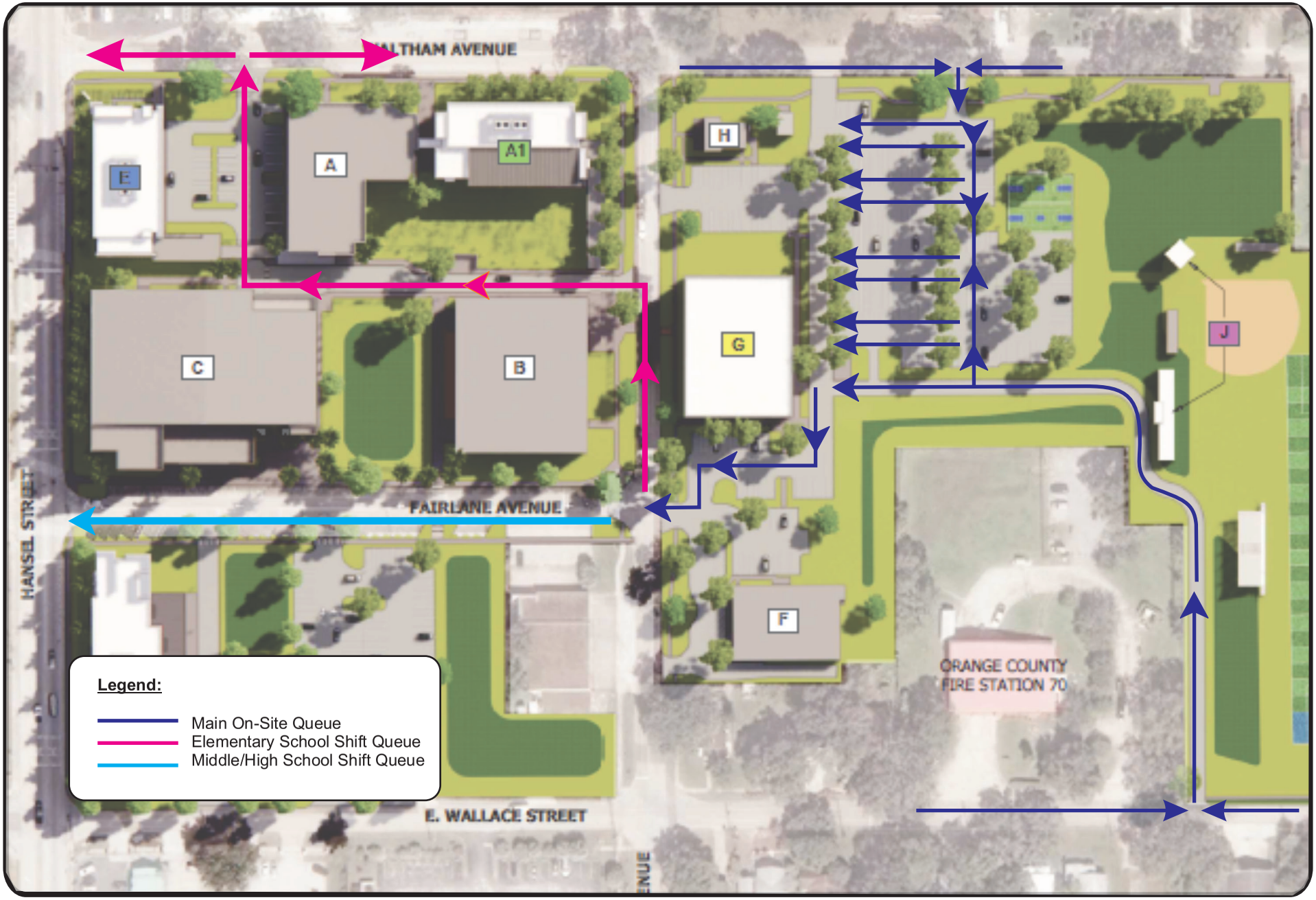
On-site queueing is proposed via two methods, the first method is a conga line configuration with one-lane traffic circulating the existing parking lot, the second is a parallel line configuration that will utilize two parallel lanes in each parking lane. The two methods are displayed in **Figure 8(a)** and **Figure 8(b)**, respectively. The conga line method is estimated to provide 2,700 ft for Elementary School queueing, and 2,500 ft for Middle/High School queueing. The parallel line method is estimated to provide 2,450 ft for Elementary School queuing, and 2,200 ft for Middle/High School queueing.



Cornerstone Charter Academy
Project № 5725
Figure 8(a)

Proposed Traffic Circulation (Conga Line)

N
NTS



Cornerstone Charter Academy
Project № 5725
Figure 8(b)

Proposed Traffic Circulation (Parallel Lines)

N
NTS

Microsimulation Analysis

A microsimulation analysis was conducted for the A.M. and P.M. peak hours in order to determine if the proposed on-site queuing and traffic circulation will be sufficient to accommodate the increase in traffic during the drop-off/pick-up times and to determine the impact on the adjacent roadway segments. This was accomplished using the latest version of Synchro/SimTraffic software and utilizing a preliminary site plan and the proposed traffic circulation. Since the proposed site circulation with Conga Line configuration provides slightly more on-site queueing distance, this method was utilized in the analysis to more accurately depict traffic flow within the site. The queueing reports are included in **Appendix I** and are summarized in **Table 7**. As shown in the table, with implementing the proposed changes, the proposed on-site queueing distance is expected to accommodate the projected traffic during the highest shift without significantly impacting the adjacent roadways.

Table 7
Microsimulation On-Site Queueing Summary

School Shift	Time Period	SimTraffic Queue (ft)	Available Length (ft)	Deficiency (ft)
Elementary	A.M.	3,115	2,700	Yes
	P.M.	2,857	2,700	Yes
Middle/High	A.M.	2,238	2,500	No
	P.M.	2,253	2,500	No

Based on the SimTraffic microsimulation analysis, the highest queues occurred for Elementary School morning drop-off. Some back-up is expected on adjacent roadways, however, most of the queue will be contained within the site and spill-out occurred for a short period of time and dissipated quickly. Elementary school queue backup on adjacent roadways also occurred at afternoon pick-up, but was less significant than the morning queue. No queue spill-out occurred for Middle/High School morning drop-off or afternoon pick-up with the proposed changes.

FINDINGS AND RECOMMENDATIONS

This traffic analysis study was performed per the request of the City of Belle Isle to (a) evaluate the proposed expansion in terms of traffic operations and related queueing, (b) to evaluate the ability of adjacent roadways to accommodate the additional traffic volumes, and (c) to recommend transportation improvements, including traffic circulation and transportation improvements to mitigate congestion resulting from additional site traffic. The primary purpose of this traffic study is to ensure on-site vehicular and pedestrian facilities and circulation are adequately provided to protect public safety and maintain traffic flow efficiency for all users accessing the campus before, during and after school construction.

Cornerstone Charter Academy is a charter school located along the east side of Hansel Avenue, south of Waltham Avenue in the City of Belle Isle, Florida. The existing school enrollment consists of 574 students (K-5) students, and 905 (grades 6-12) students with a total of 1,479 students operating in two drop-off/pick-up shifts. With the proposed expansion, the school will have a total enrollment of 2,420 students (750 k-5 students, 570 grades 5-8 students and 1,100 grades 9-12 students) operating in 3 shifts. The expansion will be on the existing school site in addition to the property on the south side of Fairlane Avenue that is currently occupied by a bank

The following recommendation were developed as part of the Study:

<u>Roadway and Intersection Findings and Recommendations</u>

- The roadway segments are currently operating within their adopted LOS standard except for Hoffner Avenue from Orange Avenue to Oak Island Road, and Orange Avenue from Hansel Avenue (S) to Hansel Avenue (N), and from Hansel Avenue (N) to Holden Avenue. These segments are operating below their Level of Service standards in the existing conditions and will continue to do so with the addition of school-generated trips. Additionally, the segment of Hansel Avenue from Orange Avenue (S) to Orange Avenue (N) is expected to fail in the projected conditions as a result of adding background growth/committed trips and project trips.

- The study intersections included in this comprehensive traffic analysis currently operate at satisfactory Levels of Service under existing conditions except for the following intersections/approaches:
    - Waltham Avenue & Hansel Avenue - EB and WB approaches (AM and PM)
    - Fairlane Avenue & Orange Avenue - WB approach (AM and PM), v/c < 1.0
    - Orange Avenue & Nela Avenue - WB Approach (A.M. only), v/c < 1.0

  As indicated, some of these deficient Levels of Service have V/C ratio less than 1.0, which indicates that the Level of Service is caused by delay, not a capacity deficiency. These intersections will continue to operate at deficient Levels of Service upon the addition of school generated trips.

- In addition to intersections operating at LOS "F" under existing conditions, the following intersections are projected to operate at deficient Levels of Service due to the addition of background traffic growth and/or project trips:

    - Hoffner Avenue & Randolph Avenue - NB approach (AM and PM), SB approach (PM only), v/c < 1.0
    - Fairlane Avenue & Orange Avenue – EB approach ((PM Only), v/c < 1.0
    - Wallace Street & Hansel Avenue - EB approach (AM only), WB approach (PM only)
    - Orange Avenue & Nela Avenue - WB approach (PM), v/c < 1.0

  As indicated, some of these deficient Levels of Service have V/C ratio less than 1.0, which indicates that the Level of Service is caused by delay, not a capacity deficiency. It should be noted that with the proposed traffic plan, the project is not adding any trips to the stop-controlled intersection of Orange Avenue and Fairlane Avenue failing EB/WB approaches or to the intersection of Wallace Street and Hansel Avenue WB approach. The intersection of Hansel Avenue and Waltham Avenue is a stop-controlled intersection. However, during pick-up and dismissal, this intersection is controlled by the City's police and/or traffic attendant that regulate the traffic in a pattern that resembles a signal. Reanalyzing this intersection as signalized for pick-up/drop-off times yields a satisfactory Level of Service

Proposed School Site Findings and Recommendations

The following is a summary of observations of queues and site circulation under existing conditions:

- The pick-up/drop-off for Elementary School and Middle/High School shifts happen ten (10) minutes apart.
- Elementary School pick-up and drop-off currently occurs on Waltham Avenue at designated stops. Kindergarten and 1st grade students are picked up inside the school campus with vehicles entering on Randolph Avenue and exiting on Waltham Avenue. The 2nd to 5th grade students drop-off/pick-up location is on Waltham Avenue. No significant queues were observed during the morning drop-off. However, vehicles start queueing and stop on the adjacent streets prior to dismissal, and queues are observed on Waltham Avenue, Wilks Avenue and Randolph Avenue.
- Traffic attendants and police are present at the intersection of Hansel Avenue and Waltham Avenue, and at the intersection of Waltham Avenue and Randolph Avenue. To direct exiting traffic onto Hansel Avenue.
- Middle and high school students drop-off and pick-up location is on Fairlane Avenue. Queues are observed in the morning and afternoon with higher queues in the afternoon extending east and west of Randolph Avenue on Wallace Street, and on Randolph Avenue south of Wallace Street. Police directs the exiting traffic from Fairlane Avenue onto Hansel Avenue. Exiting traffic yields to large numbers of pedestrians crossing Hansel Avenue to and from the school.

The following improvements should be considered based on review of site plan and analysis of internal circulation:

- Under buildout conditions, the school is proposed to have three shifts for Elementary, Middle and High School. These shifts are recommended to be 30-45 minutes apart in order to ensure queue clearance for the next shift and prevent queue spill back on adjacent streets.

- Upon review of the proposed site plan, the parking lot on the property east of Randolph Avenue is recommended to be utilized to provide on-site queueing for incoming traffic. Providing on site-queueing within the school property will encourage drivers arriving early to wait within the school campus and will provide stacking for incoming vehicles.
  The proposed site circulation plan considers two entry points, one on Waltham Avenue for vehicles coming from the north via Randolph Avenue and Marinell Drive, and one from Wallace Street for vehicles coming from the south. The south entrance will utilize the existing pedestrian pathway which is recommended to be paved for vehicle use and stacking.

- On-site traffic circulation is suggested via two methods illustrated within the study where vehicles stack via a conga line or parallel lines within the parking lot east of Randolph Avenue and exit on Waltham Avenue for Elementary School shift, and on Fairlane Avenue for Middle School and High School shifts. This traffic circulation provides maximum utilization of the school property for on-site stacking. However, the efficient operation during pick-up and dismissal, with the help of traffic attendants and police similar to existing conditions, is a crucial part in managing the queues efficiently and preventing queue spill out on the adjacent streets. This includes the following:

    - Randolph Avenue road should be closed to traffic from both the north on Waltham Avenue and from the south on Wallace Street. This street can be used for overflow vehicles in two lanes if necessary.
    - Vehicles on Fairlane Avenue will be directed to *exit right only* on Hansel Avenue. Vehicles travelling to the south will utilize upstream intersections to turn left and travel south on Orange Avenue. This will prevent westbound queueing at the stop-controlled intersection of Orange Avenue and Fairlane Avenue. This operation during drop-off/dismissal can be achieved with the help of proper signage and police/traffic attendant guidance.
    - Signal changes to the intersection of Hansel Avenue and Fairlane Avenue with split side streets and retiming of the sufficient green time for exiting vehicles on Fairlane Avenue while maintaining coordination timing on Hansel Avenue corridor.

- Change in pedestrian crossing location on Hansel Avenue to prevent vehicles turning right from Fairlane Avenue onto Hansel Avenue to yield to large numbers of pedestrian and create queueing on both the major and minor streets.

- Similar to existing conditions, police/traffic attendant guidance is needed at the intersection of Hansel Avenue and Waltham Avenue during Elementary School shift to create a signal-like operation at the stoop-controlled intersection and provide sufficient time for exiting vehicles from Waltham Avenue to Hansel Avenue.

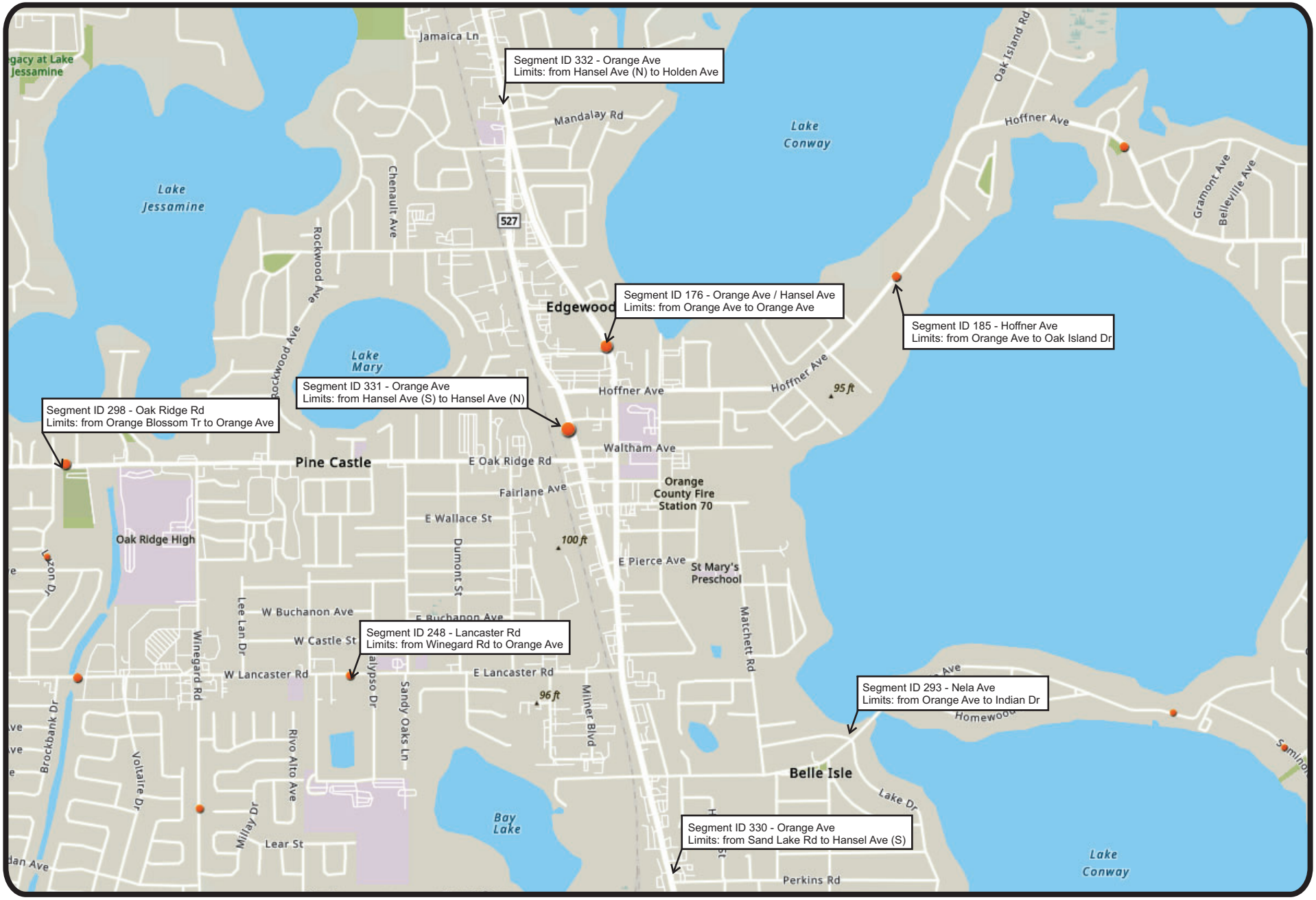
- Station staff members / traffic attendants within the site and at the entry driveways to guide traffic into the school site queue and ensure proper circulation.

It should be noted that this study was analyzed for 100% student drop-off/pick-up as a conservative analysis. The school currently has a large portion of pedestrians and “golf-cart” pick-up locations, and will continue to facilitate and encourage other modes of transportation to mitigate additional traffic generated by the school expansion. Additionally, the school expansion will also expand the after-school programs which will account for a percentage of students staying on campus after dismissal times, and will reduce the number of vehicles arriving to the site at drop-off/dismissal.

APPENDICES

APPENDIX A

Orange County’s CMS Database



Cornerstone Charter Academy
Project № 5725
Appendix A

Orange County Segment Stations

N
NTS

Orange County, Florida
Traffic Concurrency Management Program
Concurrency Link Information
Application Number:

ID	From	To	Lgth	Maint Agency	Capacity Group	Ln	Min LOS	Total Cap	AADT	PmPk	PkDir	Comm Trips	Avail Cap*	LOS
Hoffner Ave														
185	Orange Ave	Oak Island Rd	1.33	Cnty	Urban - Class II	2	E	800	19,626	998	EB	0	0	F
Lancaster Rd														
248	Winegard Rd	Orange Ave	1.01	Cnty	Urban - Class I	4	E	2000	14,009	706	EB	9	1,285	C
Nela Ave														
293	Orange Ave	Indian Dr	1.46	Belle Isle	Urban - Class II	2	E	800	2,963	151	EB	10	639	C
Oak Ridge Rd														
298	Orange Blossom Tr	Orange Ave	1.67	Cnty	Urban - Class II	4	E	1700	31,833	1,518	EB	5	177	D
Orange Ave														
330	Sand Lake Rd	Hansel Ave (S)	1.14	ST	Urban - Class I	5	E	2510	45,787	2,102	NB	19	389	C
331	Hansel Ave (S)	Hansel Ave (N)	1.22	ST	Urban - Class II (1-way)	2	E	2040	25,821	2,324	NB	1	0	F
332	Hansel Ave (N)	Holden Ave	0.75	ST	Urban - Class I	5	E	2510	56,887	2,867	NB	4	0	F
Orange Ave / Hansel Ave														
176	Orange Ave	Orange Ave	1.23	ST	Urban - Class I (1-way)	2	E	2400	48,989	2,337	SB	1	62	D

* It should be noted that the capacities indicated on this information sheet are a snapshot at this specific date and time. Available capacities are subject to change at any time.

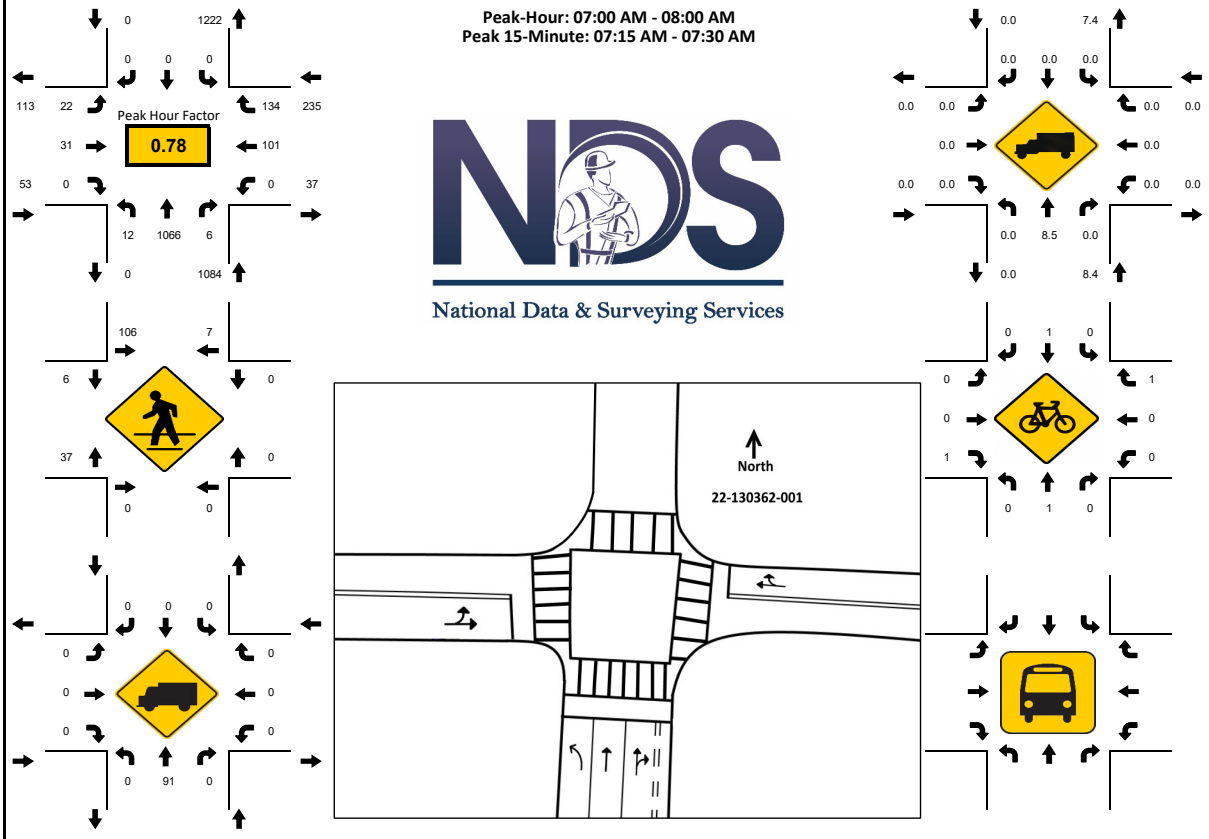
APPENDIX B

Intersection Turning Movement Counts, Signal Timings
and FDOT's Seasonal Reports

LOCATION: SR 527/Hansel Ave & Fairlane Ave
CITY/STATE: Orlando, FL

PROJECT ID: 22-130362-001
DATE: Tue, Dec 06, 2022

Peak-Hour: 07:00 AM - 08:00 AM
Peak 15-Minute: 07:15 AM - 07:30 AM



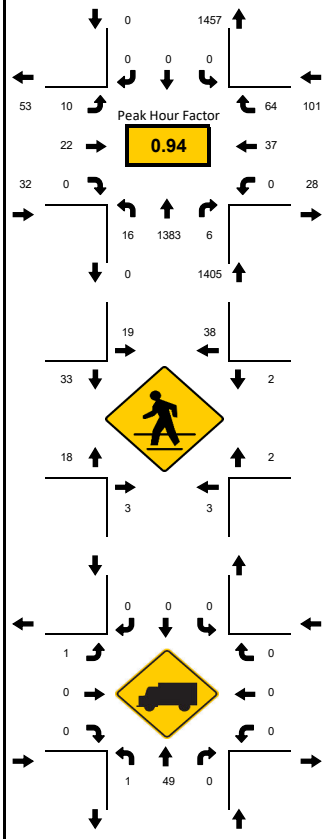
National Data & Surveying Services

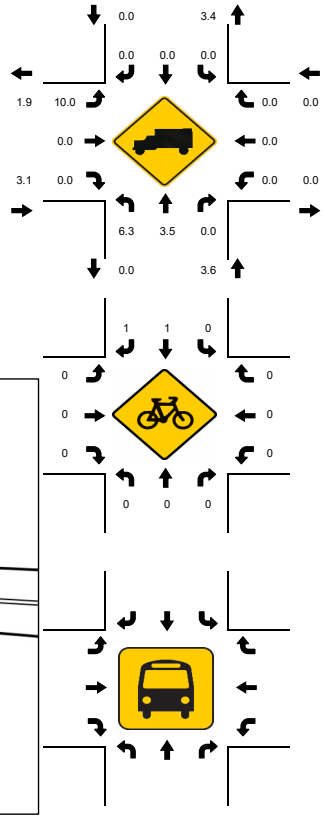
15-Min Count Period Beginning At	SR 527/Hansel Ave Northbound					SR 527/Hansel Ave Southbound					Fairlane Ave Eastbound					Fairlane Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	1	347	1	0		0	0	0	0		0	4	0	0		0	6	15	0		374	1372
07:15 AM	6	324	4	0		0	0	0	0		7	10	0	0		0	47	41	0		439	1333
07:30 AM	3	246	1	0		0	0	0	0		12	12	0	0		0	39	53	0		366	1208
07:45 AM	2	149	0	0		0	0	0	0		3	5	0	0		0	9	25	0		193	1148
08:00 AM	3	318	2	0		0	0	0	0		3	2	0	0		0	1	6	0		335	1280
08:15 AM	2	305	1	0		0	0	0	0		0	1	0	0		0	3	2	0		314	945
08:30 AM	3	300	0	0		0	0	0	0		0	0	0	0		0	2	1	0		306	631
08:45 AM	2	319	0	0		0	0	0	0		1	1	0	0		0	1	1	0		325	325
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	24	1388	16	0		0	0	0	0		48	48	0	0		0	188	212	0		**1924**	
Heavy Trucks	0	132	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**132**	
Pedestrians		0					292					100					0				**392**	
Bicycles	0	4	0	0		0	4	0	0		0	0	4	0		0	0	4	0		**16**	
Buses																						
Stopped Buses																						

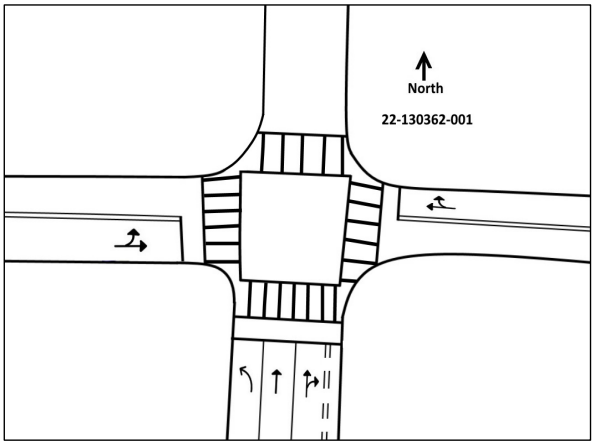
LOCATION: SR 527/Hansel Ave & Fairlane Ave
CITY/STATE: Orlando, FL

PROJECT ID: 22-130362-001
DATE: Tue, Dec 06, 2022

Peak-Hour: 03:00 PM - 04:00 PM
Peak 15-Minute: 03:15 PM - 03:30 PM





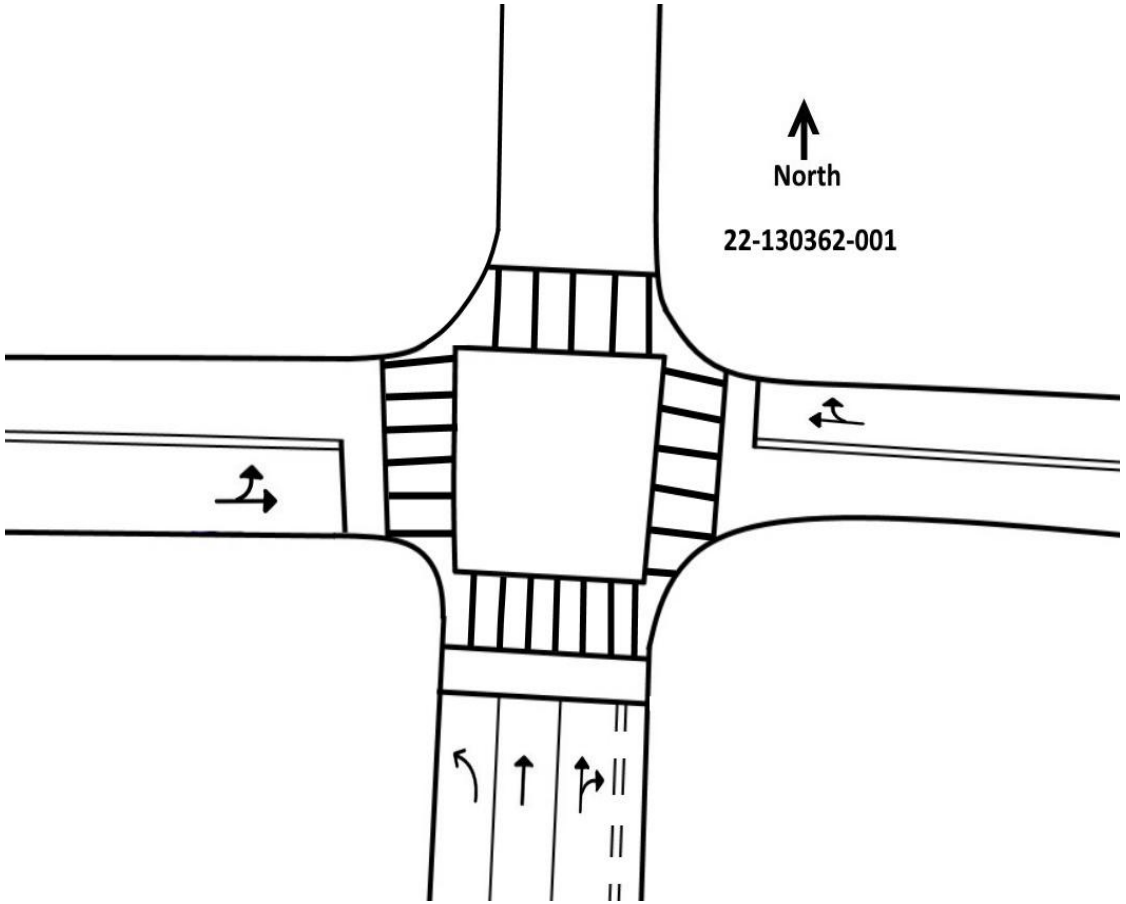


15-Min Count Period Beginning At	SR 527/Hansel Ave Northbound					SR 527/Hansel Ave Southbound					Fairlane Ave Eastbound					Fairlane Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	6	299	1	0		0	0	0	0		0	1	0	0		0	0	2	0		309	1217
02:15 PM	5	338	0	0		0	0	0	0		4	5	0	0		0	1	3	0		356	1286
02:30 PM	8	250	3	0		0	0	0	0		4	3	0	0		0	3	4	0		275	1341
02:45 PM	3	220	0	0		0	0	0	0		8	4	0	0		0	14	28	0		277	1426
03:00 PM	4	319	0	0		0	0	0	0		4	6	0	0		0	20	25	0		378	1538
03:15 PM	5	361	2	0		0	0	0	0		3	9	0	0		0	8	23	0		411	1160
03:30 PM	4	337	3	0		0	0	0	0		1	5	0	0		0	4	6	0		360	749
03:45 PM	3	366	1	0		0	0	0	0		2	2	0	0		0	5	10	0		389	389
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	20	1464	12	0		0	0	0	0		16	36	0	0		0	80	100	0		**1728**	
Heavy Trucks	4	64	0	0		0	0	0	0		4	0	0	0		0	0	0	0		**72**	
Pedestrians		12					108					96					8				**224**	
Bicycles	0	0	0	0		0	4	4	0		0	0	0	0		0	0	0	0		**8**	
Buses																						
Stopped Buses																						

National Data & Surveying Services

N/S Street: **SR 527/Hansel Ave** | Speed: **40 MPH**

E/W Street: **Fairlane Ave** | Speed: **25 MPH**



Site Code: **22-130362-001**

Date: **12/06/2022**

Weather: **Sunny**

City: **Orlando**

County: **Orange**

Count Times: **07:00 - 09:00**

14:00 - 16:00

Control: **Signalized**

SIGNAL TIMING

PHASES	1	2	3
NL/NT	01:18	01:21	01:30
ET/WT	01:23	00:58	00:59

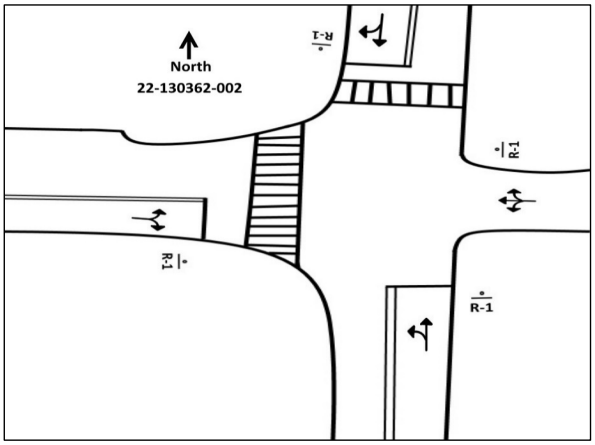
LOCATION: Randolph Ave & Fairlane Ave
CITY/STATE: Orlando, FL

PROJECT ID: 22-130362-002
DATE: Tue, Dec 06, 2022

Peak-Hour: 07:00 AM - 08:00 AM
Peak 15-Minute: 07:15 AM - 07:30 AM

Peak Hour Factor
0.64

National Data & Surveying Services

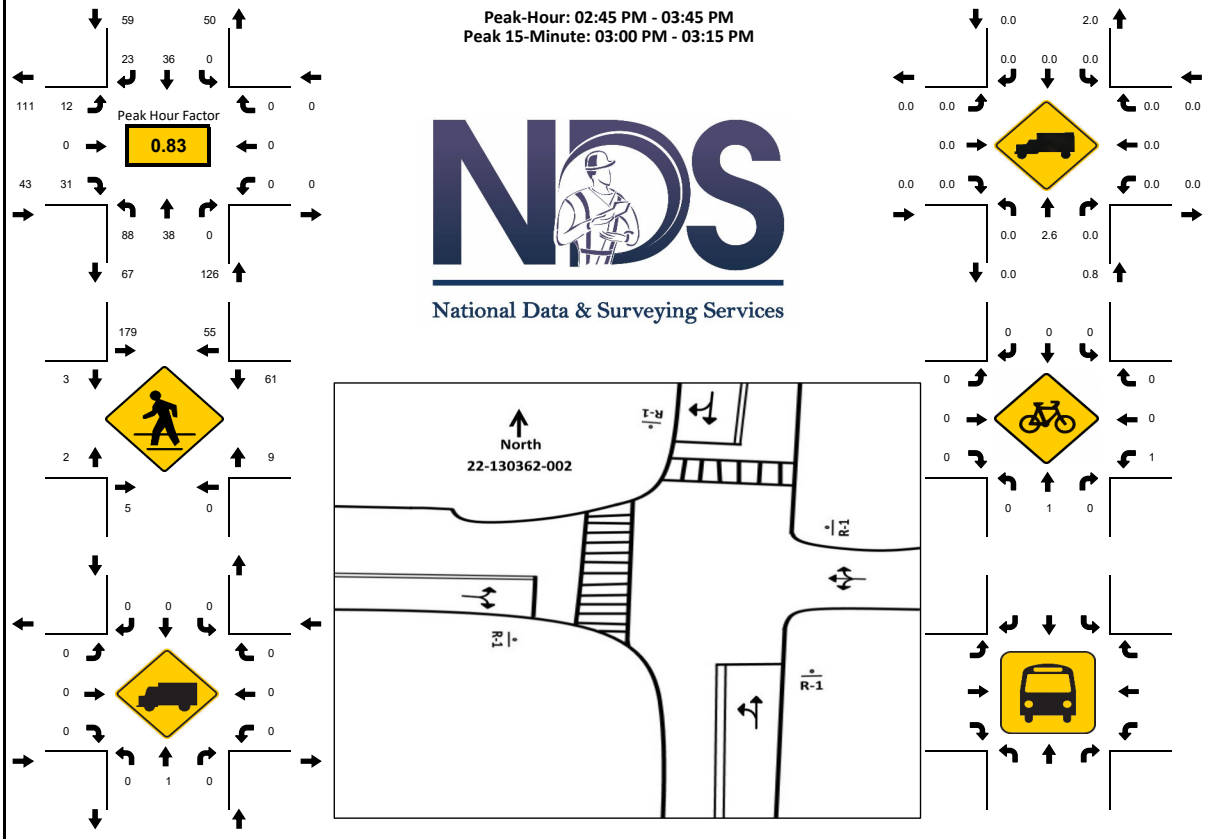


15-Min Count Period Beginning At	Randolph Ave Northbound					Randolph Ave Southbound					Fairlane Ave Eastbound					Fairlane Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	17	2	0	0		0	5	11	0		1	0	4	0		0	0	0	0		40	300
07:15 AM	81	8	0	0		0	10	8	0		0	0	10	0		0	0	0	0		117	296
07:30 AM	99	0	0	0		0	0	0	0		0	0	13	0		0	0	0	0		112	195
07:45 AM	24	1	0	0		0	0	1	0		0	0	4	0		0	0	1	0		31	96
08:00 AM	8	15	0	0		0	4	1	0		4	0	3	0		0	1	0	0		36	81
08:15 AM	4	4	0	0		0	3	2	0		1	0	2	0		0	0	0	0		16	45
08:30 AM	3	7	0	0		0	2	1	0		0	0	0	0		0	0	0	0		13	29
08:45 AM	0	5	0	0		0	9	2	0		0	0	0	0		0	0	0	0		16	16
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	396	32	0	0		0	40	44	0		4	0	52	0		0	0	4	0		**572**	
Heavy Trucks	0	4	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**4**	
Pedestrians		4					292					12					112				**420**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Buses																						
Stopped Buses																						

LOCATION: Randolph Ave & Fairlane Ave
CITY/STATE: Orlando, FL

PROJECT ID: 22-130362-002
DATE: Tue, Dec 06, 2022

Peak-Hour: 02:45 PM - 03:45 PM
Peak 15-Minute: 03:00 PM - 03:15 PM



15-Min Count Period Beginning At	Randolph Ave Northbound					Randolph Ave Southbound					Fairlane Ave Eastbound					Fairlane Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	2	7	0	0		0	6	4	0		0	0	1	0		0	0	0	0		20	117
02:15 PM	9	6	0	0		0	5	1	0		0	0	4	0		0	1	0	0		26	166
02:30 PM	11	0	0	0		0	0	0	0		0	0	7	0		0	0	0	0		18	205
02:45 PM	43	0	0	0		0	0	0	0		0	0	10	0		0	0	0	0		53	228
03:00 PM	35	12	0	0		0	9	3	0		1	0	9	0		0	0	0	0		69	223
03:15 PM	8	17	0	0		0	15	13	0		4	0	8	0		0	0	0	0		65	154
03:30 PM	2	9	0	0		0	12	7	0		7	0	4	0		0	0	0	0		41	89
03:45 PM	7	13	0	0		0	14	9	0		3	0	2	0		0	0	0	0		48	48
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	172	68	0	0		0	60	52	0		28	0	40	0		0	0	0	0		**420**	
Heavy Trucks	0	4	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**4**	
Pedestrians		8					632					8					240				**888**	
Bicycles	0	4	0	0		0	0	0	0		0	0	0	0		4	0	0	0		**8**	
Buses																						
Stopped Buses																						

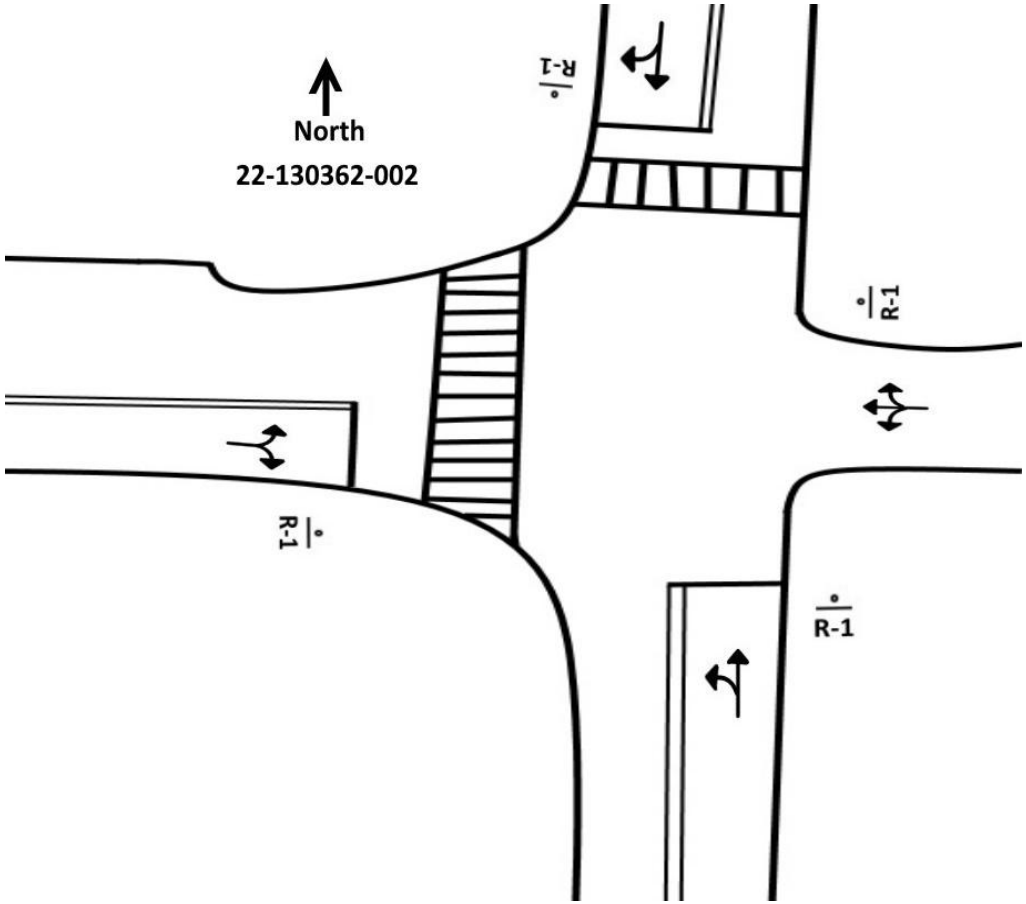
National Data & Surveying Services

Site Code:	**22-130362-002**
Date:	**12/06/2022**
Weather:	**Sunny**
City:	**Orlando**
County:	**Orange**
Count Times:	**07:00 - 09:00**
	14:00 - 16:00
Control:	**4-Way Stop**

N

N/S Street: **Randolph Ave**

Speed: **25 MPH**



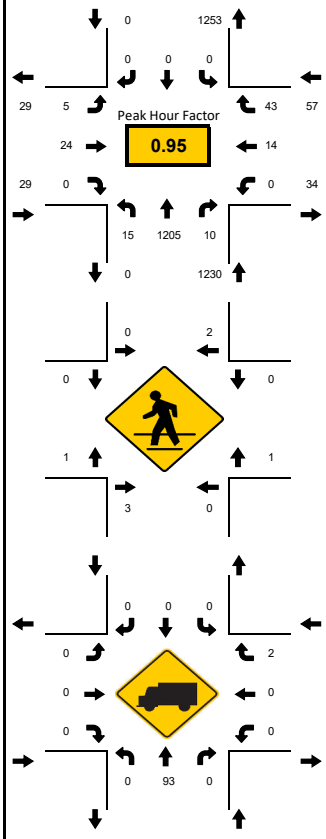
E/W Street: **Fairlane Ave**

Speed: **25 MPH**

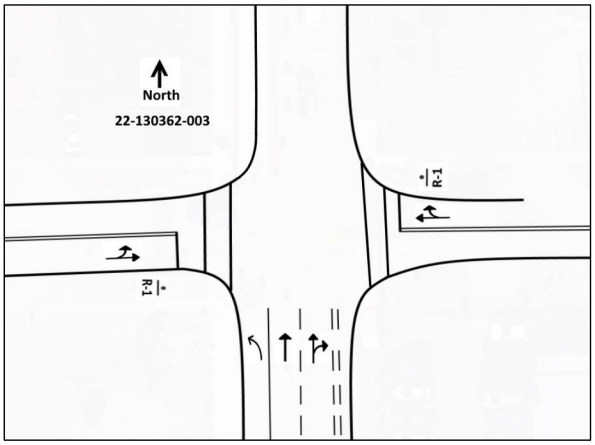
LOCATION: SR 527/Hansel Ave & E Wallace St
CITY/STATE: Orlando, FL

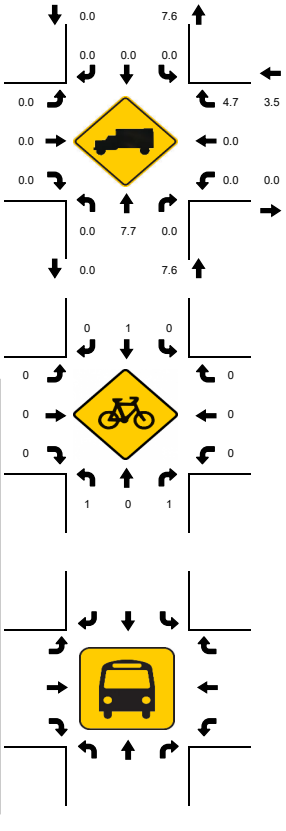
PROJECT ID: 22-130362-003
DATE: Tue, Dec 06, 2022

Peak-Hour: 08:00 AM - 09:00 AM
Peak 15-Minute: 08:45 AM - 09:00 AM



National Data & Surveying Services



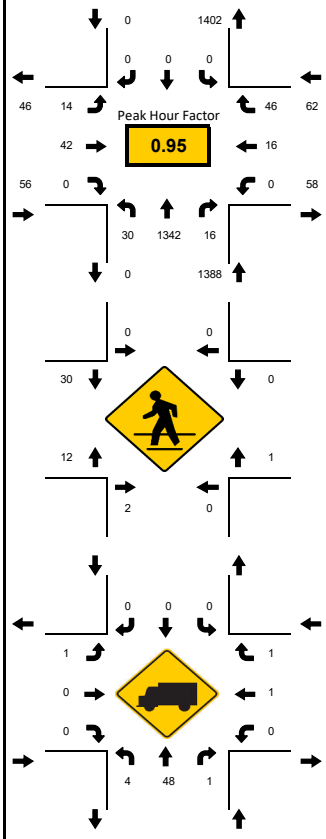


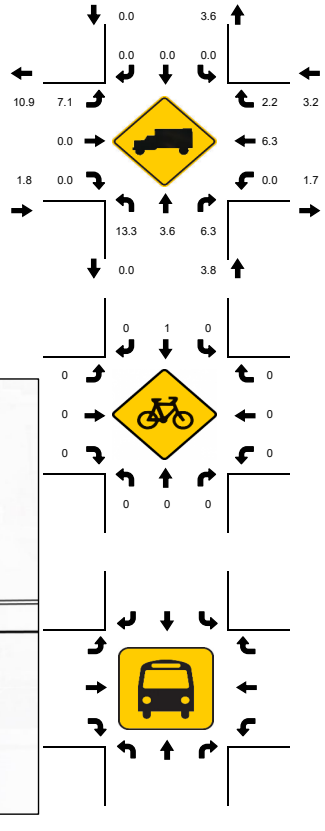
15-Min Count Period Beginning At	SR 527/Hansel Ave Northbound					SR 527/Hansel Ave Southbound					E Wallace St Eastbound					E Wallace St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	4	336	13	0		0	0	0	0		2	8	0	0		0	2	9	0		374	1242
07:15 AM	5	326	25	0		0	0	0	0		3	29	0	0		0	4	7	0		399	1200
07:30 AM	3	233	21	0		0	0	0	0		2	26	0	0		0	6	13	0		304	1121
07:45 AM	3	139	0	0		0	0	0	0		2	7	0	0		0	1	13	0		165	1133
08:00 AM	2	305	1	0		0	0	0	0		3	5	0	0		0	3	13	0		332	1316
08:15 AM	2	298	0	0		0	0	0	0		1	6	0	0		0	3	10	0		320	984
08:30 AM	5	291	3	0		0	0	0	0		1	3	0	0		0	4	9	0		316	664
08:45 AM	6	311	6	0		0	0	0	0		0	10	0	0		0	4	11	0		348	348
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	24	1244	24	0		0	0	0	0		12	40	0	0		0	16	52	0		**1412**	
Heavy Trucks	0	116	0	0		0	0	0	0		0	0	0	0		0	0	8	0		**124**	
Pedestrians		8					8					4					4				**24**	
Bicycles	4	0	4	0		0	4	0	0		0	0	0	0		0	0	0	0		**12**	
Buses																						
Stopped Buses																						

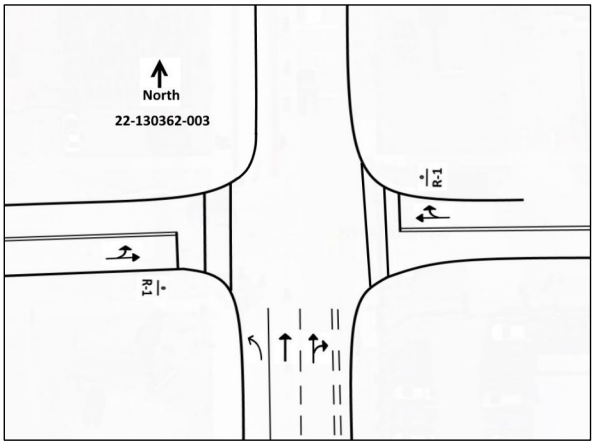
LOCATION: SR 527/Hansel Ave & E Wallace St
CITY/STATE: Orlando, FL

PROJECT ID: 22-130362-003
DATE: Tue, Dec 06, 2022

Peak-Hour: 03:00 PM - 04:00 PM
Peak 15-Minute: 03:45 PM - 04:00 PM







15-Min Count Period Beginning At	SR 527/Hansel Ave Northbound					SR 527/Hansel Ave Southbound					E Wallace St Eastbound					E Wallace St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	4	295	8	0		0	0	0	0		9	5	0	0		0	1	8	0		330	1245
02:15 PM	7	322	4	0		0	0	0	0		6	9	0	0		0	4	9	0		361	1271
02:30 PM	6	253	3	0		0	0	0	0		6	24	0	0		0	1	8	0		301	1299
02:45 PM	6	203	2	0		0	0	0	0		8	23	0	0		0	2	9	0		253	1364
03:00 PM	9	298	3	0		0	0	0	0		4	18	0	0		0	6	18	0		356	1506
03:15 PM	4	356	4	0		0	0	0	0		3	7	0	0		0	4	11	0		389	1150
03:30 PM	10	330	3	0		0	0	0	0		4	6	0	0		0	3	10	0		366	761
03:45 PM	7	358	6	0		0	0	0	0		3	11	0	0		0	3	7	0		395	395
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	40	1432	24	0		0	0	0	0		16	72	0	0		0	24	72	0		**1680**	
Heavy Trucks	8	60	4	0		0	0	0	0		4	0	0	0		0	4	4	0		**84**	
Pedestrians		4					0					84					4				**92**	
Bicycles	0	0	0	0		0	4	0	0		0	0	0	0		0	0	0	0		**4**	
Buses																						
Stopped Buses																						

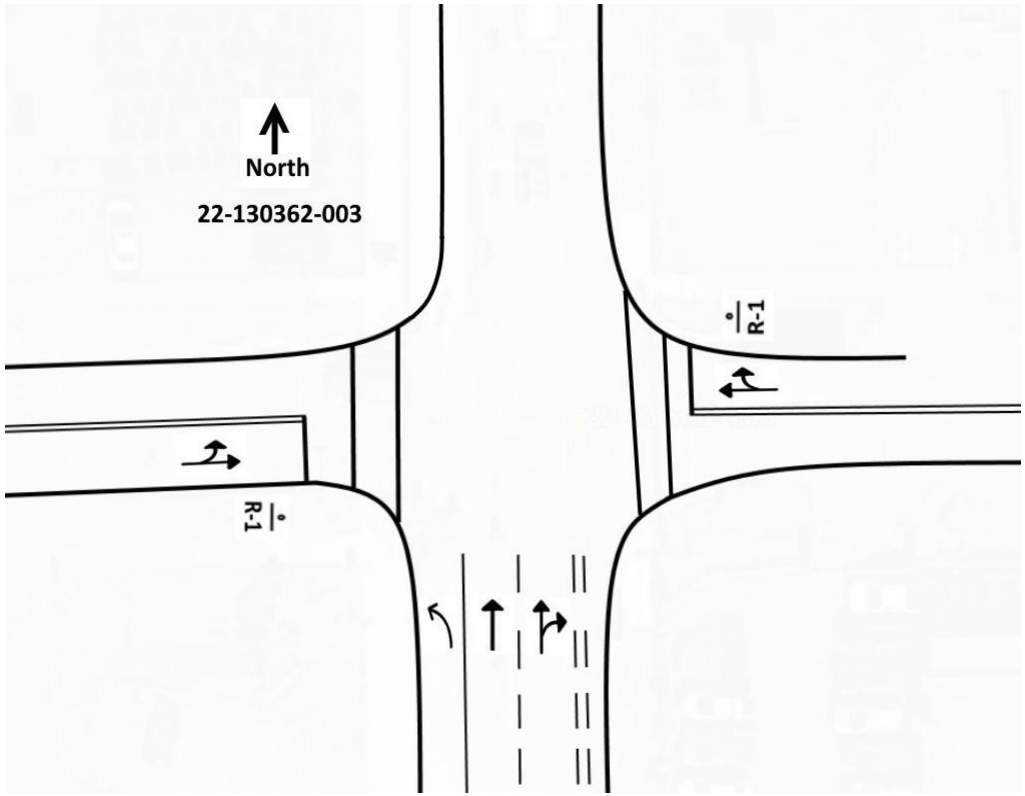
National Data & Surveying Services

Site Code:	**22-130362-003**
Date:	**12/06/2022**
Weather:	**Sunny**
City:	**Orlando**
County:	**Orange**
Count Times:	**07:00 - 09:00**
	14:00 - 16:00
Control:	**2-Way Stop(EB/WB)**

N

N/S Street: **SR 527/Hansel Ave**

Speed: **40 MPH**

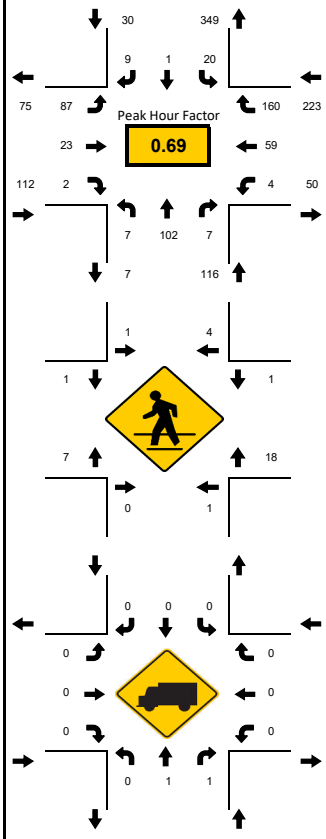


E/W Street: **E Wallace St**

Speed: **N/A**

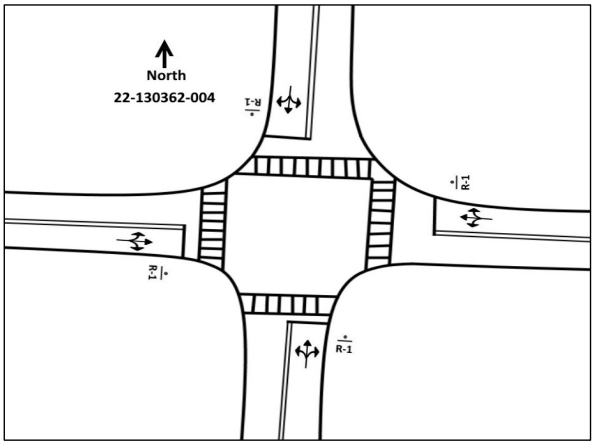
LOCATION: Randolph Ave & E Wallace St
CITY/STATE: Orlando, FL

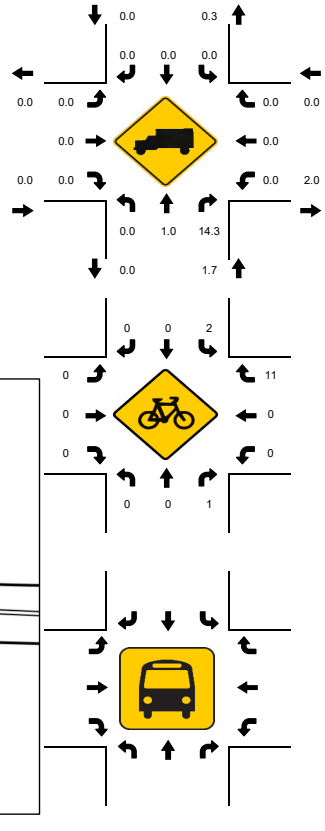
PROJECT ID: 22-130362-004
DATE: Tue, Dec 06, 2022



Peak-Hour: 07:15 AM - 08:15 AM
Peak 15-Minute: 07:30 AM - 07:45 AM

National Data & Surveying Services



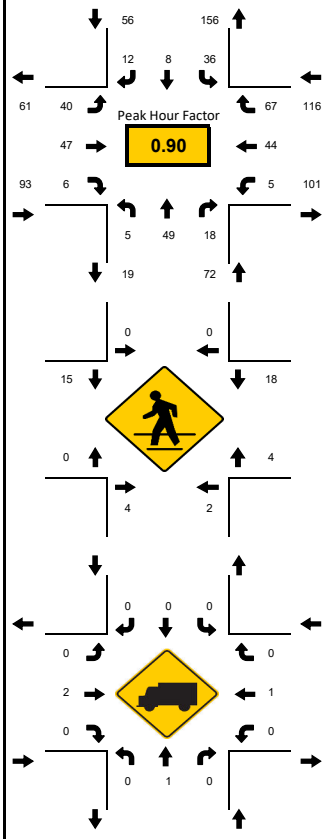


15-Min Count Period Beginning At	Randolph Ave Northbound					Randolph Ave Southbound					E Wallace St Eastbound					E Wallace St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	2	1	0	0		4	1	0	0		16	2	0	0		1	11	14	0		52	476
07:15 AM	0	27	0	0		8	0	4	0		43	7	0	0		0	14	62	0		165	481
07:30 AM	2	51	4	1		7	0	2	0		40	4	0	0		3	20	41	0		175	350
07:45 AM	4	15	1	0		2	0	1	0		4	3	0	0		0	11	43	0		84	200
08:00 AM	0	9	2	0		3	1	2	0		0	9	2	0		1	14	14	0		57	157
08:15 AM	0	0	0	0		5	0	1	0		0	6	0	0		0	14	8	0		34	100
08:30 AM	1	0	0	0		1	0	1	0		2	3	0	0		1	9	7	0		25	66
08:45 AM	0	0	0	0		2	4	3	0		1	13	1	0		1	12	4	0		41	41
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	16	204	16	4		32	4	16	0		172	36	8	0		12	80	248	0		**848**	
Heavy Trucks	0	4	4	0		0	0	0	0		0	0	0	0		0	0	0	0		**8**	
Pedestrians		4					8					16					64				**92**	
Bicycles	0	0	4	0		8	0	0	0		0	0	0	0		0	0	24	0		**36**	
Buses																						
Stopped Buses																						

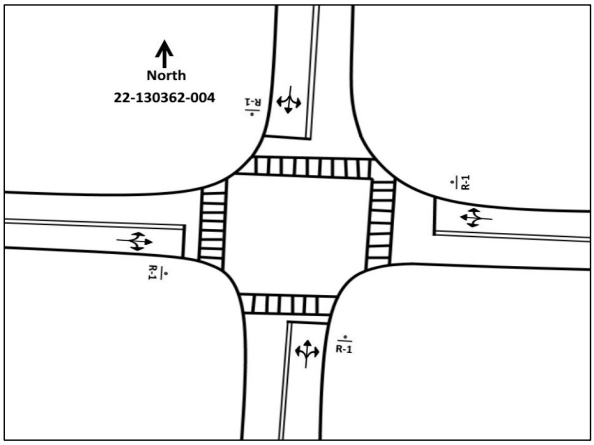
LOCATION: Randolph Ave & E Wallace St
CITY/STATE: Orlando, FL

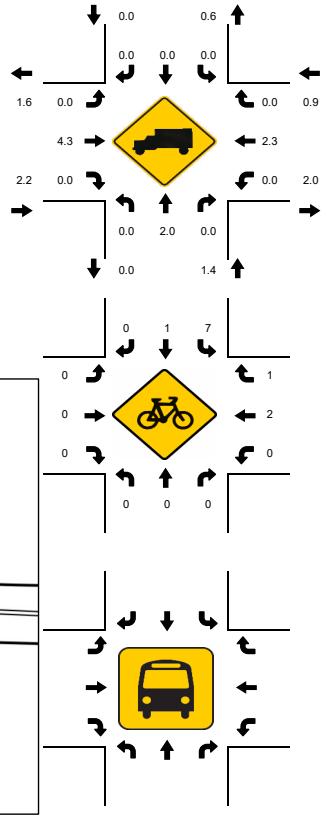
PROJECT ID: 22-130362-004
DATE: Tue, Dec 06, 2022

Peak-Hour: 02:30 PM - 03:30 PM
Peak 15-Minute: 03:00 PM - 03:15 PM



National Data & Surveying Services





15-Min Count Period Beginning At	Randolph Ave Northbound					Randolph Ave Southbound					E Wallace St Eastbound					E Wallace St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	0	3	1	0		3	2	2	0		5	5	2	0		1	10	6	0		40	280
02:15 PM	1	5	0	0		3	1	3	0		7	5	1	0		2	13	14	0		55	334
02:30 PM	1	6	6	0		4	0	0	0		8	23	4	0		3	17	21	0		93	337
02:45 PM	0	20	9	0		8	2	3	0		14	7	1	0		0	8	20	0		92	287
03:00 PM	4	21	3	0		10	1	6	0		13	10	1	0		2	12	11	0		94	256
03:15 PM	0	2	0	0		14	5	3	0		5	7	0	0		0	7	15	0		58	162
03:30 PM	0	6	0	0		9	4	2	0		1	10	0	0		0	5	6	0		43	104
03:45 PM	0	1	0	0		10	2	2	0		4	13	0	0		0	9	20	0		61	61
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***		
All Vehicles	16	84	36	0		56	20	24	0		56	92	16	0		12	68	84	0		**564**	
Heavy Trucks	0	4	0	0		0	0	0	0		0	4	0	0		0	4	0	0		**12**	
Pedestrians		20					0					52					60				**132**	
Bicycles	0	0	0	0		16	4	0	0		0	0	0	0		0	4	4	0		**28**	
Buses																						
Stopped Buses																						

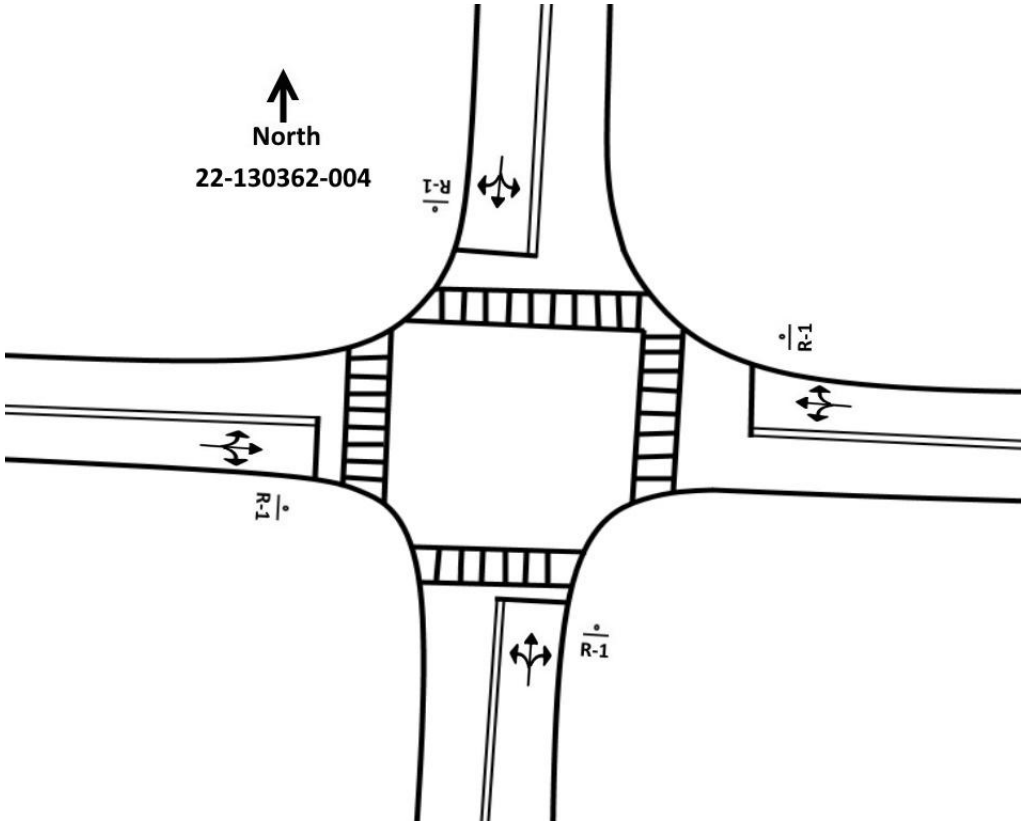
National Data & Surveying Services

Site Code:	**22-130362-004**
Date:	**12/06/2022**
Weather:	**Sunny**
City:	**Orlando**
County:	**Orange**
Count Times:	**07:00 - 09:00**
	14:00 - 16:00
Control:	**4-Way Stop**

N

N/S Street: **Randolph Ave**

Speed: **25 MPH**



E/W Street: **E Wallace St**

Speed: **N/A**

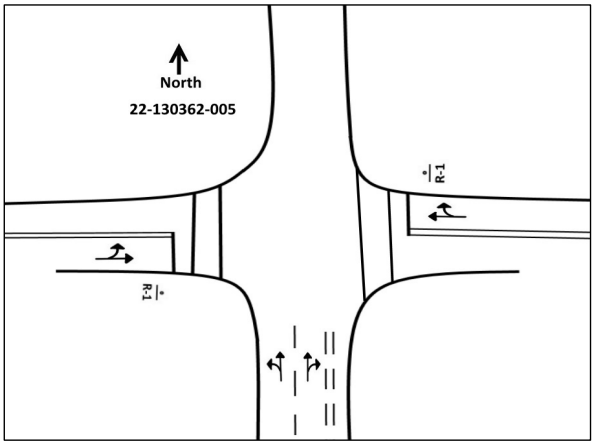
LOCATION: SR 527/Hansel Ave & Waltham Ave
CITY/STATE: Orlando, FL

PROJECT ID: 22-130362-005
DATE: Tue, Dec 06, 2022

Peak-Hour: 07:15 AM - 08:15 AM
Peak 15-Minute: 07:30 AM - 07:45 AM

Peak Hour Factor
0.93

National Data & Surveying Services

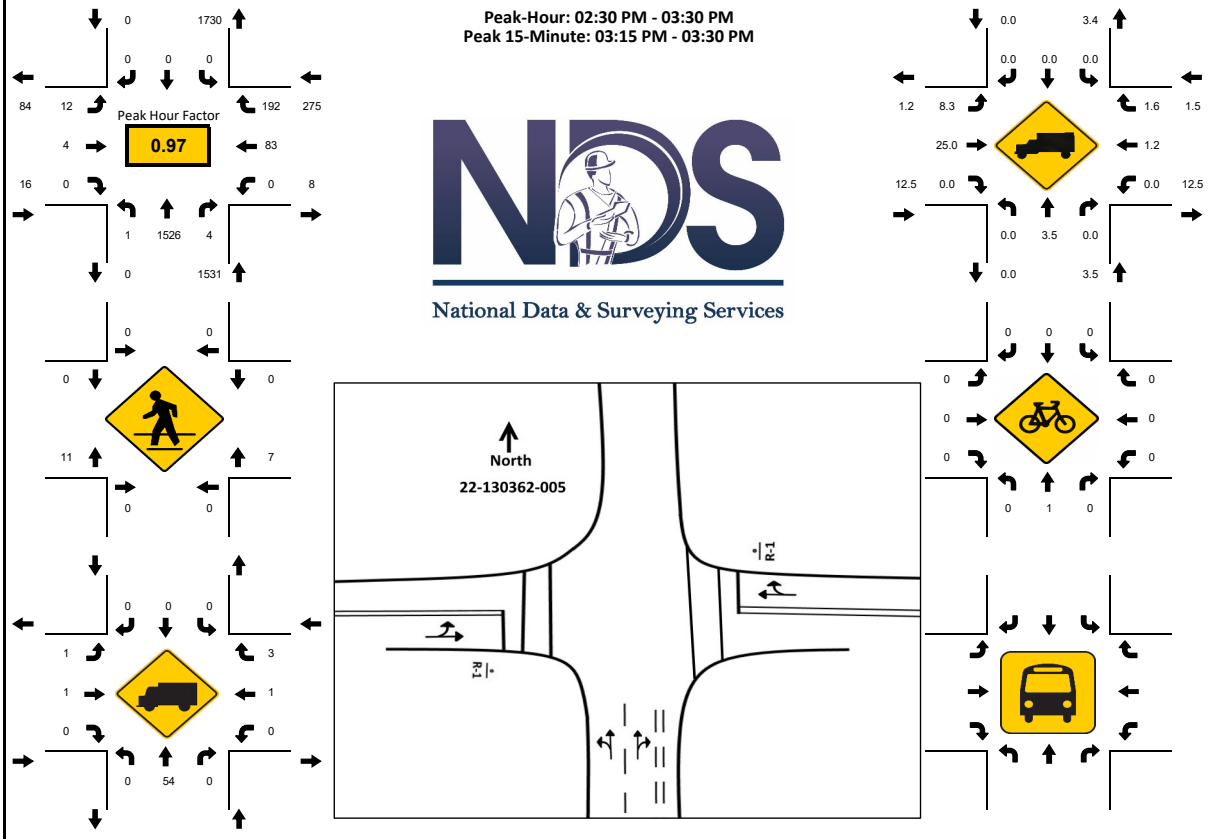


15-Min Count Period Beginning At	SR 527/Hansel Ave Northbound					SR 527/Hansel Ave Southbound					Waltham Ave Eastbound					Waltham Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	0	377	6	0		0	0	0	0		0	5	0	0		0	5	5	0		398	1781
07:15 AM	0	404	8	0		0	0	0	0		2	7	0	0		0	13	16	0		450	1811
07:30 AM	1	386	0	0		0	0	0	0		3	0	0	0		0	33	65	0		488	1731
07:45 AM	0	265	0	0		0	0	0	0		2	0	0	0		0	47	131	0		445	1603
08:00 AM	0	387	1	0		0	0	0	0		2	0	0	0		0	13	25	0		428	1523
08:15 AM	1	353	2	0		0	0	0	0		4	0	0	0		0	3	7	0		370	1095
08:30 AM	3	350	0	0		0	0	0	0		1	0	0	0		0	3	3	0		360	725
08:45 AM	0	357	3	0		0	0	0	0		1	2	0	0		0	2	0	0		365	365
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	4	1616	32	0		0	0	0	0		12	28	0	0		0	188	524	0		**2404**	
Heavy Trucks	0	124	0	0		0	0	0	0		4	0	0	0		0	4	4	0		**136**	
Pedestrians		0					0					12					0				**12**	
Bicycles	0	0	0	0		0	4	0	0		0	0	0	0		0	0	0	0		**4**	
Buses																						
Stopped Buses																						

LOCATION: SR 527/Hansel Ave & Waltham Ave
CITY/STATE: Orlando, FL

PROJECT ID: 22-130362-005
DATE: Tue, Dec 06, 2022

Peak-Hour: 02:30 PM - 03:30 PM
Peak 15-Minute: 03:15 PM - 03:30 PM



National Data & Surveying Services

15-Min Count Period Beginning At	SR 527/Hansel Ave Northbound					SR 527/Hansel Ave Southbound					Waltham Ave Eastbound					Waltham Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	1	363	2	0		0	0	0	0		2	0	0	0		0	1	3	0		372	1672
02:15 PM	2	404	3	0		0	0	0	0		1	2	0	0		0	1	2	0		415	1767
02:30 PM	0	337	0	0		0	0	0	0		2	0	0	0		0	28	71	0		438	1822
02:45 PM	0	331	0	0		0	0	0	0		5	0	0	0		0	35	76	0		447	1799
03:00 PM	0	415	2	0		0	0	0	0		4	1	0	0		0	15	30	0		467	1790
03:15 PM	1	443	2	0		0	0	0	0		1	3	0	0		0	5	15	0		470	1323
03:30 PM	0	388	5	0		0	0	0	0		2	1	0	0		0	4	15	0		415	853
03:45 PM	1	414	3	0		0	0	0	0		2	4	0	0		0	3	11	0		438	438
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	4	1772	8	0		0	0	0	0		20	12	0	0		0	140	304	0		**2260**	
Heavy Trucks	0	68	0	0		0	0	0	0		4	4	0	0		0	4	8	0		**88**	
Pedestrians		0					0					24					20				**44**	
Bicycles	0	4	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**4**	
Buses																						
Stopped Buses																						

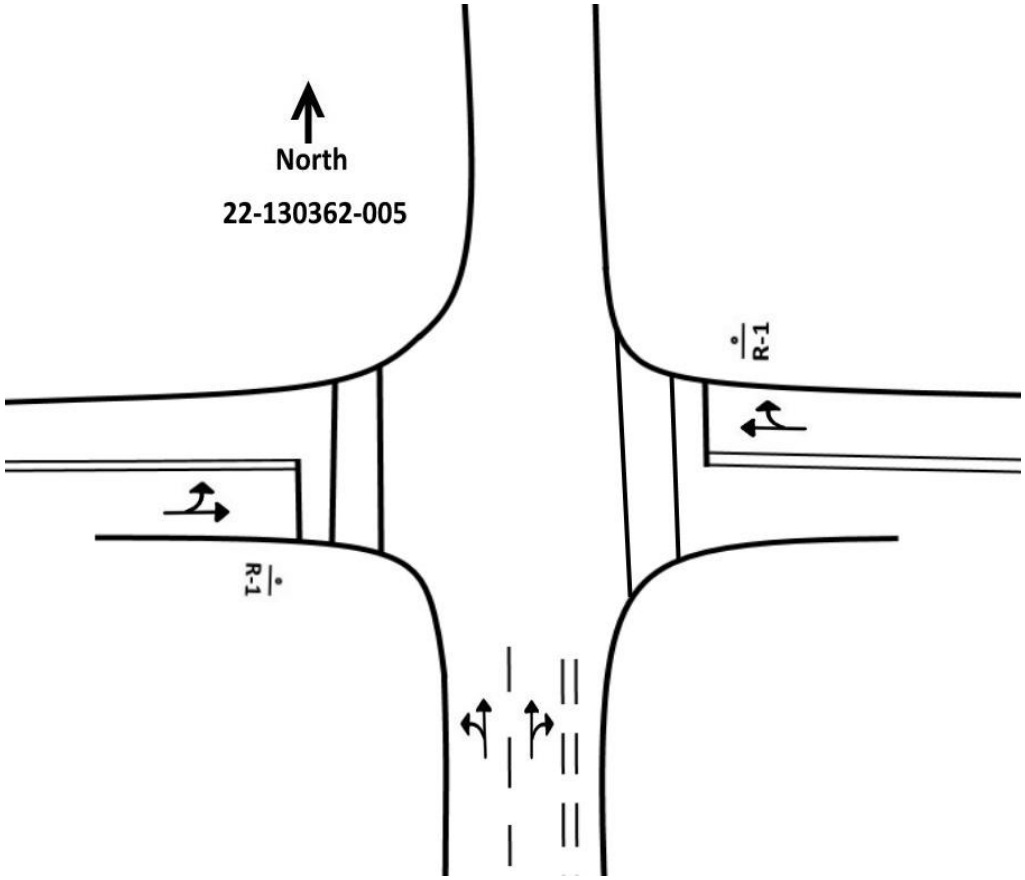
National Data & Surveying Services

Site Code:	**22-130362-005**
Date:	**12/06/2022**
Weather:	**Sunny**
City:	**Orlando**
County:	**Orange**
Count Times:	**07:00 - 09:00**
	14:00 - 16:00
Control:	**2-Way Stop(EB/WB)**

N

N/S Street: **SR 527/Hansel Ave**

Speed: **40 MPH**



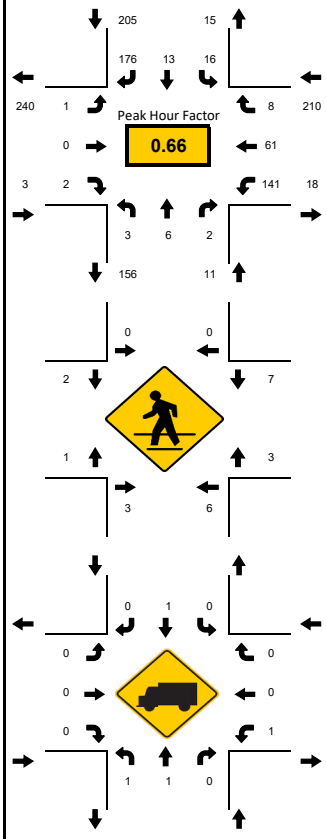
E/W Street: **Waltham Ave**

Speed: **25 MPH**

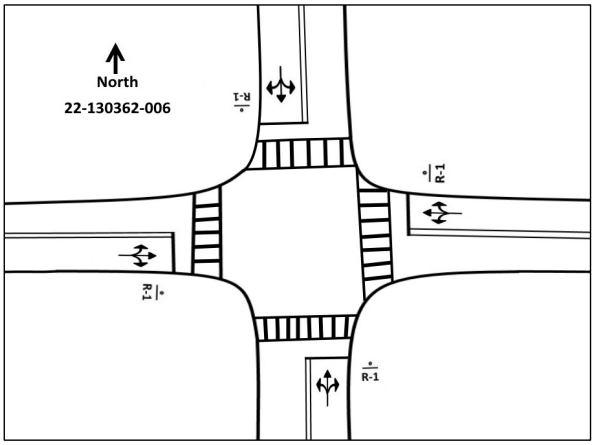
LOCATION: Randolph Ave & Waltham Ave
CITY/STATE: Orlando, FL

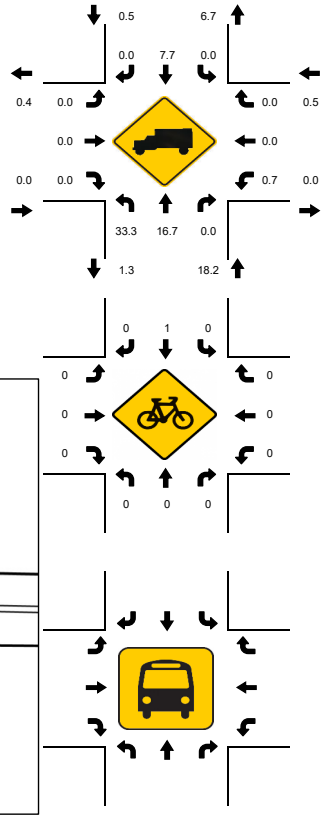
PROJECT ID: 22-130362-006
DATE: Tue, Dec 06, 2022

Peak-Hour: 07:00 AM - 08:00 AM
Peak 15-Minute: 07:45 AM - 08:00 AM



National Data & Surveying Services



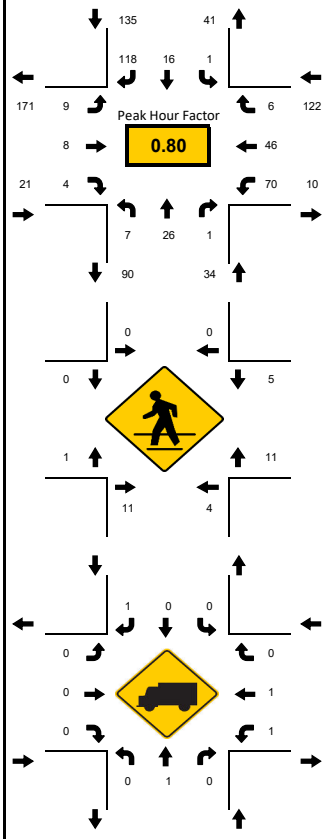


15-Min Count Period Beginning At	Randolph Ave Northbound					Randolph Ave Southbound					Waltham Ave Eastbound					Waltham Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	1	1	0	0		4	9	10	0		0	0	2	0		9	12	0	0		48	429
07:15 AM	1	5	2	0		7	2	25	0		1	0	0	0		13	25	1	0		82	418
07:30 AM	0	0	0	0		4	0	59	0		0	0	0	0		49	19	5	0		136	354
07:45 AM	1	0	0	0		1	2	82	0		0	0	0	0		70	5	2	0		163	232
08:00 AM	7	9	1	0		0	5	6	0		0	2	1	0		3	3	0	0		37	93
08:15 AM	4	2	0	0		0	4	2	0		0	1	2	0		0	3	0	0		18	56
08:30 AM	1	5	0	0		0	3	3	0		0	0	0	0		0	2	0	0		14	38
08:45 AM	0	4	1	0		0	6	2	0		3	1	1	0		6	0	0	0		24	24
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	4	20	8	0		28	36	328	0		4	0	8	0		280	100	20	0		**836**	
Heavy Trucks	4	4	0	0		0	4	0	0		0	0	0	0		4	0	0	0		**16**	
Pedestrians		20					0					12					28				**60**	
Bicycles	0	0	0	0		0	4	0	0		0	0	0	0		0	0	0	0		**4**	
Buses																						
Stopped Buses																						

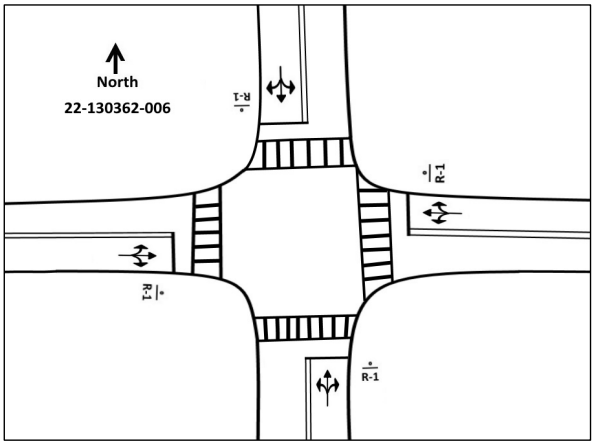
LOCATION: Randolph Ave & Waltham Ave
CITY/STATE: Orlando, FL

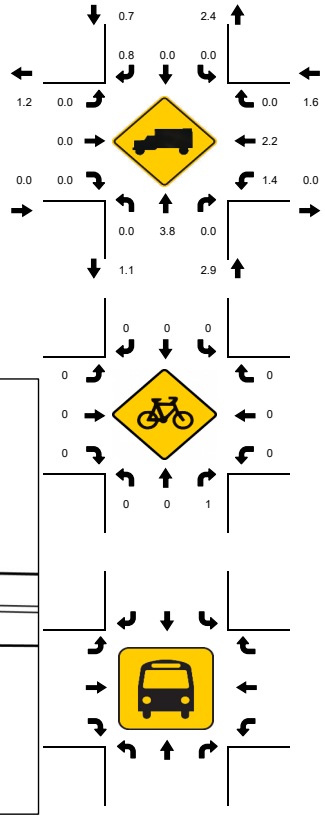
PROJECT ID: 22-130362-006
DATE: Tue, Dec 06, 2022

Peak-Hour: 02:30 PM - 03:30 PM
Peak 15-Minute: 02:45 PM - 03:00 PM



National Data & Surveying Services





15-Min Count Period Beginning At	Randolph Ave Northbound					Randolph Ave Southbound					Waltham Ave Eastbound					Waltham Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	0	6	3	0		0	6	12	0		1	0	1	0		3	4	1	0		37	270
02:15 PM	1	3	1	0		0	3	6	0		2	3	0	0		31	0	0	0		50	282
02:30 PM	0	0	0	0		0	0	50	0		0	0	0	0		32	3	0	0		85	312
02:45 PM	0	0	0	0		0	0	54	0		0	0	0	0		23	17	4	0		98	286
03:00 PM	0	8	0	0		0	4	6	0		2	2	1	0		4	20	2	0		49	246
03:15 PM	7	18	1	0		1	12	8	0		7	6	3	0		11	6	0	0		80	197
03:30 PM	9	4	4	0		2	13	4	0		3	9	3	0		2	6	0	0		59	117
03:45 PM	5	8	4	0		2	15	5	0		0	6	3	0		5	5	0	0		58	58
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	28	72	4	0		4	48	216	0		28	24	12	0		128	80	16	0		**660**	
Heavy Trucks	0	4	0	0		0	0	4	0		0	0	0	0		4	4	0	0		**16**	
Pedestrians		28					0					4					32				**64**	
Bicycles	0	0	4	0		0	0	0	0		0	0	0	0		0	0	0	0		**4**	
Buses																						
Stopped Buses																						

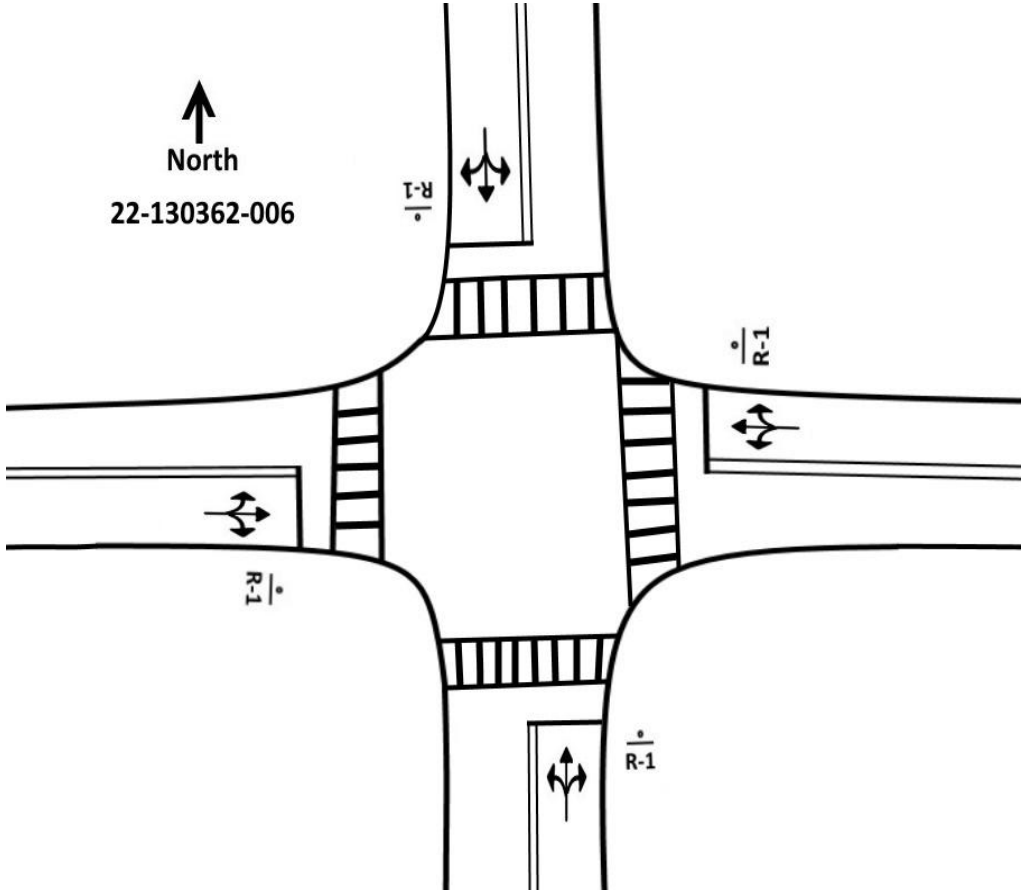
National Data & Surveying Services

Site Code:	**22-130362-006**
Date:	**12/06/2022**
Weather:	**Sunny**
City:	**Orlando**
County:	**Orange**
Count Times:	**07:00 - 09:00**
	14:00 - 16:00
Control:	**4-Way Stop**

N

N/S Street: **Randolph Ave**

Speed: **25 MPH**



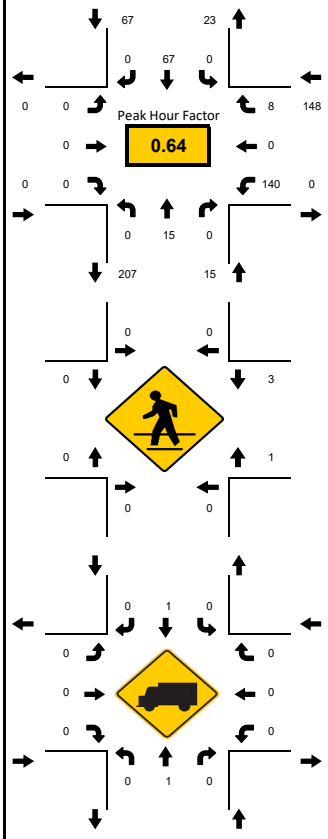
E/W Street: **Waltham Ave**

Speed: **25 MPH**

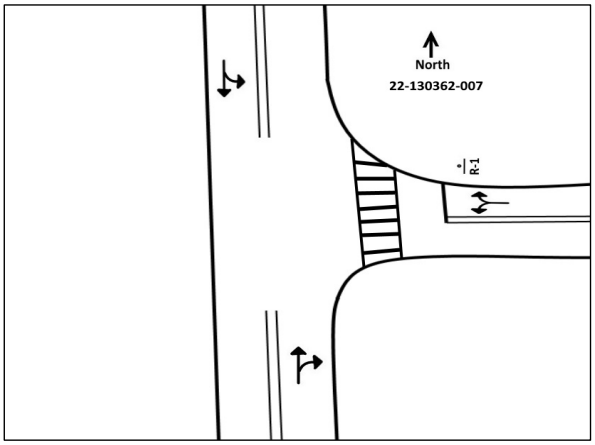
LOCATION: Randolph Ave & Wilks Ave
CITY/STATE: Orlando, FL

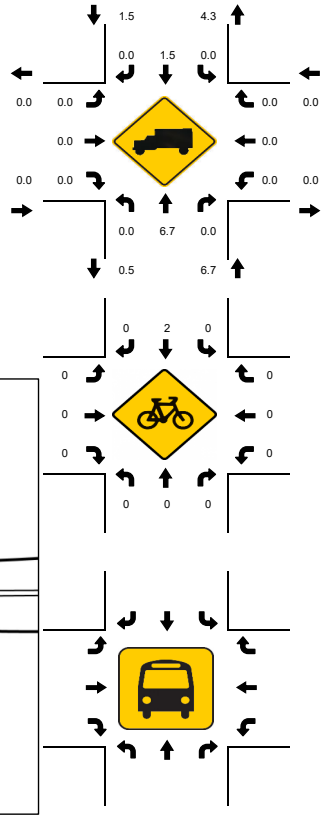
PROJECT ID: 22-130362-007
DATE: Tue, Dec 06, 2022

Peak-Hour: 07:00 AM - 08:00 AM
Peak 15-Minute: 07:45 AM - 08:00 AM



National Data & Surveying Services

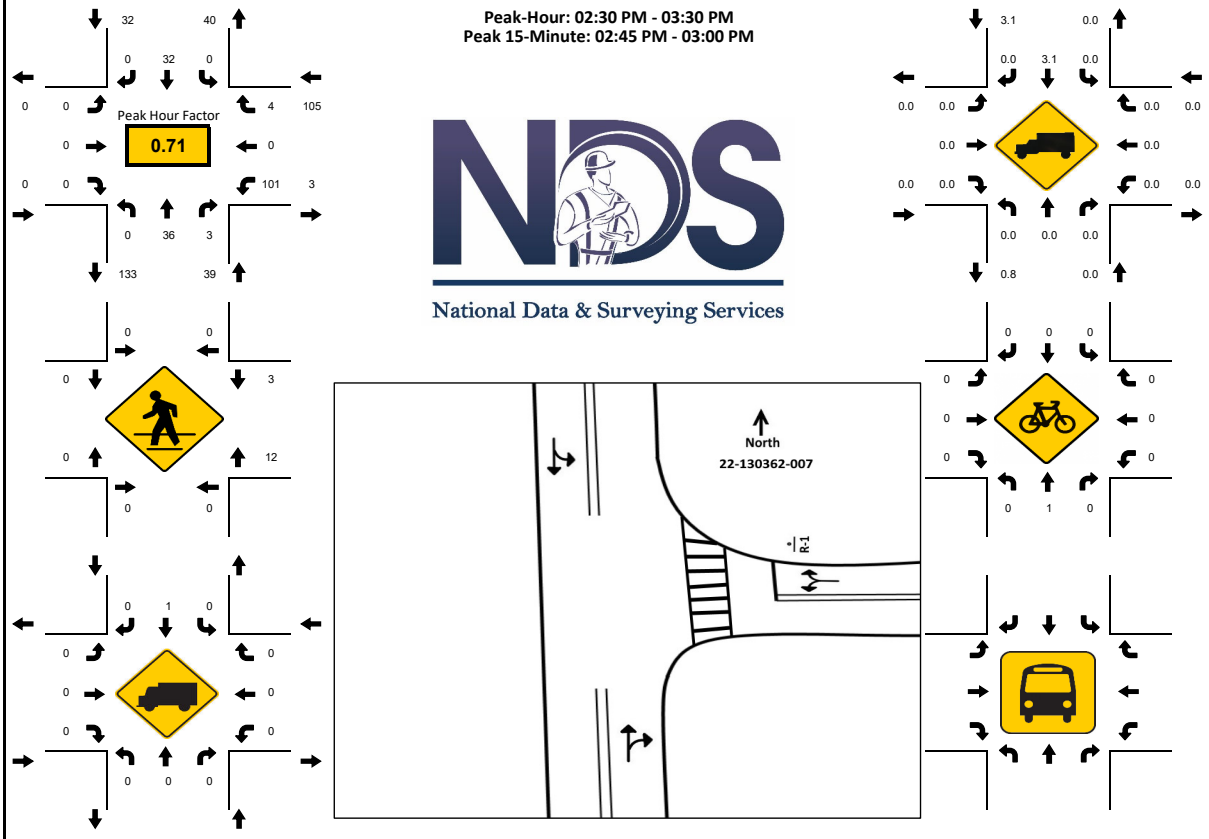




15-Min Count Period Beginning At	Randolph Ave Northbound					Randolph Ave Southbound					Wilks Ave Eastbound					Wilks Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	0	1	0	0		0	23	0	0		0	0	0	0		1	0	1	0		26	230
07:15 AM	0	7	0	0		0	18	0	0		0	0	0	0		19	0	2	0		46	224
07:30 AM	0	4	0	0		0	12	0	0		0	0	0	0		48	0	4	0		68	186
07:45 AM	0	3	0	0		0	14	0	0		0	0	0	0		72	0	1	0		90	128
08:00 AM	0	9	0	0		0	8	0	0		0	0	0	0		2	0	1	0		20	54
08:15 AM	0	2	0	0		0	5	0	0		0	0	0	0		1	0	0	0		8	34
08:30 AM	0	4	0	0		0	6	0	0		0	0	0	0		0	0	0	0		10	26
08:45 AM	0	8	0	0		0	8	0	0		0	0	0	0		0	0	0	0		16	16
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	28	0	0		0	92	0	0		0	0	0	0		288	0	16	0		**424**	
Heavy Trucks	0	4	0	0		0	4	0	0		0	0	0	0		0	0	0	0		**8**	
Pedestrians		0					0					0					16				**16**	
Bicycles	0	0	0	0		0	4	0	0		0	0	0	0		0	0	0	0		**4**	
Buses																						
Stopped Buses																						

LOCATION: Randolph Ave & Wilks Ave
CITY/STATE: Orlando, FL

PROJECT ID: 22-130362-007
DATE: Tue, Dec 06, 2022



15-Min Count Period Beginning At	Randolph Ave Northbound					Randolph Ave Southbound					Wilks Ave Eastbound					Wilks Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	0	6	1	0		0	11	0	0		0	0	0	0		6	0	0	0		24	153
02:15 PM	0	5	0	1		0	10	0	0		0	0	0	0		2	0	1	0		19	147
02:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		46	0	2	0		48	176
02:45 PM	0	4	0	0		0	2	0	0		0	0	0	0		54	0	2	0		62	154
03:00 PM	0	9	1	0		0	7	0	0		0	0	0	0		1	0	0	0		18	124
03:15 PM	0	23	2	0		0	23	0	0		0	0	0	0		0	0	0	0		48	106
03:30 PM	0	8	0	0		0	17	0	0		0	0	0	0		0	0	1	0		26	58
03:45 PM	0	8	0	0		0	22	0	0		0	0	0	0		2	0	0	0		32	32
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	92	8	0		0	92	0	0		0	0	0	0		216	0	8	0		**416**	
Heavy Trucks	0	0	0	0		0	4	0	0		0	0	0	0		0	0	0	0		**4**	
Pedestrians		0					0					0					24				**24**	
Bicycles	0	4	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**4**	
Buses																						
Stopped Buses																						

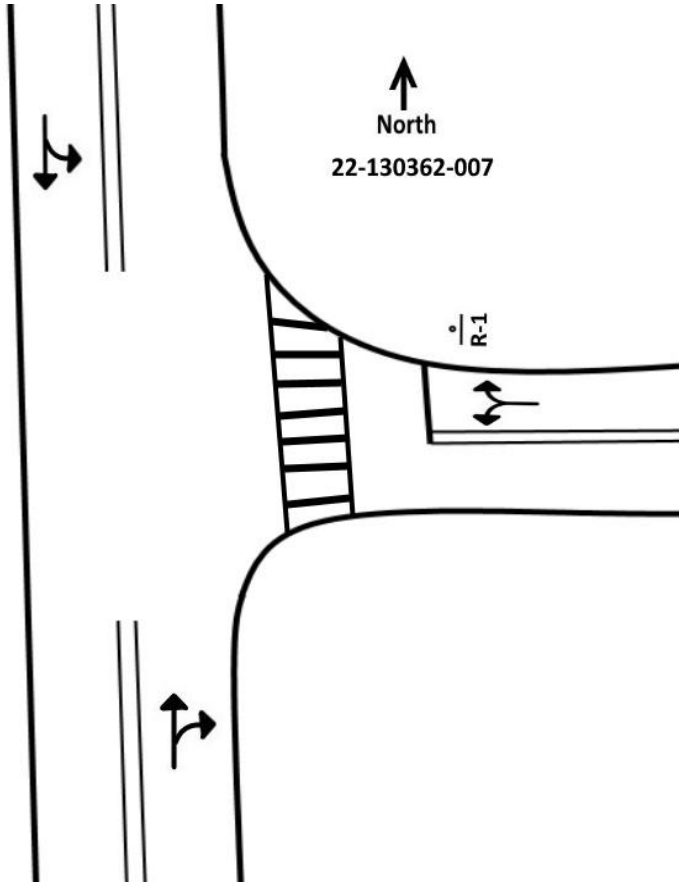
National Data & Surveying Services

Site Code:	**22-130362-007**
Date:	**12/06/2022**
Weather:	**Sunny**
City:	**Orlando**
County:	**Orange**
Count Times:	**07:00 - 09:00**
	14:00 - 16:00
Control:	**1-Way Stop(WB)**

N

N/S Street: **Randolph Ave**

Speed: **25 MPH**

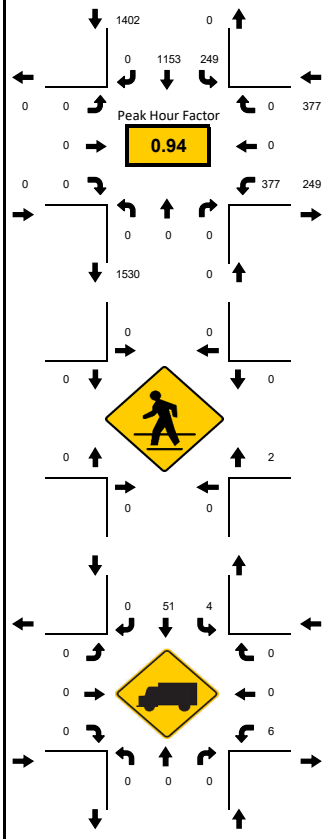


E/W Street: **Wilks Ave**

Speed: **N/A**

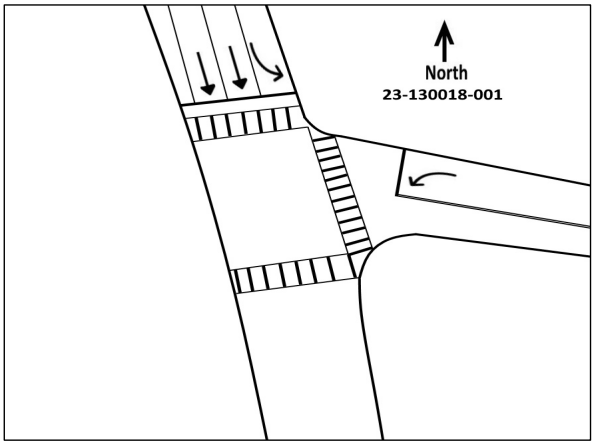
LOCATION: S Orange Ave & Hoffner Ave
CITY/STATE: Orlando, FL

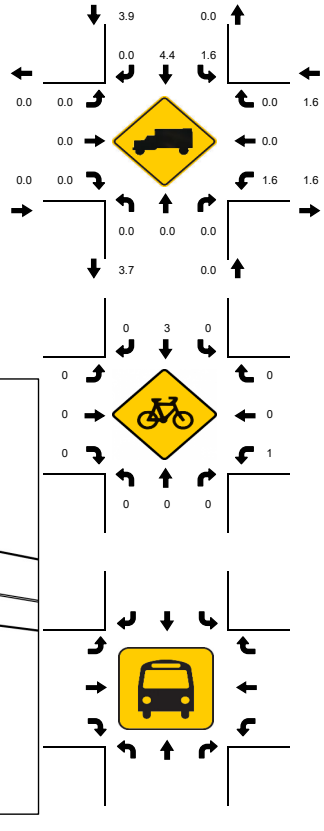
PROJECT ID: 23-130018-001
DATE: Thu, Jan 19, 2023



Peak-Hour: 07:15 AM - 08:15 AM
Peak 15-Minute: 07:30 AM - 07:45 AM

National Data & Surveying Services



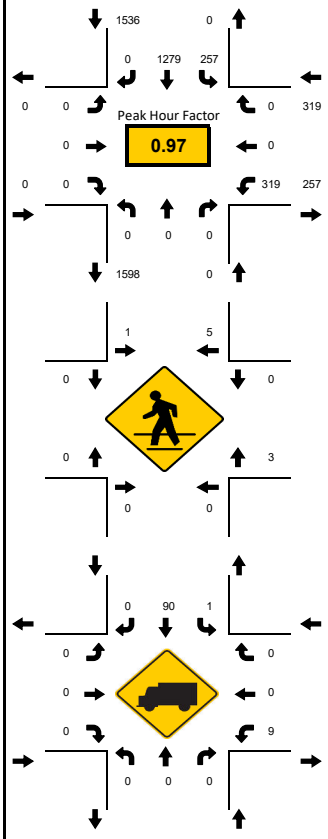


15-Min Count Period Beginning At	S Orange Ave Northbound					S Orange Ave Southbound					Hoffner Ave Eastbound					Hoffner Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
7:00 AM	0	0	0	0		39	220	0	0		0	0	0	0		83	0	0	0		342	1697
7:15 AM	0	0	0	0		58	322	0	0		0	0	0	0		85	0	0	0		465	1779
7:30 AM	0	0	0	0		79	304	0	0		0	0	0	0		88	0	0	0		471	1683
7:45 AM	0	0	0	0		66	257	0	0		0	0	0	0		96	0	0	0		419	1615
8:00 AM	0	0	0	0		46	270	0	0		0	0	0	0		108	0	0	0		424	1606
8:15 AM	0	0	0	0		48	238	0	0		0	0	0	0		83	0	0	0		369	1182
8:30 AM	0	0	0	0		44	261	0	0		0	0	0	0		98	0	0	0		403	813
8:45 AM	0	0	0	0		47	274	0	0		0	0	0	0		89	0	0	0		410	410
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***		
All Vehicles	0	0	0	0		316	1288	0	0		0	0	0	0		432	0	0	0		**2036**	
Heavy Trucks	0	0	0	0		8	64	0	0		0	0	0	0		12	0	0	0		**84**	
Pedestrians		0					0					0					8				**8**	
Bicycles	0	0	0	0		0	8	0	0		0	0	0	0		4	0	0	0		**12**	
Buses																						
Stopped Buses																						

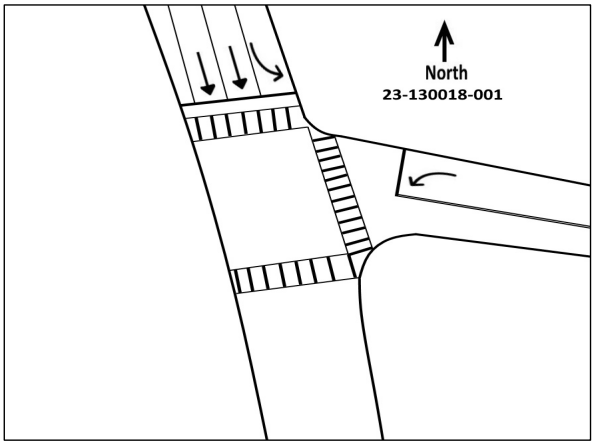
LOCATION: S Orange Ave & Hoffner Ave
CITY/STATE: Orlando, FL

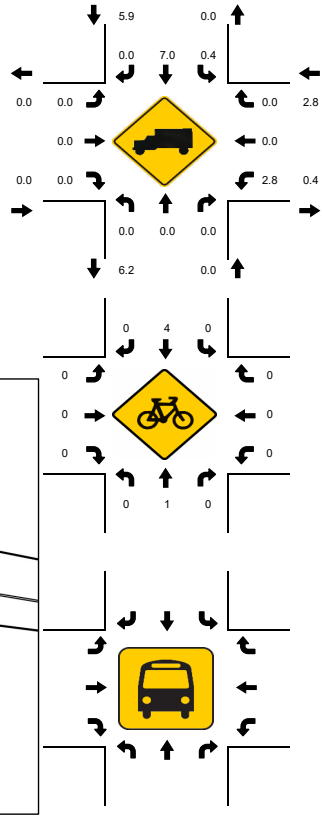
PROJECT ID: 23-130018-001
DATE: Thu, Jan 19, 2023

Peak-Hour: 02:30 PM - 03:30 PM
Peak 15-Minute: 02:30 PM - 02:45 PM



National Data & Surveying Services

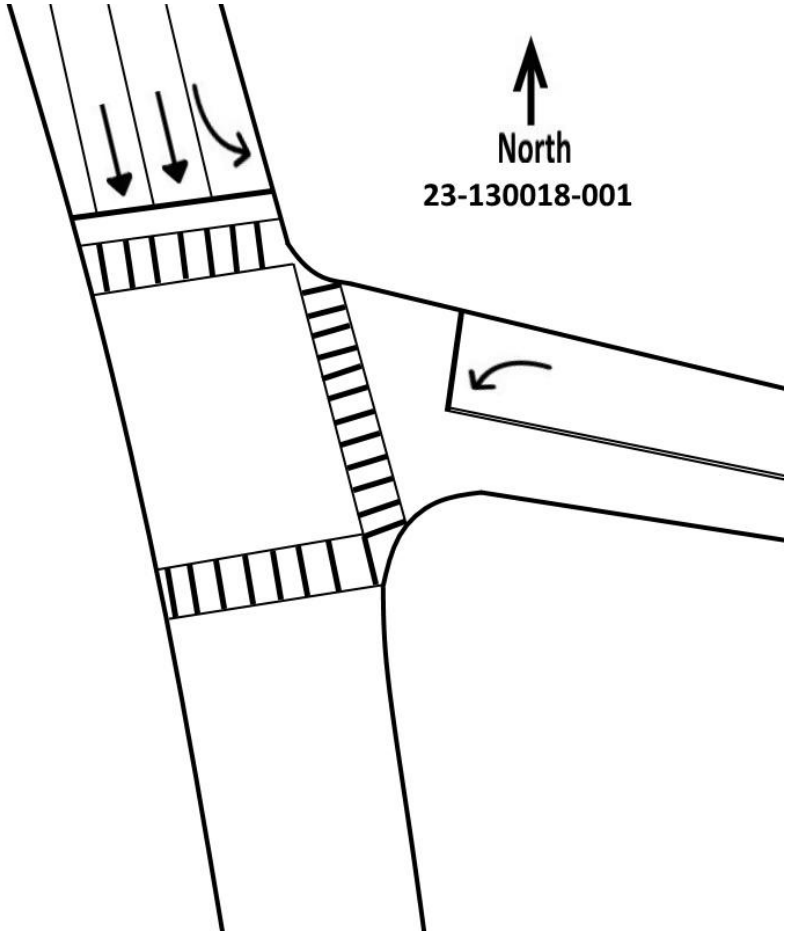




15-Min Count Period Beginning At	S Orange Ave Northbound					S Orange Ave Southbound					Hoffner Ave Eastbound					Hoffner Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
2:00 PM	0	0	0	0		55	278	0	0		0	0	0	0		72	0	0	0		405	1756
2:15 PM	0	0	0	0		58	261	0	0		0	0	0	0		85	0	0	0		404	1793
2:30 PM	0	0	0	0		62	327	0	0		0	0	0	0		89	0	0	0		478	1855
2:45 PM	0	0	0	0		66	305	0	0		0	0	0	0		98	0	0	0		469	1827
3:00 PM	0	0	0	0		58	315	0	0		0	0	0	0		69	0	0	0		442	1805
3:15 PM	0	0	0	0		71	332	0	0		0	0	0	0		63	0	0	0		466	1363
3:30 PM	0	0	0	0		70	302	0	0		0	0	0	0		78	0	0	0		450	897
3:45 PM	0	0	0	0		63	294	0	0		0	0	0	0		90	0	0	0		447	447
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	0	0	0		284	1328	0	0		0	0	0	0		392	0	0	0		**2004**	
Heavy Trucks	0	0	0	0		4	124	0	0		0	0	0	0		12	0	0	0		**140**	
Pedestrians		0					16					0					8				**24**	
Bicycles	0	4	0	0		0	12	0	0		0	0	0	0		0	0	0	0		**16**	
Buses																						
Stopped Buses																						

National Data & Surveying Services

N/S Street: **S Orange Ave** | Speed: **35 MPH**



E/W Street: **Hoffner Ave** | Speed: **30 MPH**

Site Code: **23-130018-001**

Date: **01/19/2023**

Weather: **Sunny**

City: **Orlando**

County: **Orange**

Count Times: **07:00 - 09:00**

14:00 - 16:00

Control: **Signalized**

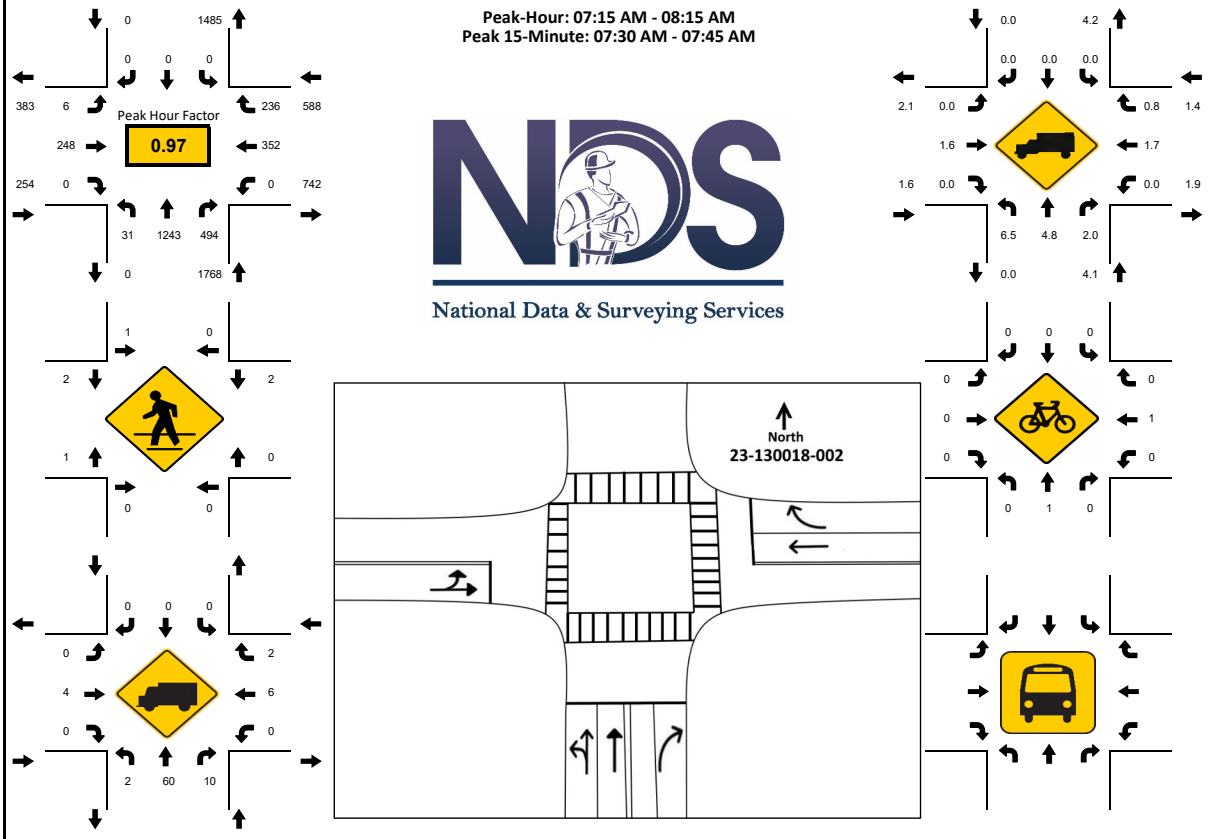
SIGNAL TIMING

PHASES	1	2	3
SL/ST	00:55	00:55	00:59
WL	00:35	00:20	00:32

LOCATION: Hansel Ave & Hoffner Ave
CITY/STATE: Orlando, FL

PROJECT ID: 23-130018-002
DATE: Thu, Jan 19, 2023

Peak-Hour: 07:15 AM - 08:15 AM
Peak 15-Minute: 07:30 AM - 07:45 AM



National Data & Surveying Services

15-Min Count Period Beginning At	Hansel Ave Northbound					Hansel Ave Southbound					Hoffner Ave Eastbound					Hoffner Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
7:00 AM	1	309	74	0		0	0	0	0		1	38	0	0		0	85	67	0		575	2541
7:15 AM	3	327	101	0		0	0	0	0		0	63	0	0		0	89	57	0		640	2610
7:30 AM	8	309	151	0		0	0	0	0		2	81	0	0		0	78	45	0		674	2540
7:45 AM	13	286	148	0		0	0	0	0		1	63	0	0		0	84	57	0		652	2392
8:00 AM	7	321	94	0		0	0	0	0		3	41	0	0		0	101	77	0		644	2271
8:15 AM	7	293	70	0		0	0	0	0		1	42	0	0		0	83	74	0		570	1627
8:30 AM	3	246	77	0		0	0	0	0		2	38	0	0		0	100	60	0		526	1057
8:45 AM	4	263	69	0		0	0	0	0		0	45	0	0		0	79	71	0		531	531
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	52	1308	604	0		0	0	0	0		12	324	0	0		0	404	308	0		**3012**	
Heavy Trucks	8	92	16	0		0	0	0	0		0	8	0	0		0	8	4	0		**136**	
Pedestrians		0					4					8					8				**20**	
Bicycles	0	4	0	0		0	0	0	0		0	0	0	0		0	4	0	0		**8**	
Buses																						
Stopped Buses																						

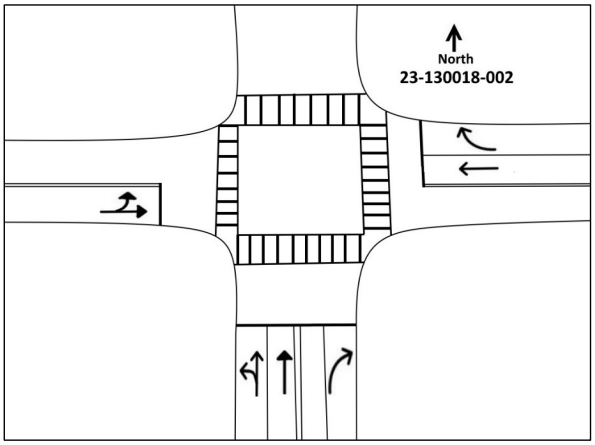
LOCATION: Hansel Ave & Hoffner Ave
CITY/STATE: Orlando, FL

PROJECT ID: 23-130018-002
DATE: Thu, Jan 19, 2023

Peak-Hour: 03:00 PM - 04:00 PM
Peak 15-Minute: 03:00 PM - 03:15 PM

Peak Hour Factor
0.97

National Data & Surveying Services



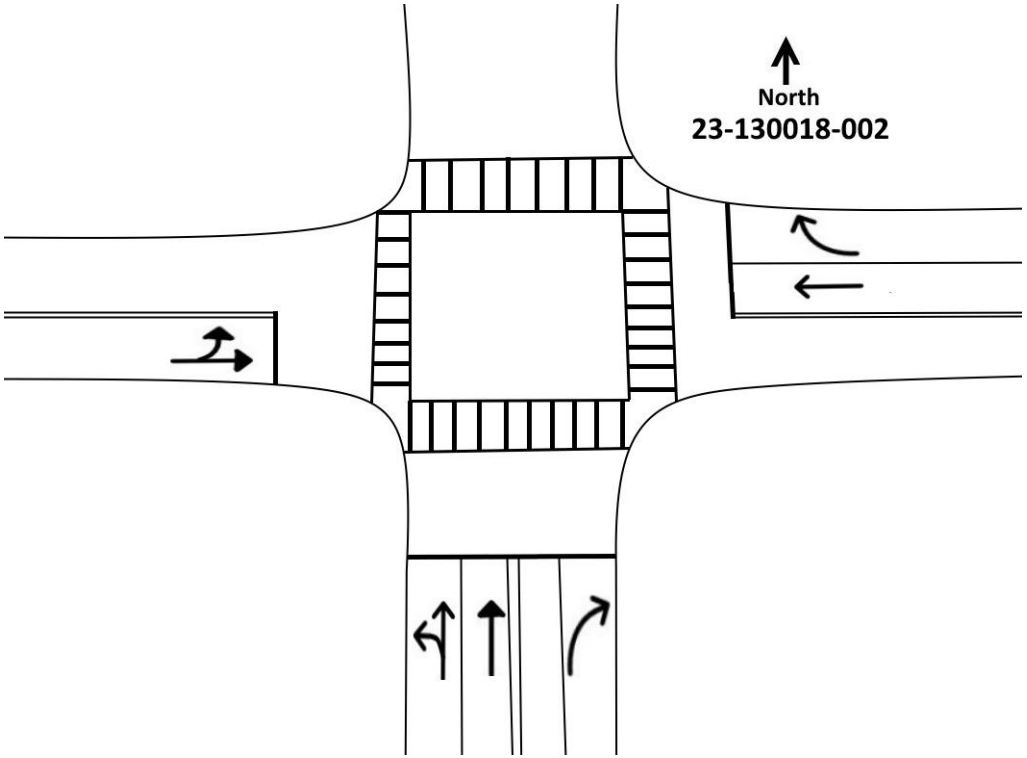
15-Min Count Period Beginning At	Hansel Ave Northbound					Hansel Ave Southbound					Hoffner Ave Eastbound					Hoffner Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
2:00 PM	9	254	87	0		0	0	0	0		1	54	0	0		0	68	47	0		520	2359
2:15 PM	4	272	116	0		0	0	0	0		2	61	0	0		0	80	48	0		583	2506
2:30 PM	10	253	170	0		0	0	0	0		2	50	0	0		0	77	57	0		619	2544
2:45 PM	7	259	156	0		0	0	0	0		1	81	0	0		0	82	51	0		637	2583
3:00 PM	13	312	159	0		0	0	0	0		3	54	0	0		0	67	59	0		667	2600
3:15 PM	6	302	106	0		0	0	0	0		1	81	0	0		0	61	64	0		621	1933
3:30 PM	11	317	152	0		0	0	0	0		2	64	0	0		0	72	40	0		658	1312
3:45 PM	5	303	151	0		0	0	0	0		1	63	0	0		0	79	52	0		654	654
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	52	1268	636	0		0	0	0	0		12	324	0	0		0	316	256	0		**2864**	
Heavy Trucks	4	64	12	0		0	0	0	0		0	16	0	0		0	20	16	0		**132**	
Pedestrians		8					12					0					8				**28**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Buses																						
Stopped Buses																						

National Data & Surveying Services

N/S Street: **Hansel Ave**	Speed: **40 MPH**

E/W Street: **Hoffner Ave**

Speed: **30 MPH**



Site Code: **23-130018-002**

Date: **01/19/2023**

Weather: **Sunny**

City: **Orlando**

County: **Orange**

Count Times: **07:00 - 09:00**

14:00 - 16:00

Control: **Signalized**

SIGNAL TIMING

PHASES	**1**	**2**	**3**
NL/NT	01:32	01:17	01:21
ET/WT	00:53	00:52	00:52

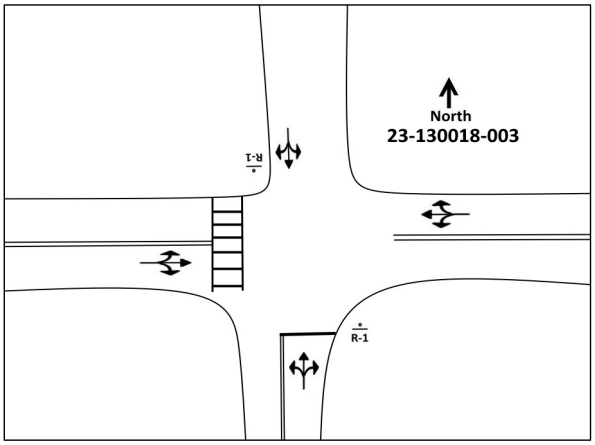
LOCATION: Randolph Ave & Hoffner Ave
CITY/STATE: Orlando, FL

PROJECT ID: 23-130018-003
DATE: Thu, Jan 19, 2023

Peak-Hour: 07:15 AM - 08:15 AM
Peak 15-Minute: 07:45 AM - 08:00 AM

Peak Hour Factor
0.93

National Data & Surveying Services



15-Min Count Period Beginning At	Randolph Ave Northbound					Randolph Ave Southbound					Hoffner Ave Eastbound					Hoffner Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
7:00 AM	0	0	2	0		0	0	0	0		0	97	10	0		3	155	1	0		268	1305
7:15 AM	3	0	2	0		0	0	0	0		0	141	22	0		5	150	0	0		323	1339
7:30 AM	7	0	2	0		0	0	0	0		0	208	24	0		3	111	0	0		355	1298
7:45 AM	5	0	1	0		0	0	0	0		0	197	11	0		4	140	1	0		359	1222
8:00 AM	1	0	3	0		0	0	0	0		0	122	4	0		4	168	0	0		302	1155
8:15 AM	0	0	5	0		0	0	1	0		0	115	2	0		6	152	1	0		282	853
8:30 AM	0	0	2	0		0	0	0	0		0	115	5	0		4	153	0	0		279	571
8:45 AM	1	0	8	0		0	0	0	0		0	116	1	0		8	158	0	0		292	292
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	28	0	12	0		0	0	0	0		0	832	96	0		20	672	4	0		**1664**	
Heavy Trucks	4	0	0	0		0	0	0	0		0	24	4	0		0	16	0	0		**48**	
Pedestrians		0					0					0					0				**0**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	4	0	0		**4**	
Buses																						
Stopped Buses																						

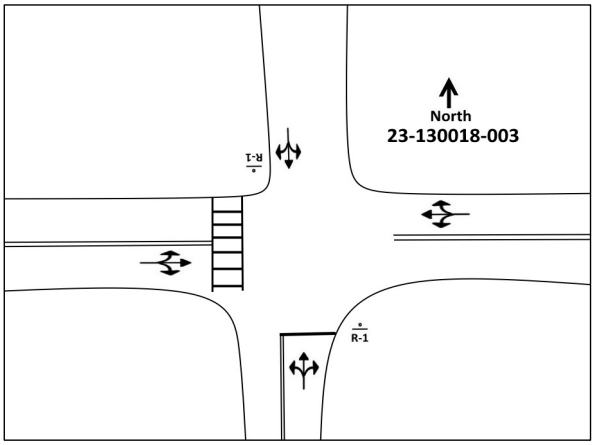
LOCATION: Randolph Ave & Hoffner Ave
CITY/STATE: Orlando, FL

PROJECT ID: 23-130018-003
DATE: Thu, Jan 19, 2023

Peak-Hour: 02:45 PM - 03:45 PM
Peak 15-Minute: 02:45 PM - 03:00 PM

Peak Hour Factor
0.92

National Data & Surveying Services



15-Min Count Period Beginning At	Randolph Ave Northbound					Randolph Ave Southbound					Hoffner Ave Eastbound					Hoffner Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
2:00 PM	1	0	4	0		0	0	0	0		2	128	6	0		7	117	2	0		267	1320
2:15 PM	2	0	4	1		0	0	3	0		5	165	6	0		2	132	0	0		320	1404
2:30 PM	2	0	2	0		0	0	1	0		1	214	1	0		1	128	0	0		350	1404
2:45 PM	3	0	3	0		1	0	2	0		1	244	2	0		0	126	1	0		383	1408
3:00 PM	1	2	16	0		0	0	0	0		2	205	3	0		1	118	3	0		351	1390
3:15 PM	1	0	9	0		1	0	0	0		0	169	10	0		6	123	1	0		320	1039
3:30 PM	3	0	9	0		2	0	1	0		1	197	11	0		9	119	2	0		354	719
3:45 PM	1	1	14	0		0	0	1	0		2	214	5	0		6	119	2	0		365	365
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	12	8	64	0		8	0	8	0		8	976	44	0		36	504	12	0		**1680**	
Heavy Trucks	4	0	0	0		0	0	0	0		0	12	4	0		4	16	0	0		**40**	
Pedestrians		8					8					8					0				**24**	
Bicycles	12	0	4	0		0	0	0	0		0	4	0	0		0	0	0	0		**20**	
Buses																						
Stopped Buses																						

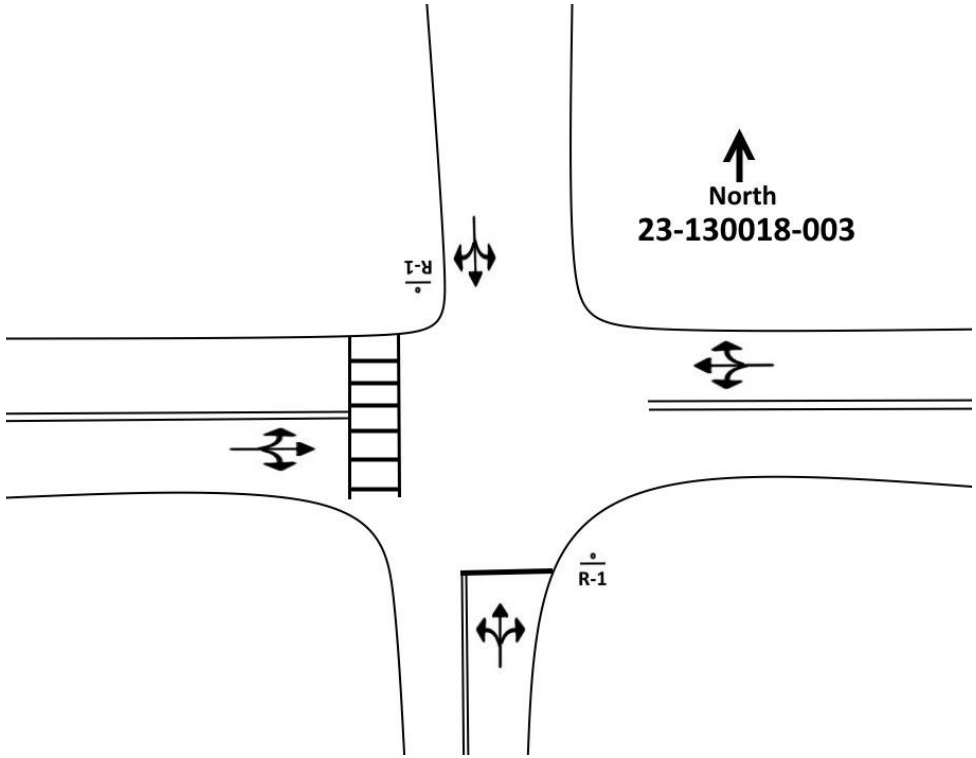
National Data & Surveying Services

Site Code:	**23-130018-003**
Date:	**01/19/2023**
Weather:	**Sunny**
City:	**Orlando**
County:	**Orange**
Count Times:	**07:00 - 09:00**
	14:00 - 16:00
Control:	**2-Way Stop(NB/SB)**

N

N/S Street: **Randolph Ave**

Speed: **25 MPH**



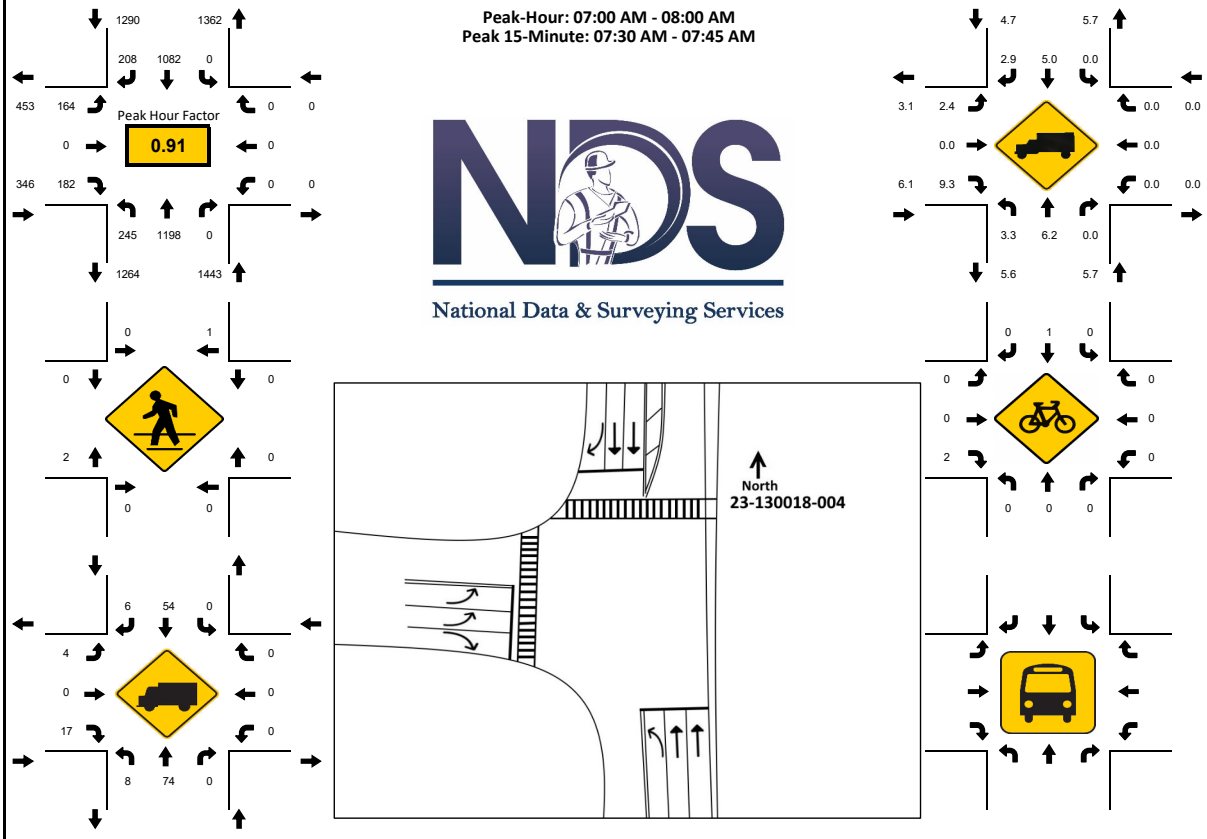
E/W Street: **Hoffner Ave**

Speed: **35 MPH**

LOCATION: S Orange Ave & E Lancaster Rd
CITY/STATE: Orlando, FL

PROJECT ID: 23-130018-004
DATE: Thu, Jan 19, 2023

Peak-Hour: 07:00 AM - 08:00 AM
Peak 15-Minute: 07:30 AM - 07:45 AM

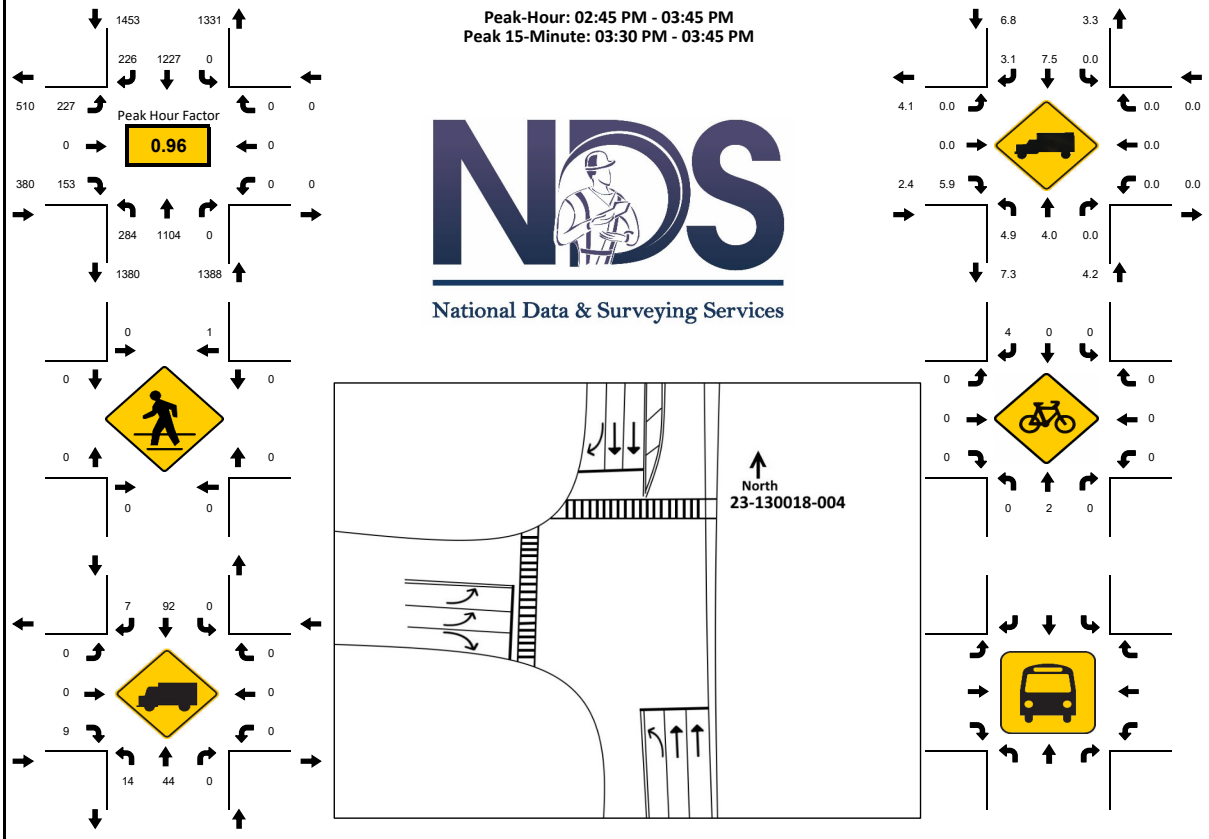


National Data & Surveying Services

15-Min Count Period Beginning At	S Orange Ave Northbound					S Orange Ave Southbound					E Lancaster Rd Eastbound					E Lancaster Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
7:00 AM	41	317	0	0		0	212	36	0		52	0	39	0		0	0	0	0		697	3079
7:15 AM	64	365	0	0		0	250	51	0		52	0	39	0		0	0	0	0		821	3067
7:30 AM	53	304	0	0		0	339	61	0		38	0	52	0		0	0	0	0		847	2960
7:45 AM	87	212	0	0		0	281	60	0		22	0	52	0		0	0	0	0		714	2765
8:00 AM	73	219	0	0		0	254	66	0		29	0	44	0		0	0	0	0		685	2817
8:15 AM	70	259	0	0		0	253	49	0		31	0	52	0		0	0	0	0		714	2132
8:30 AM	51	240	0	0		0	234	43	0		43	0	41	0		0	0	0	0		652	1418
8:45 AM	93	305	0	0		0	266	43	0		26	0	33	0		0	0	0	0		766	766
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	348	1460	0	0		0	1356	244	0		208	0	208	0		0	0	0	0		**3824**	
Heavy Trucks	12	96	0	0		0	76	12	0		12	0	28	0		0	0	0	0		**236**	
Pedestrians		0					4					8					0				**12**	
Bicycles	0	0	0	0		0	4	0	0		0	0	4	0		0	0	0	0		**8**	
Buses																						
Stopped Buses																						

LOCATION: S Orange Ave & E Lancaster Rd
CITY/STATE: Orlando, FL

PROJECT ID: 23-130018-004
DATE: Thu, Jan 19, 2023



15-Min Count Period Beginning At	S Orange Ave Northbound					S Orange Ave Southbound					E Lancaster Rd Eastbound					E Lancaster Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
2:00 PM	55	253	0	0		0	247	34	0		49	0	35	0		0	0	0	0		673	2975
2:15 PM	58	296	0	0		0	280	34	0		47	0	38	0		0	0	0	0		753	3128
2:30 PM	47	279	0	0		0	302	52	0		45	0	34	0		0	0	0	0		759	3138
2:45 PM	83	229	0	0		0	302	70	0		52	0	54	0		0	0	0	0		790	3221
3:00 PM	85	267	0	0		0	313	64	0		55	0	42	0		0	0	0	0		826	3213
3:15 PM	68	265	0	0		0	298	42	0		61	0	29	0		0	0	0	0		763	2387
3:30 PM	48	343	0	0		0	314	50	0		59	0	28	0		0	0	0	0		842	1624
3:45 PM	66	313	0	0		0	257	40	0		66	0	40	0		0	0	0	0		782	782
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	340	1372	0	0		0	1256	280	0		244	0	216	0		0	0	0	0		**3708**	
Heavy Trucks	16	60	0	0		0	120	8	0		0	0	16	0		0	0	0	0		**220**	
Pedestrians		0					4					0					0				**4**	
Bicycles	0	4	0	0		0	0	8	0		0	0	0	0		0	0	0	0		**12**	
Buses																						
Stopped Buses																						

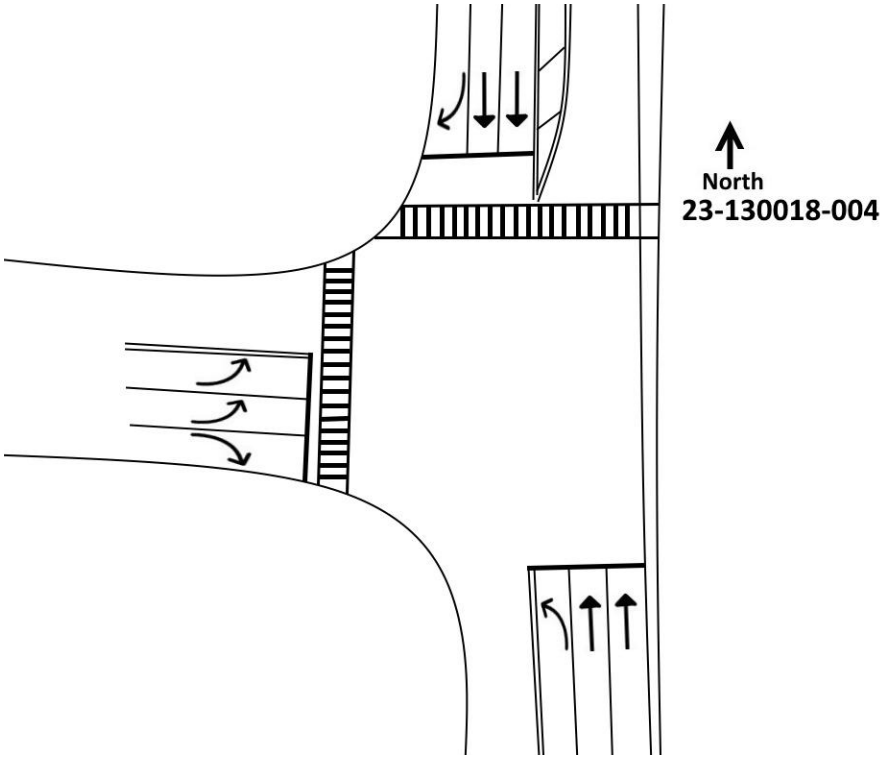
National Data & Surveying Services

N/S Street: **S Orange Ave**

Speed: **45 MPH**

E/W Street: **E Lancaster Rd**

Speed: **40 MPH**



Site Code: **23-130018-004**

Date: **01/19/2023**

Weather: **Sunny**

City: **Orlando**

County: **Orange**

Count Times: **07:00 - 09:00**

14:00 - 16:00

Control: **Signalized**

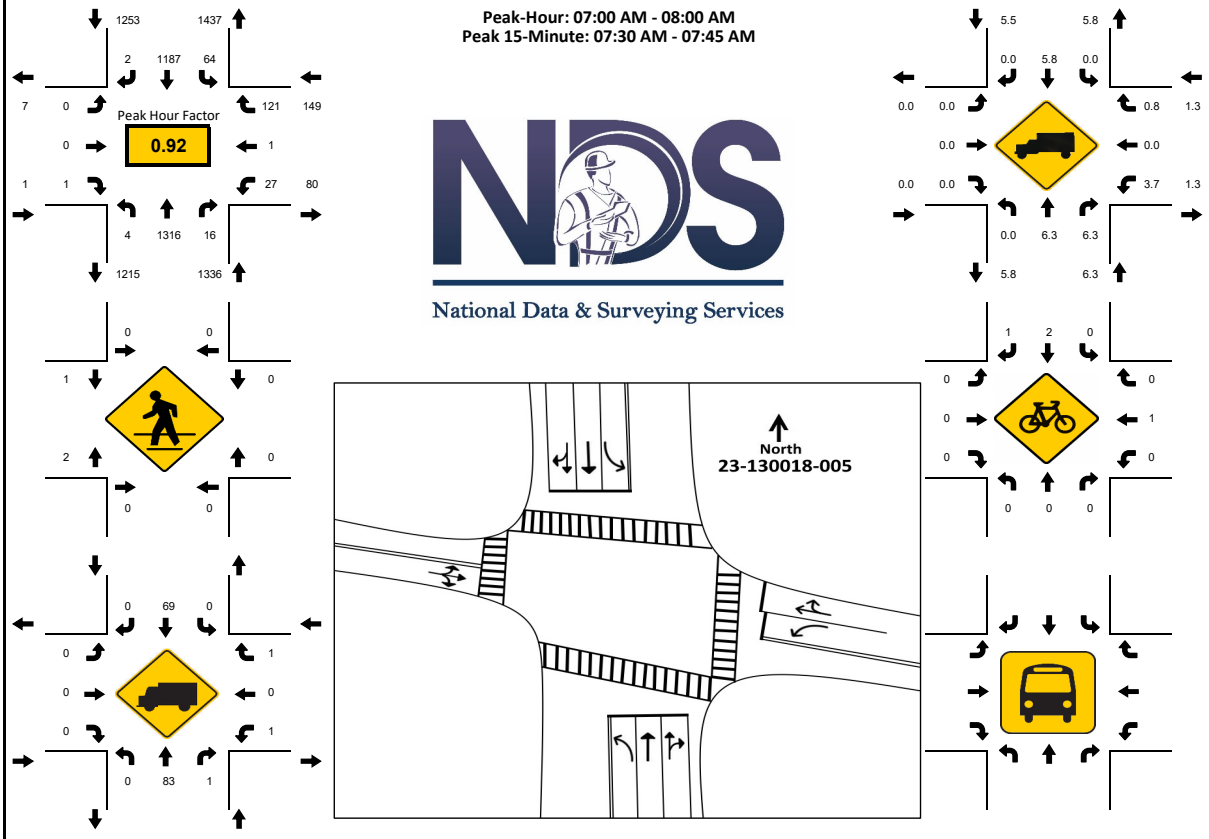
SIGNAL TIMING

PHASES	**1**	**2**	**3**
NL/NT	-	00:21	-
NT/ST	01:48	01:25	01:48
EL	00:24	00:22	00:24

LOCATION: S Orange Ave & Nela Ave
CITY/STATE: Orlando, FL

PROJECT ID: 23-130018-005
DATE: Thu, Jan 19, 2023

Peak-Hour: 07:00 AM - 08:00 AM
Peak 15-Minute: 07:30 AM - 07:45 AM

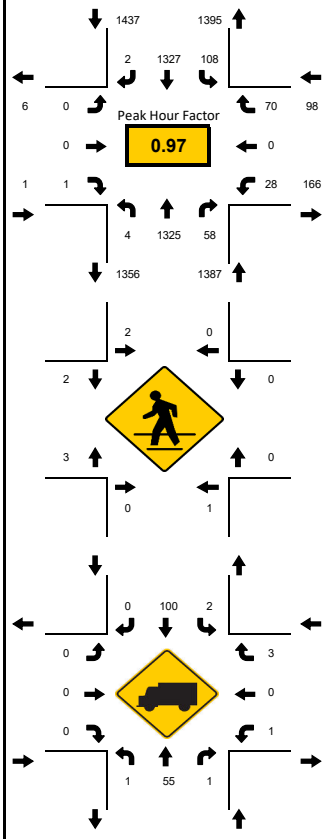


15-Min Count Period Beginning At	S Orange Ave Northbound					S Orange Ave Southbound					Nela Ave Eastbound					Nela Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
7:00 AM	0	334	3	0		9	233	0	0		0	0	0	0		7	0	20	0		606	2739
7:15 AM	1	396	3	0		15	280	1	0		0	0	0	0		1	0	39	0		736	2733
7:30 AM	1	315	3	0		18	357	0	0		0	0	1	0		10	0	36	0		741	2637
7:45 AM	2	271	7	0		22	317	1	0		0	0	0	0		9	1	26	0		656	2491
8:00 AM	1	253	7	0		14	278	0	0		2	0	0	0		10	0	35	0		600	2538
8:15 AM	1	300	2	0		13	294	1	0		1	0	2	0		8	1	17	0		640	1938
8:30 AM	9	281	3	0		15	255	0	0		0	0	3	0		11	0	18	0		595	1298
8:45 AM	1	363	3	0		11	288	1	0		0	0	1	0		11	0	24	0		703	703
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	8	1584	28	0		88	1428	4	0		0	0	4	0		40	4	156	0		**3344**	
Heavy Trucks	0	104	4	0		0	84	0	0		0	0	0	0		4	0	4	0		**200**	
Pedestrians		0					0					8					0				**8**	
Bicycles	0	0	0	0		0	4	4	0		0	0	0	0		0	4	0	0		**12**	
Buses																						
Stopped Buses																						

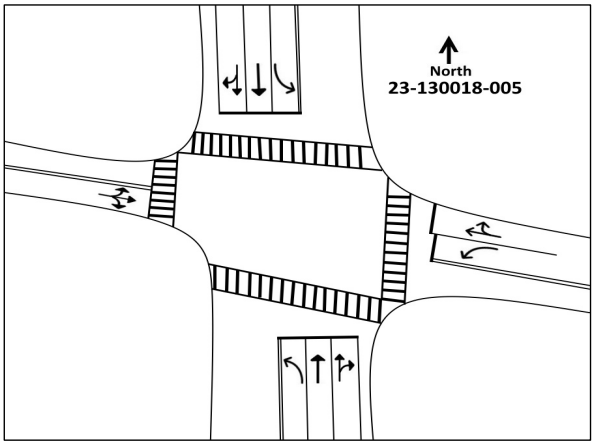
LOCATION: S Orange Ave & Nela Ave
CITY/STATE: Orlando, FL

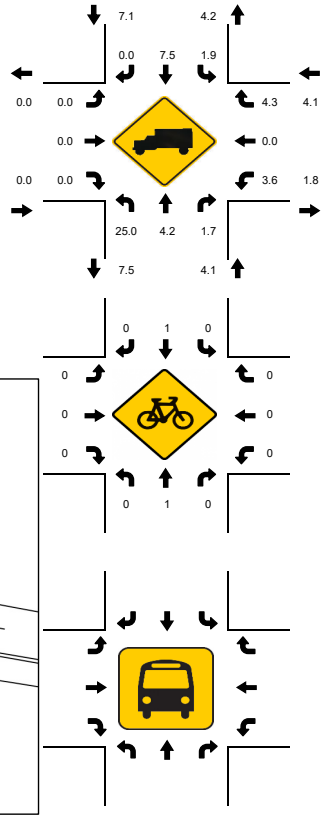
PROJECT ID: 23-130018-005
DATE: Thu, Jan 19, 2023

Peak-Hour: 02:45 PM - 03:45 PM
Peak 15-Minute: 03:30 PM - 03:45 PM



National Data & Surveying Services



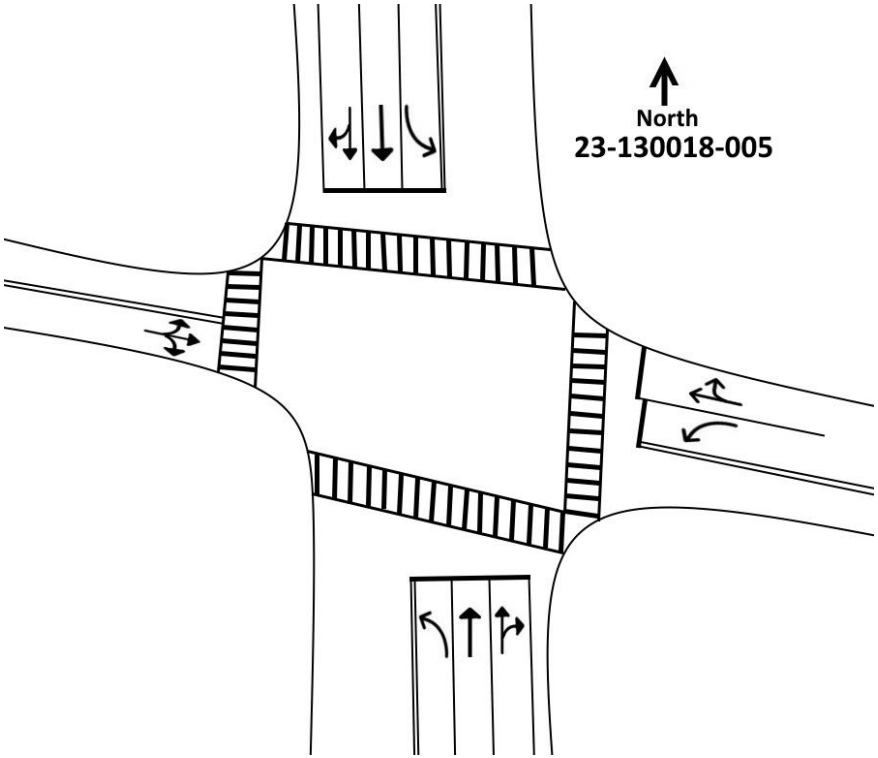


15-Min Count Period Beginning At	S Orange Ave Northbound					S Orange Ave Southbound					Nela Ave Eastbound					Nela Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
2:00 PM	0	294	6	1		18	264	0	0		0	0	0	0		5	0	24	0		612	2706
2:15 PM	0	307	9	0		21	304	0	0		0	0	0	0		10	0	25	0		676	2810
2:30 PM	0	287	11	1		25	314	0	0		0	0	0	0		11	0	25	0		674	2842
2:45 PM	1	321	6	0		37	343	0	0		0	0	0	0		11	0	25	0		744	2923
3:00 PM	1	299	23	0		29	344	0	0		0	0	1	0		5	0	14	0		716	2907
3:15 PM	0	330	11	0		18	326	1	1		0	0	0	0		9	0	12	0		708	2191
3:30 PM	1	375	18	1		23	314	1	0		0	0	0	0		3	0	19	0		755	1483
3:45 PM	1	356	12	0		27	304	0	0		0	0	0	0		8	0	20	0		728	728
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***		
All Vehicles	4	1500	92	4		148	1376	4	4		0	0	4	0		44	0	100	0		**3280**	
Heavy Trucks	0	76	4	4		4	128	0	0		0	0	0	0		4	0	8	0		**224**	
Pedestrians		4					4					8					0				**16**	
Bicycles	0	4	0	0		0	4	0	0		0	0	0	0		0	0	0	0		**8**	
Buses																						
Stopped Buses																						

National Data & Surveying Services

N/S Street: **S Orange Ave** | Speed: **45 MPH**

E/W Street: **Nela Ave** | Speed: **35 MPH**



Site Code: **23-130018-005**

Date: **01/19/2023**

Weather: **Sunny**

City: **Orlando**

County: **Orange**

Count Times: **07:00 - 09:00**

14:00 - 16:00

Control: **Signalized**

SIGNAL TIMING

PHASES	1	2	3
SL/ST	-	00:16	00:15
NT/ST	01:38	01:21	01:37
ET/WT	00:32	00:19	00:16

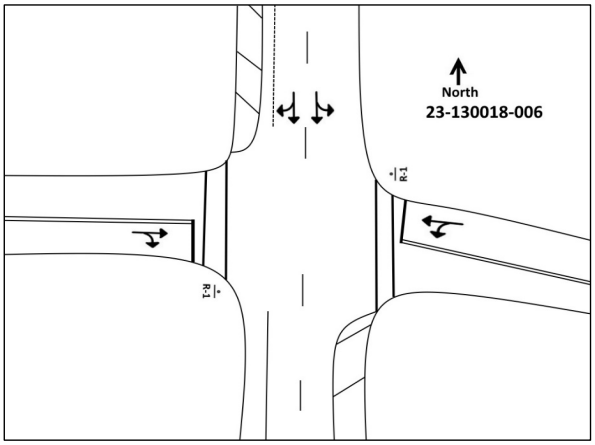
LOCATION: S Orange Ave & Fairlane Ave
CITY/STATE: Orlando, FL

PROJECT ID: 23-130018-006
DATE: Thu, Jan 19, 2023

Peak-Hour: 07:15 AM - 08:15 AM
Peak 15-Minute: 07:30 AM - 07:45 AM

Peak Hour Factor
0.82

National Data & Surveying Services

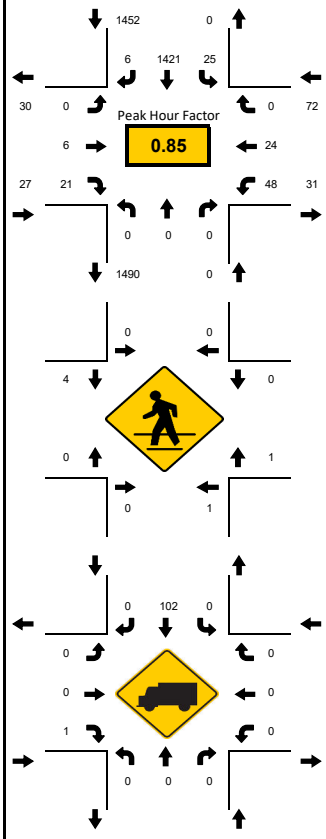


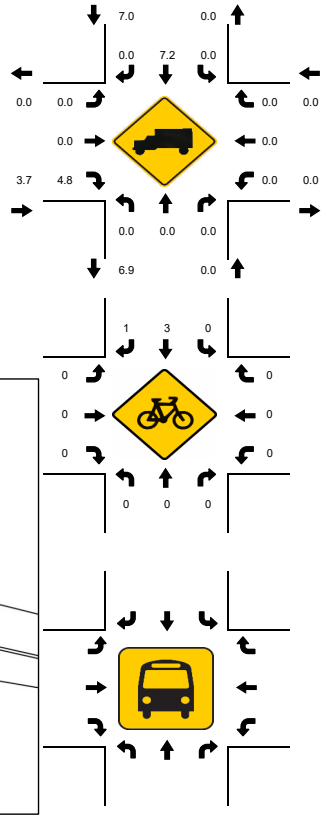
15-Min Count Period Beginning At	S Orange Ave Northbound					S Orange Ave Southbound					Fairlane Ave Eastbound					Fairlane Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
7:00 AM	0	0	0	0		3	248	2	0		0	0	0	0		10	3	0	0		266	1436
7:15 AM	0	0	0	0		18	325	1	0		0	2	1	0		25	5	0	0		377	1510
7:30 AM	0	0	0	0		17	374	1	0		0	2	3	0		53	8	0	0		458	1430
7:45 AM	0	0	0	0		2	320	3	0		0	2	3	0		2	3	0	0		335	1280
8:00 AM	0	0	0	0		3	327	2	0		0	1	3	0		3	1	0	0		340	1260
8:15 AM	0	0	0	0		2	289	1	0		0	1	1	0		1	2	0	0		297	920
8:30 AM	0	0	0	0		1	293	2	0		0	4	2	0		5	1	0	0		308	623
8:45 AM	0	0	0	0		2	308	1	0		0	0	2	0		1	1	0	0		315	315
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	0	0	0		72	1496	12	0		0	8	12	0		212	32	0	0		**1844**	
Heavy Trucks	0	0	0	0		0	68	4	0		0	0	0	0		4	0	0	0		**76**	
Pedestrians		0					0					4					0				**4**	
Bicycles	0	0	0	0		0	12	0	0		0	0	0	0		0	0	0	0		**12**	
Buses																						
Stopped Buses																						

LOCATION: S Orange Ave & Fairlane Ave
CITY/STATE: Orlando, FL

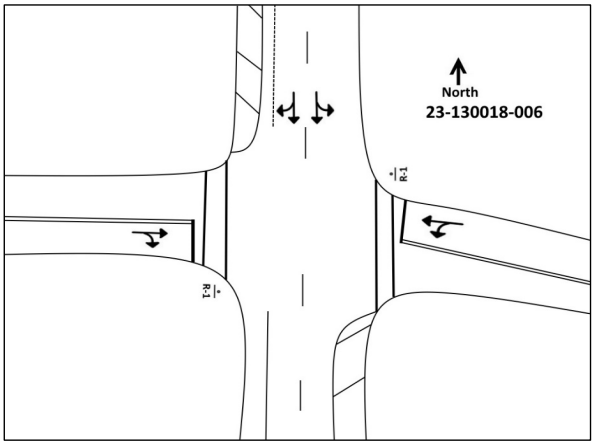
PROJECT ID: 23-130018-006
DATE: Thu, Jan 19, 2023

Peak-Hour: 02:45 PM - 03:45 PM
Peak 15-Minute: 02:45 PM - 03:00 PM





National Data & Surveying Services



15-Min Count Period Beginning At	S Orange Ave Northbound					S Orange Ave Southbound					Fairlane Ave Eastbound					Fairlane Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
2:00 PM	0	0	0	0		1	296	4	0		1	2	5	0		1	2	0	0		312	1446
2:15 PM	0	0	0	0		7	293	3	0		0	4	4	0		0	3	0	0		314	1497
2:30 PM	0	0	0	0		8	337	2	0		0	1	8	0		5	3	0	0		364	1549
2:45 PM	0	0	0	0		9	404	2	0		0	2	7	0		23	9	0	0		456	1551
3:00 PM	0	0	0	0		4	335	4	0		0	1	4	0		11	4	0	0		363	1450
3:15 PM	0	0	0	0		5	342	0	0		0	2	5	0		5	7	0	0		366	1087
3:30 PM	0	0	0	0		7	340	0	0		0	1	5	0		9	4	0	0		366	721
3:45 PM	0	0	0	0		1	334	3	0		0	3	4	0		9	1	0	0		355	355
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	0	0	0		36	1616	16	0		0	8	28	0		92	36	0	0		**1832**	
Heavy Trucks	0	0	0	0		0	136	0	0		0	0	4	0		0	0	0	0		**140**	
Pedestrians		4					0					8					4				**16**	
Bicycles	0	0	0	0		0	4	4	0		0	0	0	0		0	0	0	0		**8**	
Buses																						
Stopped Buses																						

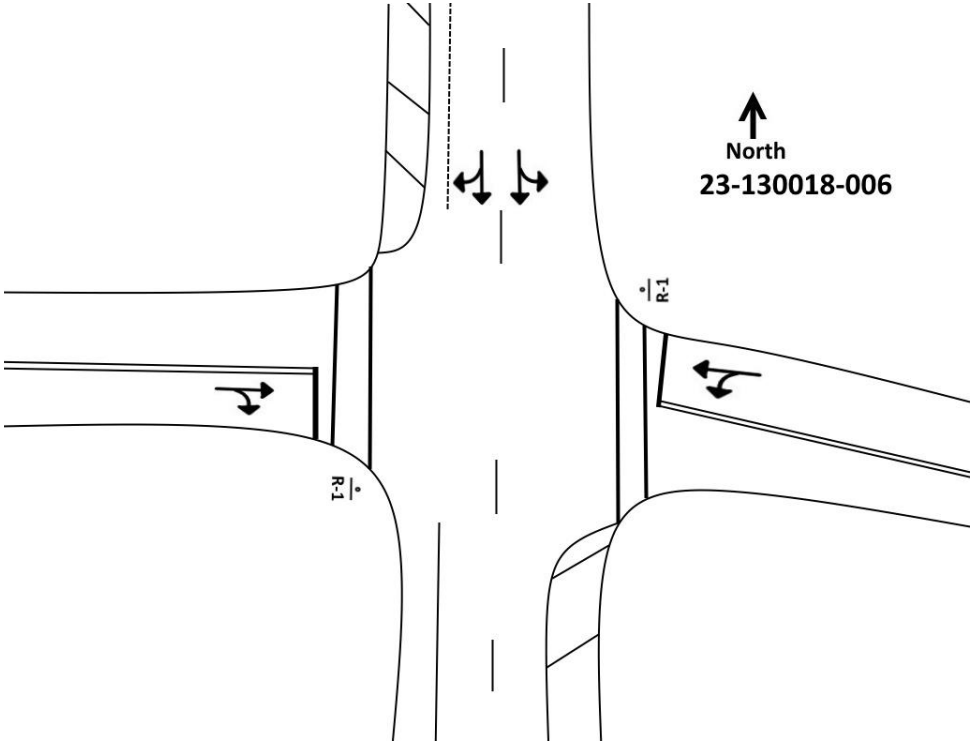
National Data & Surveying Services

Site Code:	**23-130018-006**
Date:	**01/19/2023**
Weather:	**Sunny**
City:	**Orlando**
County:	**Orange**
Count Times:	**07:00 - 09:00**
	14:00 - 16:00
Control:	**2-Way Stop(EB/WB)**

N

N/S Street: **S Orange Ave**

Speed: **35 MPH**



E/W Street: **Fairlane Ave**

Speed: **30 MPH**

2021 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 7500 ORANGE COUNTYWIDE

MOCF: 0.99

WEEK	DATES	SF	PSCF
1	01/01/2021 - 01/02/2021	0.99	1.00
2	01/03/2021 - 01/09/2021	1.04	1.05
3	01/10/2021 - 01/16/2021	1.09	1.10
4	01/17/2021 - 01/23/2021	1.08	1.09
5	01/24/2021 - 01/30/2021	1.07	1.08
6	01/31/2021 - 02/06/2021	1.06	1.07
7	02/07/2021 - 02/13/2021	1.05	1.06
8	02/14/2021 - 02/20/2021	1.04	1.05
9	02/21/2021 - 02/27/2021	1.03	1.04
10	02/28/2021 - 03/06/2021	1.02	1.03
11	03/07/2021 - 03/13/2021	1.01	1.02
12	03/14/2021 - 03/20/2021	1.00	1.01
13	03/21/2021 - 03/27/2021	1.00	1.01
14	03/28/2021 - 04/03/2021	1.00	1.01
15	04/04/2021 - 04/10/2021	1.00	1.01
16	04/11/2021 - 04/17/2021	1.00	1.01
17	04/18/2021 - 04/24/2021	0.99	1.00
18	04/25/2021 - 05/01/2021	0.99	1.00
19	05/02/2021 - 05/08/2021	0.98	0.99
20	05/09/2021 - 05/15/2021	0.98	0.99
21	05/16/2021 - 05/22/2021	0.98	0.99
22	05/23/2021 - 05/29/2021	0.99	1.00
23	05/30/2021 - 06/05/2021	0.99	1.00
24	06/06/2021 - 06/12/2021	0.99	1.00
25	06/13/2021 - 06/19/2021	1.00	1.01
26	06/20/2021 - 06/26/2021	1.00	1.01
27	06/27/2021 - 07/03/2021	1.00	1.01
28	07/04/2021 - 07/10/2021	1.00	1.01
29	07/11/2021 - 07/17/2021	1.00	1.01
30	07/18/2021 - 07/24/2021	1.00	1.01
31	07/25/2021 - 07/31/2021	1.00	1.01
32	08/01/2021 - 08/07/2021	1.00	1.01
33	08/08/2021 - 08/14/2021	0.99	1.00
34	08/15/2021 - 08/21/2021	0.99	1.00
35	08/22/2021 - 08/28/2021	0.99	1.00
36	08/29/2021 - 09/04/2021	0.99	1.00
37	09/05/2021 - 09/11/2021	0.99	1.00
38	09/12/2021 - 09/18/2021	0.99	1.00
*39	09/19/2021 - 09/25/2021	0.99	1.00
*40	09/26/2021 - 10/02/2021	0.98	0.99
*41	10/03/2021 - 10/09/2021	0.98	0.99
*42	10/10/2021 - 10/16/2021	0.97	0.98
*43	10/17/2021 - 10/23/2021	0.98	0.99
*44	10/24/2021 - 10/30/2021	0.98	0.99
*45	10/31/2021 - 11/06/2021	0.99	1.00
*46	11/07/2021 - 11/13/2021	0.99	1.00
*47	11/14/2021 - 11/20/2021	0.99	1.00
*48	11/21/2021 - 11/27/2021	0.99	1.00
*49	11/28/2021 - 12/04/2021	0.99	1.00
*50	12/05/2021 - 12/11/2021	0.99	1.00
*51	12/12/2021 - 12/18/2021	0.99	1.00
52	12/19/2021 - 12/25/2021	1.04	1.05
53	12/26/2021 - 12/31/2021	1.09	1.10

* PEAK SEASON

Traffic

	Program			Pattern			Ph Func															
	Day	Hour	Min	Dial	Split	Offset	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	0	1	0	0	4																
2	1	10	0	2	1	1																
3	1	19	30	0	0	4																
4	2	0	1	0	0	4																
5	2	6	0	1	1	1																
6	2	9	0	2	1	1																
7	2	14	0	3	1	1																
8	2	18	30	2	1	1																
9	2	20	30	0	0	4																
10	7	0	1	0	0	4																
11	7	9	0	2	1	1																
12	7	19	45	0	0	4																

Vehicle Basic Timing

Phase Bank 1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min. Green	0	15	0	5	0	15	0	5	0	0	0	0	0	0	0	0
Passage	0	3	0	3.3	0	3	0	4	0	0	0	0	0	0	0	0
Maximum 1	0	45	0	20	0	45	0	20	0	0	0	0	0	0	0	0
Maximum 2	0	45	0	20	0	45	0	20	0	0	0	0	0	0	0	0
Yellow Change	4	4.4	4	3.4	4	4.5	4	3.7	4	4	4	4	4	4	4	4
Red Clearance	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0
Green Delay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellow Delay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bike Passage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Phase Bank 2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min. Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Passage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellow Change	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Red Clearance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Green Delay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellow Delay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bike Passage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Phase Bank 3

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min. Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Passage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellow Change	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Red Clearance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Green Delay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellow Delay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bike Passage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Phase Bank 4

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min. Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Passage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Dial 1/Split 1

Cycle Length	130

Phase	1	2	3	4	5	6	7	8
Time	0	78	0	52	0	78	0	52
Mode	0 - AP	1 - CP	0 - AP	0 - AP	0 - AP	1 - CP	0 - AP	0 - AP
Min Veh Time		Bnk1=23 Bnk2=5 Bnk3=5 Bnk4=5		Bnk1=12 Bnk2=5 Bnk3=5 Bnk4=5		Bnk1=23 Bnk2=5 Bnk3=5 Bnk4=5		Bnk1=12 Bnk2=5 Bnk3=5 Bnk4=5
Min Ped Time		Bnk1=19 Bnk2=0 Bnk3=0 Bnk4=0		Bnk1=30 Bnk2=0 Bnk3=0 Bnk4=0		Bnk1=25 Bnk2=0 Bnk3=0 Bnk4=0		Bnk1=27 Bnk2=0 Bnk3=0 Bnk4=0
Phase Reduction	0	0	0	0	0	0	0	0
Phase Extension	0	0	0	0	0	0	0	0

Phase	9	10	11	12	13	14	15	16
Time	0	0	0	0	0	0	0	0
Mode	0 - AP	0 - AP	0 - AP	0 - AP	0 - AP	0 - AP	0 - AP	0 - AP
Min Veh Time								
Min Ped Time								
Phase Reduction	0	0	0	0	0	0	0	0
Phase Extension	0	0	0	0	0	0	0	0

Offset	1	2	3
Time	101	0	0
Mode	0 - Normal	0 - Normal	0 - Normal
Alt Sequence	0	0	0
Correction	0 - Normal	0 - Normal	0 - Normal
Special Function	0	0	0
Maximum Mode	0 - None	0 - None	0 - None
Ring 2 Lag Time	6	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time	0	0	0

Dial 3/Split 1

Cycle Length	150

Phase	1	2	3	4	5	6	7	8
Time	0	95	0	55	0	95	0	55
Mode	0 - AP	1 - CP	0 - AP	0 - AP	0 - AP	1 - CP	0 - AP	0 - AP
Min Veh Time		Bnk1=23 Bnk2=5 Bnk3=5 Bnk4=5		Bnk1=12 Bnk2=5 Bnk3=5 Bnk4=5		Bnk1=23 Bnk2=5 Bnk3=5 Bnk4=5		Bnk1=12 Bnk2=5 Bnk3=5 Bnk4=5
Min Ped Time		Bnk1=19 Bnk2=0 Bnk3=0 Bnk4=0		Bnk1=30 Bnk2=0 Bnk3=0 Bnk4=0		Bnk1=25 Bnk2=0 Bnk3=0 Bnk4=0		Bnk1=27 Bnk2=0 Bnk3=0 Bnk4=0
Phase Reduction	0	0	0	0	0	0	0	0
Phase Extension	0	0	0	0	0	0	0	0

Phase	9	10	11	12	13	14	15	16
Time	0	0	0	0	0	0	0	0
Mode	0 - AP	0 - AP	0 - AP	0 - AP	0 - AP	0 - AP	0 - AP	0 - AP
Min Veh Time								
Min Ped Time								
Phase Reduction	0	0	0	0	0	0	0	0
Phase Extension	0	0	0	0	0	0	0	0

Offset	1	2	3
Time	11	0	0
Mode	0 - Normal	0 - Normal	0 - Normal
Alt Sequence	0	0	0
Correction	0 - Normal	0 - Normal	0 - Normal
Special Function	0	0	0
Maximum Mode	0 - None	0 - None	0 - None
Ring 2 Lag Time	6	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time	0	0	0

ORANGE COUNTY TRAFFIC SIGNAL TIMING

Hazem El-Assar, P.E.

Location: Hansel Ave (SR 527) at Hoffner Road **Node: 129**

Equipment: Eagle **CDI:** 2/10/2021 **CDO:** **Date: 2/11/21**

BASIC TIMING

Phase	1	2	3	4	5	6	7	8
Direction		NB		EB/WB				
Min Green (sec)		15		5				
Vehicle Gap (sec)		3.0		3.0				
Max Green 1 (sec)		40		30				
Max Green 2 (sec)		40		30				
Yellow (sec)		4.5		3.9				
All-Red (sec)		2.0		2.0				
Walk (sec)		7		7				
Flash Don't Walk (sec)		15		16				
Recall/Memory		SF/LK		NL				
Delay (sec)								
Detector Switching								
Dual Entry								
Overlap								
Flash		Y		R				
Speed (mph)		40		30				
Vehicle Distance (ft)		69		81				
Crossing Distance (ft)		46.0		52.0				
Ped Clearence (sec)		13		15				

COORDINATION PLANS

Coordination Pattern	1/1/1	2/1/1	3/1/1			Day	Time	Pattern
Cycle	130	110	150			1	0:01	FREE
Split 1	0	0	0			1	10:00	2/1/1
Split 2	75	78	100			1	19:30	FREE
Split 3	0	0	0			2	0:01	FREE
Split 4	55	32	50			2	6:00	1/1/1
Split 5	0	0	0			2	9:00	2/1/1
Split 6	0	0	0			2	14:00	3/1/1
Split 7	0	0	0			2	18:30	2/1/1
Split 8	0	0	0			2	20:30	FREE
Offset	111	76	72			7	0:01	FREE
Lagging Phases	0/0/0/0	0/0/0/0	0/0/0/0			7	9:00	2/1/1
Source Day	Equate 1	Equate 2	Equate 3	Equate 4	Equate 5	7	19:45	FREE
2	3	4	5	6				

Notes:

1. Offset referenced to start of mainstreet green
2. Use Plan Force-offs
3. Use Max Inhibit during coordination

Consultant Timing

APR 0 4 2018

ORANGE COUNTY TRAFFIC SIGNAL TIMING SHEET

Intersection: Orange Ave (SR 527 SB) at Hoffner Ave | Int. # 11 | Node 350
Equipment: Siemens Eagle | Date: 7/13/2018 | Address:

BASIC TIMING

Phase	1	2	3	4	5	6	7	8
Direction		SB		WB				
Min Green (sec)		15		5				
Vehicle Gap (sec)		3.0		5.0				
Max Green 1 (sec)		50		25				
Max Green 2 (sec)		50		25				
Yellow Change Interval (sec)		4.1		3.8				
Red Clearance Interval (sec)		2.0		2.0				
Walk (sec)		7		7				
Flash Don't Walk (sec)		15		14				
Min Split (sec)		29		27				
Recall/Memory		SF/LK		NL				
Detector Delay (sec)				CD 10				
Detector Switching								
Dual Entry								
Overlap								
Flash		Y		R				

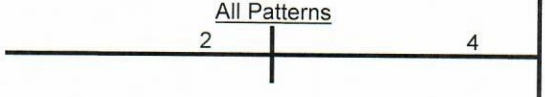
Speed (mph)	35	30
Approach Grades (%)	-0.5%	-1.9%
Veh Traversed Distance (ft)	70	53
Ped Crossing Distance (ft)	52	46
Ped Clearance (sec)	15	14
Ped-button to curb (ft)	12	12
Ped-button to far curb (ft)	64	58
Ped Clearance to far curb (sec	22	20

COORDINATION PLANS

Coordination Pattern	1/1/1	2/1/1	3/1/1		
Cycle	130	110	150		
Split 1	0	0	0		
Split 2	77	78	104		
Split 3	0	0	0		
Split 4	53	32	46		
Split 5	0	0	0		
Split 6	0	0	0		
Split 7	0	0	0		
Split 8	0	0	0		
Offset	109	90	131		
Lagging Phases	0/0/0/0	0/0/0/0	0/0/0/0		
Source Day	Equate 1	Equate 2	Equate 3	Equate 4	Equate 5
(Sunday) 1					
(Monday) 2	3	4	5	6	
(Saturday) 7					

Day	Time	Pattern
1	0:01	FREE
1	10:00	2/1/1
1	19:30	FREE
2	0:01	FREE
2	6:00	1/1/1
2	9:00	2/1/1
2	14:00	3/1/1
2	18:30	2/1/1
2	20:30	FREE
7	0:01	FREE
7	9:00	2/1/1
7	19:45	FREE

Notes:
1. Offset referenced to start of mainstreet green
2. Use Plan Force-offs
3. Use Max Inhibit during coordination



Consultant Timing

APR 0 4 2018

ORANGE COUNTY TRAFFIC SIGNAL TIMING SHEET

Intersection: Orange Ave (SR 527) at Lancaster Rd | Int. # 3 | Node 168
Equipment: Eagle ATC | Date: 7/13/2018 | Address:

BASIC TIMING

Phase	1	2	3	4	5	6	7	8
Direction	NBL	SB	EBL			NB		WB Ped
Min Green (sec)	5	15	5			15		0
Vehicle Gap (sec)	3.0	3.0	3.0			3.0		1.0
Max Green 1 (sec)	25	60	30			60		10
Max Green 2 (sec)	25	60	30			60		10
Yellow Change Interval (sec)	4.8	4.8	4.5			4.8		4.5
Red Clearance Interval (sec)	2.3	2.0	2.3			2.0		2.3
Walk (sec)		7						7
Flash Don't Walk (sec)		21						25
Min Split (sec)	13	35	12			22		39
Recall/Memory	NL	MIN/LK	NL			MIN/LK		NL
Detector Delay (sec)	CD 10							
Detector Switching								
Dual Entry								
Overlap	CD		D					CD
Flash		Y	R			Y		
Speed (mph)	45	45	40			45		
Approach Grades (%)	-0.3%	0.5%	-0.7%			-0.3%		
Veh Traversed Distance (ft)	99	119	98			101		
Ped Crossing Distance (ft)		72						86
Ped Clearance (sec)		21						25
Ped-button to curb (ft)		11						12
Ped-button to far curb (ft)		83						98
Ped Clearance to far curb (sec		28						33

COORDINATION PLANS

Coordination Pattern	1/1/1	2/1/1	3/1/1		
Cycle	130	110	150		
Split 1	24	18	25		
Split 2	66	60	75		
Split 3	20	20	26		
Split 4	0	0	0		
Split 5	0	0	0		
Split 6	90	78	100		
Split 7	0	0	0		
Split 8	20	12	24		
Offset	35	29	142		
Lagging Phases	0/0/0/0	0/0/0/0	0/0/0/0		
Source Day	Equate 1	Equate 2	Equate 3	Equate 4	Equate 5
(Sunday) 1					
(Monday) 2	3	4	5	6	
(Saturday) 7					

Day	Time	Pattern
1	0:01	FREE
1	10:00	2/1/1
1	19:30	FREE
2	0:01	FREE
2	6:00	1/1/1
2	9:00	2/1/1
2	14:00	3/1/1
2	18:30	2/1/1
2	20:30	FREE
7	0:01	FREE
7	9:00	2/1/1
7	19:45	FREE

Notes:
1. Offset referenced to start of mainstreet green
2. Use Plan Force-offs
3. Use Max Inhibit during coordination
4. Pre-empt #1 = Railroad
6. OL C = NBL, OL D = EBR

All Patterns

1	2	3	8
	6		

ORANGE COUNTY TRAFFIC SIGNAL TIMING

Hazem El-Assar, P.E.

Location: Orange Ave (SR 527) at Nela Ave - Glen Rose Ave **Node: 497**

Equipment: Eagle **CDI:** 1/22/20 **CDO:** **Date: 2/15/21**

BASIC TIMING

Phase	1	2	3	4	5	6	7	8
Direction	SBL	NB		EB		SB		WB
Min Green (sec)	5	15		5		15		5
Vehicle Gap (sec)	3.0	3.0		3.0		3.0		3.0
Max Green 1 (sec)	15	50		15		50		15
Max Green 2 (sec)	15	50		15		50		15
Yellow (sec)	4.8	4.8		3.8		4.8		4.0
All-Red (sec)	2.0	2.0		2.4		2.0		2.0
Walk (sec)		7		7		7		7
Flash Don't Walk (sec)		17		20		9		20
Recall/Memory	NL	SF/LK		NL		SF/LK		NL
Delay (sec)				CD 10				DRT 10
Detector Switching	1>6							
Dual Entry		Y		Y		Y		Y
Overlap								
Flash		Y		R		Y		R
Speed (mph)	45	45		25		45		35
Vehicle Distance (ft)	85	87		102		90		100
Crossing Distance (ft)		59.0		70.0		30.0		67.0
Ped Clearence (sec)		17		20		9		19

COORDINATION PLANS

Coordination Pattern	1/1/1	2/1/1	3/1/1		
Cycle	130	110	150	0	0
Split 1	18	18	27		
Split 2	92	72	103		
Split 3	0	0	0		
Split 4	20	20	20		
Split 5	0	0	0		
Split 6	110	90	130		
Split 7	0	0	0		
Split 8	20	20	20		
Offset	10	90	68		
Lagging Phases	0/0/0/0	0/0/0/0	0/0/0/0		
Source Day	Equate 1	Equate 2	Equate 3	Equate 4	Equate 5
1					
2	3	4	5	6	
7					

Day	Time	Pattern
1	0:01	FREE
1	10:00	2/1/1
1	19:30	FREE
2	0:01	FREE
2	6:00	1/1/1
2	9:00	2/1/1
2	14:00	3/1/1
2	18:30	2/1/1
2	20:30	FREE
7	0:01	FREE
7	9:00	2/1/1
7	19:45	FREE

Notes:

1. Offset referenced to start of mainstreet green
2. Use Plan Force-offs
3. Use Max Inhibit during coordination

APPENDIX C

Existing Capacity Analysis Worksheet

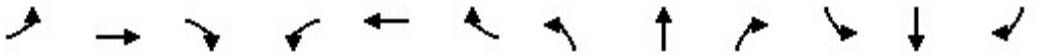
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	721	66	17	615	1	17	0	9	0	0	0
Future Vol, veh/h	0	721	66	17	615	1	17	0	9	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	1	2	0	1	0	6	0	0	0	0	0
Mvmt Flow	0	775	71	18	661	1	18	0	10	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	662	0	0	846	0	0	1509	1509	811	1514	1544	662
Stage 1	-	-	-	-	-	-	811	811	-	698	698	-
Stage 2	-	-	-	-	-	-	698	698	-	816	846	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.16	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.554	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	936	-	-	800	-	-	97	122	383	99	116	465
Stage 1	-	-	-	-	-	-	367	396	-	434	445	-
Stage 2	-	-	-	-	-	-	425	445	-	374	381	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	936	-	-	800	-	-	94	118	383	94	112	465
Mov Cap-2 Maneuver	-	-	-	-	-	-	94	118	-	94	112	-
Stage 1	-	-	-	-	-	-	367	396	-	434	429	-
Stage 2	-	-	-	-	-	-	410	429	-	365	381	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	41.2	0
HCM LOS			E	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	127	936	-	-	800	-	-	-
HCM Lane V/C Ratio	0.22	-	-	-	0.023	-	-	-
HCM Control Delay (s)	41.2	0	-	-	9.6	0	-	0
HCM Lane LOS	E	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.8	0	-	-	0.1	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	268	0	0	380	255	33	1342	534	0	0	0
Future Volume (veh/h)	6	268	0	0	380	255	33	1342	534	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1870	0	0	1870	1885	1811	1826	1870			
Adj Flow Rate, veh/h	6	276	0	0	392	263	34	1384	551			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	0	0	2	1	6	5	2			
Cap, veh/h	30	370	0	0	453	387	54	2302	1050			
Arrive On Green	0.24	0.24	0.00	0.00	0.24	0.24	0.66	0.66	0.66			
Sat Flow, veh/h	7	1529	0	0	1870	1598	81	3475	1585			
Grp Volume(v), veh/h	282	0	0	0	392	263	761	657	551			
Grp Sat Flow(s),veh/h/ln	1536	0	0	0	1870	1598	1822	1735	1585			
Q Serve(g_s), s	1.0	0.0	0.0	0.0	26.1	19.4	31.4	26.8	23.4			
Cycle Q Clear(g_c), s	27.1	0.0	0.0	0.0	26.1	19.4	31.4	26.8	23.4			
Prop In Lane	0.02		0.00	0.00		1.00	0.04		1.00			
Lane Grp Cap(c), veh/h	400	0	0	0	453	387	1207	1149	1050			
V/C Ratio(X)	0.71	0.00	0.00	0.00	0.87	0.68	0.63	0.57	0.52			
Avail Cap(c_a), veh/h	646	0	0	0	706	603	1207	1149	1050			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.97	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	44.1	0.0	0.0	0.0	47.2	44.7	12.7	11.9	11.3			
Incr Delay (d2), s/veh	2.2	0.0	0.0	0.0	7.0	2.1	2.5	2.1	1.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	13.1	0.0	0.0	0.0	18.9	12.6	18.2	15.2	12.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.3	0.0	0.0	0.0	54.2	46.8	15.2	14.0	13.2			
LnGrp LOS	D	A	A	A	D	D	B	B	B			
Approach Vol, veh/h		282			655			1969				
Approach Delay, s/veh		46.3			51.2			14.2				
Approach LOS		D			D			B				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		92.6		37.4				37.4				
Change Period (Y+Rc), s		6.5		5.9				5.9				
Max Green Setting (Gmax), s		68.5		49.1				49.1				
Max Q Clear Time (g_c+I1), s		33.4		28.1				29.1				
Green Ext Time (p_c), s		16.0		3.3				1.6				
Intersection Summary												
HCM 6th Ctrl Delay			25.7									
HCM 6th LOS			C									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	407	0	0	0	269	1245
Future Volume (veh/h)	407	0	0	0	269	1245
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No					No
Adj Sat Flow, veh/h/ln	1870	0			1870	1841
Adj Flow Rate, veh/h	433	0			286	1324
Peak Hour Factor	0.94	0.94			0.94	0.94
Percent Heavy Veh, %	2	0			2	4
Cap, veh/h	0	0			1753	3333
Arrive On Green	0.00	0.00			0.95	0.95
Sat Flow, veh/h	0				1781	3589
Grp Volume(v), veh/h	0.0				286	1324
Grp Sat Flow(s),veh/h/ln					1781	1749
Q Serve(g_s), s					1.2	3.7
Cycle Q Clear(g_c), s					1.2	3.7
Prop In Lane					1.00	
Lane Grp Cap(c), veh/h					1753	3333
V/C Ratio(X)					0.16	0.40
Avail Cap(c_a), veh/h					1753	3333
HCM Platoon Ratio					1.00	1.00
Upstream Filter(I)					1.00	1.00
Uniform Delay (d), s/veh					0.2	0.2
Incr Delay (d2), s/veh					0.2	0.4
Initial Q Delay(d3),s/veh					0.0	0.0
%ile BackOfQ(95%),veh/ln					0.2	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh					0.4	0.6
LnGrp LOS					A	A
Approach Vol, veh/h						1610
Approach Delay, s/veh						0.5
Approach LOS						A

Timer - Assigned Phs	2
Phs Duration (G+Y+Rc), s	130.0
Change Period (Y+Rc), s	6.1
Max Green Setting (Gmax), s	70.9
Max Q Clear Time (g_c+I1), s	5.7
Green Ext Time (p_c), s	16.2

Intersection Summary	
HCM 6th Ctrl Delay	0.5
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	6.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	140	8	15	0	0	67
Future Vol, veh/h	140	8	15	0	0	67
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	64	64	64	64	64	64
Heavy Vehicles, %	0	0	7	0	0	1
Mvmt Flow	219	13	23	0	0	105

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	128	23	0	0	23	0
Stage 1	23	-	-	-	-	-
Stage 2	105	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	871	1060	-	-	1605	-
Stage 1	1005	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	871	1060	-	-	1605	-
Mov Cap-2 Maneuver	871	-	-	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	924	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	879	1605	-
HCM Lane V/C Ratio	-	-	0.263	-	-
HCM Control Delay (s)	-	-	10.6	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1.1	0	-

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	2	141	61	8	3	6	2	16	13	176
Future Vol, veh/h	1	0	2	141	61	8	3	6	2	16	13	176
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Heavy Vehicles, %	0	0	0	1	0	0	33	17	0	0	8	0
Mvmt Flow	2	0	3	214	92	12	5	9	3	24	20	267
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	11.2	8.8	9.7
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	33%	67%	8%
Vol Thru, %	55%	0%	29%	6%
Vol Right, %	18%	67%	4%	86%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	3	210	205
LT Vol	3	1	141	16
Through Vol	6	0	61	13
RT Vol	2	2	8	176
Lane Flow Rate	17	5	318	311
Geometry Grp	1	1	1	1
Degree of Util (X)	0.026	0.006	0.42	0.365
Departure Headway (Hd)	5.568	4.684	4.749	4.229
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	641	758	754	851
Service Time	3.618	2.748	2.795	2.256
HCM Lane V/C Ratio	0.027	0.007	0.422	0.365
HCM Control Delay	8.8	7.8	11.2	9.7
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.1	0	2.1	1.7

Intersection	
Int Delay, s/veh	75.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	7	0	0	106	237	1	1442	9	0	0	0
Future Vol, veh/h	9	7	0	0	106	237	1	1442	9	0	0	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	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	1081749504		-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	11	0	0	0	1	0	0	7	0	0	0	0
Mvmt Flow	10	8	0	0	114	255	1	1551	10	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	835	1563	-	-	1558	781	0	0	0
Stage 1	0	0	-	-	1558	-	-	-	-
Stage 2	835	1563	-	-	0	-	-	-	-
Critical Hdwy	7.72	6.5	-	-	6.52	6.9	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	6.72	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.61	4	-	-	4.01	3.3	2.2	-	-
Pot Cap-1 Maneuver	246	113	0	0	~ 113	342	-	-	-
Stage 1	-	-	0	0	174	-	-	-	-
Stage 2	310	174	0	0	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	-	113	-	-	~ 113	342	-	-	-
Mov Cap-2 Maneuver	-	113	-	-	~ 113	-	-	-	-
Stage 1	-	-	-	-	174	-	-	-	-
Stage 2	27	174	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s		$ 398.5	
HCM LOS	-	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	-	210
HCM Lane V/C Ratio	-	-	-	-	1.756
HCM Control Delay (s)	-	-	-	-	$ 398.5
HCM Lane LOS	-	-	-	-	F
HCM 95th %tile Q(veh)	-	-	-	-	25.3

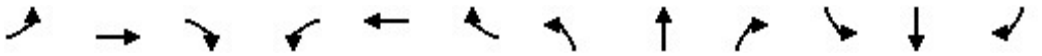
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	31	221	11	15	20
Future Vol, veh/h	1	31	221	11	15	20
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64
Heavy Vehicles, %	0	0	0	9	0	0
Mvmt Flow	2	48	345	17	23	31
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.5	10.4	7.3
HCM LOS	A	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	95%	3%	0%
Vol Thru, %	5%	0%	43%
Vol Right, %	0%	97%	57%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	232	32	35
LT Vol	221	1	0
Through Vol	11	0	15
RT Vol	0	31	20
Lane Flow Rate	362	50	55
Geometry Grp	1	1	1
Degree of Util (X)	0.425	0.059	0.061
Departure Headway (Hd)	4.219	4.25	4.03
Convergence, Y/N	Yes	Yes	Yes
Cap	852	848	893
Service Time	2.26	2.252	2.036
HCM Lane V/C Ratio	0.425	0.059	0.062
HCM Control Delay	10.4	7.5	7.3
HCM Lane LOS	B	A	A
HCM 95th-tile Q	2.1	0.2	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	31	0	0	101	134	12	1066	6	0	0	0
Future Volume (veh/h)	22	31	0	0	101	134	12	1066	6	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1767	1900			
Adj Flow Rate, veh/h	28	40	0	0	129	172	15	1367	8			
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78			
Percent Heavy Veh, %	0	0	0	0	0	0	0	9	0			
Cap, veh/h	61	73	0	0	151	202	1270	2402	14			
Arrive On Green	0.20	0.20	0.00	0.00	0.20	0.20	0.70	0.70	0.70			
Sat Flow, veh/h	107	356	0	0	738	984	1810	3421	20			
Grp Volume(v), veh/h	68	0	0	0	0	301	15	670	705			
Grp Sat Flow(s),veh/h/ln	463	0	0	0	0	1723	1810	1678	1763			
Q Serve(g_s), s	2.2	0.0	0.0	0.0	0.0	21.9	0.3	25.8	25.8			
Cycle Q Clear(g_c), s	24.1	0.0	0.0	0.0	0.0	21.9	0.3	25.8	25.8			
Prop In Lane	0.41		0.00	0.00		0.57	1.00		0.01			
Lane Grp Cap(c), veh/h	134	0	0	0	0	353	1270	1178	1238			
V/C Ratio(X)	0.51	0.00	0.00	0.00	0.00	0.85	0.01	0.57	0.57			
Avail Cap(c_a), veh/h	358	0	0	0	0	614	1270	1178	1238			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	48.2	0.0	0.0	0.0	0.0	49.8	5.8	9.6	9.6			
Incr Delay (d2), s/veh	3.3	0.0	0.0	0.0	0.0	8.1	0.0	2.0	1.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	4.2	0.0	0.0	0.0	0.0	15.6	0.2	13.8	14.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.5	0.0	0.0	0.0	0.0	57.9	5.8	11.6	11.5			
LnGrp LOS	D	A	A	A	A	E	A	B	B			
Approach Vol, veh/h		68			301			1390				
Approach Delay, s/veh		51.5			57.9			11.5				
Approach LOS		D			E			B				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		97.7		32.3				32.3				
Change Period (Y+Rc), s		6.4		* 5.7				* 5.7				
Max Green Setting (Gmax), s		71.6		* 47				* 46				
Max Q Clear Time (g_c+I1), s		27.8		26.1				23.9				
Green Ext Time (p_c), s		12.4		0.3				2.7				
Intersection Summary												
HCM 6th Ctrl Delay			21.0									
HCM 6th LOS			C									

Notes

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

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	8	11	90	18	0	0	0	0	43	1454	8
Future Vol, veh/h	0	8	11	90	18	0	0	0	0	43	1454	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	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	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	1	0	0	0	0	0	0	4	14
Mvmt Flow	0	10	13	110	22	0	0	0	0	52	1773	10

Major/Minor	Minor2			Minor1					Major2		
Conflicting Flow All	-	1882	892	996	1887	-			0	0	0
Stage 1	-	1882	-	0	0	-			-	-	-
Stage 2	-	0	-	996	1887	-			-	-	-
Critical Hdwy	-	6.5	6.9	7.52	6.5	-			4.1	-	-
Critical Hdwy Stg 1	-	5.5	-	-	-	-			-	-	-
Critical Hdwy Stg 2	-	-	-	6.52	5.5	-			-	-	-
Follow-up Hdwy	-	4	3.3	3.51	4	-			2.2	-	-
Pot Cap-1 Maneuver	0	72	289	200	71	0			-	-	-
Stage 1	0	121	-	-	-	0			-	-	-
Stage 2	0	-	-	264	120	0			-	-	-
Platoon blocked, %										-	-
Mov Cap-1 Maneuver	-	72	289	171	71	-			-	-	-
Mov Cap-2 Maneuver	-	72	-	171	71	-			-	-	-
Stage 1	-	121	-	-	-	-			-	-	-
Stage 2	-	-	-	231	120	-			-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	39.6	127.2	
HCM LOS	E	F	

Minor Lane/Major Mvmt	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	127	138	-	-	-
HCM Lane V/C Ratio	0.182	0.954	-	-	-
HCM Control Delay (s)	39.6	127.2	-	-	-
HCM Lane LOS	E	F	-	-	-
HCM 95th %tile Q(veh)	0.6	6.6	-	-	-

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	87	23	2	4	59	160	7	102	7	20	1	9
Future Vol, veh/h	87	23	2	4	59	160	7	102	7	20	1	9
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	0	0	0	0	0	0	0	1	14	0	0	0
Mvmt Flow	126	33	3	6	86	232	10	148	10	29	1	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	9.8	9.6	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	78%	2%	67%
Vol Thru, %	88%	21%	26%	3%
Vol Right, %	6%	2%	72%	30%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	116	112	223	30
LT Vol	7	87	4	20
Through Vol	102	23	59	1
RT Vol	7	2	160	9
Lane Flow Rate	168	162	323	43
Geometry Grp	1	1	1	1
Degree of Util (X)	0.234	0.222	0.378	0.062
Departure Headway (Hd)	5.002	4.928	4.212	5.167
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	713	724	850	687
Service Time	3.066	2.985	2.257	3.246
HCM Lane V/C Ratio	0.236	0.224	0.38	0.063
HCM Control Delay	9.6	9.4	9.8	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.8	1.8	0.2

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	24	0	0	14	43	15	1205	10	0	0	0
Future Vol, veh/h	5	24	0	0	14	43	15	1205	10	0	0	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	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	120	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	5	0	8	0	0	0	0
Mvmt Flow	5	25	0	0	15	45	16	1268	11	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	674	1311	-	-	1306	640	0	0	0
Stage 1	0	0	-	-	1306	-	-	-	-
Stage 2	674	1311	-	-	0	-	-	-	-
Critical Hdwy	7.5	6.5	-	-	6.5	7	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	5.5	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	-	-	4	3.35	2.2	-	-
Pot Cap-1 Maneuver	344	160	0	0	161	411	-	-	-
Stage 1	-	-	0	0	232	-	-	-	-
Stage 2	415	231	0	0	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	285	160	-	-	161	411	-	-	-
Mov Cap-2 Maneuver	285	160	-	-	161	-	-	-	-
Stage 1	-	-	-	-	232	-	-	-	-
Stage 2	346	231	-	-	-	-	-	-	-

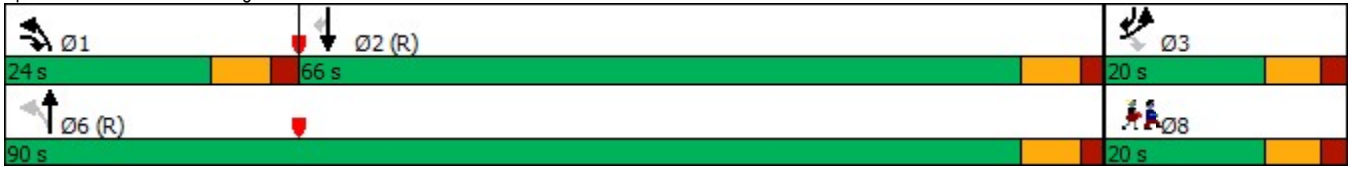
Approach	EB	WB	NB
HCM Control Delay, s	30.2	20.1	
HCM LOS	D	C	

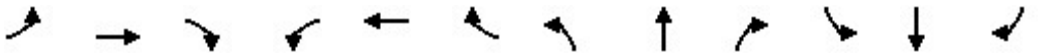
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	173	298
HCM Lane V/C Ratio	-	-	-	0.176	0.201
HCM Control Delay (s)	-	-	-	30.2	20.1
HCM Lane LOS	-	-	-	D	C
HCM 95th %tile Q(veh)	-	-	-	0.6	0.7

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	177	197	265	1294	1169	225	
Future Volume (vph)	177	197	265	1294	1169	225	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	225	0	300			350	
Storage Lanes	1	1	1			1	
Taper Length (ft)	25		25				
Satd. Flow (prot)	3433	1482	1752	3406	3312	1568	
Flt Permitted	0.950		0.132				
Satd. Flow (perm)	3433	1482	243	3406	3312	1568	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		44				218	
Link Speed (mph)	40			45	45		
Link Distance (ft)	1228			1363	902		
Travel Time (s)	20.9			20.7	13.7		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	
Heavy Vehicles (%)	2%	9%	3%	6%	9%	3%	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	195	216	291	1422	1285	247	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	pm+ov	
Protected Phases	3	1	1	6	2	3	8
Permitted Phases		3	6			2	
Total Split (s)	20.0	24.0	24.0	90.0	66.0	20.0	20.0
Total Lost Time (s)	6.8	7.1	7.1	6.8	6.8	6.8	
Act Effct Green (s)	11.2	31.7	84.9	85.2	64.4	82.5	
Actuated g/C Ratio	0.10	0.29	0.77	0.77	0.59	0.75	
v/c Ratio	0.56	0.47	0.78	0.54	0.66	0.20	
Control Delay	53.1	27.9	27.8	5.9	18.5	1.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.1	27.9	27.8	5.9	18.5	1.3	
LOS	D	C	C	A	B	A	
Approach Delay	39.9			9.6	15.7		
Approach LOS	D			A	B		
Queue Length 50th (ft)	68	97	75	170	314	5	
Queue Length 95th (ft)	104	161	176	230	427	26	
Internal Link Dist (ft)	1148			1283	822		
Turn Bay Length (ft)	225		300			350	
Base Capacity (vph)	411	501	420	2637	1940	1254	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.47	0.43	0.69	0.54	0.66	0.20	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 35 (32%), Referenced to phase 2:SBT and 6:NBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 15.6		Intersection LOS: B	
Intersection Capacity Utilization 69.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 12: Orange Ave & Lancaster Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	29	1	131	4	1421	17	69	1282	2
Future Volume (veh/h)	0	0	1	29	1	131	4	1421	17	69	1282	2
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	1900	1900	1900	1841	1900	1885	1900	1811	1811	1900	1811	1900
Adj Flow Rate, veh/h	0	0	1	32	1	142	4	1545	18	75	1393	2
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, %	0	0	0	4	0	1	0	6	6	0	6	0
Cap, veh/h	0	0	166	198	1	165	317	2469	29	280	2810	4
Arrive On Green	0.00	0.00	0.10	0.10	0.10	0.10	0.71	0.71	0.71	0.04	0.80	0.80
Sat Flow, veh/h	0	0	1610	1394	11	1601	393	3484	41	1810	3526	5
Grp Volume(v), veh/h	0	0	1	32	0	143	4	762	801	75	680	715
Grp Sat Flow(s),veh/h/ln	0	0	1610	1394	0	1612	393	1721	1804	1810	1721	1810
Q Serve(g_s), s	0.0	0.0	0.1	2.7	0.0	11.4	0.4	30.1	30.2	1.3	17.2	17.2
Cycle Q Clear(g_c), s	0.0	0.0	0.1	2.8	0.0	11.4	6.2	30.1	30.2	1.3	17.2	17.2
Prop In Lane	0.00		1.00	1.00		0.99	1.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	166	198	0	166	317	1220	1279	280	1371	1443
V/C Ratio(X)	0.00	0.00	0.01	0.16	0.00	0.86	0.01	0.63	0.63	0.27	0.50	0.50
Avail Cap(c_a), veh/h	0	0	171	205	0	174	317	1220	1279	371	1371	1443
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)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.73	0.73	0.73
Uniform Delay (d), s/veh	0.0	0.0	52.3	53.6	0.0	57.4	7.4	9.9	9.9	9.0	4.4	4.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	32.3	0.1	2.4	2.3	0.4	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.1	1.8	0.0	10.1	0.1	15.6	16.3	1.0	7.6	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	52.4	54.0	0.0	89.7	7.5	12.3	12.2	9.4	5.4	5.3
LnGrp LOS	A	A	D	D	A	F	A	B	B	A	A	A
Approach Vol, veh/h		1			175			1567			1470	
Approach Delay, s/veh		52.4			83.1			12.3			5.5	
Approach LOS		D			F			B			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.5	99.0		19.6		110.4		19.6				
Change Period (Y+Rc), s	6.8	6.8		* 6.2		6.8		* 6.2				
Max Green Setting (Gmax), s	11.2	85.2		* 14		103.2		* 14				
Max Q Clear Time (g_c+I1), s	3.3	32.2		2.1		19.2		13.4				
Green Ext Time (p_c), s	0.1	15.5		0.0		12.7		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		13.1	
HCM 6th LOS		B	

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

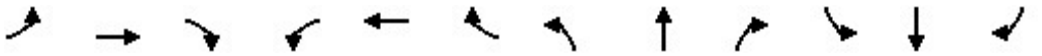
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	880	28	17	525	8	9	2	40	4	0	3
Future Vol, veh/h	4	880	28	17	525	8	9	2	40	4	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	4	6	3	0	13	0	0	0	0	0
Mvmt Flow	4	957	30	18	571	9	10	2	43	4	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	580	0	0	987	0	0	1593	1596	972	1615	1607	576
Stage 1	-	-	-	-	-	-	980	980	-	612	612	-
Stage 2	-	-	-	-	-	-	613	616	-	1003	995	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.23	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.23	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.23	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.254	-	-	3.617	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1004	-	-	684	-	-	81	108	309	84	106	521
Stage 1	-	-	-	-	-	-	287	331	-	484	487	-
Stage 2	-	-	-	-	-	-	461	485	-	294	325	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1004	-	-	684	-	-	78	103	309	68	101	521
Mov Cap-2 Maneuver	-	-	-	-	-	-	78	103	-	68	101	-
Stage 1	-	-	-	-	-	-	284	328	-	480	468	-
Stage 2	-	-	-	-	-	-	440	466	-	249	322	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	31	40.8
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	193	1004	-	-	684	-	-	108
HCM Lane V/C Ratio	0.287	0.004	-	-	0.027	-	-	0.07
HCM Control Delay (s)	31	8.6	0	-	10.4	0	-	40.8
HCM Lane LOS	D	A	A	-	B	A	-	E
HCM 95th %tile Q(veh)	1.1	0	-	-	0.1	-	-	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	283	0	0	301	232	38	1333	613	0	0	0
Future Volume (veh/h)	8	283	0	0	301	232	38	1333	613	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1870	0	0	1856	1856	1856	1841	1885			
Adj Flow Rate, veh/h	8	292	0	0	310	239	39	1374	632			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	0	0	3	3	3	4	1			
Cap, veh/h	27	332	0	0	396	335	67	2457	1125			
Arrive On Green	0.21	0.21	0.00	0.00	0.21	0.21	0.70	0.70	0.70			
Sat Flow, veh/h	13	1557	0	0	1856	1572	94	3490	1598			
Grp Volume(v), veh/h	300	0	0	0	310	239	758	655	632			
Grp Sat Flow(s),veh/h/ln	1570	0	0	0	1856	1572	1836	1749	1598			
Q Serve(g_s), s	4.9	0.0	0.0	0.0	23.7	21.2	31.2	26.6	29.0			
Cycle Q Clear(g_c), s	28.5	0.0	0.0	0.0	23.7	21.2	31.2	26.6	29.0			
Prop In Lane	0.03		0.00	0.00		1.00	0.05		1.00			
Lane Grp Cap(c), veh/h	359	0	0	0	396	335	1293	1231	1125			
V/C Ratio(X)	0.83	0.00	0.00	0.00	0.78	0.71	0.59	0.53	0.56			
Avail Cap(c_a), veh/h	506	0	0	0	546	462	1293	1231	1125			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.98	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	56.2	0.0	0.0	0.0	55.7	54.7	11.2	10.5	10.9			
Incr Delay (d2), s/veh	8.1	0.0	0.0	0.0	5.1	3.2	2.0	1.6	2.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	17.6	0.0	0.0	0.0	17.3	13.6	18.1	15.2	15.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.3	0.0	0.0	0.0	60.8	57.9	13.1	12.2	12.9			
LnGrp LOS	E	A	A	A	E	E	B	B	B			
Approach Vol, veh/h		300			549			2045				
Approach Delay, s/veh		64.3			59.5			12.7				
Approach LOS		E			E			B				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		112.1		37.9				37.9				
Change Period (Y+Rc), s		6.5		5.9				5.9				
Max Green Setting (Gmax), s		93.5		44.1				44.1				
Max Q Clear Time (g_c+I1), s		33.2		25.7				30.5				
Green Ext Time (p_c), s		19.9		2.6				1.4				
Intersection Summary												
HCM 6th Ctrl Delay			27.0									
HCM 6th LOS			C									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	345	0	0	0	278	1381
Future Volume (veh/h)	345	0	0	0	278	1381
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No					No
Adj Sat Flow, veh/h/ln	1856	0			1900	1796
Adj Flow Rate, veh/h	356	0			287	1424
Peak Hour Factor	0.97	0.97			0.97	0.97
Percent Heavy Veh, %	3	0			0	7
Cap, veh/h	0	0			1784	3274
Arrive On Green	0.00	0.00			0.96	0.96
Sat Flow, veh/h	0				1810	3503
Grp Volume(v), veh/h	0.0				287	1424
Grp Sat Flow(s),veh/h/ln					1810	1706
Q Serve(g_s), s					1.1	4.4
Cycle Q Clear(g_c), s					1.1	4.4
Prop In Lane					1.00	
Lane Grp Cap(c), veh/h					1784	3274
V/C Ratio(X)					0.16	0.43
Avail Cap(c_a), veh/h					1784	3274
HCM Platoon Ratio					1.00	1.00
Upstream Filter(I)					1.00	1.00
Uniform Delay (d), s/veh					0.1	0.2
Incr Delay (d2), s/veh					0.2	0.4
Initial Q Delay(d3),s/veh					0.0	0.0
%ile BackOfQ(95%),veh/ln					0.2	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh					0.3	0.6
LnGrp LOS					A	A
Approach Vol, veh/h						1711
Approach Delay, s/veh						0.6
Approach LOS						A

Timer - Assigned Phs	2
Phs Duration (G+Y+Rc), s	150.0
Change Period (Y+Rc), s	6.1
Max Green Setting (Gmax), s	97.9
Max Q Clear Time (g_c+I1), s	6.4
Green Ext Time (p_c), s	19.4

Intersection Summary	
HCM 6th Ctrl Delay	0.6
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	5.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	101	4	36	3	0	32
Future Vol, veh/h	101	4	36	3	0	32
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	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	142	6	51	4	0	45

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	98	53	0	0	55	0
Stage 1	53	-	-	-	-	-
Stage 2	45	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	906	1020	-	-	1563	-
Stage 1	975	-	-	-	-	-
Stage 2	983	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	906	1020	-	-	1563	-
Mov Cap-2 Maneuver	906	-	-	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	983	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	910	1563	-
HCM Lane V/C Ratio	-	-	0.163	-	-
HCM Control Delay (s)	-	-	9.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0	-

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	8	4	70	46	6	7	26	1	1	16	118
Future Vol, veh/h	9	8	4	70	46	6	7	26	1	1	16	118
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	0	0	0	1	2	0	0	4	0	0	0	1
Mvmt Flow	11	10	5	88	58	8	9	33	1	1	20	148
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	8.5	7.8	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	43%	57%	1%
Vol Thru, %	76%	38%	38%	12%
Vol Right, %	3%	19%	5%	87%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	34	21	122	135
LT Vol	7	9	70	1
Through Vol	26	8	46	16
RT Vol	1	4	6	118
Lane Flow Rate	42	26	152	169
Geometry Grp	1	1	1	1
Degree of Util (X)	0.053	0.033	0.186	0.18
Departure Headway (Hd)	4.509	4.483	4.388	3.846
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	798	801	805	938
Service Time	2.517	2.497	2.484	1.849
HCM Lane V/C Ratio	0.053	0.032	0.189	0.18
HCM Control Delay	7.8	7.7	8.5	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.7	0.7

Intersection	
Int Delay, s/veh	37.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	4	0	0	83	192	1	1526	4	0	0	0
Future Vol, veh/h	12	4	0	0	83	192	1	1526	4	0	0	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	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	1081749504		-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	8	25	0	0	1	2	0	4	0	0	0	0
Mvmt Flow	12	4	0	0	86	198	1	1573	4	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	832	1579	-	-	1577	789	0	0	0
Stage 1	0	0	-	-	1577	-	-	-	-
Stage 2	832	1579	-	-	0	-	-	-	-
Critical Hdwy	7.66	7	-	-	6.52	6.94	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	6.66	6	-	-	-	-	-	-	-
Follow-up Hdwy	3.58	4.25	-	-	4.01	3.32	2.2	-	-
Pot Cap-1 Maneuver	252	87	0	0	110	333	-	-	-
Stage 1	-	-	0	0	170	-	-	-	-
Stage 2	317	134	0	0	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	37	87	-	-	110	333	-	-	-
Mov Cap-2 Maneuver	37	87	-	-	110	-	-	-	-
Stage 1	-	-	-	-	170	-	-	-	-
Stage 2	64	134	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	133.6	238.3	
HCM LOS	F	F	

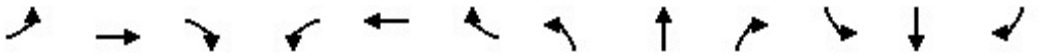
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	43	207
HCM Lane V/C Ratio	-	-	-	0.384	1.37
HCM Control Delay (s)	-	-	-	133.6	238.3
HCM Lane LOS	-	-	-	F	F
HCM 95th %tile Q(veh)	-	-	-	1.3	16.1

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	31	88	38	36	23
Future Vol, veh/h	12	31	88	38	36	23
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	14	37	106	46	43	28
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.3	8.1	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	70%	28%	0%
Vol Thru, %	30%	0%	61%
Vol Right, %	0%	72%	39%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	126	43	59
LT Vol	88	12	0
Through Vol	38	0	36
RT Vol	0	31	23
Lane Flow Rate	152	52	71
Geometry Grp	1	1	1
Degree of Util (X)	0.176	0.058	0.076
Departure Headway (Hd)	4.184	4.005	3.871
Convergence, Y/N	Yes	Yes	Yes
Cap	856	900	917
Service Time	2.219	2.005	1.931
HCM Lane V/C Ratio	0.178	0.058	0.077
HCM Control Delay	8.1	7.3	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	0.2	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	22	0	0	37	64	16	1383	6	0	0	0
Future Volume (veh/h)	10	22	0	0	37	64	16	1383	6	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1752	1900	0	0	1900	1900	1811	1841	1900			
Adj Flow Rate, veh/h	11	23	0	0	39	68	17	1471	6			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	10	0	0	0	0	0	6	4	0			
Cap, veh/h	42	70	0	0	50	88	1446	2995	12			
Arrive On Green	0.08	0.08	0.00	0.00	0.08	0.08	0.84	0.84	0.84			
Sat Flow, veh/h	129	863	0	0	621	1084	1725	3572	15			
Grp Volume(v), veh/h	34	0	0	0	0	107	17	720	757			
Grp Sat Flow(s),veh/h/ln	992	0	0	0	0	1705	1725	1749	1838			
Q Serve(g_s), s	0.1	0.0	0.0	0.0	0.0	9.2	0.2	17.0	17.0			
Cycle Q Clear(g_c), s	9.3	0.0	0.0	0.0	0.0	9.2	0.2	17.0	17.0			
Prop In Lane	0.32		0.00	0.00		0.64	1.00		0.01			
Lane Grp Cap(c), veh/h	112	0	0	0	0	138	1446	1466	1541			
V/C Ratio(X)	0.30	0.00	0.00	0.00	0.00	0.77	0.01	0.49	0.49			
Avail Cap(c_a), veh/h	526	0	0	0	0	560	1446	1466	1541			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	64.6	0.0	0.0	0.0	0.0	67.6	2.0	3.3	3.3			
Incr Delay (d2), s/veh	1.7	0.0	0.0	0.0	0.0	12.3	0.0	1.2	1.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	2.3	0.0	0.0	0.0	0.0	8.0	0.1	8.2	8.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.3	0.0	0.0	0.0	0.0	79.9	2.0	4.5	4.5			
LnGrp LOS	E	A	A	A	A	E	A	A	A			
Approach Vol, veh/h		34			107			1494				
Approach Delay, s/veh		66.3			79.9			4.5				
Approach LOS		E			E			A				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		132.1		17.9				17.9				
Change Period (Y+Rc), s		6.4		* 5.7				* 5.7				
Max Green Setting (Gmax), s		88.6		* 50				* 49				
Max Q Clear Time (g_c+I1), s		19.0		11.3				11.2				
Green Ext Time (p_c), s		15.1		0.2				1.0				
Intersection Summary												
HCM 6th Ctrl Delay			10.7									
HCM 6th LOS			B									

Notes

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

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	0	6	23	52	26	0	0	0	0	27	1535	6
Future Vol, veh/h	0	6	23	52	26	0	0	0	0	27	1535	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	5	0	0	0	0	0	0	0	7	0
Mvmt Flow	0	7	27	61	31	0	0	0	0	32	1806	7

Major/Minor	Minor2			Minor1					Major2		
Conflicting Flow All	-	1874	907	971	1877	-			0	0	0
Stage 1	-	1874	-	0	0	-			-	-	-
Stage 2	-	0	-	971	1877	-			-	-	-
Critical Hdwy	-	6.5	7	7.5	6.5	-			4.1	-	-
Critical Hdwy Stg 1	-	5.5	-	-	-	-			-	-	-
Critical Hdwy Stg 2	-	-	-	6.5	5.5	-			-	-	-
Follow-up Hdwy	-	4	3.35	3.5	4	-			2.2	-	-
Pot Cap-1 Maneuver	0	73	273	210	72	0			-	-	-
Stage 1	0	122	-	-	-	0			-	-	-
Stage 2	0	-	-	275	122	0			-	-	-
Platoon blocked, %										-	-
Mov Cap-1 Maneuver	-	73	273	175	72	-			-	-	-
Mov Cap-2 Maneuver	-	73	-	175	72	-			-	-	-
Stage 1	-	122	-	-	-	-			-	-	-
Stage 2	-	-	-	233	122	-			-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	30.7	100.3	
HCM LOS	D	F	

Minor Lane/Major Mvmt	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	174	118	-	-	-
HCM Lane V/C Ratio	0.196	0.778	-	-	-
HCM Control Delay (s)	30.7	100.3	-	-	-
HCM Lane LOS	D	F	-	-	-
HCM 95th %tile Q(veh)	0.7	4.5	-	-	-

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	47	6	5	44	67	5	49	18	36	8	12
Future Vol, veh/h	40	47	6	5	44	67	5	49	18	36	8	12
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	4	0	0	2	0	0	2	0	0	0	0
Mvmt Flow	44	52	7	6	49	74	6	54	20	40	9	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	7.7	7.8	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	43%	4%	64%
Vol Thru, %	68%	51%	38%	14%
Vol Right, %	25%	6%	58%	21%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	72	93	116	56
LT Vol	5	40	5	36
Through Vol	49	47	44	8
RT Vol	18	6	67	12
Lane Flow Rate	80	103	129	62
Geometry Grp	1	1	1	1
Degree of Util (X)	0.096	0.126	0.143	0.078
Departure Headway (Hd)	4.337	4.401	3.999	4.492
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	828	817	900	800
Service Time	2.353	2.414	2.012	2.508
HCM Lane V/C Ratio	0.097	0.126	0.143	0.077
HCM Control Delay	7.8	8	7.7	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0.5	0.3

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	42	0	0	16	46	30	1342	16	0	0	0
Future Vol, veh/h	14	42	0	0	16	46	30	1342	16	0	0	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	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	120	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	0	0	0	6	2	13	4	6	0	0	0
Mvmt Flow	15	44	0	0	17	48	32	1413	17	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	779	1494	-	-	1486	715	0	0	0
Stage 1	0	0	-	-	1486	-	-	-	-
Stage 2	779	1494	-	-	0	-	-	-	-
Critical Hdwy	7.64	6.5	-	-	6.62	6.94	4.36	-	-
Critical Hdwy Stg 1	-	-	-	-	5.62	-	-	-	-
Critical Hdwy Stg 2	6.64	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4	-	-	4.06	3.32	2.33	-	-
Pot Cap-1 Maneuver	277	124	0	0	119	373	-	-	-
Stage 1	-	-	0	0	180	-	-	-	-
Stage 2	344	188	0	0	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	215	124	-	-	119	373	-	-	-
Mov Cap-2 Maneuver	215	124	-	-	119	-	-	-	-
Stage 1	-	-	-	-	180	-	-	-	-
Stage 2	271	188	-	-	-	-	-	-	-

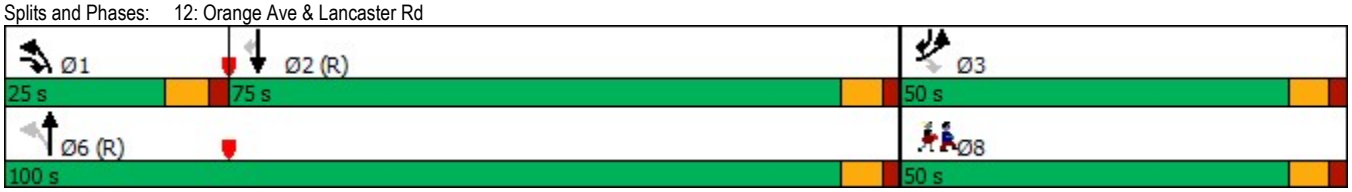
Approach	EB	WB	NB
HCM Control Delay, s	48.7	25.4	
HCM LOS	E	D	

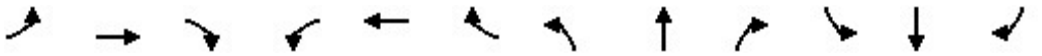
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	139	241
HCM Lane V/C Ratio	-	-	-	0.424	0.271
HCM Control Delay (s)	-	-	-	48.7	25.4
HCM Lane LOS	-	-	-	E	D
HCM 95th %tile Q(veh)	-	-	-	1.9	1.1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	245	165	307	1192	1325	244	
Future Volume (vph)	245	165	307	1192	1325	244	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	225	0	300			350	
Storage Lanes	1	1	1			1	
Taper Length (ft)	25		25				
Satd. Flow (prot)	3502	1524	1719	3471	3343	1568	
Flt Permitted	0.950		0.070				
Satd. Flow (perm)	3502	1524	127	3471	3343	1568	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		17				71	
Link Speed (mph)	40			45	45		
Link Distance (ft)	1228			1363	902		
Travel Time (s)	20.9			20.7	13.7		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	
Heavy Vehicles (%)	0%	6%	5%	4%	8%	3%	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	255	172	320	1242	1380	254	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	pm+ov	
Protected Phases	3	1	1	6	2	3	8
Permitted Phases		3	6			2	
Total Split (s)	50.0	25.0	25.0	100.0	75.0	50.0	50.0
Total Lost Time (s)	6.8	7.1	7.1	6.8	6.8	6.8	
Act Effct Green (s)	16.3	62.3	119.8	120.1	73.8	96.9	
Actuated g/C Ratio	0.11	0.42	0.80	0.80	0.49	0.65	
v/c Ratio	0.67	0.27	0.62	0.45	0.84	0.24	
Control Delay	72.9	27.5	29.4	11.1	38.7	8.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	72.9	27.5	29.4	11.1	38.7	8.0	
LOS	E	C	C	B	D	A	
Approach Delay	54.6			14.9	33.9		
Approach LOS	D			B	C		
Queue Length 50th (ft)	125	102	204	287	574	63	
Queue Length 95th (ft)	169	154	320	504	723	104	
Internal Link Dist (ft)	1148			1283	822		
Turn Bay Length (ft)	225		300			350	
Base Capacity (vph)	1008	642	517	2778	1644	1306	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.25	0.27	0.62	0.45	0.84	0.19	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 16 (11%), Referenced to phase 2:SBT and 6:NBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 28.1		Intersection LOS: C	
Intersection Capacity Utilization 77.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 12: Orange Ave & Lancaster Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	30	0	76	4	1431	63	117	1433	2
Future Volume (veh/h)	0	0	1	30	0	76	4	1431	63	117	1433	2
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	1900	1900	1900	1841	1900	1841	1530	1841	1870	1870	1781	1900
Adj Flow Rate, veh/h	0	0	1	31	0	78	4	1475	65	121	1477	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	4	0	4	25	4	2	2	8	0
Cap, veh/h	0	0	99	133	0	99	274	2639	116	309	2954	4
Arrive On Green	0.00	0.00	0.06	0.06	0.00	0.06	0.77	0.77	0.77	0.04	1.00	1.00
Sat Flow, veh/h	0	0	1610	1394	0	1610	292	3412	150	1781	3468	5
Grp Volume(v), veh/h	0	0	1	31	0	78	4	754	786	121	721	758
Grp Sat Flow(s),veh/h/ln	0	0	1610	1394	0	1610	292	1749	1814	1781	1692	1781
Q Serve(g_s), s	0.0	0.0	0.1	3.2	0.0	7.2	0.5	25.8	26.0	2.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.1	3.3	0.0	7.2	0.5	25.8	26.0	2.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		1.00	1.00		0.08	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	99	133	0	99	274	1352	1403	309	1442	1517
V/C Ratio(X)	0.00	0.00	0.01	0.23	0.00	0.79	0.01	0.56	0.56	0.39	0.50	0.50
Avail Cap(c_a), veh/h	0	0	148	177	0	150	274	1352	1403	490	1442	1517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.54	0.54	0.54
Uniform Delay (d), s/veh	0.0	0.0	66.1	67.6	0.0	69.4	3.9	6.8	6.8	6.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.9	0.0	14.4	0.1	1.7	1.6	0.4	0.7	0.6
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(95%),veh/ln	0.0	0.0	0.1	2.1	0.0	6.0	0.1	13.1	13.7	1.5	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	66.1	68.5	0.0	83.8	4.0	8.4	8.4	7.0	0.7	0.6
LnGrp LOS	A	A	E	E	A	F	A	A	A	A	A	A
Approach Vol, veh/h		1			109			1544			1600	
Approach Delay, s/veh		66.1			79.5			8.4			1.1	
Approach LOS		E			E			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.8	122.8		15.4		134.6		15.4				
Change Period (Y+Rc), s	6.8	6.8		* 6.2		6.8		* 6.2				
Max Green Setting (Gmax), s	20.2	96.2		* 14		123.2		* 14				
Max Q Clear Time (g_c+I1), s	4.0	28.0		2.1		2.0		9.2				
Green Ext Time (p_c), s	0.2	15.7		0.0		14.5		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			7.2									
HCM 6th LOS			A									

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX D

ITE Trip Generation Worksheets

Charter School (K-12)
(538)

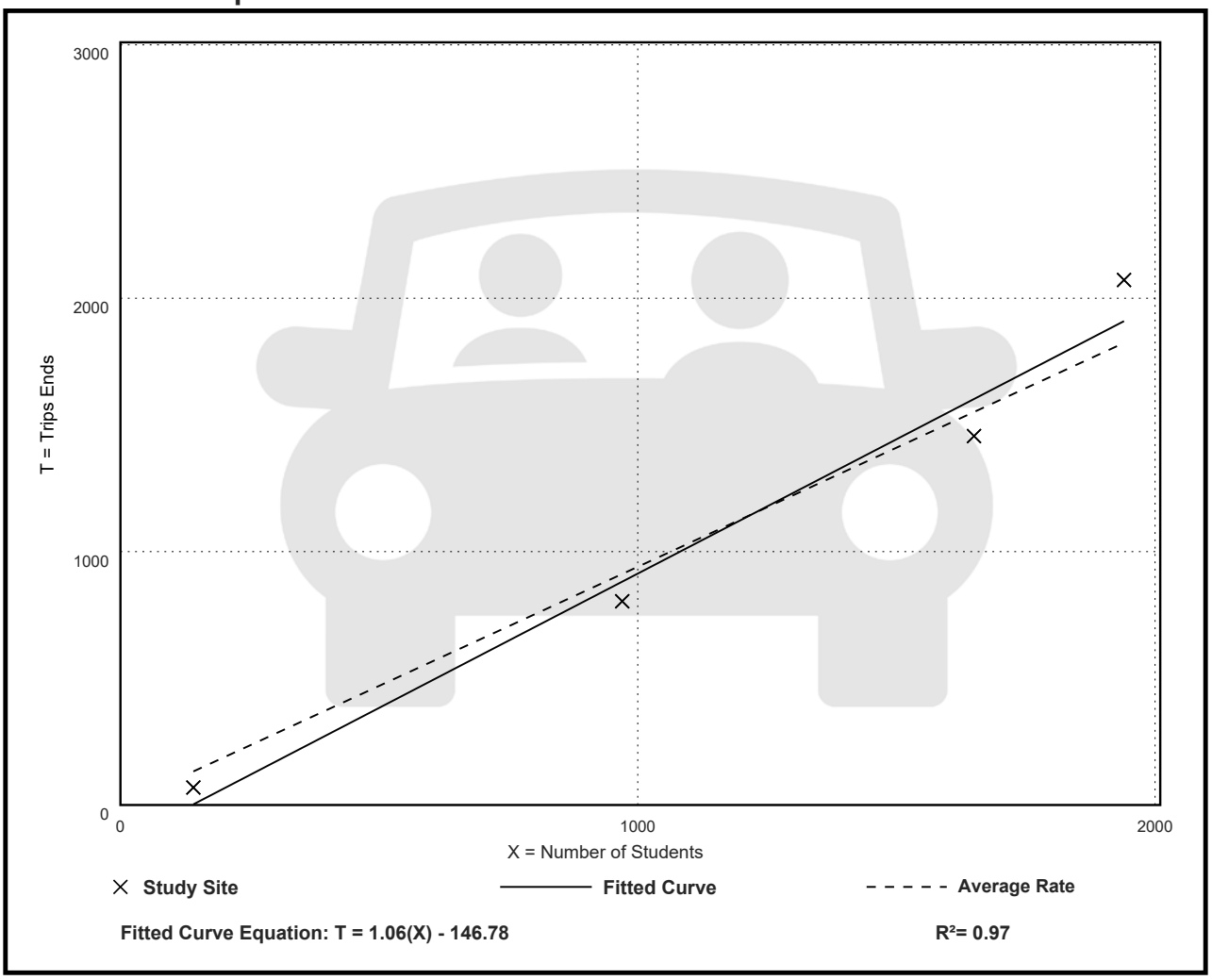
Vehicle Trip Ends vs: Students
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 4
Avg. Num. of Students: 1175
Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.94	0.49 - 1.07	0.15

Data Plot and Equation



Fitted Curve Equation: T = 1.06(X) - 146.78

R^2= 0.97

Charter School (K-12)
(538)

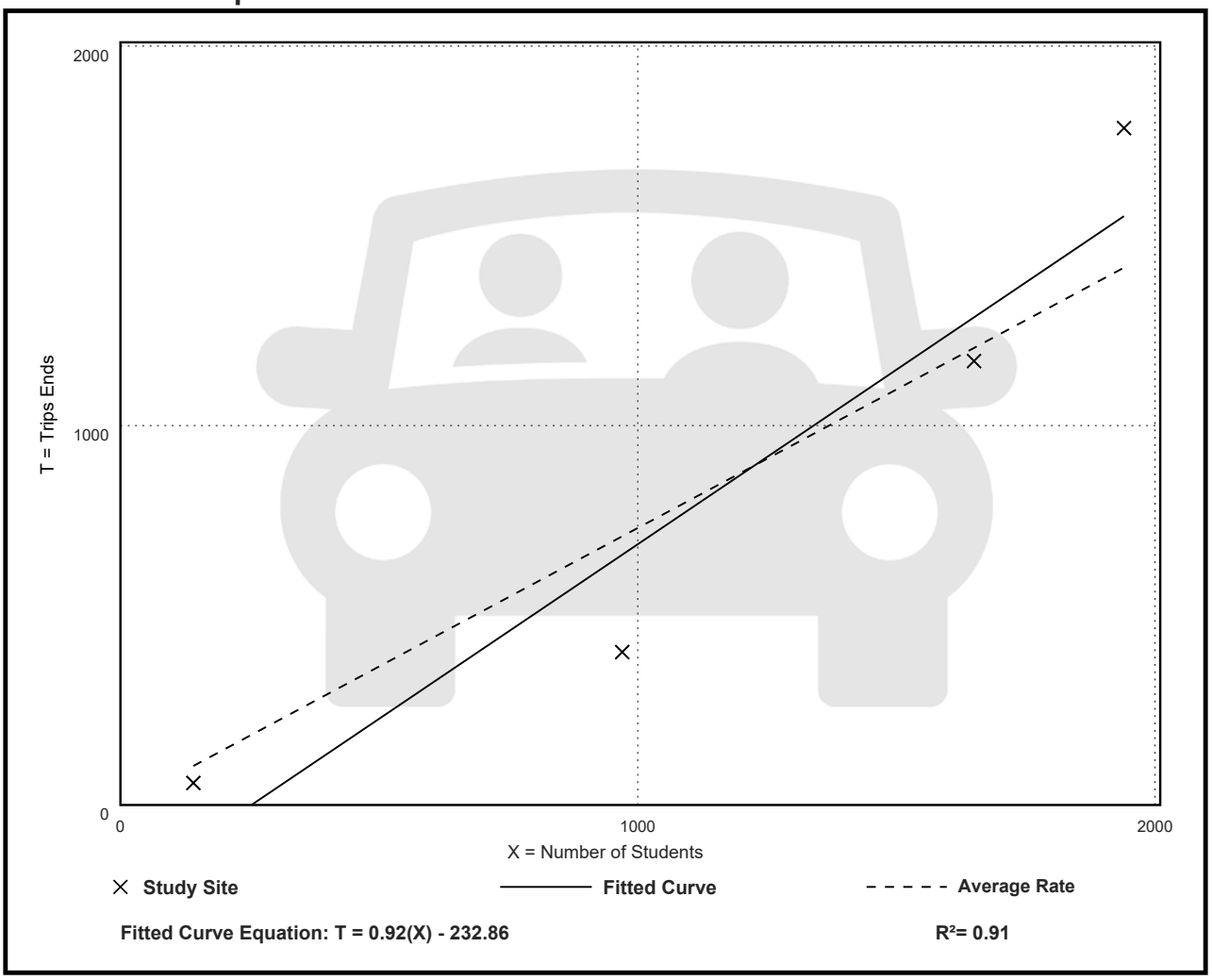
Vehicle Trip Ends vs: Students
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 4
Avg. Num. of Students: 1175
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.73	0.41 - 0.92	0.23

Data Plot and Equation

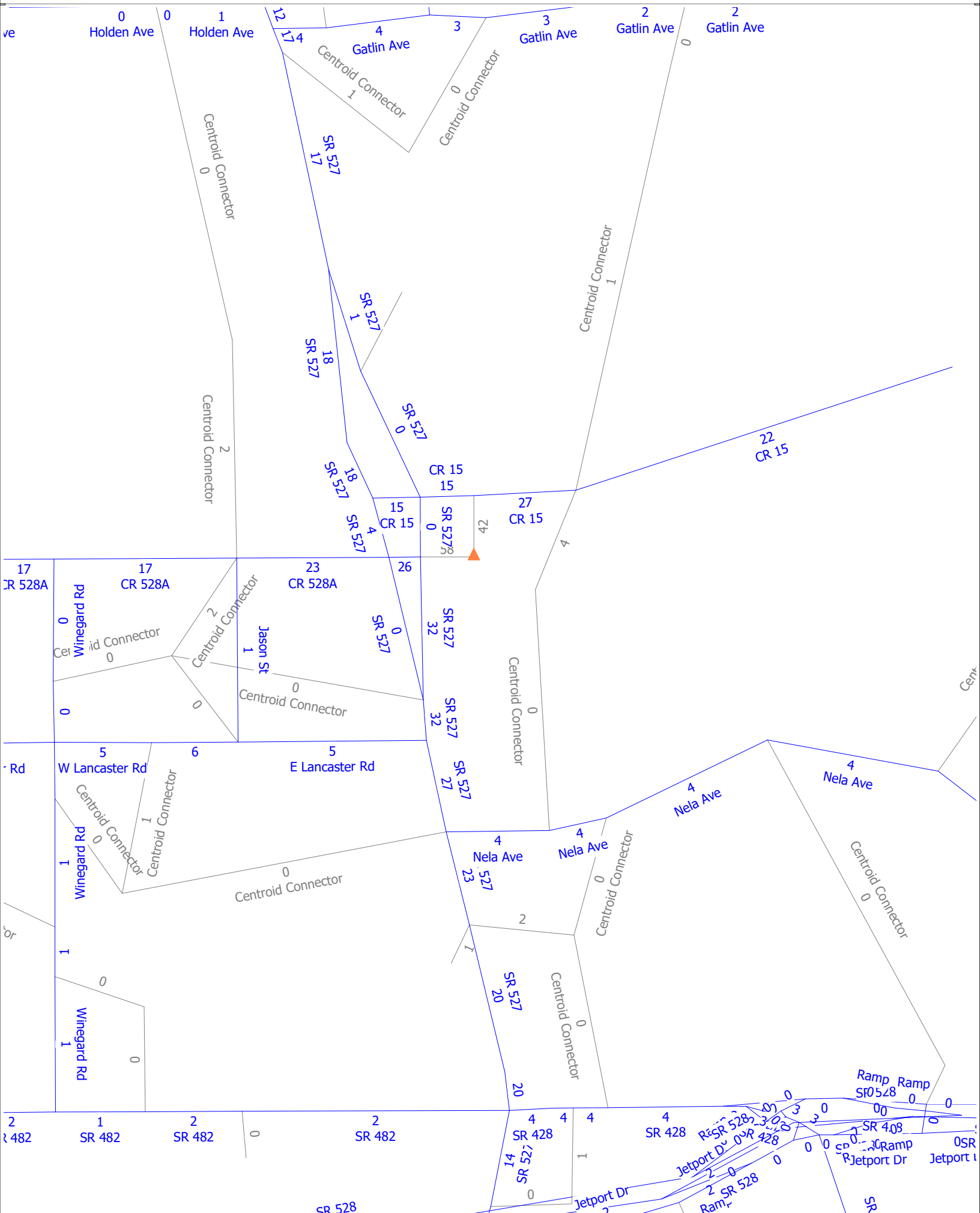


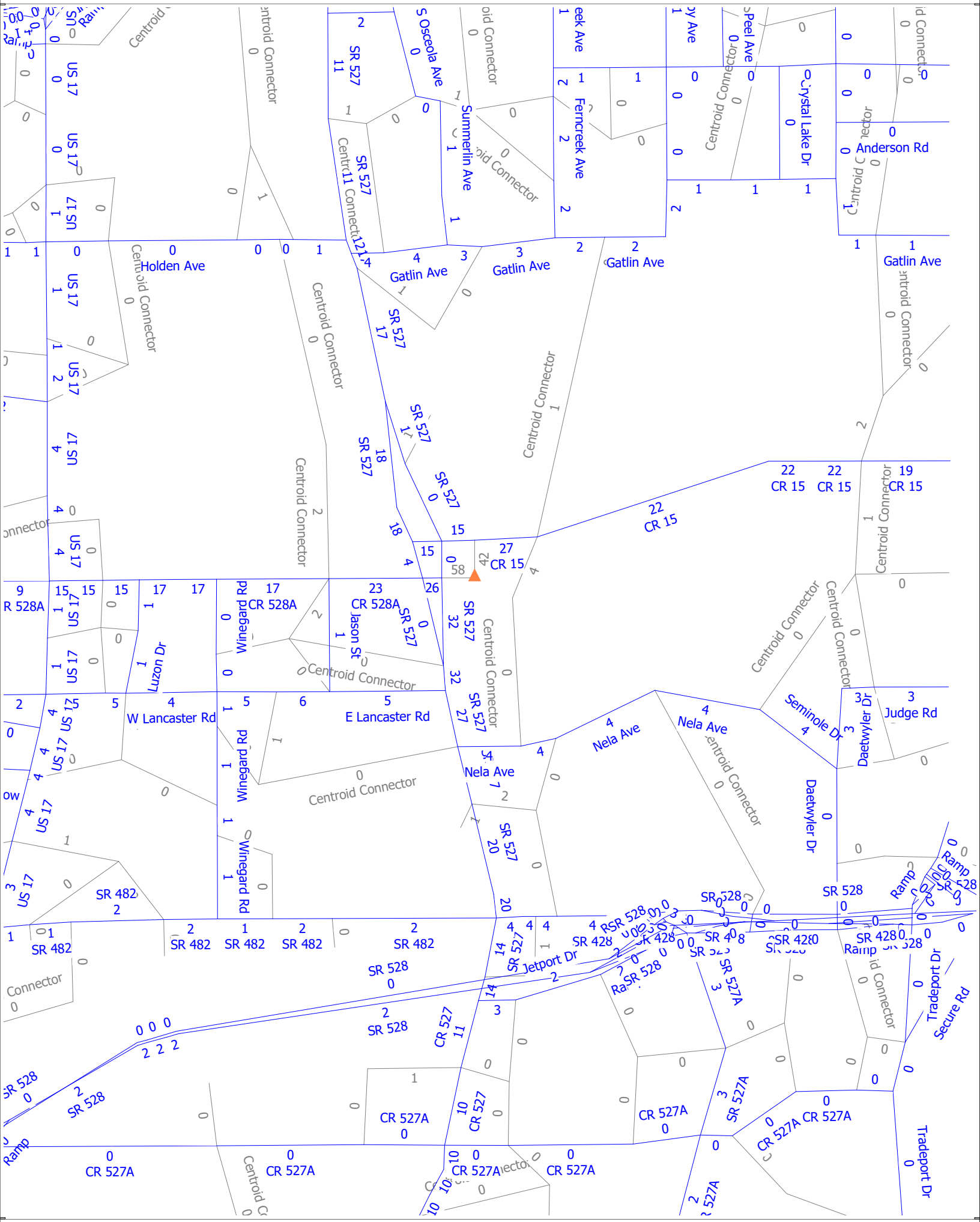
Fitted Curve Equation: T = 0.92(X) - 232.86

R^2= 0.91

APPENDIX E

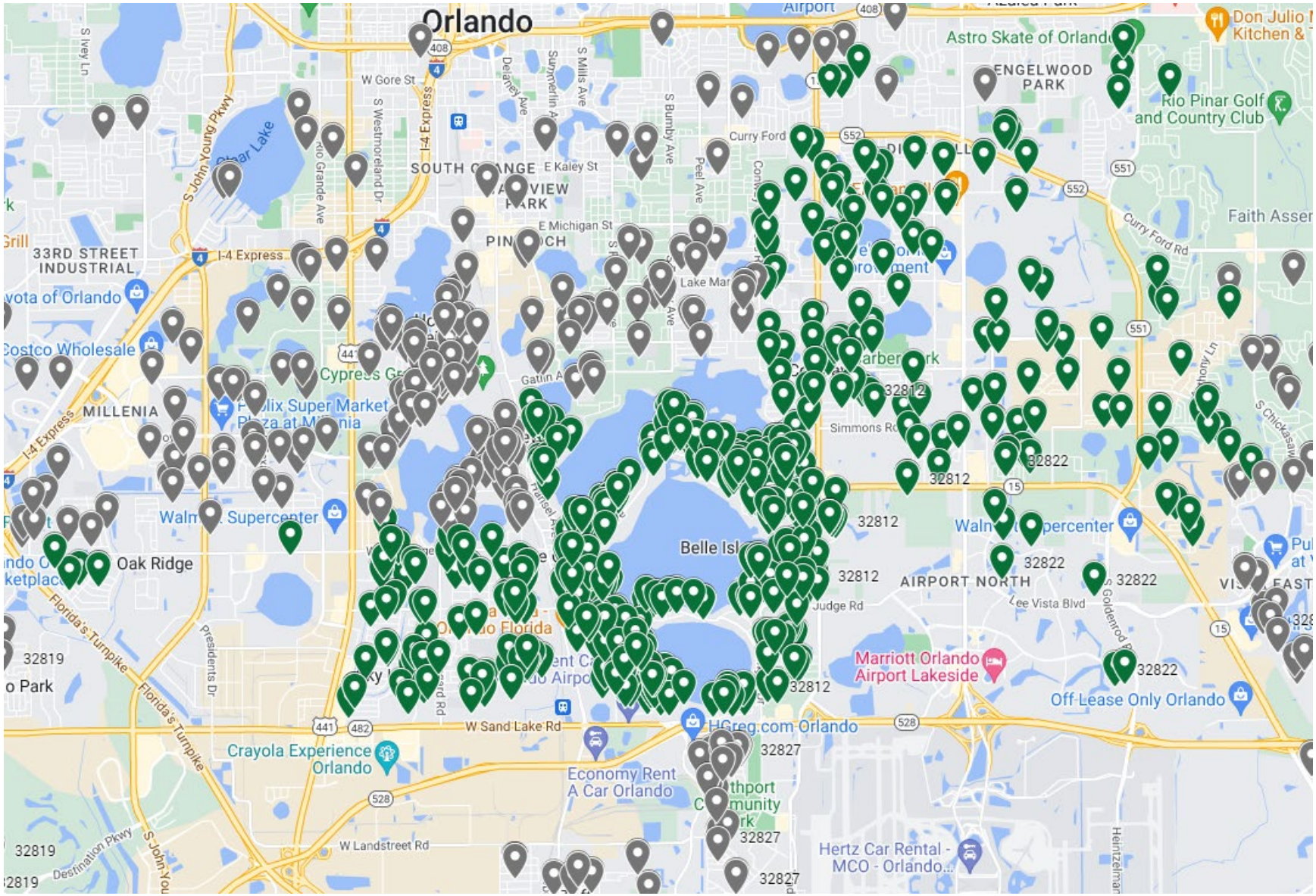
Model Distribution Output

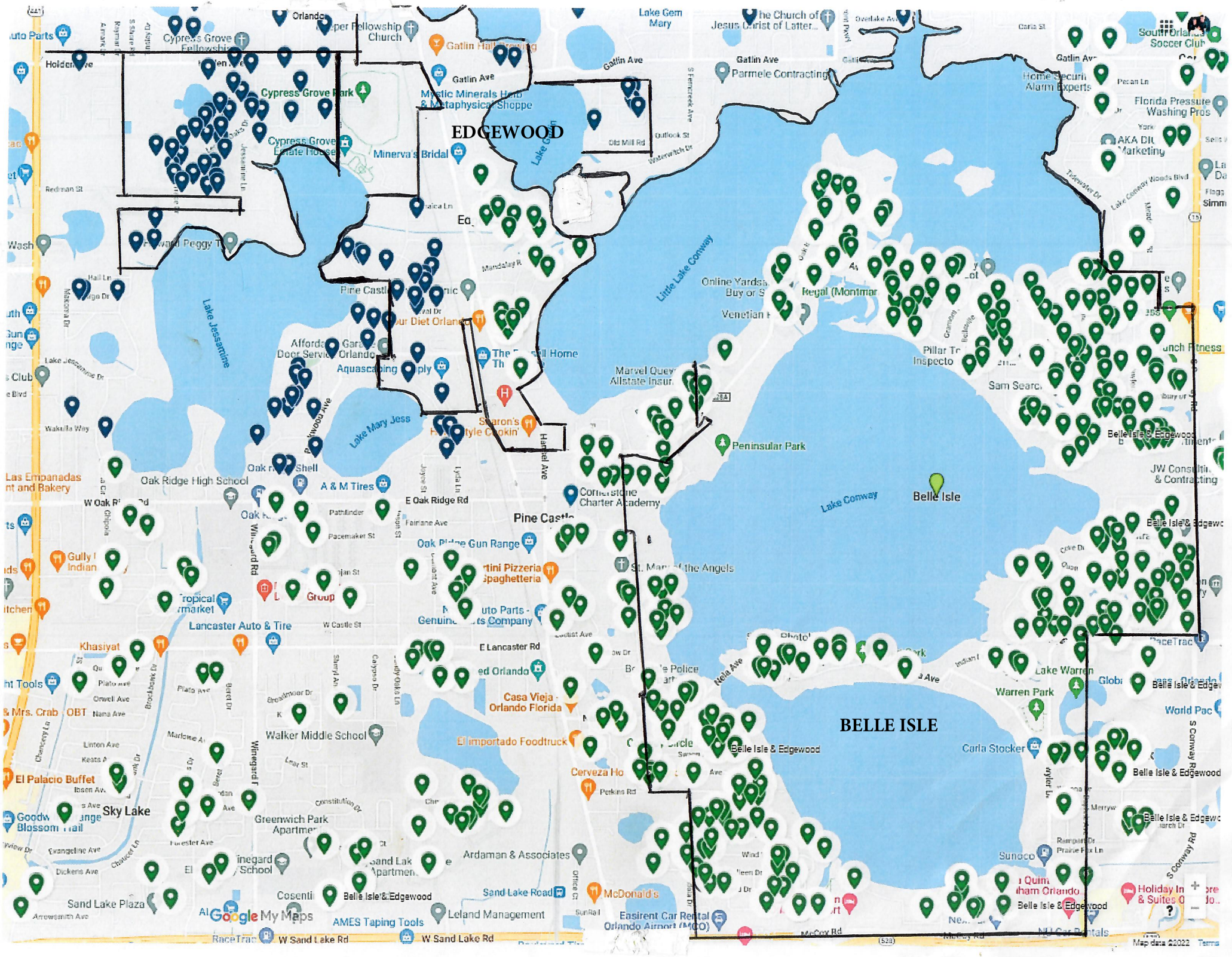




Cornerstone Charter Academy
Heatmaps December 2022

32809-32812-32809 Green - Zoomed in




EDGEWOOD
BELLE ISLE
Lake Gem Mary
Lake Jessamine
Lake Mary Jess
Little Lake Conway
Lake Conway
Cypress Grove Park
Peninsular Park
Belle Isle
Pine Castle
Oak Ridge High School
Walker Middle School
Lancaster Auto & Tire
Sky Lake
Greenwich Park Apartments
Sand Lake Plaza
Lake Warren
Warren Park
Gatlin Ave
E Oak Ridge Rd
E Lancaster Rd
W Sand Lake Rd
Sand Lake Road
Google My Maps

APPENDIX F

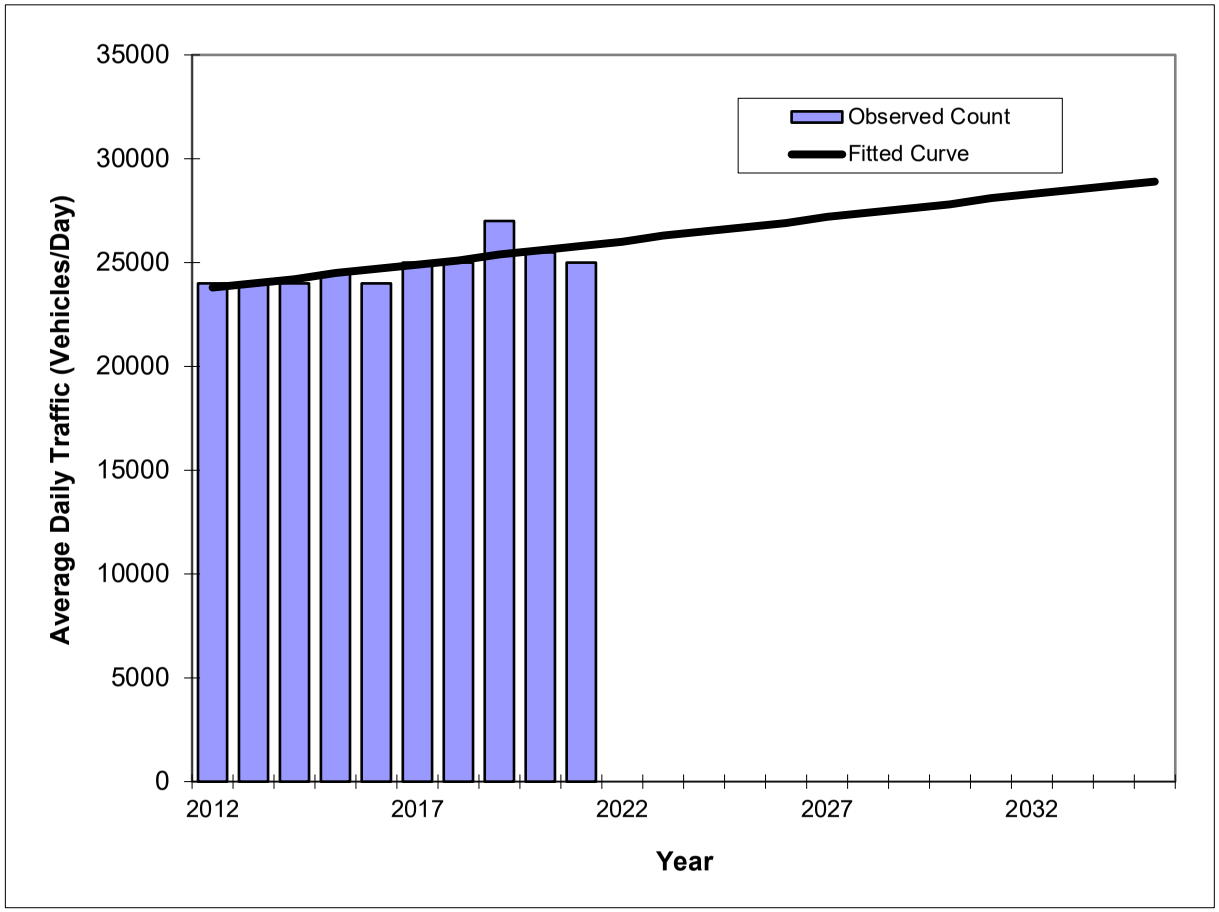
Trends Analysis Worksheets

Traffic Trends - V03.a

HANSEL AV --

FIN#	1234
Location	1

County:	Orange (75)
Station #:	0051
Highway:	HANSEL AV



Year	Traffic (ADT/AADT) Count*	Trend**
2012	24000	23800
2013	24000	24000
2014	24000	24200
2015	24500	24500
2016	24000	24700
2017	25000	24900
2018	25000	25100
2019	27000	25400
2020	25500	25600
2021	25000	25800
2023 Opening Year Trend		
2023	N/A	26300
2025 Mid-Year Trend		
2025	N/A	26700
2027 Design Year Trend		
2027	N/A	27200
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	224
Trend R-squared:	51.22%
Trend Annual Historic Growth Rate:	0.93%
Trend Growth Rate (2021 to Design Year):	0.90%
Printed:	25-Jan-23

Straight Line Growth Option

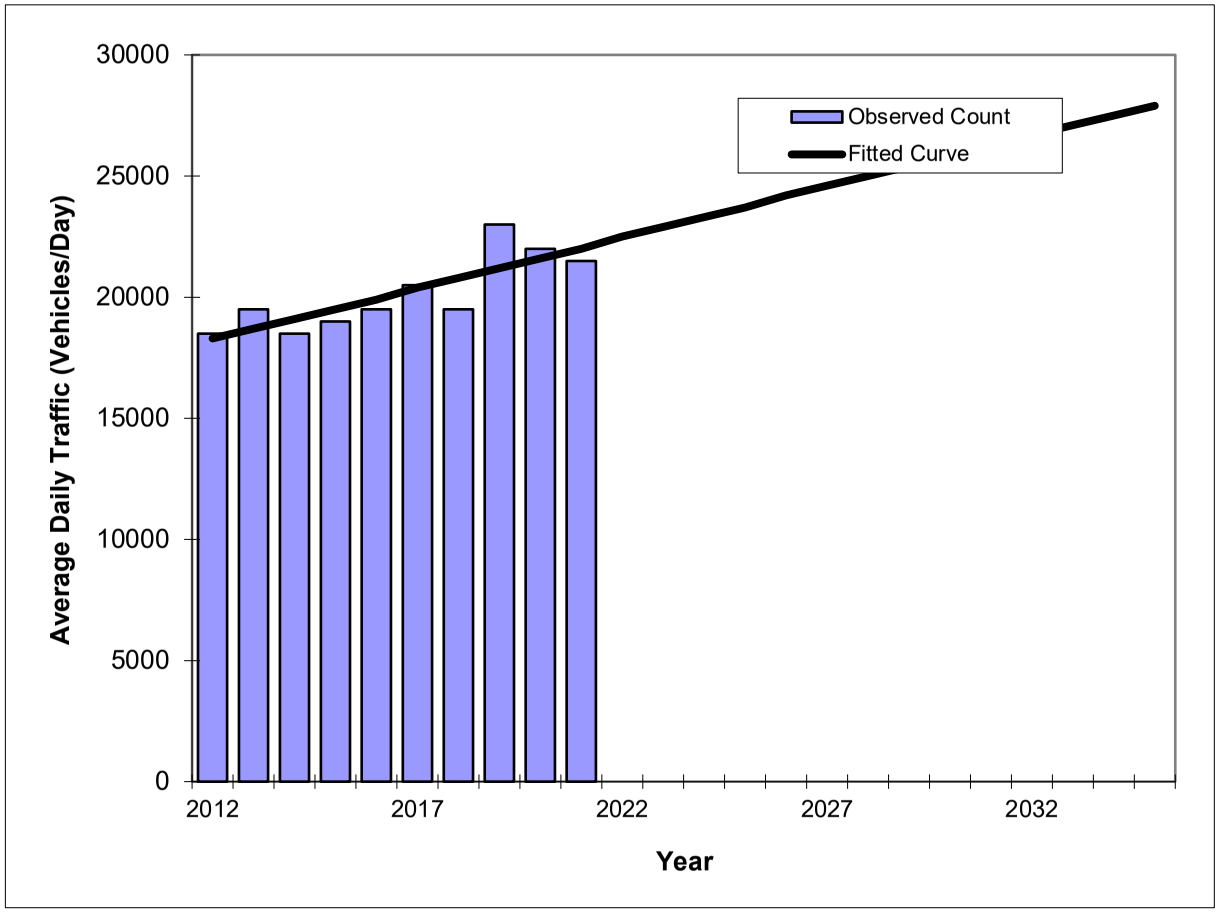
*Axle-Adjusted

Traffic Trends - V03.a

ORANGE AV --

FIN#	1234
Location	1

County:	Orange (75)
Station #:	5204
Highway:	ORANGE AV



Year	Traffic (ADT/AADT) Count*	Trend**
2012	18500	18300
2013	19500	18700
2014	18500	19100
2015	19000	19500
2016	19500	19900
2017	20500	20400
2018	19500	20800
2019	23000	21200
2020	22000	21600
2021	21500	22000
2023 Opening Year Trend		
2023	N/A	22900
2025 Mid-Year Trend		
2025	N/A	23700
2027 Design Year Trend		
2027	N/A	24600
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:**	421
Trend R-squared:	68.00%
Trend Annual Historic Growth Rate:	2.25%
Trend Growth Rate (2021 to Design Year):	1.97%
Printed:	25-Jan-23

Straight Line Growth Option

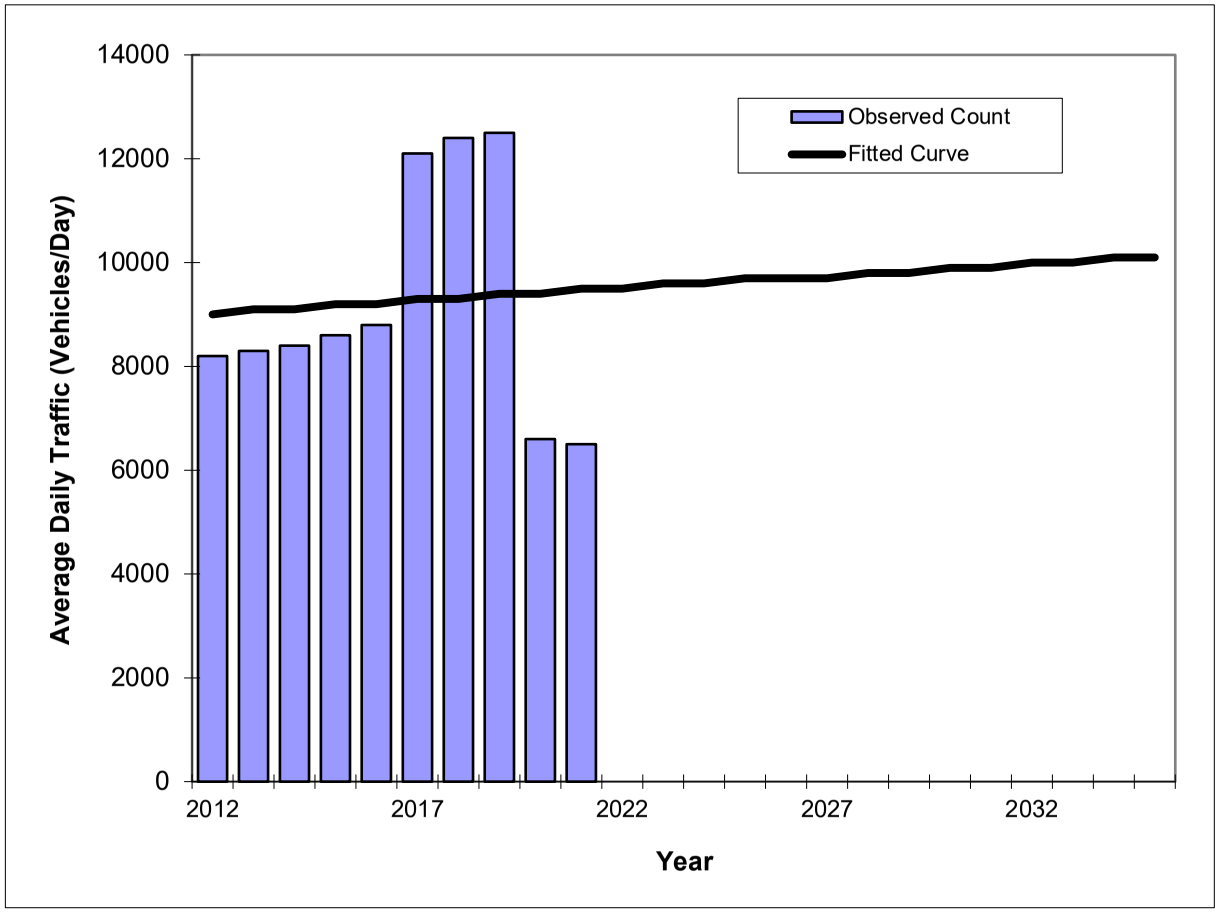
***Axle-Adjusted**

Traffic Trends - V03.a

HOFFNER RD --

FIN#	1234
Location	1

County:	Orange (75)
Station #:	8301
Highway:	HOFFNER RD



Year	Traffic (ADT/AADT) Count*	Trend**
2012	8200	9000
2013	8300	9100
2014	8400	9100
2015	8600	9200
2016	8800	9200
2017	12100	9300
2018	12400	9300
2019	12500	9400
2020	6600	9400
2021	6500	9500
2023 Opening Year Trend		
2023	N/A	9600
2025 Mid-Year Trend		
2025	N/A	9700
2027 Design Year Trend		
2027	N/A	9700
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	48
Trend R-squared:	0.42%
Trend Annual Historic Growth Rate:	0.62%
Trend Growth Rate (2021 to Design Year):	0.35%
Printed:	25-Jan-23

Straight Line Growth Option

*Axle-Adjusted

APPENDIX G

Projected Capacity Analysis Worksheets

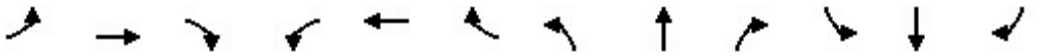
Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	862	87	156	621	1	17	0	9	0	0	0
Future Vol, veh/h	0	862	87	156	621	1	17	0	9	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	1	2	0	1	0	6	0	0	0	0	0
Mvmt Flow	0	927	94	168	668	1	18	0	10	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	669	0	0	1021	0	0	1979	1979	974	1984	2026	669
Stage 1	-	-	-	-	-	-	974	974	-	1005	1005	-
Stage 2	-	-	-	-	-	-	1005	1005	-	979	1021	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.16	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.554	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	931	-	-	688	-	-	45	62	308	46	58	461
Stage 1	-	-	-	-	-	-	298	333	-	294	322	-
Stage 2	-	-	-	-	-	-	286	322	-	304	316	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	931	-	-	688	-	-	31	38	308	31	35	461
Mov Cap-2 Maneuver	-	-	-	-	-	-	31	38	-	31	35	-
Stage 1	-	-	-	-	-	-	298	333	-	294	197	-
Stage 2	-	-	-	-	-	-	175	197	-	294	316	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.4	171.9	0
HCM LOS			F	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	45	931	-	-	688	-	-	-
HCM Lane V/C Ratio	0.621	-	-	-	0.244	-	-	-
HCM Control Delay (s)	171.9	0	-	-	11.9	0	-	0
HCM Lane LOS	F	A	-	-	B	A	-	A
HCM 95th %tile Q(veh)	2.3	0	-	-	1	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	291	0	0	384	258	191	1393	673	0	0	0
Future Volume (veh/h)	6	291	0	0	384	258	191	1393	673	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1870	0	0	1870	1885	1811	1826	1870			
Adj Flow Rate, veh/h	6	300	0	0	396	266	197	1436	694			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	0	0	2	1	6	5	2			
Cap, veh/h	30	374	0	0	457	390	268	2070	1047			
Arrive On Green	0.24	0.24	0.00	0.00	0.24	0.24	0.66	0.66	0.66			
Sat Flow, veh/h	6	1530	0	0	1870	1598	406	3134	1585			
Grp Volume(v), veh/h	306	0	0	0	396	266	876	757	694			
Grp Sat Flow(s),veh/h/ln	1536	0	0	0	1870	1598	1806	1735	1585			
Q Serve(g_s), s	1.1	0.0	0.0	0.0	26.4	19.6	41.6	34.2	34.4			
Cycle Q Clear(g_c), s	27.5	0.0	0.0	0.0	26.4	19.6	41.6	34.2	34.4			
Prop In Lane	0.02		0.00	0.00		1.00	0.22		1.00			
Lane Grp Cap(c), veh/h	404	0	0	0	457	390	1192	1145	1047			
V/C Ratio(X)	0.76	0.00	0.00	0.00	0.87	0.68	0.73	0.66	0.66			
Avail Cap(c_a), veh/h	646	0	0	0	706	603	1192	1145	1047			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.96	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	44.5	0.0	0.0	0.0	47.1	44.5	14.6	13.3	13.3			
Incr Delay (d2), s/veh	2.8	0.0	0.0	0.0	7.1	2.1	4.0	3.0	3.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	14.1	0.0	0.0	0.0	19.1	12.7	23.2	18.9	17.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	0.0	0.0	0.0	54.2	46.6	18.6	16.3	16.7			
LnGrp LOS	D	A	A	A	D	D	B	B	B			
Approach Vol, veh/h		306			662			2327				
Approach Delay, s/veh		47.4			51.2			17.3				
Approach LOS		D			D			B				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		92.3		37.7				37.7				
Change Period (Y+Rc), s		6.5		5.9				5.9				
Max Green Setting (Gmax), s		68.5		49.1				49.1				
Max Q Clear Time (g_c+I1), s		43.6		28.4				29.5				
Green Ext Time (p_c), s		16.6		3.4				1.7				
Intersection Summary												
HCM 6th Ctrl Delay			26.9									
HCM 6th LOS			C									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	569	0	0	0	292	1277
Future Volume (veh/h)	569	0	0	0	292	1277
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No					No
Adj Sat Flow, veh/h/ln	1870	0			1870	1841
Adj Flow Rate, veh/h	605	0			311	1359
Peak Hour Factor	0.94	0.94			0.94	0.94
Percent Heavy Veh, %	2	0			2	4
Cap, veh/h	0	0			1753	3333
Arrive On Green	0.00	0.00			0.95	0.95
Sat Flow, veh/h	0				1781	3589
Grp Volume(v), veh/h	0.0				311	1359
Grp Sat Flow(s),veh/h/ln					1781	1749
Q Serve(g_s), s					1.3	3.9
Cycle Q Clear(g_c), s					1.3	3.9
Prop In Lane					1.00	
Lane Grp Cap(c), veh/h					1753	3333
V/C Ratio(X)					0.18	0.41
Avail Cap(c_a), veh/h					1753	3333
HCM Platoon Ratio					1.00	1.00
Upstream Filter(I)					1.00	1.00
Uniform Delay (d), s/veh					0.2	0.2
Incr Delay (d2), s/veh					0.2	0.4
Initial Q Delay(d3),s/veh					0.0	0.0
%ile BackOfQ(95%),veh/ln					0.2	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh					0.4	0.6
LnGrp LOS					A	A
Approach Vol, veh/h						1670
Approach Delay, s/veh						0.6
Approach LOS						A

Timer - Assigned Phs	2
Phs Duration (G+Y+Rc), s	130.0
Change Period (Y+Rc), s	6.1
Max Green Setting (Gmax), s	70.9
Max Q Clear Time (g_c+I1), s	5.9
Green Ext Time (p_c), s	17.2

Intersection Summary	
HCM 6th Ctrl Delay	0.6
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	8	15	0	0	227
Future Vol, veh/h	0	8	15	0	0	227
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	64	64	64	64	64	64
Heavy Vehicles, %	0	0	7	0	0	1
Mvmt Flow	0	13	23	0	0	355

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	378	23	0	0	23	0
Stage 1	23	-	-	-	-	-
Stage 2	355	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	628	1060	-	-	1605	-
Stage 1	1005	-	-	-	-	-
Stage 2	714	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	628	1060	-	-	1605	-
Mov Cap-2 Maneuver	628	-	-	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	714	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1060	1605	-
HCM Lane V/C Ratio	-	-	0.012	-	-
HCM Control Delay (s)	-	-	8.4	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	112	0	0	0	0	8	0	0	0	202	0	0
Future Vol, veh/h	112	0	0	0	0	8	0	0	0	202	0	0
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Heavy Vehicles, %	0	0	0	1	0	0	33	17	0	0	8	0
Mvmt Flow	170	0	0	0	0	12	0	0	0	306	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	7.3	0	10.4
HCM LOS	A	A	-	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	100%	0%	100%
Vol Thru, %	100%	0%	0%	0%
Vol Right, %	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	112	8	202
LT Vol	0	112	0	202
Through Vol	0	0	0	0
RT Vol	0	0	8	0
Lane Flow Rate	0	170	12	306
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.229	0.014	0.387
Departure Headway (Hd)	4.995	4.854	4.251	4.552
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	740	840	793
Service Time	3.03	2.879	2.286	2.573
HCM Lane V/C Ratio	0	0.23	0.014	0.386
HCM Control Delay	8	9.3	7.3	10.4
HCM Lane LOS	N	A	A	B
HCM 95th-tile Q	0	0.9	0	1.8

Intersection	
Int Delay, s/veh	139.6

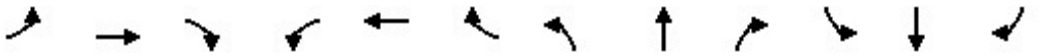
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	7	0	0	174	32	62	1842	9	0	0	0
Future Vol, veh/h	9	7	0	0	174	32	62	1842	9	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	11	0	0	0	1	0	0	7	0	0	0	0
Mvmt Flow	10	8	0	0	187	34	67	1981	10	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1218	2125	-	-	2120	996	0	0	0
Stage 1	0	0	-	-	2120	-	-	-	-
Stage 2	1218	2125	-	-	0	-	-	-	-
Critical Hdwy	7.72	6.5	-	-	6.52	6.9	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	6.72	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.61	4	-	-	4.01	3.3	2.2	-	-
Pot Cap-1 Maneuver	127	51	0	0	~ 50	247	-	-	-
Stage 1	-	-	0	0	~ 91	-	-	-	-
Stage 2	178	91	0	0	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	-	51	-	-	~ 50	247	-	-	-
Mov Cap-2 Maneuver	-	51	-	-	~ 50	-	-	-	-
Stage 1	-	-	-	-	~ 91	-	-	-	-
Stage 2	-	91	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s		$ 1447	
HCM LOS	-	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	-	57
HCM Lane V/C Ratio	-	-	-	-	3.886
HCM Control Delay (s)	-	-	-	-	$ 1447
HCM Lane LOS	-	-	-	-	F
HCM 95th %tile Q(veh)	-	-	-	-	24

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



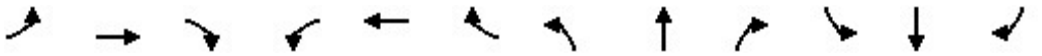
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	7	0	0	174	32	62	1842	9	0	0	0
Future Volume (veh/h)	9	7	0	0	174	32	62	1842	9	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1737	1900	0	0	1885	1900	1900	1796	1900			
Adj Flow Rate, veh/h	10	8	0	0	187	34	67	1981	10			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	11	0	0	0	1	0	0	7	0			
Cap, veh/h	43	35	0	0	304	55	73	2272	12			
Arrive On Green	0.04	0.04	0.00	0.00	0.20	0.20	0.22	0.22	0.22			
Sat Flow, veh/h	1027	822	0	0	1552	282	111	3454	18			
Grp Volume(v), veh/h	18	0	0	0	0	221	1077	0	981			
Grp Sat Flow(s),veh/h/ln	1849	0	0	0	0	1834	1791	0	1793			
Q Serve(g_s), s	1.2	0.0	0.0	0.0	0.0	14.3	76.4	0.0	67.9			
Cycle Q Clear(g_c), s	1.2	0.0	0.0	0.0	0.0	14.3	76.4	0.0	67.9			
Prop In Lane	0.56		0.00	0.00		0.15	0.06		0.01			
Lane Grp Cap(c), veh/h	78	0	0	0	0	360	1178	0	1179			
V/C Ratio(X)	0.23	0.00	0.00	0.00	0.00	0.61	0.91	0.00	0.83			
Avail Cap(c_a), veh/h	78	0	0	0	0	360	1178	0	1179			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33			
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	60.2	0.0	0.0	0.0	0.0	47.8	47.3	0.0	44.0			
Incr Delay (d2), s/veh	6.7	0.0	0.0	0.0	0.0	7.6	12.4	0.0	6.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	1.3	0.0	0.0	0.0	0.0	11.8	51.0	0.0	44.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.0	0.0	0.0	0.0	0.0	55.4	59.7	0.0	50.9			
LnGrp LOS	E	A	A	A	A	E	E	A	D			
Approach Vol, veh/h		18			221			2058				
Approach Delay, s/veh		67.0			55.4			55.5				
Approach LOS		E			E			E				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		90.0		10.0				30.0				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		85.5		5.5				25.5				
Max Q Clear Time (g_c+I1), s		78.4		3.2				16.3				
Green Ext Time (p_c), s		6.2		0.0				0.8				
Intersection Summary												
HCM 6th Ctrl Delay			55.6									
HCM 6th LOS			E									

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64
Heavy Vehicles, %	0	0	0	9	0	0
Mvmt Flow	0	0	0	0	0	0
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	0	0	0
HCM LOS	-	-	-

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0
LT Vol	0	0	0
Through Vol	0	0	0
RT Vol	0	0	0
Lane Flow Rate	0	0	0
Geometry Grp	1	1	1
Degree of Util (X)	0	0	0
Departure Headway (Hd)	4.053	3.9	3.9
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	2.053	1.9	1.9
HCM Lane V/C Ratio	0	0	0
HCM Control Delay	7.1	6.9	6.9
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	0	0	0	0	447	12	1077	0	0	0	0
Future Volume (veh/h)	22	0	0	0	0	447	12	1077	0	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1767	1900			
Adj Flow Rate, veh/h	28	0	0	0	0	573	15	1381	0			
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78			
Percent Heavy Veh, %	0	0	0	0	0	0	0	9	0			
Cap, veh/h	59	0	0	0	0	577	1134	2104	0			
Arrive On Green	0.36	0.00	0.00	0.00	0.00	0.36	0.63	0.63	0.00			
Sat Flow, veh/h	10	0	0	0	0	1610	1810	3445	0			
Grp Volume(v), veh/h	28	0	0	0	0	573	15	1381	0			
Grp Sat Flow(s),veh/h/ln	10	0	0	0	0	1610	1810	1678	0			
Q Serve(g_s), s	0.5	0.0	0.0	0.0	0.0	46.1	0.4	33.9	0.0			
Cycle Q Clear(g_c), s	46.6	0.0	0.0	0.0	0.0	46.1	0.4	33.9	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h	59	0	0	0	0	577	1134	2104	0			
V/C Ratio(X)	0.48	0.00	0.00	0.00	0.00	0.99	0.01	0.66	0.00			
Avail Cap(c_a), veh/h	59	0	0	0	0	577	1134	2104	0			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh	65.0	0.0	0.0	0.0	0.0	41.5	9.1	15.4	0.0			
Incr Delay (d2), s/veh	6.6	0.0	0.0	0.0	0.0	35.5	0.0	1.6	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	1.9	0.0	0.0	0.0	0.0	32.0	0.3	18.1	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.5	0.0	0.0	0.0	0.0	77.1	9.1	17.0	0.0			
LnGrp LOS	E	A	A	A	A	E	A	B	A			
Approach Vol, veh/h		28			573			1396				
Approach Delay, s/veh		71.5			77.1			16.9				
Approach LOS		E			E			B				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		88.2		52.3				52.3				
Change Period (Y+Rc), s		6.4		* 5.7				* 5.7				
Max Green Setting (Gmax), s		71.6		* 47				* 46				
Max Q Clear Time (g_c+I1), s		35.9		48.6				48.1				
Green Ext Time (p_c), s		13.1		0.0				0.0				
Intersection Summary												
HCM 6th Ctrl Delay			34.9									
HCM 6th LOS			C									

Notes

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

Intersection	
Int Delay, s/veh	38.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	8	91	91	18	0	0	0	0	43	1647	85
Future Vol, veh/h	0	8	91	91	18	0	0	0	0	43	1647	85
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	1	0	0	0	0	0	0	4	14
Mvmt Flow	0	10	111	111	22	0	0	0	0	52	2009	104

Major/Minor	Minor2			Minor1					Major2		
Conflicting Flow All	-	2165	1057	1114	2217	-			0	0	0
Stage 1	-	2165	-	0	0	-			-	-	-
Stage 2	-	0	-	1114	2217	-			-	-	-
Critical Hdwy	-	6.5	6.9	7.52	6.5	-			4.1	-	-
Critical Hdwy Stg 1	-	5.5	-	-	-	-			-	-	-
Critical Hdwy Stg 2	-	-	-	6.52	5.5	-			-	-	-
Follow-up Hdwy	-	4	3.3	3.51	4	-			2.2	-	-
Pot Cap-1 Maneuver	0	48	225	164	44	0			-	-	-
Stage 1	0	87	-	-	-	0			-	-	-
Stage 2	0	-	-	224	82	0			-	-	-
Platoon blocked, %										-	-
Mov Cap-1 Maneuver	-	48	225	~ 70	44	-			-	-	-
Mov Cap-2 Maneuver	-	48	-	~ 70	44	-			-	-	-
Stage 1	-	87	-	-	-	-			-	-	-
Stage 2	-	-	-	~ 101	82	-			-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	63.5	$ 637.2	
HCM LOS	F	F	

Minor Lane/Major Mvmt	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	173	64	-	-	-
HCM Lane V/C Ratio	0.698	2.077	-	-	-
HCM Control Delay (s)	63.5	$ 637.2	-	-	-
HCM Lane LOS	F	F	-	-	-
HCM 95th %tile Q(veh)	4.2	12.6	-	-	-

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

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	274	2	4	60	0	7	0	22	0	0	0
Future Vol, veh/h	0	274	2	4	60	0	7	0	22	0	0	0
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	0	0	0	0	0	0	0	1	14	0	0	0
Mvmt Flow	0	397	3	6	87	0	10	0	32	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.4	8	7.8	0
HCM LOS	B	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	0%	6%	0%
Vol Thru, %	0%	99%	94%	100%
Vol Right, %	76%	1%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	276	64	0
LT Vol	7	0	4	0
Through Vol	0	274	60	0
RT Vol	22	2	0	0
Lane Flow Rate	42	400	93	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.053	0.449	0.113	0
Departure Headway (Hd)	4.548	4.038	4.397	5.019
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	791	884	819	0
Service Time	2.552	2.097	2.401	3.026
HCM Lane V/C Ratio	0.053	0.452	0.114	0
HCM Control Delay	7.8	10.4	8	8
HCM Lane LOS	A	B	A	N
HCM 95th-tile Q	0.2	2.4	0.4	0

Intersection	
Int Delay, s/veh	18.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	140	0	0	14	43	15	1217	145	0	0	0
Future Vol, veh/h	5	140	0	0	14	43	15	1217	145	0	0	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	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	120	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	5	0	8	0	0	0	0
Mvmt Flow	5	147	0	0	15	45	16	1281	153	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	680	1466	-	-	1390	717	0	0	0
Stage 1	0	0	-	-	1390	-	-	-	-
Stage 2	680	1466	-	-	0	-	-	-	-
Critical Hdwy	7.5	6.5	-	-	6.5	7	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	5.5	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	-	-	4	3.35	2.2	-	-
Pot Cap-1 Maneuver	341	~ 129	0	0	144	365	-	-	-
Stage 1	-	-	0	0	211	-	-	-	-
Stage 2	412	194	0	0	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	275	~ 129	-	-	144	365	-	-	-
Mov Cap-2 Maneuver	275	~ 129	-	-	144	-	-	-	-
Stage 1	-	-	-	-	211	-	-	-	-
Stage 2	336	194	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	195.3	22.5	
HCM LOS	F	C	

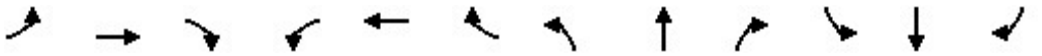
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	131	265
HCM Lane V/C Ratio	-	-	-	1.165	0.226
HCM Control Delay (s)	-	-	-	195.3	22.5
HCM Lane LOS	-	-	-	F	C
HCM 95th %tile Q(veh)	-	-	-	9	0.8

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	199	199	268	1402	1273	246	
Future Volume (vph)	199	199	268	1402	1273	246	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	225	0	300			350	
Storage Lanes	1	1	1			1	
Taper Length (ft)	25		25				
Satd. Flow (prot)	3433	1482	1752	3406	3312	1568	
Flt Permitted	0.950		0.101				
Satd. Flow (perm)	3433	1482	186	3406	3312	1568	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		33				183	
Link Speed (mph)	40			45	45		
Link Distance (ft)	1228			1363	902		
Travel Time (s)	20.9			20.7	13.7		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	
Heavy Vehicles (%)	2%	9%	3%	6%	9%	3%	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	219	219	295	1541	1399	270	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	pm+ov	
Protected Phases	3	1	1	6	2	3	8
Permitted Phases		3	6			2	
Total Split (s)	20.0	24.0	24.0	90.0	66.0	20.0	20.0
Total Lost Time (s)	6.8	7.1	7.1	6.8	6.8	6.8	
Act Effct Green (s)	11.7	33.5	84.4	84.7	62.6	81.1	
Actuated g/C Ratio	0.11	0.30	0.77	0.77	0.57	0.74	
v/c Ratio	0.60	0.46	0.83	0.59	0.74	0.22	
Control Delay	53.9	28.6	39.9	6.6	21.6	2.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.9	28.6	39.9	6.6	21.6	2.1	
LOS	D	C	D	A	C	A	
Approach Delay	41.3			11.9	18.5		
Approach LOS	D			B	B		
Queue Length 50th (ft)	76	100	110	205	396	16	
Queue Length 95th (ft)	115	170	#241	264	492	40	
Internal Link Dist (ft)	1148			1283	822		
Turn Bay Length (ft)	225		300			350	
Base Capacity (vph)	411	501	385	2622	1884	1223	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.44	0.77	0.59	0.74	0.22	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 35 (32%), Referenced to phase 2:SBT and 6:NBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 73.0%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 12: Orange Ave & Lancaster Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	29	1	148	4	1514	17	85	1372	2
Future Volume (veh/h)	0	0	1	29	1	148	4	1514	17	85	1372	2
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	1900	1900	1900	1841	1900	1885	1900	1811	1811	1900	1811	1900
Adj Flow Rate, veh/h	0	0	1	32	1	161	4	1646	18	92	1491	2
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, %	0	0	0	4	0	1	0	6	6	0	6	0
Cap, veh/h	0	0	173	205	1	172	316	2633	29	284	2978	4
Arrive On Green	0.00	0.00	0.11	0.11	0.11	0.11	0.76	0.76	0.76	0.04	0.84	0.84
Sat Flow, veh/h	0	0	1610	1394	10	1602	358	3487	38	1810	3526	5
Grp Volume(v), veh/h	0	0	1	32	0	162	4	811	853	92	727	766
Grp Sat Flow(s),veh/h/ln	0	0	1610	1394	0	1612	358	1721	1804	1810	1721	1810
Q Serve(g_s), s	0.0	0.0	0.1	2.7	0.0	13.0	0.4	28.4	28.5	1.3	14.8	14.8
Cycle Q Clear(g_c), s	0.0	0.0	0.1	2.8	0.0	13.0	4.1	28.4	28.5	1.3	14.8	14.8
Prop In Lane	0.00		1.00	1.00		0.99	1.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	173	205	0	174	316	1299	1363	284	1453	1529
V/C Ratio(X)	0.00	0.00	0.01	0.16	0.00	0.93	0.01	0.62	0.63	0.32	0.50	0.50
Avail Cap(c_a), veh/h	0	0	173	205	0	174	316	1299	1363	373	1453	1529
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)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.64	0.64	0.64
Uniform Delay (d), s/veh	0.0	0.0	51.8	53.0	0.0	57.5	4.9	7.4	7.4	7.9	2.7	2.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	49.2	0.1	2.3	2.2	0.4	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.1	1.8	0.0	12.1	0.1	13.9	14.4	1.3	5.1	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	51.8	53.4	0.0	106.8	5.0	9.6	9.6	8.3	3.5	3.5
LnGrp LOS	A	A	D	D	A	F	A	A	A	A	A	A
Approach Vol, veh/h		1			194			1668			1585	
Approach Delay, s/veh		51.8			98.0			9.6			3.8	
Approach LOS		D			F			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.6	105.2		20.2		116.8		20.2				
Change Period (Y+Rc), s	6.8	6.8		* 6.2		6.8		* 6.2				
Max Green Setting (Gmax), s	11.2	85.2		* 14		103.2		* 14				
Max Q Clear Time (g_c+I1), s	3.3	30.5		2.1		16.8		15.0				
Green Ext Time (p_c), s	0.1	17.8		0.0		14.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		11.9	
HCM 6th LOS		B	

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

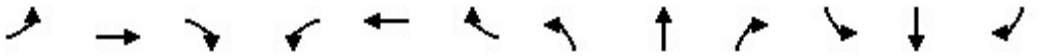
Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	1000	44	128	530	8	9	2	40	4	0	3
Future Vol, veh/h	4	1000	44	128	530	8	9	2	40	4	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	4	6	3	0	13	0	0	0	0	0
Mvmt Flow	4	1087	48	139	576	9	10	2	43	4	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	585	0	0	1135	0	0	1979	1982	1111	2001	2002	581
Stage 1	-	-	-	-	-	-	1119	1119	-	859	859	-
Stage 2	-	-	-	-	-	-	860	863	-	1142	1143	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.23	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.23	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.23	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.254	-	-	3.617	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1000	-	-	601	-	-	43	62	257	45	60	517
Stage 1	-	-	-	-	-	-	239	285	-	354	376	-
Stage 2	-	-	-	-	-	-	336	374	-	246	277	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1000	-	-	601	-	-	31	40	257	26	39	517
Mov Cap-2 Maneuver	-	-	-	-	-	-	31	40	-	26	39	-
Stage 1	-	-	-	-	-	-	236	282	-	350	247	-
Stage 2	-	-	-	-	-	-	219	246	-	201	274	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.5	74.8	103.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	103	1000	-	-	601	-	-	44
HCM Lane V/C Ratio	0.538	0.004	-	-	0.231	-	-	0.173
HCM Control Delay (s)	74.8	8.6	0	-	12.8	0	-	103.2
HCM Lane LOS	F	A	A	-	B	A	-	F
HCM 95th %tile Q(veh)	2.5	0	-	-	0.9	-	-	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	302	0	0	304	234	166	1378	730	0	0	0
Future Volume (veh/h)	8	302	0	0	304	234	166	1378	730	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1870	0	0	1856	1856	1856	1841	1885			
Adj Flow Rate, veh/h	8	311	0	0	313	241	171	1421	753			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	0	0	3	3	3	4	1			
Cap, veh/h	27	351	0	0	408	346	255	2236	1114			
Arrive On Green	0.22	0.22	0.00	0.00	0.22	0.22	0.70	0.70	0.70			
Sat Flow, veh/h	13	1598	0	0	1856	1572	365	3206	1598			
Grp Volume(v), veh/h	319	0	0	0	313	241	854	738	753			
Grp Sat Flow(s),veh/h/ln	1610	0	0	0	1856	1572	1822	1749	1598			
Q Serve(g_s), s	5.7	0.0	0.0	0.0	23.7	21.2	40.0	33.1	40.5			
Cycle Q Clear(g_c), s	29.5	0.0	0.0	0.0	23.7	21.2	40.0	33.1	40.5			
Prop In Lane	0.03		0.00	0.00		1.00	0.20		1.00			
Lane Grp Cap(c), veh/h	379	0	0	0	408	346	1271	1220	1114			
V/C Ratio(X)	0.84	0.00	0.00	0.00	0.77	0.70	0.67	0.61	0.68			
Avail Cap(c_a), veh/h	513	0	0	0	546	462	1271	1220	1114			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.98	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	55.9	0.0	0.0	0.0	54.9	53.9	12.9	11.9	13.0			
Incr Delay (d2), s/veh	9.0	0.0	0.0	0.0	4.6	2.9	2.8	2.2	3.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	18.6	0.0	0.0	0.0	17.3	13.6	22.4	18.4	20.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.9	0.0	0.0	0.0	59.5	56.8	15.8	14.1	16.3			
LnGrp LOS	E	A	A	A	E	E	B	B	B			
Approach Vol, veh/h		319			554			2345				
Approach Delay, s/veh		64.9			58.4			15.4				
Approach LOS		E			E			B				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		111.1		38.9				38.9				
Change Period (Y+Rc), s		6.5		5.9				5.9				
Max Green Setting (Gmax), s		93.5		44.1				44.1				
Max Q Clear Time (g_c+I1), s		42.5		25.7				31.5				
Green Ext Time (p_c), s		24.8		2.6				1.5				
Intersection Summary												
HCM 6th Ctrl Delay			27.7									
HCM 6th LOS			C									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	478	0	0	0	297	1411
Future Volume (veh/h)	478	0	0	0	297	1411
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No					No
Adj Sat Flow, veh/h/ln	1856	0			1900	1796
Adj Flow Rate, veh/h	493	0			306	1455
Peak Hour Factor	0.97	0.97			0.97	0.97
Percent Heavy Veh, %	3	0			0	7
Cap, veh/h	0	0			1784	3274
Arrive On Green	0.00	0.00			0.96	0.96
Sat Flow, veh/h	0				1810	3503
Grp Volume(v), veh/h	0.0				306	1455
Grp Sat Flow(s),veh/h/ln					1810	1706
Q Serve(g_s), s					1.2	4.5
Cycle Q Clear(g_c), s					1.2	4.5
Prop In Lane					1.00	
Lane Grp Cap(c), veh/h					1784	3274
V/C Ratio(X)					0.17	0.44
Avail Cap(c_a), veh/h					1784	3274
HCM Platoon Ratio					1.00	1.00
Upstream Filter(I)					1.00	1.00
Uniform Delay (d), s/veh					0.1	0.2
Incr Delay (d2), s/veh					0.2	0.4
Initial Q Delay(d3),s/veh					0.0	0.0
%ile BackOfQ(95%),veh/ln					0.2	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh					0.4	0.7
LnGrp LOS					A	A
Approach Vol, veh/h						1761
Approach Delay, s/veh						0.6
Approach LOS						A

Timer - Assigned Phs	2
Phs Duration (G+Y+Rc), s	150.0
Change Period (Y+Rc), s	6.1
Max Green Setting (Gmax), s	97.9
Max Q Clear Time (g_c+I1), s	6.5
Green Ext Time (p_c), s	20.4

Intersection Summary	
HCM 6th Ctrl Delay	0.6
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	4	36	3	0	188
Future Vol, veh/h	0	4	36	3	0	188
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	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	0	6	51	4	0	265

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	318	53	0	0	55	0
Stage 1	53	-	-	-	-	-
Stage 2	265	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	679	1020	-	-	1563	-
Stage 1	975	-	-	-	-	-
Stage 2	784	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	679	1020	-	-	1563	-
Mov Cap-2 Maneuver	679	-	-	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	784	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1020	1563	-
HCM Lane V/C Ratio	-	-	0.006	-	-
HCM Control Delay (s)	-	-	8.5	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	89	8	0	0	0	6	0	0	0	157	0	0
Future Vol, veh/h	89	8	0	0	0	6	0	0	0	157	0	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	0	0	0	1	2	0	0	4	0	0	0	1
Mvmt Flow	111	10	0	0	0	8	0	0	0	196	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	7	0	8.8
HCM LOS	A	A	-	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	92%	0%	100%
Vol Thru, %	100%	8%	0%	0%
Vol Right, %	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	97	6	157
LT Vol	0	89	0	157
Through Vol	0	8	0	0
RT Vol	0	0	6	0
Lane Flow Rate	0	121	8	196
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.153	0.008	0.236
Departure Headway (Hd)	4.488	4.557	3.935	4.324
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	792	914	818
Service Time	2.496	2.557	1.939	2.414
HCM Lane V/C Ratio	0	0.153	0.009	0.24
HCM Control Delay	7.5	8.4	7	8.8
HCM Lane LOS	N	A	A	A
HCM 95th-tile Q	0	0.5	0	0.9

Intersection	
Int Delay, s/veh	54.2

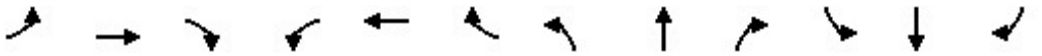
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	4	0	0	125	23	55	1876	4	0	0	0
Future Vol, veh/h	12	4	0	0	125	23	55	1876	4	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	1081749504		-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	8	25	0	0	1	2	0	4	0	0	0	0
Mvmt Flow	12	4	0	0	129	24	57	1934	4	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1146	2052	-	-	2050	969	0	0	0
Stage 1	0	0	-	-	2050	-	-	-	-
Stage 2	1146	2052	-	-	0	-	-	-	-
Critical Hdwy	7.66	7	-	-	6.52	6.94	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	6.66	6	-	-	-	-	-	-	-
Follow-up Hdwy	3.58	4.25	-	-	4.01	3.32	2.2	-	-
Pot Cap-1 Maneuver	147	42	0	0	~ 56	253	-	-	-
Stage 1	-	-	0	0	~ 98	-	-	-	-
Stage 2	202	74	0	0	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	-	42	-	-	~ 56	253	-	-	-
Mov Cap-2 Maneuver	-	42	-	-	~ 56	-	-	-	-
Stage 1	-	-	-	-	~ 98	-	-	-	-
Stage 2	-	74	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s		$ 769.3	
HCM LOS	-	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	-	64
HCM Lane V/C Ratio	-	-	-	-	2.384
HCM Control Delay (s)	-	-	-	-	$ 769.3
HCM Lane LOS	-	-	-	-	F
HCM 95th %tile Q(veh)	-	-	-	-	14.9

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



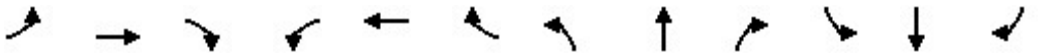
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	4	0	0	125	23	55	1876	4	0	0	0
Future Volume (veh/h)	12	4	0	0	125	23	55	1876	4	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1781	1530	0	0	1885	1870	1900	1841	1900			
Adj Flow Rate, veh/h	12	4	0	0	129	24	57	1934	4			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	8	25	0	0	1	2	0	4	0			
Cap, veh/h	43	14	0	0	337	63	65	2306	5			
Arrive On Green	0.04	0.04	0.00	0.00	0.22	0.22	0.65	0.65	0.65			
Sat Flow, veh/h	1106	369	0	0	1546	288	100	3567	8			
Grp Volume(v), veh/h	16	0	0	0	0	153	1045	0	950			
Grp Sat Flow(s),veh/h/ln	1474	0	0	0	0	1833	1836	0	1839			
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	10.0	65.3	0.0	52.9			
Cycle Q Clear(g_c), s	1.5	0.0	0.0	0.0	0.0	10.0	65.3	0.0	52.9			
Prop In Lane	0.75		0.00	0.00		0.16	0.05		0.00			
Lane Grp Cap(c), veh/h	58	0	0	0	0	399	1187	0	1189			
V/C Ratio(X)	0.28	0.00	0.00	0.00	0.00	0.38	0.88	0.00	0.80			
Avail Cap(c_a), veh/h	58	0	0	0	0	399	1187	0	1189			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	65.3	0.0	0.0	0.0	0.0	46.7	20.3	0.0	18.1			
Incr Delay (d2), s/veh	11.5	0.0	0.0	0.0	0.0	2.8	9.5	0.0	5.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	1.3	0.0	0.0	0.0	0.0	8.6	37.1	0.0	30.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.8	0.0	0.0	0.0	0.0	49.5	29.8	0.0	23.8			
LnGrp LOS	E	A	A	A	A	D	C	A	C			
Approach Vol, veh/h		16			153			1995				
Approach Delay, s/veh		76.8			49.5			26.9				
Approach LOS		E			D			C				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		95.0		10.0				35.0				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		90.5		5.5				30.5				
Max Q Clear Time (g_c+I1), s		67.3		3.5				12.0				
Green Ext Time (p_c), s		16.3		0.0				0.8				
Intersection Summary												
HCM 6th Ctrl Delay			28.9									
HCM 6th LOS			C									

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	0	0	0	0	0	0
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	0	0	0
HCM LOS	-	-	-

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0
LT Vol	0	0	0
Through Vol	0	0	0
RT Vol	0	0	0
Lane Flow Rate	0	0	0
Geometry Grp	1	1	1
Degree of Util (X)	0	0	0
Departure Headway (Hd)	3.951	3.9	3.9
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	1.951	1.9	1.9
HCM Lane V/C Ratio	0	0	0
HCM Control Delay	7	6.9	6.9
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	0	0	0	0	389	16	1397	0	0	0	0
Future Volume (veh/h)	10	0	0	0	0	389	16	1397	0	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1752	1900	0	0	1900	1900	1811	1841	1900			
Adj Flow Rate, veh/h	11	0	0	0	0	414	17	1486	0			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	10	0	0	0	0	0	6	4	0			
Cap, veh/h	79	0	0	0	0	451	1102	2235	0			
Arrive On Green	0.28	0.00	0.00	0.00	0.00	0.28	0.64	0.64	0.00			
Sat Flow, veh/h	110	0	0	0	0	1610	1725	3589	0			
Grp Volume(v), veh/h	11	0	0	0	0	414	17	1486	0			
Grp Sat Flow(s),veh/h/ln	110	0	0	0	0	1610	1725	1749	0			
Q Serve(g_s), s	1.6	0.0	0.0	0.0	0.0	37.4	0.5	40.0	0.0			
Cycle Q Clear(g_c), s	39.0	0.0	0.0	0.0	0.0	37.4	0.5	40.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h	79	0	0	0	0	451	1102	2235	0			
V/C Ratio(X)	0.14	0.00	0.00	0.00	0.00	0.92	0.02	0.66	0.00			
Avail Cap(c_a), veh/h	129	0	0	0	0	529	1102	2235	0			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh	71.2	0.0	0.0	0.0	0.0	52.3	9.9	17.0	0.0			
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.0	0.0	20.1	0.0	1.6	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.8	0.0	0.0	0.0	0.0	24.6	0.4	22.1	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	0.0	0.0	0.0	0.0	72.3	9.9	18.6	0.0			
LnGrp LOS	E	A	A	A	A	E	A	B	A			
Approach Vol, veh/h		11			414			1503				
Approach Delay, s/veh		72.1			72.3			18.5				
Approach LOS		E			E			B				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		102.2		47.8				47.8				
Change Period (Y+Rc), s		6.4		* 5.7				* 5.7				
Max Green Setting (Gmax), s		88.6		* 50				* 49				
Max Q Clear Time (g_c+I1), s		42.0		41.0				39.4				
Green Ext Time (p_c), s		15.9		0.0				2.7				
Intersection Summary												
HCM 6th Ctrl Delay			30.4									
HCM 6th LOS			C									

Notes

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

Intersection	
Int Delay, s/veh	14.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	6	86	53	26	0	0	0	0	27	1677	69
Future Vol, veh/h	0	6	86	53	26	0	0	0	0	27	1677	69
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	5	0	0	0	0	0	0	0	7	0
Mvmt Flow	0	7	101	62	31	0	0	0	0	32	1973	81

Major/Minor	Minor2			Minor1					Major2		
Conflicting Flow All	-	2078	1027	1054	2118	-			0	0	0
Stage 1	-	2078	-	0	0	-			-	-	-
Stage 2	-	0	-	1054	2118	-			-	-	-
Critical Hdwy	-	6.5	7	7.5	6.5	-			4.1	-	-
Critical Hdwy Stg 1	-	5.5	-	-	-	-			-	-	-
Critical Hdwy Stg 2	-	-	-	6.5	5.5	-			-	-	-
Follow-up Hdwy	-	4	3.35	3.5	4	-			2.2	-	-
Pot Cap-1 Maneuver	0	54	227	183	51	0			-	-	-
Stage 1	0	96	-	-	-	0			-	-	-
Stage 2	0	-	-	245	92	0			-	-	-
Platoon blocked, %										-	-
Mov Cap-1 Maneuver	-	54	227	91	51	-			-	-	-
Mov Cap-2 Maneuver	-	54	-	91	51	-			-	-	-
Stage 1	-	96	-	-	-	-			-	-	-
Stage 2	-	-	-	126	92	-			-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	47.3	$ 303	
HCM LOS	E	F	

Minor Lane/Major Mvmt	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	188	72	-	-	-
HCM Lane V/C Ratio	0.576	1.291	-	-	-
HCM Control Delay (s)	47.3	$ 303	-	-	-
HCM Lane LOS	E	F	-	-	-
HCM 95th %tile Q(veh)	3.1	7.4	-	-	-

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

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	258	6	5	44	0	5	0	30	0	0	0
Future Vol, veh/h	0	258	6	5	44	0	5	0	30	0	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	4	0	0	2	0	0	2	0	0	0	0
Mvmt Flow	0	287	7	6	49	0	6	0	33	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	7.6	7.4	0
HCM LOS	A	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	0%	10%	0%
Vol Thru, %	0%	98%	90%	100%
Vol Right, %	86%	2%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	264	49	0
LT Vol	5	0	5	0
Through Vol	0	258	44	0
RT Vol	30	6	0	0
Lane Flow Rate	39	293	54	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.045	0.331	0.064	0
Departure Headway (Hd)	4.168	4.064	4.211	4.704
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	865	883	840	0
Service Time	2.168	2.098	2.291	2.706
HCM Lane V/C Ratio	0.045	0.332	0.064	0
HCM Control Delay	7.4	9.1	7.6	7.7
HCM Lane LOS	A	A	A	N
HCM 95th-tile Q	0.1	1.5	0.2	0

Intersection	
Int Delay, s/veh	49.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	140	0	0	166	46	30	1355	129	0	0	0
Future Vol, veh/h	14	140	0	0	166	46	30	1355	129	0	0	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	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	120	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	0	0	0	6	2	13	4	6	0	0	0
Mvmt Flow	15	147	0	0	175	48	32	1426	136	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	865	1626	-	-	1558	781	0	0	0
Stage 1	0	0	-	-	1558	-	-	-	-
Stage 2	865	1626	-	-	0	-	-	-	-
Critical Hdwy	7.64	6.5	-	-	6.62	6.94	4.36	-	-
Critical Hdwy Stg 1	-	-	-	-	5.62	-	-	-	-
Critical Hdwy Stg 2	6.64	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4	-	-	4.06	3.32	2.33	-	-
Pot Cap-1 Maneuver	240	~ 103	0	0	~ 107	338	-	-	-
Stage 1	-	-	0	0	~ 165	-	-	-	-
Stage 2	305	162	0	0	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	-	~ 103	-	-	~ 107	338	-	-	-
Mov Cap-2 Maneuver	-	~ 103	-	-	~ 107	-	-	-	-
Stage 1	-	-	-	-	~ 165	-	-	-	-
Stage 2	-	162	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s		$ 437	
HCM LOS	-	F	

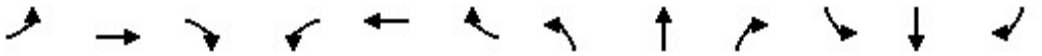
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	-	126
HCM Lane V/C Ratio	-	-	-	-	1.771
HCM Control Delay (s)	-	-	-	-	$ 437
HCM Lane LOS	-	-	-	-	F
HCM 95th %tile Q(veh)	-	-	-	-	17.1

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	263	167	310	1280	1414	262	
Future Volume (vph)	263	167	310	1280	1414	262	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	225	0	300			350	
Storage Lanes	1	1	1			1	
Taper Length (ft)	25		25				
Satd. Flow (prot)	3502	1524	1719	3471	3343	1568	
Flt Permitted	0.950		0.050				
Satd. Flow (perm)	3502	1524	90	3471	3343	1568	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		13				56	
Link Speed (mph)	40			45	45		
Link Distance (ft)	1228			1363	902		
Travel Time (s)	20.9			20.7	13.7		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	
Heavy Vehicles (%)	0%	6%	5%	4%	8%	3%	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	274	174	323	1333	1473	273	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	pm+ov	
Protected Phases	3	1	1	6	2	3	8
Permitted Phases		3	6			2	
Total Split (s)	50.0	25.0	25.0	100.0	75.0	50.0	50.0
Total Lost Time (s)	6.8	7.1	7.1	6.8	6.8	6.8	
Act Effct Green (s)	17.3	63.7	118.8	119.1	72.4	96.5	
Actuated g/C Ratio	0.12	0.42	0.79	0.79	0.48	0.64	
v/c Ratio	0.68	0.27	0.64	0.48	0.91	0.27	
Control Delay	72.0	27.2	34.0	13.4	45.5	9.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	72.0	27.2	34.0	13.4	45.5	9.3	
LOS	E	C	C	B	D	A	
Approach Delay	54.6			17.4	39.9		
Approach LOS	D			B	D		
Queue Length 50th (ft)	135	105	234	342	656	78	
Queue Length 95th (ft)	177	153	350	638	#889	124	
Internal Link Dist (ft)	1148			1283	822		
Turn Bay Length (ft)	225		300			350	
Base Capacity (vph)	1008	654	501	2755	1612	1289	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.27	0.27	0.64	0.48	0.91	0.21	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 16 (11%), Referenced to phase 2:SBT and 6:NBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 31.9		Intersection LOS: C	
Intersection Capacity Utilization 81.0%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 12: Orange Ave & Lancaster Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	30	0	90	4	1508	64	131	1510	2
Future Volume (veh/h)	0	0	1	30	0	90	4	1508	64	131	1510	2
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	1900	1900	1900	1841	1900	1841	1530	1841	1870	1870	1781	1900
Adj Flow Rate, veh/h	0	0	1	31	0	93	4	1555	66	135	1557	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	4	0	4	25	4	2	2	8	0
Cap, veh/h	0	0	114	146	0	114	255	2612	110	283	2922	4
Arrive On Green	0.00	0.00	0.07	0.07	0.00	0.07	0.76	0.76	0.76	0.04	1.00	1.00
Sat Flow, veh/h	0	0	1610	1394	0	1610	270	3419	145	1781	3469	4
Grp Volume(v), veh/h	0	0	1	31	0	93	4	793	828	135	760	799
Grp Sat Flow(s),veh/h/ln	0	0	1610	1394	0	1610	270	1749	1815	1781	1692	1781
Q Serve(g_s), s	0.0	0.0	0.1	3.2	0.0	8.5	0.5	29.4	29.7	2.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.1	3.3	0.0	8.5	0.5	29.4	29.7	2.4	0.0	0.0
Prop In Lane	0.00		1.00	1.00		1.00	1.00		0.08	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	114	146	0	114	255	1336	1386	283	1426	1500
V/C Ratio(X)	0.00	0.00	0.01	0.21	0.00	0.82	0.02	0.59	0.60	0.48	0.53	0.53
Avail Cap(c_a), veh/h	0	0	148	177	0	150	255	1336	1386	464	1426	1500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.42	0.42	0.42
Uniform Delay (d), s/veh	0.0	0.0	64.8	66.3	0.0	68.7	4.2	7.6	7.7	8.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	22.1	0.1	1.9	1.9	0.5	0.6	0.6
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(95%),veh/ln	0.0	0.0	0.1	2.1	0.0	7.6	0.1	15.0	15.6	2.3	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	64.8	67.0	0.0	90.8	4.4	9.6	9.6	9.2	0.6	0.6
LnGrp LOS	A	A	E	E	A	F	A	A	A	A	A	A
Approach Vol, veh/h		1			124			1625			1694	
Approach Delay, s/veh		64.8			84.9			9.6			1.3	
Approach LOS		E			F			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.8	121.4		16.8		133.2		16.8				
Change Period (Y+Rc), s	6.8	6.8		* 6.2		6.8		* 6.2				
Max Green Setting (Gmax), s	20.2	96.2		* 14		123.2		* 14				
Max Q Clear Time (g_c+I1), s	4.4	31.7		2.1		2.0		10.5				
Green Ext Time (p_c), s	0.3	17.5		0.0		16.4		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		8.2	
HCM 6th LOS		A	

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX H

Queueing Data Collection

Prepared by National Data & Surveying Services

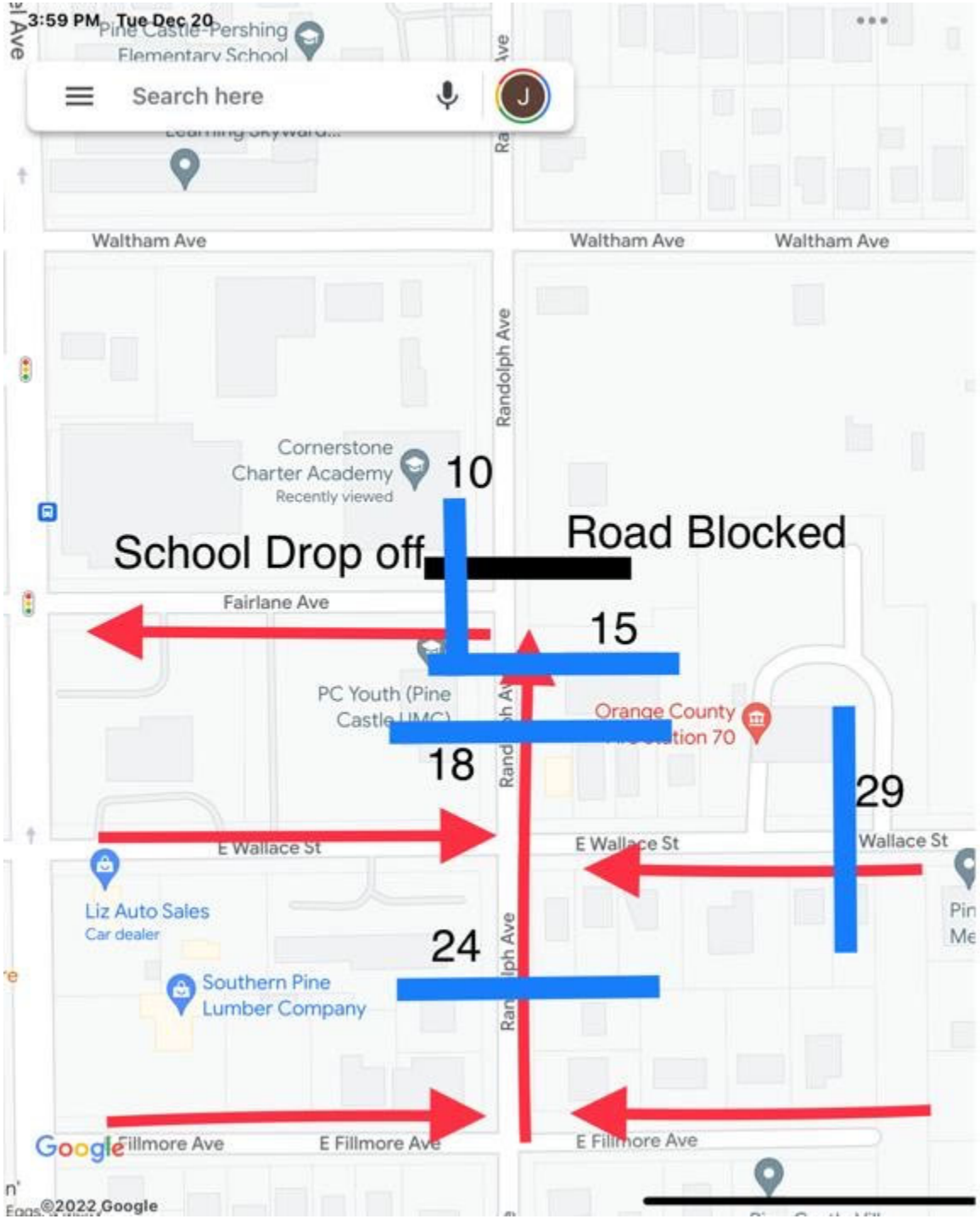
Max Queue Study

Location: Cornerstone Charter Academy , 5903 Randolph Ave
City: Belle Isle, FL

Date: 12/6/2022
Day: Tuesday

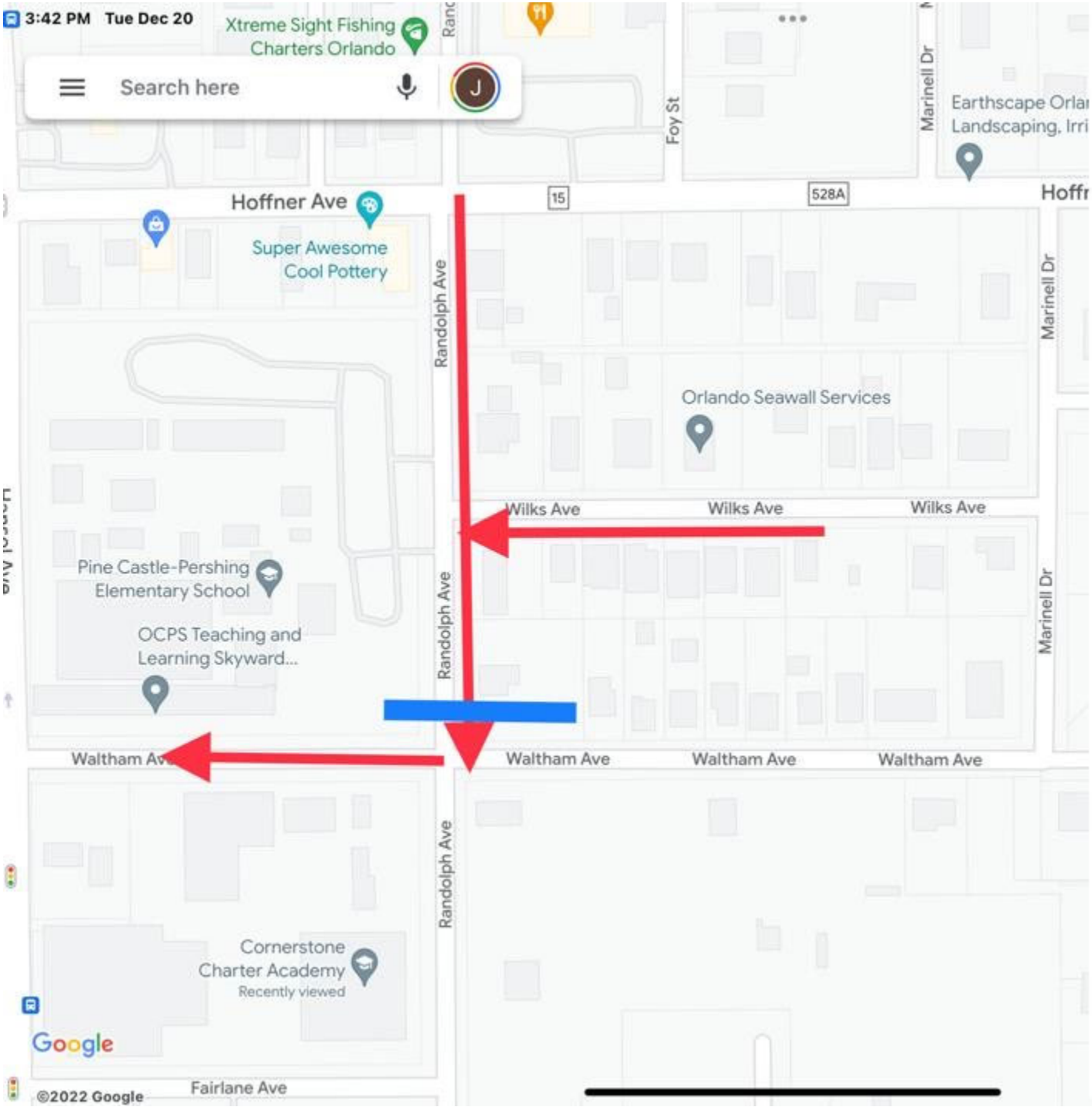
Time	Drop-off Max Queue Length (# of Cars)	
	High School	Lower School K-5
7:00 AM	2	2
7:05 AM	3	1
7:10 AM	6	3
7:15 AM	4	7
7:20 AM	16	9
7:25 AM	17	10
7:30 AM	17	4
7:35 AM	26	0
7:40 AM	24	5
7:45 AM	17	3
7:50 AM	2	7
7:55 AM	1	8
8:00 AM	0	0
8:05 AM	0	0
8:10 AM	0	4
8:15 AM	0	2
8:20 AM	0	0
8:25 AM	0	0
Totals	135	65

Time	Pick-up Max Queue Length (# of Cars)	
	High School	Lower School K-5
2:00 PM	0	7
2:05 PM	0	10
2:10 PM	8	14
2:15 PM	8	17
2:20 PM	8	19
2:25 PM	10	19
2:30 PM	10	15
2:35 PM	10	16
2:40 PM	11	5
2:45 PM	18	15
2:50 PM	24	19
2:55 PM	29	16
3:00 PM	34	1
3:05 PM	15	3
3:10 PM	5	5
3:15 PM	7	3
3:20 PM	6	5
3:25 PM	0	0
Totals	203	189



High School PM 2-3:30

2pm-2:25 No Line
2:25 10 Cars
2:30 10 Cars
2:35 10 Cars
2:40 11 Cars
2:45 18 Cars
2:50 24 Cars
2:55 29 Cars
3:00 34 Cars
3:05 15 Cars
3:10-3:30 No Line

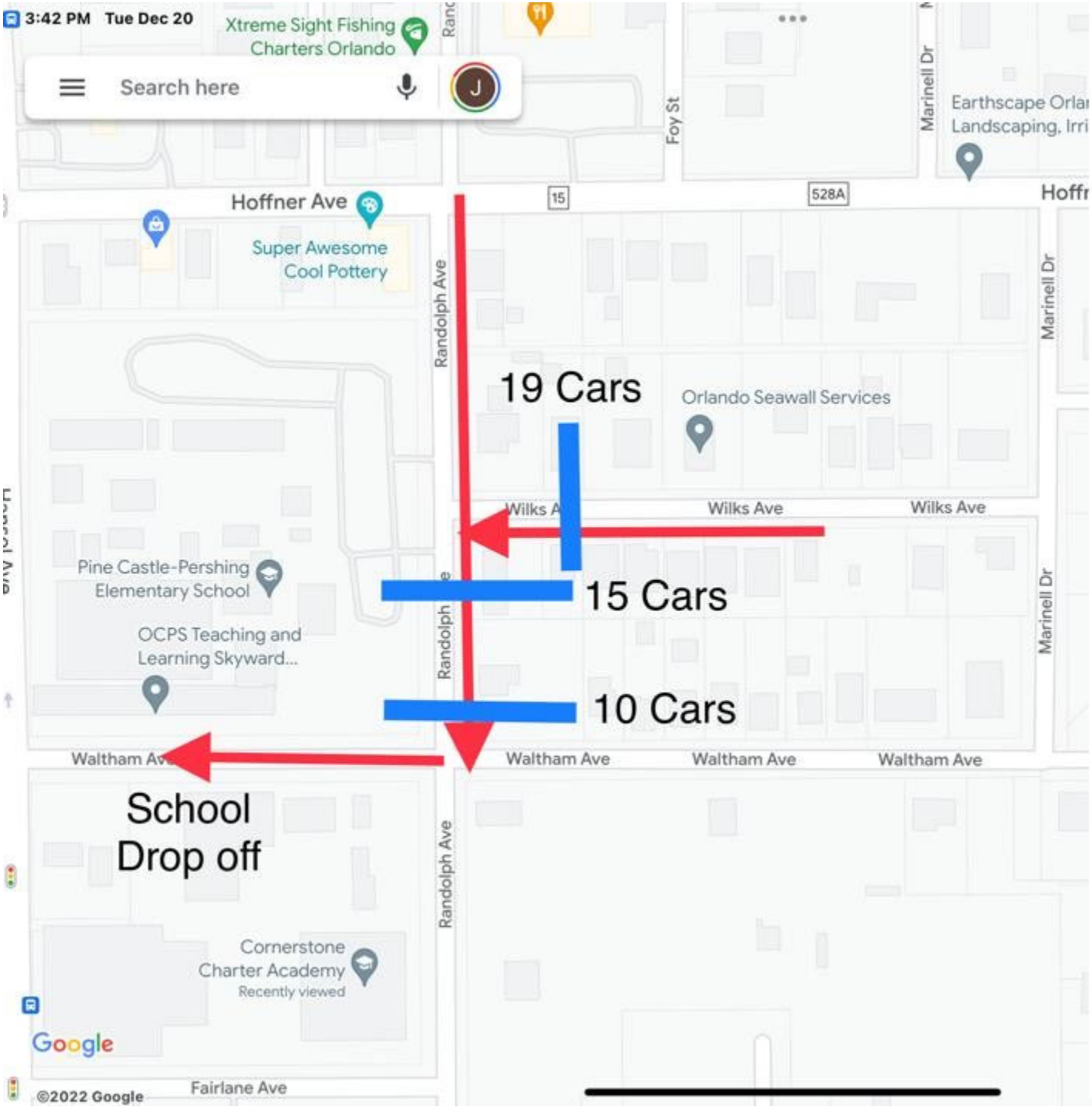


Lower K-5 AM 7-830

7:00-7:20 = No line

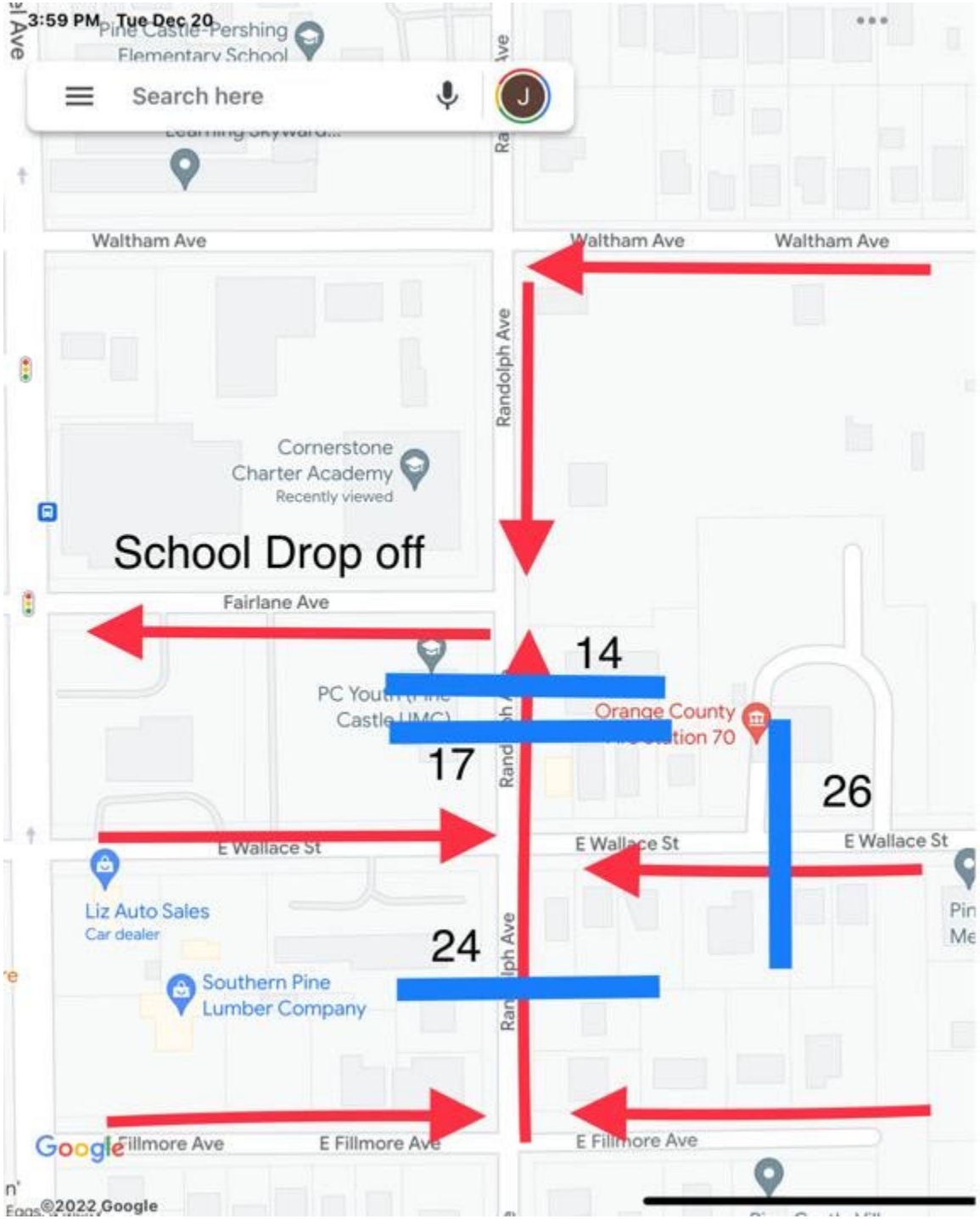
7:25 = 10 cars
Blue Line

7:30-8:30 = No line



Lower K-5 PM 2-3:30

2:00 No Line
2:05 10 Cars
2:10 14 Cars
2:15 17 Cars
2:20 19 Cars
2:25 19 Cars
2:30 15 Cars
2:35 16 Cars
2:40 No Line
2:45 15 Cars
2:50 19 Cars
2:55 16 Cars
3-3:30 No Line



High School AM 7-8:30

7-7:15 No Line
7:20 16 Cars
7:25 17 Cars
7:30 17 Cars
7:35 26 Cars
7:40 24 Cars
7:45 17 Cars
7:50-8:30 No Line

APPENDIX I

SimTraffic Microsimulation Output

Intersection: 1: Randolph Ave & Hoffner Ave

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	271	708	212
Average Queue (ft)	45	460	91
95th Queue (ft)	267	831	255
Link Distance (ft)	502	698	358
Upstream Blk Time (%)	4	13	4
Queuing Penalty (veh)	35	100	2
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Hansel Ave & Hoffner Ave

Movement	EB	WB	WB	NB	NB	NB
Directions Served	LT	T	R	LT	T	R
Maximum Queue (ft)	532	492	250	577	585	345
Average Queue (ft)	269	246	144	408	426	326
95th Queue (ft)	461	491	297	540	573	408
Link Distance (ft)	642	502		653	653	
Upstream Blk Time (%)	1	1		0	2	
Queuing Penalty (veh)	5	8		1	22	
Storage Bay Dist (ft)			225			320
Storage Blk Time (%)		12	1		17	10
Queuing Penalty (veh)		33	3		121	75

Intersection: 3: Hoffner Ave & Orange Ave

Movement	WB	SB	SB	SB
Directions Served	L	L	T	T
Maximum Queue (ft)	648	364	470	490
Average Queue (ft)	382	128	275	263
95th Queue (ft)	676	250	427	422
Link Distance (ft)	642		554	554
Upstream Blk Time (%)	1		0	0
Queuing Penalty (veh)	5		0	0
Storage Bay Dist (ft)		460		
Storage Blk Time (%)		0	0	
Queuing Penalty (veh)		1	1	

Intersection: 4: Randolph Ave & Wilks Ave

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	53	30	228
Average Queue (ft)	14	8	58
95th Queue (ft)	53	74	258
Link Distance (ft)	482	249	358
Upstream Blk Time (%)		2	7
Queuing Penalty (veh)		4	17
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Randolph Ave & Waltham Ave

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	87	33	199
Average Queue (ft)	41	9	94
95th Queue (ft)	107	32	247
Link Distance (ft)	337	236	249
Upstream Blk Time (%)	1		17
Queuing Penalty (veh)	1		43
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Hansel Ave & Waltham Ave

Movement	EB	WB	NB	NB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	76	118	399	384
Average Queue (ft)	24	93	366	369
95th Queue (ft)	62	131	404	393
Link Distance (ft)		115	362	362
Upstream Blk Time (%)		6	6	9
Queuing Penalty (veh)		13	63	86
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Hansel Ave & Fairlane Ave

Movement	EB	WB	NB	NB	NB
Directions Served	LT	TR	L	T	TR
Maximum Queue (ft)	106	307	174	284	291
Average Queue (ft)	32	298	28	249	249
95th Queue (ft)	91	348	129	281	281
Link Distance (ft)	339	292		241	241
Upstream Blk Time (%)		48		34	35
Queuing Penalty (veh)		0		229	236
Storage Bay Dist (ft)			150		
Storage Blk Time (%)				56	
Queuing Penalty (veh)				8	

Intersection: 9: Fairlane Ave & Orange Ave

Movement	EB	WB	SB	SB
Directions Served	TR	LT	LT	TR
Maximum Queue (ft)	248	236	81	74
Average Queue (ft)	114	182	8	6
95th Queue (ft)	275	241	70	59
Link Distance (ft)	413	339		
Upstream Blk Time (%)	3			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Randolph Ave & Wallace St

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	300	146	91
Average Queue (ft)	114	49	33
95th Queue (ft)	338	143	73
Link Distance (ft)	471	478	1060
Upstream Blk Time (%)	5		
Queuing Penalty (veh)	14		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Wallace St & Hansel Ave

Movement	EB	WB	NB	NB	NB
Directions Served	LT	TR	L	T	TR
Maximum Queue (ft)	242	450	144	627	636
Average Queue (ft)	105	201	12	429	435
95th Queue (ft)	215	467	77	772	793
Link Distance (ft)	254	471			
Upstream Blk Time (%)	4	10			
Queuing Penalty (veh)	6	10			
Storage Bay Dist (ft)			120		
Storage Blk Time (%)				47	
Queuing Penalty (veh)				8	

Intersection: 12: Orange Ave & Lancaster Rd

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	145	186	186	291	300	294	450	430	216
Average Queue (ft)	57	102	81	157	134	132	349	259	56
95th Queue (ft)	136	170	159	257	247	247	491	406	166
Link Distance (ft)		1166	1166		1285	1285			
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	225			300					350
Storage Blk Time (%)		0		1	0			1	0
Queuing Penalty (veh)		0		6	0			3	0

Intersection: 13: Orange Ave & Nela Ave

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	11	112	169	17	304	308	149	230	240
Average Queue (ft)	0	29	67	1	148	121	51	71	83
95th Queue (ft)	5	75	132	10	277	256	109	185	198
Link Distance (ft)	446		1119		1312	1312		1285	1285
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		145		200			185		
Storage Blk Time (%)			1		3			0	
Queuing Penalty (veh)			0		0			0	

Intersection: 19: Entrance #1

Movement	NB	SB
Directions Served	L	R
Maximum Queue (ft)	62	71
Average Queue (ft)	34	51
95th Queue (ft)	48	70
Link Distance (ft)	19	4
Upstream Blk Time (%)	76	70
Queuing Penalty (veh)	158	98
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 20:

Movement	EB	B21	B22	B23	B24	B25	B26
Directions Served	L	T	T	T	T	T	T
Maximum Queue (ft)	169	78	230	93	219	71	319
Average Queue (ft)	135	48	159	51	125	29	151
95th Queue (ft)	185	87	300	108	278	74	391
Link Distance (ft)		9	158	23	150	2	251
Upstream Blk Time (%)	83	42	70	66	56	5	45
Queuing Penalty (veh)	0	87	145	136	116	11	92
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 28: Wallace St & Entrance #2

Movement	EB	WB
Directions Served	LT	TR
Maximum Queue (ft)	410	80
Average Queue (ft)	129	34
95th Queue (ft)	409	62
Link Distance (ft)	478	328
Upstream Blk Time (%)	11	
Queuing Penalty (veh)	46	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 29: Entrance #1 & Waltham Ave

Movement	EB	WB	B15
Directions Served	TR	LT	T
Maximum Queue (ft)	230	258	23
Average Queue (ft)	136	123	5
95th Queue (ft)	291	325	57
Link Distance (ft)	236	456	681
Upstream Blk Time (%)	31	5	
Queuing Penalty (veh)	38	4	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 31: E.S. Exit & Waltham Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	78
Average Queue (ft)	34
95th Queue (ft)	52
Link Distance (ft)	13
Upstream Blk Time (%)	16
Queuing Penalty (veh)	54
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 34: Orange Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 38:

Movement	WB	SB	SB
Directions Served	L	LT	T
Maximum Queue (ft)	78	116	114
Average Queue (ft)	20	14	11
95th Queue (ft)	55	107	99
Link Distance (ft)	254	261	261
Upstream Blk Time (%)		1	0
Queuing Penalty (veh)		14	3
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 40: Orange Ave & Waltham Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 53: E.S. Exit

Movement	NB	B30	B14	B16	B51	B47	B17
Directions Served	T	T	T	T	T	T	T
Maximum Queue (ft)	166	410	272	97	93	138	360
Average Queue (ft)	135	374	229	61	57	96	298
95th Queue (ft)	150	422	310	90	87	143	456
Link Distance (ft)	82	326	188	13	10	52	280
Upstream Blk Time (%)	100	95	93	46	33	91	87
Queuing Penalty (veh)	345	329	320	160	113	313	300
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 55: Hoffner Ave

Movement	EB	WB
Directions Served	TR	LT
Maximum Queue (ft)	153	308
Average Queue (ft)	13	135
95th Queue (ft)	174	324
Link Distance (ft)	698	282
Upstream Blk Time (%)		17
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 4039

Intersection: 1: Randolph Ave & Hoffner Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	248	676	227	43
Average Queue (ft)	20	320	84	10
95th Queue (ft)	136	700	226	37
Link Distance (ft)	498	701	341	302
Upstream Blk Time (%)	0	3	2	
Queuing Penalty (veh)	1	21	1	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Hansel Ave & Hoffner Ave

Movement	EB	WB	WB	NB	NB	NB
Directions Served	LT	T	R	LT	T	R
Maximum Queue (ft)	447	497	250	670	664	345
Average Queue (ft)	217	302	166	378	390	269
95th Queue (ft)	378	550	310	693	730	442
Link Distance (ft)	647	498		652	652	
Upstream Blk Time (%)	0	6		1	1	
Queuing Penalty (veh)	0	36		6	7	
Storage Bay Dist (ft)			225			320
Storage Blk Time (%)		20	2		8	6
Queuing Penalty (veh)		48	6		62	44

Intersection: 3: Hoffner Ave & Orange Ave

Movement	WB	SB	SB	SB
Directions Served	L	L	T	T
Maximum Queue (ft)	659	258	444	462
Average Queue (ft)	529	105	258	250
95th Queue (ft)	737	205	396	390
Link Distance (ft)	647		553	553
Upstream Blk Time (%)	14		0	0
Queuing Penalty (veh)	67		0	0
Storage Bay Dist (ft)		460		
Storage Blk Time (%)			0	
Queuing Penalty (veh)			1	

Intersection: 4: Randolph Ave & Wilks Ave

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	33	29	76
Average Queue (ft)	5	2	12
95th Queue (ft)	25	20	94
Link Distance (ft)	481	263	341
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Randolph Ave & Waltham Ave

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	83	30	126
Average Queue (ft)	35	6	63
95th Queue (ft)	69	26	180
Link Distance (ft)	350	221	263
Upstream Blk Time (%)			5
Queuing Penalty (veh)			7
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Hansel Ave & Waltham Ave

Movement	EB	WB	NB	NB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	69	87	384	391
Average Queue (ft)	16	53	349	364
95th Queue (ft)	52	86	422	412
Link Distance (ft)		115	363	363
Upstream Blk Time (%)		0	9	13
Queuing Penalty (veh)		0	88	129
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Hansel Ave & Fairlane Ave

Movement	EB	WB	NB	NB	NB
Directions Served	LT	TR	L	T	TR
Maximum Queue (ft)	56	322	148	260	259
Average Queue (ft)	13	289	16	232	233
95th Queue (ft)	42	380	93	282	285
Link Distance (ft)	334	307		230	230
Upstream Blk Time (%)		40		26	26
Queuing Penalty (veh)		0		191	194
Storage Bay Dist (ft)			150		
Storage Blk Time (%)			0	40	
Queuing Penalty (veh)			0	7	

Intersection: 9: Fairlane Ave & Orange Ave

Movement	EB	WB	SB
Directions Served	TR	LT	TR
Maximum Queue (ft)	179	197	15
Average Queue (ft)	69	119	1
95th Queue (ft)	140	219	9
Link Distance (ft)	407	334	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Randolph Ave & Wallace St

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	232	104	64
Average Queue (ft)	66	34	25
95th Queue (ft)	192	92	54
Link Distance (ft)	477	482	1060
Upstream Blk Time (%)	1		
Queuing Penalty (veh)	3		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Wallace St & Hansel Ave

Movement	EB	WB	NB	NB	NB
Directions Served	LT	TR	L	T	TR
Maximum Queue (ft)	152	439	144	626	631
Average Queue (ft)	134	323	14	298	314
95th Queue (ft)	151	442	86	667	689
Link Distance (ft)		477			
Upstream Blk Time (%)		8			
Queuing Penalty (veh)		4			
Storage Bay Dist (ft)			120		
Storage Blk Time (%)			0	25	
Queuing Penalty (veh)			0	8	

Intersection: 12: Orange Ave & Lancaster Rd

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	184	221	206	324	450	455	457	452	375
Average Queue (ft)	101	137	75	217	213	216	412	375	149
95th Queue (ft)	174	196	165	332	370	368	501	513	407
Link Distance (ft)		1166	1166		1285	1285			
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	225			300					350
Storage Blk Time (%)	0	0		3	1			15	0
Queuing Penalty (veh)	0	0		19	3			41	0

Intersection: 13: Orange Ave & Nela Ave

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	11	85	114	49	319	290	179	192	193
Average Queue (ft)	1	27	40	3	127	98	87	22	29
95th Queue (ft)	6	66	84	27	274	240	159	109	110
Link Distance (ft)	446		1119		1312	1312		1285	1285
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		145		200			185		
Storage Blk Time (%)			0		3		1	0	
Queuing Penalty (veh)			0		0		7	0	

Intersection: 14: ES Exit & Waltham Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	55
Average Queue (ft)	32
95th Queue (ft)	42
Link Distance (ft)	15
Upstream Blk Time (%)	8
Queuing Penalty (veh)	19
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: Hoffner Ave

Movement	EB	WB
Directions Served	TR	LT
Maximum Queue (ft)	2	417
Average Queue (ft)	0	128
95th Queue (ft)	2	367
Link Distance (ft)	701	550
Upstream Blk Time (%)		4
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Entance #1

Movement	NB	SB
Directions Served	L	R
Maximum Queue (ft)	67	70
Average Queue (ft)	34	48
95th Queue (ft)	52	69
Link Distance (ft)	9	5
Upstream Blk Time (%)	84	71
Queuing Penalty (veh)	214	71
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 20:

Movement	EB	B21	B22	B23	B24	B25	B26
Directions Served	L	T	T	T	T	T	T
Maximum Queue (ft)	148	86	200	83	205	61	266
Average Queue (ft)	117	50	126	42	106	23	97
95th Queue (ft)	160	95	267	103	276	69	317
Link Distance (ft)		17	145	23	170	10	257
Upstream Blk Time (%)	84	16	59	54	43	22	26
Queuing Penalty (veh)	0	24	88	81	64	33	38
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 28: Wallace St & Entrance #2

Movement	EB	WB
Directions Served	LT	TR
Maximum Queue (ft)	336	87
Average Queue (ft)	79	31
95th Queue (ft)	290	66
Link Distance (ft)	482	328
Upstream Blk Time (%)	6	
Queuing Penalty (veh)	18	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 29: Entance #1 & Waltham Ave

Movement	EB	WB
Directions Served	TR	LT
Maximum Queue (ft)	208	173
Average Queue (ft)	105	77
95th Queue (ft)	237	186
Link Distance (ft)	221	438
Upstream Blk Time (%)	18	
Queuing Penalty (veh)	20	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 34: Orange Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 38:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 40: Orange Ave & Waltham Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 53: ES Exit & ES Drop off

Movement	NB	B30	B31	B16	B51	B54	B55
Directions Served	T	T	T	T	T	T	T
Maximum Queue (ft)	169	413	240	90	95	110	314
Average Queue (ft)	139	385	210	64	68	81	269
95th Queue (ft)	153	406	268	91	97	118	395
Link Distance (ft)	86	334	165	13	17	34	240
Upstream Blk Time (%)	96	97	95	67	69	92	89
Queuing Penalty (veh)	408	411	401	283	291	389	378
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 4231

Intersection: 1: Randolph Ave & Hoffner Ave

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	22	501	119
Average Queue (ft)	1	192	43
95th Queue (ft)	10	427	108
Link Distance (ft)	504	696	357
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		1	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Hansel Ave & Hoffner Ave

Movement	EB	WB	WB	NB	NB	NB
Directions Served	LT	T	R	LT	T	R
Maximum Queue (ft)	414	515	250	596	627	345
Average Queue (ft)	238	296	180	379	375	272
95th Queue (ft)	368	525	313	579	615	425
Link Distance (ft)	664	504		659	659	
Upstream Blk Time (%)		3		0	0	
Queuing Penalty (veh)		18		2	3	
Storage Bay Dist (ft)			225			320
Storage Blk Time (%)		19	1		10	3
Queuing Penalty (veh)		49	3		68	24

Intersection: 3: Orange Ave & Hoffner Ave

Movement	WB	SB	SB	SB
Directions Served	L	L	T	T
Maximum Queue (ft)	675	265	441	452
Average Queue (ft)	467	123	263	250
95th Queue (ft)	751	231	406	395
Link Distance (ft)	664		558	558
Upstream Blk Time (%)	1		0	0
Queuing Penalty (veh)	8		0	0
Storage Bay Dist (ft)		460		
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 4: Randolph Ave & Wilks Ave

Movement	WB
Directions Served	LR
Maximum Queue (ft)	34
Average Queue (ft)	8
95th Queue (ft)	31
Link Distance (ft)	544
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Randolph Ave & Waltham Ave

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	58	31	52
Average Queue (ft)	35	7	32
95th Queue (ft)	55	27	45
Link Distance (ft)	509	222	257
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Hansel Ave & Waltham Ave

Movement	EB	WB	NB	NB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	114	276	136	149
Average Queue (ft)	37	263	15	17
95th Queue (ft)	104	283	99	106
Link Distance (ft)			357	357
Upstream Blk Time (%)			0	0
Queuing Penalty (veh)			0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Orange Ave

Movement	WB	SB
Directions Served	L	L
Maximum Queue (ft)	70	6
Average Queue (ft)	25	0
95th Queue (ft)	64	4
Link Distance (ft)	260	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		290
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Hansel Ave & Fairlane Ave

Movement	EB	WB	B14	B16	B17	B18	NB	NB	NB
Directions Served	L	TR	T	T	T	T	L	T	T
Maximum Queue (ft)	118	583	196	109	258	98	102	256	259
Average Queue (ft)	32	461	88	38	89	29	9	216	196
95th Queue (ft)	108	676	222	107	278	102	57	285	280
Link Distance (ft)	341	482	111	6	197	87		239	239
Upstream Blk Time (%)	0	41	34	6	20	5		5	3
Queuing Penalty (veh)	0	190	158	29	92	23		34	20
Storage Bay Dist (ft)							150		
Storage Blk Time (%)								17	
Queuing Penalty (veh)								2	

Intersection: 9: Orange Ave & Fairlane Ave

Movement	EB	WB	SB	SB
Directions Served	TR	LT	LT	TR
Maximum Queue (ft)	127	189	16	10
Average Queue (ft)	50	90	1	0
95th Queue (ft)	99	173	14	6
Link Distance (ft)	595	341		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Randolph Ave & Wallace St

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	55	58	66
Average Queue (ft)	36	30	23
95th Queue (ft)	52	50	55
Link Distance (ft)	476		1059
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Hansel Ave & Wallace St

Movement	EB	WB	NB	NB	NB
Directions Served	LT	TR	L	T	TR
Maximum Queue (ft)	222	98	32	264	244
Average Queue (ft)	115	37	1	53	42
95th Queue (ft)	207	75	21	171	155
Link Distance (ft)	260	476			
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)			120		
Storage Blk Time (%)				2	
Queuing Penalty (veh)				0	

Intersection: 12: Orange Ave & Lancaster Rd

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	143	167	166	285	249	273	394	403	347
Average Queue (ft)	50	97	65	145	114	116	238	251	63
95th Queue (ft)	124	155	135	242	211	225	349	361	179
Link Distance (ft)		1220	1220		1281	1281	901	901	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	245			350					350
Storage Blk Time (%)				0				1	0
Queuing Penalty (veh)				0				2	0

Intersection: 13: Orange Ave & Nela Ave

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	10	81	153	40	301	274	114	200	239
Average Queue (ft)	1	26	61	2	122	85	44	59	76
95th Queue (ft)	6	65	119	25	254	209	92	161	188
Link Distance (ft)	477		1265		937	937		1281	1281
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		145		200			185		
Storage Blk Time (%)			0		2		0	0	
Queuing Penalty (veh)			0		0		0	0	

Intersection: 19:

Movement	NB	SB
Directions Served	L	R
Maximum Queue (ft)	97	89
Average Queue (ft)	39	49
95th Queue (ft)	66	74
Link Distance (ft)	1	5
Upstream Blk Time (%)	40	11
Queuing Penalty (veh)	113	21
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 20:

Movement	EB	B21	B22
Directions Served	L	T	T
Maximum Queue (ft)	126	39	23
Average Queue (ft)	88	3	1
95th Queue (ft)	123	23	19
Link Distance (ft)		18	145
Upstream Blk Time (%)	21	1	0
Queuing Penalty (veh)	0	2	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 28: Wallace St

Movement	EB	WB
Directions Served	LT	TR
Maximum Queue (ft)	84	31
Average Queue (ft)	38	11
95th Queue (ft)	60	35
Link Distance (ft)	468	346
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 29: Waltham Ave

Movement	EB	WB
Directions Served	TR	LT
Maximum Queue (ft)	74	74
Average Queue (ft)	35	37
95th Queue (ft)	58	61
Link Distance (ft)	222	450
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 30: Orange Ave/Hansel Ave

Movement	SE	SE
Directions Served	R	R
Maximum Queue (ft)	19	54
Average Queue (ft)	1	3
95th Queue (ft)	14	23
Link Distance (ft)	1109	1109
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 37: Hoffner Ave

Movement	EB	WB
Directions Served	TR	LT
Maximum Queue (ft)	2	256
Average Queue (ft)	0	67
95th Queue (ft)	2	178
Link Distance (ft)	696	526
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 38: Orange Ave & Waltham Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 862

Intersection: 4: Randolph Ave & Hoffner Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	359	722	316	48
Average Queue (ft)	28	407	142	10
95th Queue (ft)	188	850	338	35
Link Distance (ft)	494	710	351	355
Upstream Blk Time (%)	1	10	13	
Queuing Penalty (veh)	5	65	8	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Hansel Ave & Wallace St

Movement	EB	WB	NB	NB	NB
Directions Served	LT	TR	L	T	TR
Maximum Queue (ft)	268	387	51	514	559
Average Queue (ft)	186	303	2	154	180
95th Queue (ft)	267	382	30	368	414
Link Distance (ft)	262	497			
Upstream Blk Time (%)	5				
Queuing Penalty (veh)	4				
Storage Bay Dist (ft)			120		
Storage Blk Time (%)				10	
Queuing Penalty (veh)				3	

Intersection: 6: Randolph Ave & Wallace St

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	88	44	42
Average Queue (ft)	46	27	22
95th Queue (ft)	71	46	46
Link Distance (ft)	497	453	1059
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Hoffner Ave

Movement	WB
Directions Served	LT
Maximum Queue (ft)	426
Average Queue (ft)	181
95th Queue (ft)	442
Link Distance (ft)	410
Upstream Blk Time (%)	14
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Hansel Ave & Waltham Ave

Movement	EB	WB	NB	NB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	139	279	318	324
Average Queue (ft)	57	252	75	85
95th Queue (ft)	150	319	266	279
Link Distance (ft)			356	356
Upstream Blk Time (%)			0	1
Queuing Penalty (veh)			4	5
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Randolph Ave & Waltham Ave

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	126	39	57
Average Queue (ft)	45	9	32
95th Queue (ft)	121	34	48
Link Distance (ft)	509	222	257
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Orange Ave & Waltham Ave

Movement	WB
Directions Served	L
Maximum Queue (ft)	46
Average Queue (ft)	22
95th Queue (ft)	40
Link Distance (ft)	438
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Hansel Ave & Fairlane Ave

Movement	EB	WB	B14	B16	B17	B18	NB	NB	NB
Directions Served	L	TR	T	T	T	T	L	T	T
Maximum Queue (ft)	70	593	162	199	158	93	174	270	276
Average Queue (ft)	14	496	78	80	46	21	16	244	244
95th Queue (ft)	48	688	193	222	158	85	86	289	296
Link Distance (ft)	328	499	90	109	104	86		246	246
Upstream Blk Time (%)		39	32	24	15	4		15	16
Queuing Penalty (veh)		167	136	103	62	19		111	121
Storage Bay Dist (ft)							150		
Storage Blk Time (%)							0	30	
Queuing Penalty (veh)							0	5	

Intersection: 15: Orange Ave & Fairlane Ave

Movement	EB	WB	SB	SB
Directions Served	TR	LT	LT	TR
Maximum Queue (ft)	155	188	5	12
Average Queue (ft)	72	115	0	0
95th Queue (ft)	136	212	5	6
Link Distance (ft)	595	328	382	382
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 19:

Movement	NB	SB
Directions Served	L	R
Maximum Queue (ft)	91	86
Average Queue (ft)	39	48
95th Queue (ft)	66	74
Link Distance (ft)	10	5
Upstream Blk Time (%)	37	10
Queuing Penalty (veh)	93	17
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 20:

Movement	EB	B21	B22
Directions Served	L	T	T
Maximum Queue (ft)	128	36	23
Average Queue (ft)	84	4	1
95th Queue (ft)	123	26	21
Link Distance (ft)		17	145
Upstream Blk Time (%)	15	1	0
Queuing Penalty (veh)	0	2	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 28: Wallace St

Movement	EB	WB
Directions Served	LT	TR
Maximum Queue (ft)	70	60
Average Queue (ft)	39	29
95th Queue (ft)	59	50
Link Distance (ft)	453	347
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 29: Waltham Ave

Movement	EB	WB
Directions Served	TR	LT
Maximum Queue (ft)	80	75
Average Queue (ft)	35	35
95th Queue (ft)	62	61
Link Distance (ft)	222	445
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 30: Hansel Ave & Hoffner Ave

Movement	EB	WB	WB	NB	NB	NB
Directions Served	LT	T	R	LT	T	R
Maximum Queue (ft)	456	508	250	679	679	345
Average Queue (ft)	231	331	171	499	516	307
95th Queue (ft)	422	605	322	781	812	436
Link Distance (ft)	637	494		659	659	
Upstream Blk Time (%)	1	11		3	3	
Queuing Penalty (veh)	2	66		25	31	
Storage Bay Dist (ft)			225			320
Storage Blk Time (%)		30	3		17	10
Queuing Penalty (veh)		72	8		127	70

Intersection: 31: Orange Ave & Hoffner Ave

Movement	WB	SB	SB	SB
Directions Served	L	L	T	T
Maximum Queue (ft)	650	322	483	467
Average Queue (ft)	540	106	266	250
95th Queue (ft)	759	223	414	405
Link Distance (ft)	637		558	558
Upstream Blk Time (%)	20		0	0
Queuing Penalty (veh)	99		0	0
Storage Bay Dist (ft)		460		
Storage Blk Time (%)			0	
Queuing Penalty (veh)			1	

Intersection: 37: Orange Ave & Hansel Ave

Movement									
Directions Served									
Maximum Queue (ft)									
Average Queue (ft)									
95th Queue (ft)									
Link Distance (ft)									
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 38: Orange Ave & Lancaster Rd

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	196	213	158	324	448	430	410	404	373
Average Queue (ft)	100	137	74	223	226	228	365	340	187
95th Queue (ft)	187	202	149	344	391	381	434	455	443
Link Distance (ft)			1223		1281	1281			
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	225	225		300					350
Storage Blk Time (%)	0	0	0	5	1			15	0
Queuing Penalty (veh)	0	0	0	31	4			41	3

Intersection: 39: Orange Ave & Nela Ave

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	11	97	128	24	373	333	195	212	190
Average Queue (ft)	1	30	41	2	135	99	87	25	34
95th Queue (ft)	7	72	93	12	294	238	165	117	116
Link Distance (ft)	477		1265		937	937		1281	1281
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		145		200			185		
Storage Blk Time (%)			0		3		2	0	
Queuing Penalty (veh)			0		0		13	0	

Intersection: 44: Randolph Ave & Wilks Ave

Movement	WB	NB
Directions Served	LR	TR
Maximum Queue (ft)	38	130
Average Queue (ft)	6	24
95th Queue (ft)	28	137
Link Distance (ft)	544	257
Upstream Blk Time (%)		5
Queuing Penalty (veh)		6
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 48: Orange Ave

Movement	SB	SB
Directions Served	L	T
Maximum Queue (ft)	56	20
Average Queue (ft)	4	1
95th Queue (ft)	38	27
Link Distance (ft)		248
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	220	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1531