EXHIBIT C

TRAFFIC IMPACT STUDY

VALENCIA RIDGE
DUNDEE, POLK COUNTY

Prepared for:

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April 2024
August 2024
November 2024
Revised
February 2025

TPD № 5611.1

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: Valencia Ridge

LOCATION: Dundee, Polk County

CLIENT: Cornerstone Land Company

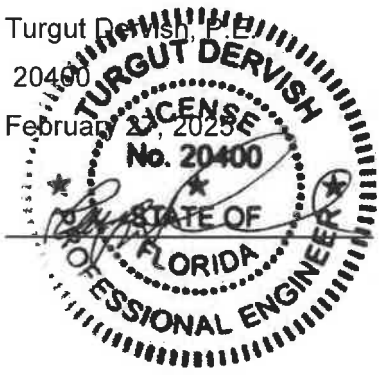
I hereby acknowledge that the procedures and references used to develop the results contained in these computations are standard to the professional practice of Transportation Engineering as applied through professional judgment and experience.

NAME: Turgut Dervish, P.E.

P.E. No.: 20400

DATE: February 27, 2025

SIGNATURE:



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INTRODUCTION

This analysis was undertaken in order to assess the traffic impact of a proposed residential development in Dundee, Polk County. Located on the south side of Lake Mabel Loop Road, to the east of SR 17, the development will consist of 576 single-family dwelling units. Access to the site will be provided via full access driveways on Lake Mabel Loop Road and SR 17. **Figure 1** depicts the site location and **Figure 2** depicts the site plan and its access configuration. The development is expected to be completed by the end of 2028.

The analysis was conducted in accordance with comments provided by the Town of Dundee and FDOT. The related correspondence is included in **Appendix A**. Data used in the analysis consists of site plan/development information provided by the Project Engineers, roadway link information obtained from the Polk County Roadway Network Database, and A.M./P.M. peak hour traffic counts obtained by Traffic Planning and Design, Inc.

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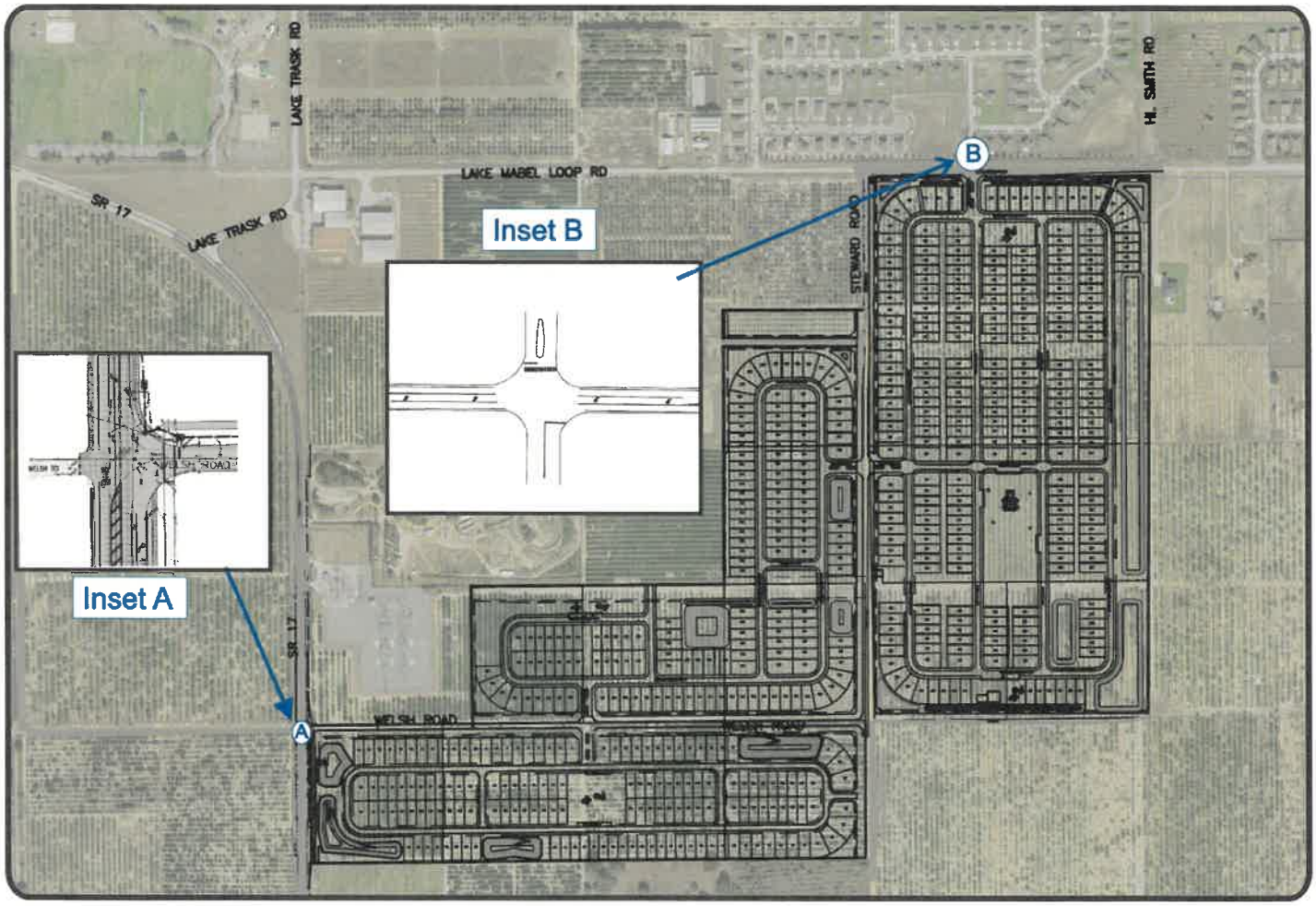
Site Location



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Site Plan

EXISTING CONDITIONS ANALYSIS

Capacity analyses were performed for the impacted roadway segments and intersections for existing traffic in order to determine their current operating conditions. To determine the impacted roadway segment and intersections, a significance test was conducted as described subsequently. The roadway segments on which the project consumes 5% or more of the adopted peak hour capacity are assumed to be significantly impacted and included in the analysis.

Roadway Segment Analysis

The significantly impacted segments were analyzed by comparing the existing P.M. peak hour directional traffic volumes of each segment with the corresponding capacity at the adopted LOS capacity, as shown in **Table 1**. This shows that the study roadway segments currently operate satisfactorily within their adopted LOS standards. The existing peak hour traffic volumes, the LOS standards, and corresponding capacities were obtained from the County's 2022 Roadway Network Database (RND). Pertinent Network Database sheets are included in **Appendix B**.

Intersection Analysis

A capacity analysis was conducted for the study intersections using *Highway Capacity Software (HCS)* in accordance with the procedures of the *Highway Capacity Manual (HCM)*. The capacity analysis was performed using the existing A.M. and P.M. peak hour traffic volumes, intersection geometry and traffic controls. The intersection counts were made on March 17th, 2022, when the peak season conversion factor for Polk County was 1.05 and were therefore adjusted with this conversion factor. The adjusted intersection counts are depicted in **Figures 3a** and **3b**. The unadjusted turning movement counts, intersection geometry and traffic controls, and peak season factors and signal timings can be found in **Appendix C**. The intersection capacity analysis results are summarized in **Table 2,** which reveals that the study intersections currently operate at overall satisfactory Levels of Service except for the intersection of US 27 with Dundee Road and US 27 with Waverly Road. The minor approaches at these intersections are operating at failing Levels of Service. Detailed printouts of the intersection capacity analysis are included in **Appendix D**.

Table 1
Existing Roadway Capacity Analysis

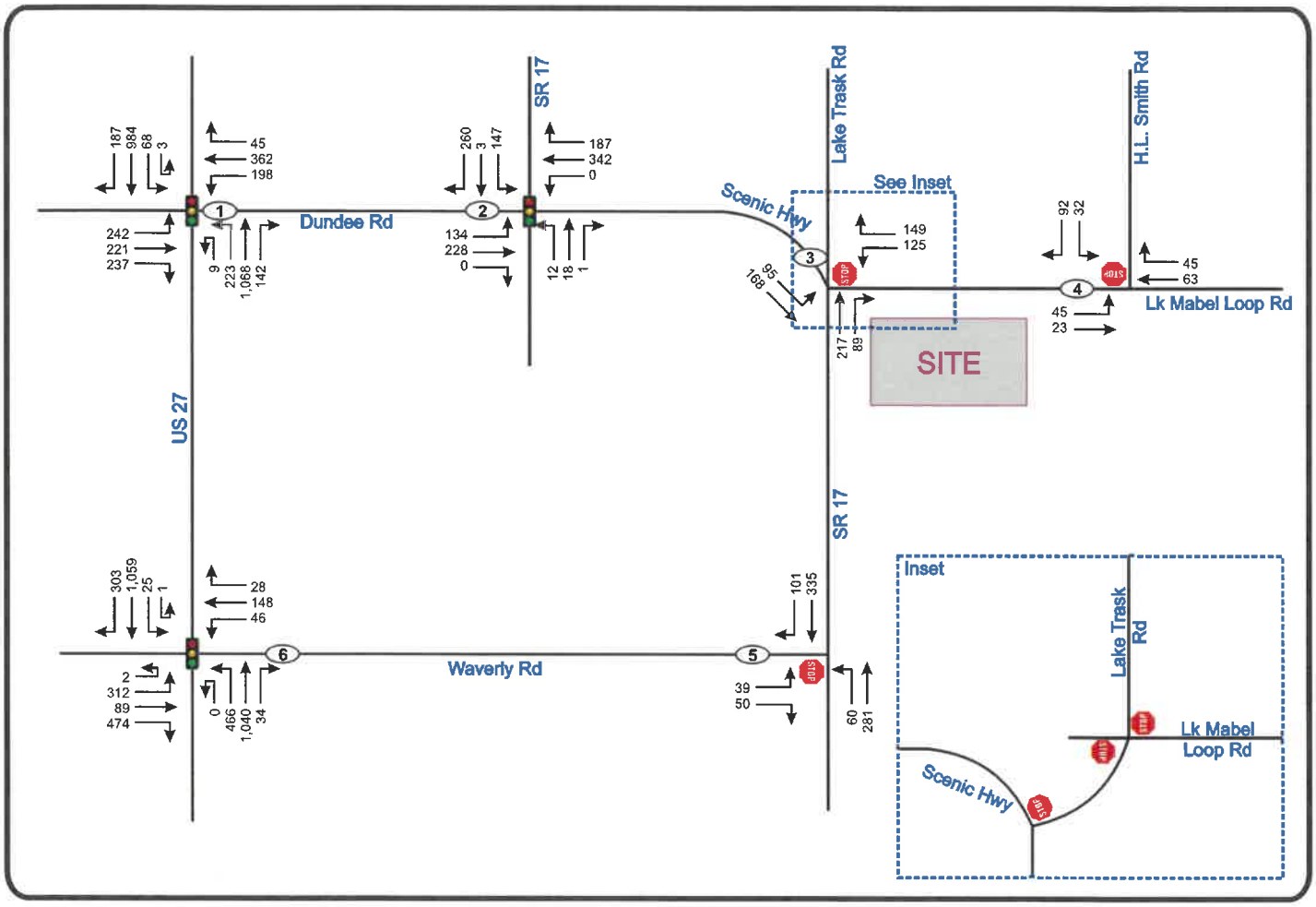
Link ID	Segment	Speed Limit	Access Class	Context Classification	Access Spacing Requirements	Adopted*			Dir	Existing*	LOS
						Lanes	LOS Std	Capacity			
SR 17 (Scenic Highway)											
5205N	Mountain Lake Cutoff Rd to Waverly Rd	55 mph	4	C2	660 feet	2B	D	1,220	NB	274	B
5205S								1,220	SB	286	B
5206N	Waverly Rd to Main St @ Center St	55 mph	4	C2	660 feet	2B	D	640	NB	253	C
5206S								640	SB	263	C
Dundee Road (Ridge Scenic Highway)											
8103E	US 27 to SR 17 (Ridge Scenic Hwy)	45 mph	5	C3C	245 feet	2U	E	800	EB	449	D
8103W								800	WB	467	D
H.L. Smith Road											
8212N	Lake Mabel Loop Rd to CR 542	35 mph	N/A**	N/A**	N/A**	2U	D	790	NB	99	C
8212S								790	SB	103	C
Lake Mabel Loop Road											
8204N	Canal Ave to SR 17 (Ridge Scenic Hwy)	45 mph	N/A**	N/A**	N/A**	2U	E	790	NB	146	C
8204S								790	SB	152	C
Waverly Road											
4174E	US 27 to SR 17 (Ridge Scenic Hwy)	45 mph	N/A**	N/A**	N/A**	2U	D	730	EB	189	B
4174W								730	WB	182	B

* Obtained from the 2022 Polk County RND, factored to 2022 by a factor of 1.02

** Non-State Road

Table 2
Existing Intersection Capacity Analysis

Intersection	Control	Time Period	EB				WB				NB				SB				Overall	
			Delay	LOS	Critical Mvmt	Highest v/c Ratio	Delay	LOS	Critical Mvmt	Highest v/c Ratio	Delay	LOS	Critical Mvmt	Highest v/c Ratio	Delay	LOS	Critical Mvmt	Highest v/c Ratio	Delay	LOS
US 27 & Dundee Rd	Signal	A.M.	74.8	E	EBR	0.842	69.0	E	WBR	0.796	33.8	C	NBL	0.909	38.8	D	SBL	0.807	47.7	D
		P.M.	88.4	F	EBL	0.874	78.3	E	WBR	0.725	40.5	D	NBL	0.929	48.1	D	SBL	0.857	55.9	E
SR 17 & Dundee Rd (Main St)	Signal	A.M.	16.3	B	EBL	0.471	15.0	B	WBT	0.000	34.3	C	NBT	0.369	27.3	C	SBR	0.791	19.6	B
		P.M.	20.0	C	EBL	0.646	14.1	B	WBT	0.548	39.3	D	NBT	0.401	31.6	C	SBR	0.804	22.4	C
SR 17 & Lake Trask Rd	Stop	A.M.	3.0	A	EBL	0.080	--	--	--	--	--	--	--	--	13.7	B	SBL	0.310	--	--
		P.M.	2.3	A	EBL	0.100	--	--	--	--	--	--	--	--	17.1	C	SBL	0.420	--	--
Lake Mabel Loop Rd & H.L. Smith Rd	Stop	A.M.	5.1	A	EBL	0.030	--	--	--	--	--	--	--	--	9.7	A	SBT	0.150	--	--
		P.M.	4.6	A	EBL	0.060	--	--	--	--	--	--	--	--	10.2	B	SBT	0.140	--	--
SR 17 & Waverly Rd	Stop	A.M.	14.4	B	EBL	0.130	--	--	--	--	1.5	A	NBL	0.060	--	--	--	--	--	--
		P.M.	24.9	C	EBL	0.540	--	--	--	--	1.6	A	NBL	0.080	--	--	--	--	--	--
US 27 & Waverly Rd	Signal	A.M.	70.4	F	EBR	0.968	73.8	F	WBT	0.857	30.9	C	NBL	0.846	36.4	D	SBL	0.731	42.5	D
		P.M.	97.3	F	EBR	1.130	99.1	F	WBT	0.897	40.7	D	NBL	0.906	50.6	D	SBR	0.870	58.7	E



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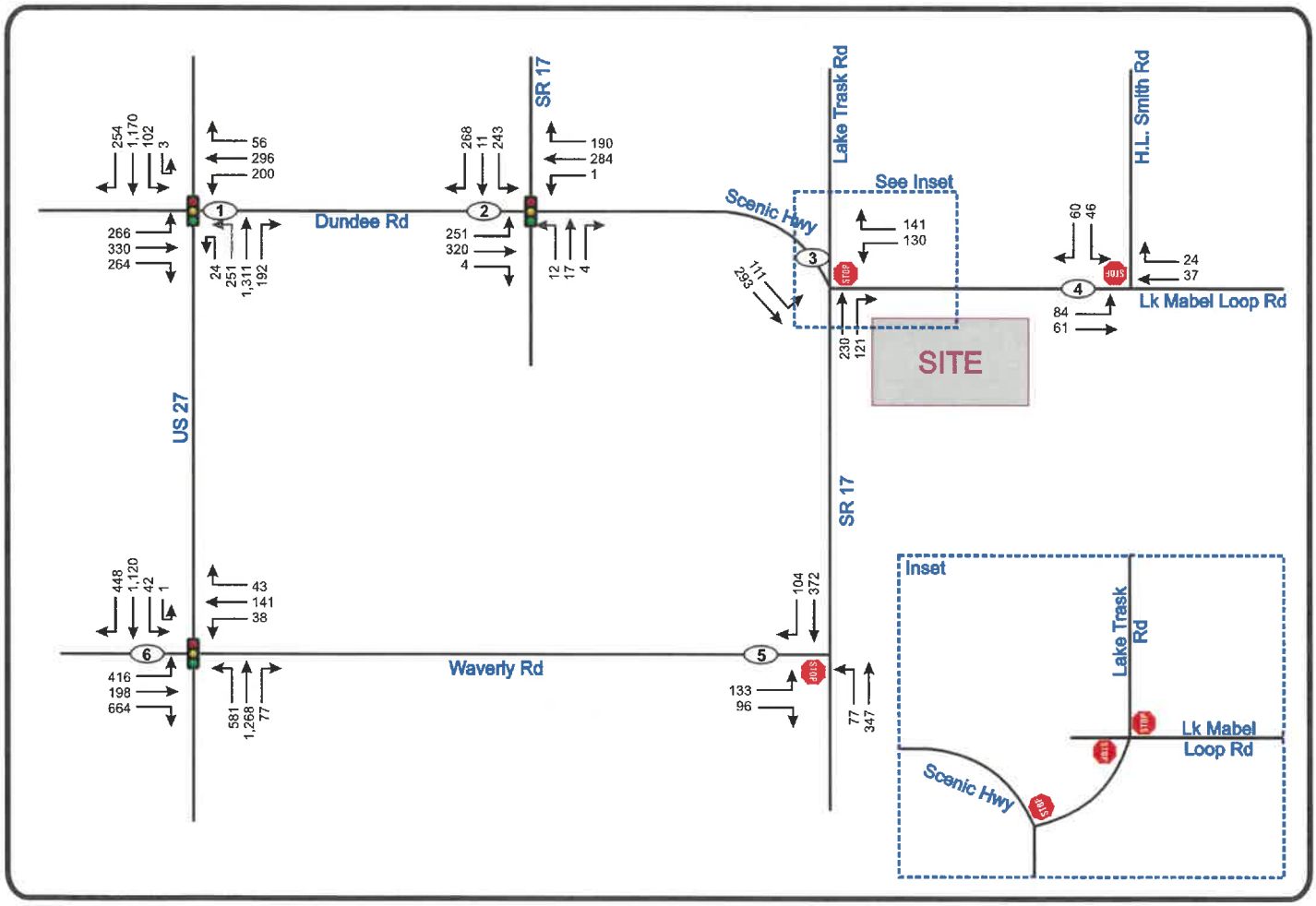
Existing 2022 A.M. Peak Hour Volumes



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Existing 2022 P.M. Peak Hour Volumes

PROPOSED DEVELOPMENT AND TRIP GENERATION

The proposed development will consist of 576 single family dwelling units to be completed by 2028. To determine the impact of this development in the area, an analysis of its traffic characteristics was made. This included the determination of the trips generated and the distribution/assignment of these trips to the surrounding roadways.

Trip Generation

The trip generation of the proposed development was calculated with the use of equations obtained from the 11th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual.* **Table 3** provides a summary of the trip generation calculation, and the ITE trip generation sheets are included in **Appendix E**. As can be seen from the table, the development is expected to generate 5,052 daily trips, of which 367 will occur in the A.M. peak hour and 515 in the P.M. peak hour.

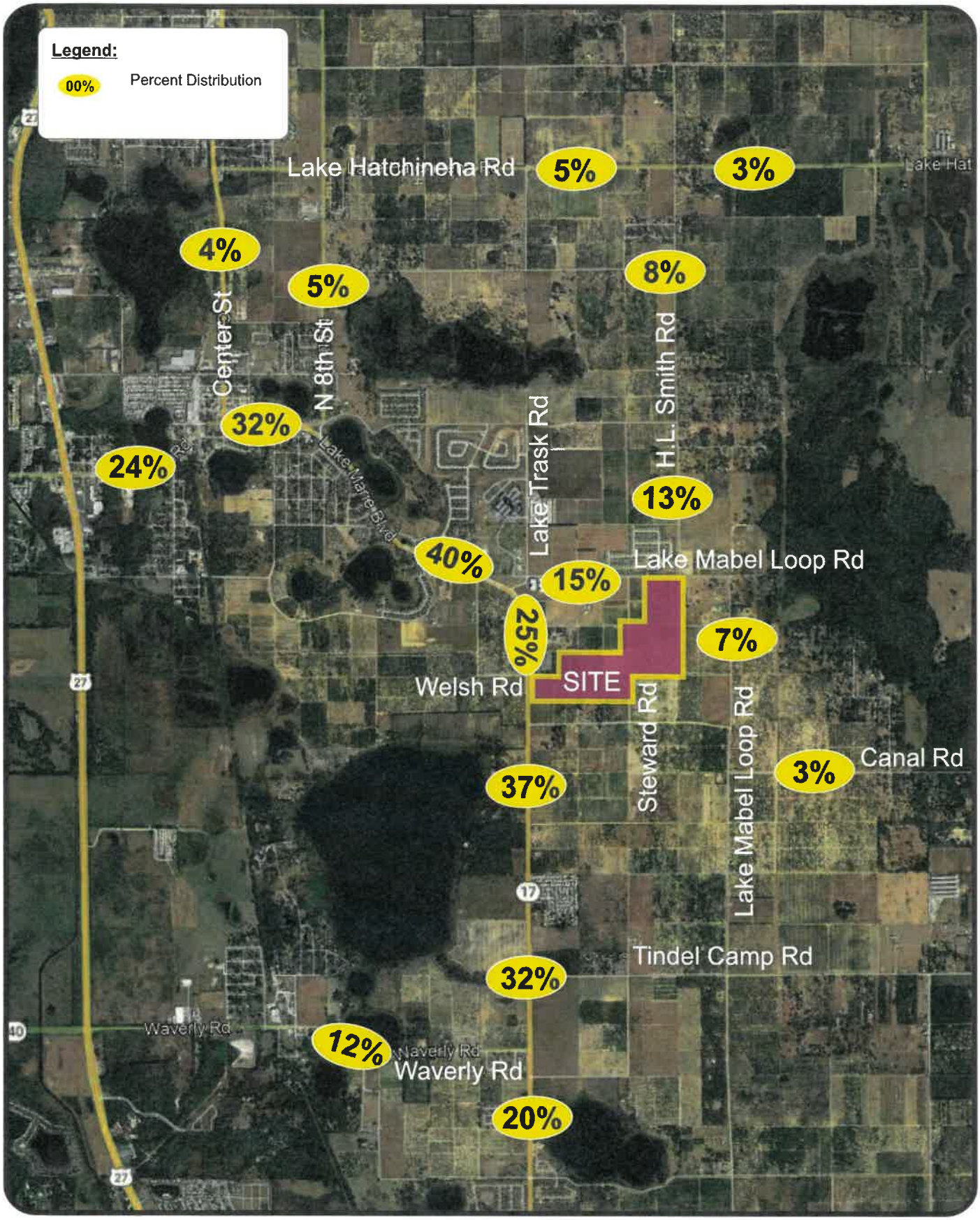
Table 3
Trip Generation Summary

ITE Code	Land Use	Size	Daily		A.M. Peak Hour				P.M. Peak Hour			
			Rate*	Trips	Rate*	Enter	Exit	Total	Rate*	Enter	Exit	Total
210	Single-Family Detached Housing	576 DU**	8.77	5,052	0.64	92	275	367	0.89	325	190	515

* $R^2 > 0.75$, therefore Equations used
** DU = Dwelling Unit

Trip Distribution/Trip Assignment

The project's trip distribution was determined with the use of the FDOT Model (D1RMP V.2) which was slightly modified to add a traffic zone representing the project. Subsequently, the model was run with a Select Zone Analysis which produced a distribution pattern for the project trips as shown in **Figure 4.** Utilizing this distribution pattern, the project's trips were assigned to the study roadway segments. The model distribution plots are included in **Appendix F**.



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Trip Distribution

Project Significance

The roadway segments on which the project traffic consumes 5% or more of the adopted peak hour Level of Service Generalized Planning capacity are considered significantly impacted by the proposed development. To determine the impacted roadway segments to be included in the study, the roadways in the general area of the project were subjected to a significance analysis as shown in **Table 4**.

As can be seen from the table, the project will significantly impact segments of Scenic Highway (SR 17), Dundee Road, H.L. Smith Road, Lake Mabel Loop Road, and Waverly Road. These significantly impacted roadway segments were included in the traffic analysis along with the following intersections:

- Dundee Road and US 27
- Dundee Road and SR 17
- SR 17 and Lake Trask/Lake Mabel Loop Road
- Lake Mabel Loop Road and H.L. Smith Road
- SR 17 and Waverly Road
- Waverly Road and US 27

Table 4
Significance Determination

Link ID	Segment	Lanes	LOS Std	Capacity	Project Trips*		Significance	Include?
					%	Volume		
SR 17 (Scenic Highway)								
5205N	Mountain Lake Cutoff Rd to Waverly Rd	2B	D	1,220	20%	65	5.33%	Yes
5205S				1,220	20%	38	3.11%	
5206N	Waverly Rd to Main St @ Center St	2B	D	640	40%	130	20.31%	Yes
5206S				640	40%	76	11.88%	
5207N	Main St @ Center St to SR 544	2B	D	640	4%	8	1.25%	No
5207S				640	4%	13	2.03%	
Dundee Road (Ridge Scenic Highway)								
6402E	Carl Floyd Rd to US 27	4D	D	2,000	2%	7	0.35%	No
6402W				2,000	2%	4	0.20%	
8103E	US 27 to SR 17 (Ridge Scenic Hwy)	2U	E	800	24%	78	9.75%	Yes
8103W				800	24%	46	5.75%	
Eighth Street/Detour Road								
8217N	Lake Marie Blvd to CR 542	2U	E	790	5%	10	1.27%	No
8217S				790	5%	16	2.03%	
CR 542 (Lake Hatchineha Road)								
4042E	SR 17 (Ridge Scenic Hwy) to Lake Hatchineha	2U	D	790	3%	6	0.76%	No
4042W				790	3%	10	1.27%	
H.L. Smith Road								
8212N	Lake Mabel Loop Rd to CR 542	2U	D	790	13%	25	3.16%	Yes
8212S				790	13%	42	5.32%	
Lake Mabel Loop Road								
8203N	CR 17A to Canal Ave	2U	D	790	4%	13	1.65%	No
8203S				790	4%	8	1.01%	
8204N	Canal Ave to SR 17 (Ridge Scenic Hwy)	2U	E	790	23%	75	9.49%	Yes
8204S				790	23%	44	5.57%	
Canal Avenue/Watkins Road								
8210E	Lake Mabel Loop Rd to CR 542	2U	C	640	3%	6	0.94%	No
8210W				640	3%	10	1.56%	
Waverly Road								
4174E	US 27 to SR 17 (Ridge Scenic Hwy)	2U	D	730	12%	39	5.34%	Yes
4174W				730	12%	23	3.15%	
US 27								
5105N	SR 540 to SR 542	6D	D	3,020	1%	3	0.10%	No
5105S				3,020	1%	2	0.07%	
5106N	SR 542 to SR 544	6D	D	3,020	11%	21	0.70%	No
5106S				3,020	11%	36	1.19%	

* Highest on Segment

PROJECTED TRAFFIC CONDITIONS

To assess the projected operational conditions at the study roadway segments and intersections, capacity analyses were conducted using projected traffic volumes and existing roadway geometry. Projected traffic volumes were determined by combining background traffic with project trips. Background traffic volumes were determined by expanding existing peak hour traffic volumes to the buildout year with the use of an annual growth rate of 2% and adding trips provided by the City for the following approved developments:

- Scenic Terrace North
- Scenic Terrace South
- Dundee Group 3 Subdivision
- Dundee Group 4A Subdivision
- Olson Jordan Subdivision
- Reserve at Lake Trask
- Legacy Hill

The buildout year for these projects is 2026 except for the Reserve at Lake Trask whose buildout year is 2030. Two-thirds of the trips from the Reserve at Lake Trask were included in the background traffic estimation along with 100% of the trips from the other developments. The trip information provided by the City for the approved developments is included in **Appendix G.**

Roadway Segment Analysis

To assess the projected operational conditions of the study roadway segments, roadway capacity analysis was conducted using both the background traffic volumes and the total projected traffic including the project trips. The study roadway segments were analyzed similarly to the existing conditions analysis by comparing their directional traffic volumes with the adopted capacities. The analysis was first conducted for background traffic conditions, which include the background traffic growth and the committed trips provided by the City. The results of the analysis are summarized in **Table 5,** which shows the study roadway segments will operate

satisfactorily, except for the segment of Dundee Road from US 27 to SR 17, which will operate over-capacity and fail due to the background growth of the existing traffic and the addition of the committed trips.

Table 5
Background Roadway Capacity Analysis

Link ID	Segment	Adopted*			Dir	Bkgd*	Committed Trips	Total Volume	LOS
		Lanes	LOS Std	Capacity					
SR 17 (Scenic Highway)									
5205N	Mountain Lake Cutoff Rd to Waverly Rd	2B	D	1,220	NB	309	0	309	B
5205S				1,220	SB	321	0	321	B
5206N	Waverly Rd to Main St @ Center St	2B	D	640	NB	285	193	478	C
5206S				640	SB	296	221	517	C
Dundee Road (Ridge Scenic Highway)									
8103E	US 27 to SR 17 (Ridge Scenic Hwy)	2U	E	800	EB	506	393	899	F
8103W				800	WB	527	232	759	D
H.L. Smith Road									
8212N	Lake Mabel Loop Rd to CR 542	2U	D	790	NB	112	51	163	C
8212S				790	SB	116	29	145	C
Lake Mabel Loop Road									
8204N	Canal Ave to SR 17 (Ridge Scenic Hwy)	2U	E	790	NB	165	99	264	C
8204S				790	SB	171	58	229	C
Waverly Road									
4174E	US 27 to SR 17 (Ridge Scenic Hwy)	2U	D	730	EB	212	0	212	B
4174W				730	WB	204	0	204	B

* Existing X 1.02^5

The study roadway segments were reanalyzed using their total projected traffic volumes, including the project traffic. The results of the analysis are summarized below in **Table 6,** which shows the study roadway segments will operate satisfactorily upon the addition of the project trips except for the segment of Dundee Road from US 27 to SR 17 will continue to fail regardless of the addition of the project trips.

Table 6
Projected Roadway Capacity Analysis

Link ID	Segment	Adopted*			Dir	Bkgd	Committed Trips	Project Trips*		Total Volume	LOS
		Lanes	LOS Std	Capacity				%	Volume		
SR 17 (Scenic Highway)											
5205N	Mountain Lake Cutoff Rd to Waverly Rd	2B	D	1,220	NB	309	0	20%	65	374	B
5205S				1,220	SB	321	0	20%	38	359	B
5206N	Waverly Rd to Main St @ Center St	2B	D	640	NB	285	193	40%	130	608	C
5206S				640	SB	296	221	40%	76	593	C
Dundee Road (Ridge Scenic Highway)											
8103E	US 27 to SR 17 (Ridge Scenic Hwy)	2U	E	800	EB	506	393	24%	78	977	F
8103W				800	WB	527	232	24%	46	805	F
H.L. Smith Road											
8212N	Lake Mabel Loop Rd to CR 542	2U	D	790	NB	112	51	13%	25	188	C
8212S				790	SB	116	29	13%	42	187	C
Lake Mabel Loop Road											
8204N	Canal Ave to SR 17 (Ridge Scenic Hwy)	2U	E	790	NB	165	99	23%	75	339	C
8204S				790	SB	171	58	23%	44	273	C
Waverly Road											
4174E	US 27 to SR 17 (Ridge Scenic Hwy)	2U	D	730	EB	212	0	12%	39	251	C
4174W				730	WB	204	0	12%	23	227	B

* Highest on Segment

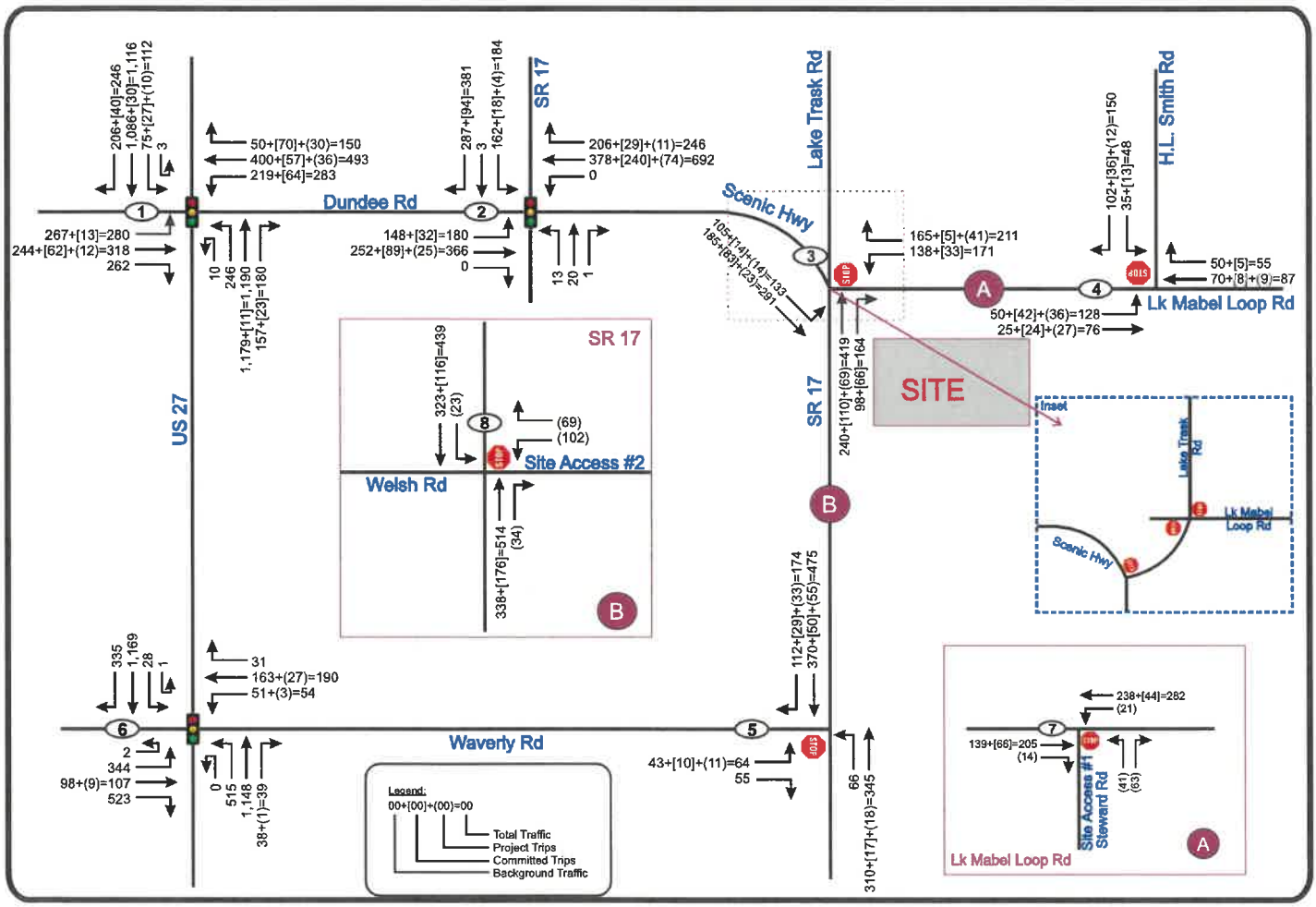
Intersection Analysis

To assess the projected operating conditions at the study intersections, intersection capacity analyses were conducted using background and projected traffic volumes. The intersections were analyzed using *Highway Capacity Software (HCS)* in accordance with the procedures of the *Highway Capacity Manual.* Projected traffic volumes were determined by combining background traffic with project trips. Projected intersection volumes are depicted in **Figures 5a** and **5b**.

The analysis was first conducted for background traffic conditions, which include the background traffic growth and the committed trips provided by the City. The results of the background intersection capacity analysis are summarized in **Table 7.** As can be seen from the table, there are multiple intersections which will operate with failing approaches due to the background traffic. The failing approaches are as follows:

- The intersection of US 27 & Dundee Road will operate with failing minor approaches. The v/c ratios for the failing approaches are less than 1.00, indicating the failing Levels of Service are caused by the long cycle length at the signal, not a capacity-deficiency
- The intersection of SR 17 & Dundee Road will fail overall and operate with an over-capacity eastbound approach
- The intersection of SR 17 & Lake Trask Road will operate with an over-capacity minor approach due to the existing stop-control at the intersection. This condition will prevail until a signal becomes warranted and installed
- The intersection of SR 17 & Waverly Road will operate with an over-capacity minor approach due to the existing stop-control at the intersection. This condition will prevail until a signal becomes warranted and installed.
- The intersection of US 27 & Waverly Road will operate with over-capacity minor approaches.

It should be noted that the intersection of US 27 & Dundee Road has been improved since the counts were collected, and was therefore analyzed using the new, existing geometry. The detailed background capacity analysis worksheets are included in **Appendix H**.



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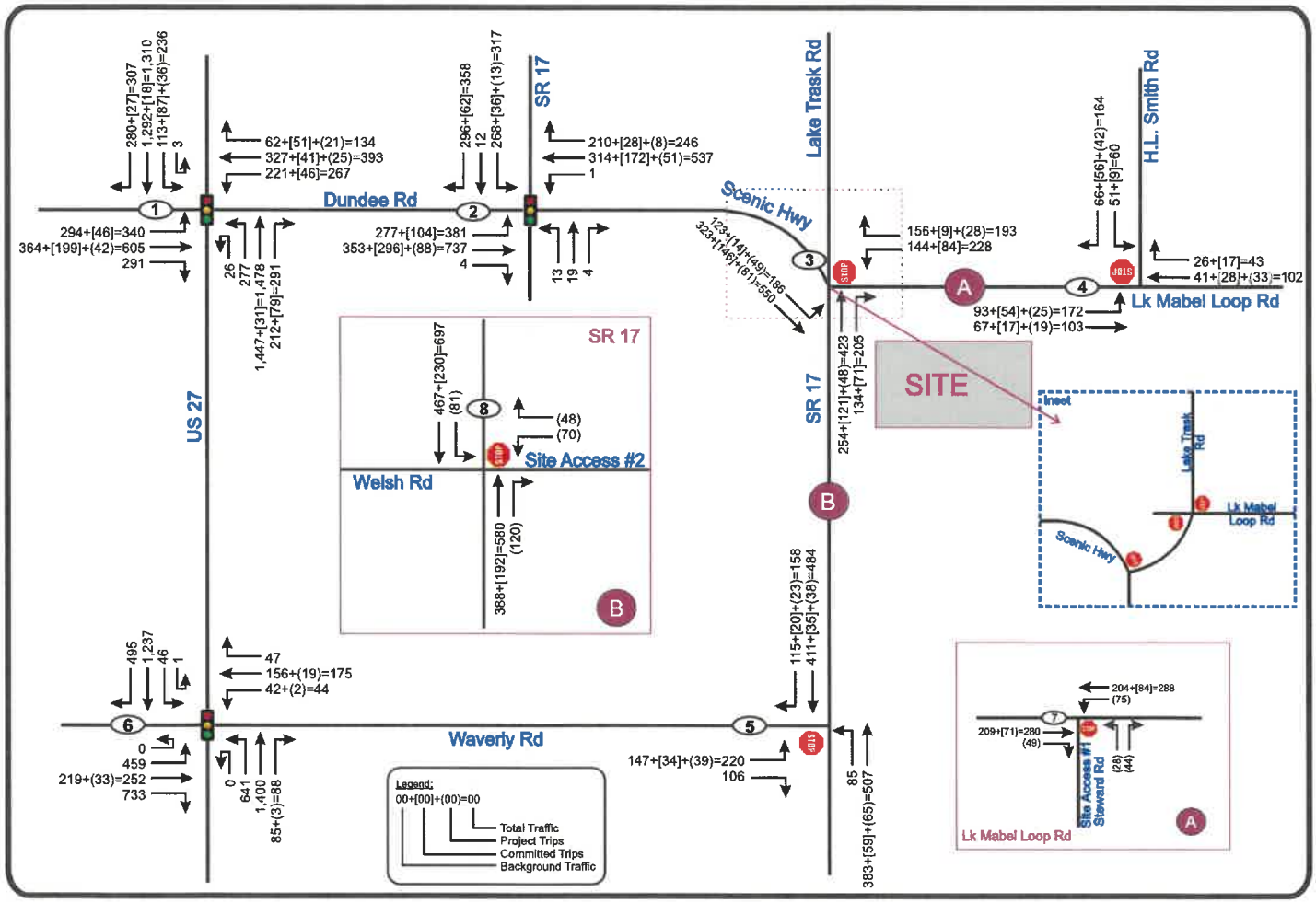
Projected 2028 A.M. Peak Hour Volumes



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Projected 2028 P.M. Peak Hour Volumes

Table 7
Background Intersection Capacity Analysis

Intersection	Control	Time Period	EB				WB				NB				SB				Overall	
			Delay	LOS	Critical Mvmt	Highest v/c Ratio	Delay	LOS	Critical Mvmt	Highest v/c Ratio	Delay	LOS	Critical Mvmt	Highest v/c Ratio	Delay	LOS	Critical Mvmt	Highest v/c Ratio	Delay	LOS
US 27 & Dundee Rd	Signal	A.M.	73.3	E	EBL	0.860	76.0	E	WBL	0.846	44.8	D	NBL	0.922	52.0	D	SBL	0.849	57.5	E
		P.M.	91.5	F	EBL	0.908	93.5	F	WBL	0.866	58.1	E	NBL	0.937	65.8	E	SBL	0.925	71.8	E
SR 17 & Dundee Rd (Main St)	Signal	A.M.	237.8	F	EBL	2.285	90.4	F	WBT	0.000	43.4	D	NBT	0.414	32.8	C	SBR	0.874	112.0	F
		P.M.	301.6	F	EBL	2.588	34.8	C	WBT	0.902	42.9	D	NBT	0.426	31.6	C	SBR	0.849	145.8	F
SR 17 & Lake Trask Rd	Stop	A.M.	2.8	A	EBL	0.120	--	--	--	--	--	--	--	--	27.4	D	SBL	0.670	--	--
		P.M.	2.2	A	EBL	0.150	--	--	--	--	--	--	--	--	145.9	F	SBL	1.360	--	--
Lake Mabel Loop Rd & H.L. Smith Rd	Stop	A.M.	5.2	A	EBL	0.070	--	--	--	--	--	--	--	--	10.9	B	SBT	0.240	--	--
		P.M.	5.3	A	EBL	0.110	--	--	--	--	--	--	--	--	12.0	B	SBT	0.270	--	--
SR 17 & Waverly Rd	Stop	A.M.	18.3	C	EBL	0.230	--	--	--	--	1.5	A	NBL	0.070	--	--	--	--	--	--
		P.M.	78.6	F	EBL	1.000	--	--	--	--	1.5	A	NBL	0.090	--	--	--	--	--	--
US 27 & Waverly Rd	Signal	A.M.	87.3	F	EBR	1.069	85.7	F	WBT	0.886	34.9	C	NBL	0.872	42.5	D	SBL	0.801	50.1	D
		P.M.	136.9	F	EBR	1.315	140.9	F	WBT	1.034	48.9	D	NBL	0.968	60.1	E	SBR	0.934	76.0	E

The study intersections were next analyzed using the total projected traffic, including the project trips. The results of the analysis are included in **Table 8,** which shows that the study intersections and site access driveways will operate similar to the background conditions upon the addition of the project trips. The addition of the project trips will not cause any additional intersection approaches to fail or to operate over-capacity. The failing westbound approach of the intersection of SR 17 and Site Access #2 is the only deficiency that is caused by the addition of the project trips and not by the background traffic. This condition will prevail until a signal becomes warranted and installed at this location. The detailed projected capacity analysis worksheets are included in **Appendix I.**

Project Impact Mitigation

The following mitigation measures have been identified in consultation with FDOT and the Town of Dundee to address the project impacts:

- SR 17 & Dundee Road (Main Street)

This intersection is failing due to the heavy eastbound left turns. The addition of an eastbound left turn phase is under consideration. Discussions with DOT are underway to determine a proportionate share of the cost of implementing this change in signal operations.

- SR 17 & Lake Trask Road

This intersection is failing due to the stop control of the minor street movements. Separate signal warrant and ICE analyses are underway to determine the preferred traffic control at the intersection. A preliminary proportionate share of the cost of implementing an approved traffic control at this location has been discussed with and submitted to the Town of Dundee.

- SR 17 & Waverly Road

A southbound right turn lane is warranted by the projected right turns (as well as the existing right turns) at this location. Due to right of way limitations, this improvement may not be feasible.

- SR 17 & Site Access/Welsh Road

A paved two-lane road (Welsh Road) is proposed to be constructed by the Developer. Signal warrant and ICE analyses are underway to determine the preferred traffic control at this location.

Coordination with Town of Dundee

An earlier version of this traffic study was submitted to the Town on Dundee. Upon review of the submitted TIA, comments were provided to the Developer. Four rounds of comments were made which are included **Appendix J** of this TIA along with responses. All of the comments were reviewed with the town staff and their traffic consultant. The technical aspects of the TIA including methodology, existing/projected Levels of service, improvement needs and mitigation measures were coordinated with the Town staff and their consultant. Further discussion and coordination are currently ongoing with the Town of Dundee.

Table 8
Projected Intersection Capacity Analysis

Intersection	Control	Time Period	EB				WB				NB				SB				Overall	
			Delay	LOS	Critical Mvmt	Highest v/c Ratio	Delay	LOS	Critical Mvmt	Highest v/c Ratio	Delay	LOS	Critical Mvmt	Highest v/c Ratio	Delay	LOS	Critical Mvmt	Highest v/c Ratio	Delay	LOS
US 27 & Dundee Rd	Signal	A.M.	70.3	E	EBL	0.860	76.5	E	WBR	0.860	48.4	D	NBL	0.925	55.7	E	SBL	0.861	59.7	E
		P.M.	89.5	F	EBL	0.908	94.8	F	WBL	0.866	62.0	E	NBL	0.938	73.1	E	SBL	1.022	75.5	E
SR 17 & Dundee Rd (Main St)	Signal	A.M.	228.0	F	EBL	2.285	133.5	F	WBT	0.000	43.4	D	NBT	0.414	32.7	C	SBR	0.874	129.3	F
		P.M.	378.8	F	EBL	3.188	48.0	D	WBT	0.974	42.9	D	NBT	0.426	31.7	C	SBR	0.847	184.9	F
SR 17 & Lake Trask Rd	Stop	A.M.	3.0	A	EBL	0.150	--	--	--	--	--	--	--	--	39.0	E	SBL	0.820	--	--
		P.M.	2.6	A	EBL	0.220	--	--	--	--	--	--	--	--	310.5	F	SBL	2.050	--	--
Lake Mabel Loop Rd & H.L. Smith Rd	Stop	A.M.	5.2	A	EBL	0.100	--	--	--	--	--	--	--	--	11.6	B	SBT	0.280	--	--
		P.M.	5.4	A	EBL	0.130	--	--	--	--	--	--	--	--	13.3	B	SBT	0.350	--	--
SR 17 & Waverly Rd	Stop	A.M.	22.2	C	EBL	0.320	--	--	--	--	1.5	A	NBL	0.080	--	--	--	--	--	--
		P.M.	197.7	F	EBL	1.450	--	--	--	--	1.4	A	NBL	0.100	--	--	--	--	--	--
US 27 & Waverly Rd	Signal	A.M.	81.1	F	EBR	1.019	92.2	F	WBT	0.911	36.4	D	NBL	0.877	44.5	D	SBL	0.811	51.0	D
		P.M.	136.9	F	EBR	1.324	165.3	F	WBT	1.127	48.8	D	NBL	0.968	60.1	E	SBR	0.934	77.8	E
Lake Mabel Loop Rd & Site Access #1	Stop	A.M.	--	--	--	--	0.5	A	WBL	0.020	12.3	B	NBT	0.180	--	--	--	--	--	--
		P.M.	--	--	--	--	1.7	A	WBL	0.070	14.4	B	NBT	0.170	--	--	--	--	--	--
SR 17 & Site Access #2	Stop	A.M.	--	--	--	--	31.0	D	WBL	0.580	--	--	--	--	0.4	A	SBL	0.020	--	--
		P.M.	--	--	--	--	67.9	F	WBL	0.730	--	--	--	--	1.0	A	SBL	0.100	--	--

Turn Lane Analysis

Access to the site is proposed via full access driveways on Lake Mabel Loop Road and SR 17. At the Lake Mabel Loop Road driveway (Site Access #1), there is an existing westbound left turn lane. At the SR 17 driveway (Site Access #2), the Developer is proposing to provide auxiliary left and right turn lanes to serve the project traffic. To determine the need for an additional eastbound right turn lane at the Lake Mabel Loop Road driveway, analysis was conducted using the NCHRP Report 457. The analysis determined that an additional eastbound right turn is not required. The NCHRP turn lane analysis sheets are included in **Appendix K.**

To determine if the existing/proposed turn lanes are sufficient to serve the project traffic, turn lane analysis was conducted. The results of the analysis are summarized in **Table 9,** which shows that the existing/proposed turn lanes are sufficient to serve the project traffic. Only the existing eastbound left turn lane at the intersection of SR 17 and Waverly Road is insufficient and should be extended. It should be noted, however, that the queue length in the background condition is 8.5 vehicles, therefore this lane will be deficient regardless of the addition of the project traffic.

Table 9
Turn Lane Analysis

Lane	Time Period	Deceleration Distance* (ft)	Queue Length**		Total Length (ft)	Existing/Proposed Length (ft)	Sufficient?
			veh	feet			
SR 17 & Waverly Road							
EBL	A.M.	290	1.3	32.5	322.5	420.0	No
	P.M.	290	14.8	370.0	660.0		
Lake Mabel Loop Road & Site Access #1							
WBL	A.M.	240	0.1	25.0	265.0	270.0	Yes
	P.M.	240	0.2	25.0	265.0		
SR 17 & Site Access #2 (Welsh Road)							
NBR	A.M.	405	0.0	0.0	405.0	400.0	Yes
	P.M.	405	0.0	0.0	405.0		
SBL	A.M.	405	0.1	25.0	430.0	455.0	Yes
	P.M.	405	0.3	25.0	430.0		

* As per FDM 212

** As per the Projected HCS analysis, use min 1 veh = 25 ft

STUDY CONCLUSIONS

This analysis was undertaken in order to assess the traffic impact of the proposed Valencia Ridge development in Dundee, Polk County. Located on the south side of Lake Mabel Loop Road and to the east of SR 17, the development will consist of 576 single-family dwelling units to be completed by 2028. The results of the study as documented herein are summarized below:

- The proposed development will generate 5,052 new daily trips, of which 367 will occur in the A.M. peak hour and 515 in the P.M. peak hour.

- The development's trips will significantly impact segments of H.L. Smith Road, Lake Mabel Loop Road, SR 17 (Ridge Scenic Highway), Dundee Road, and Waverly Road. These segments currently operate satisfactorily and will continue to do so with project trips added in 2028, except for the segment of Dundee Road from US 27 to SR 17. This segment will operate over-capacity due to the background growth of the existing traffic and the addition of the committed trips. This segment will fail regardless of the addition of the project traffic.

- The study intersections currently operate at overall satisfactory Levels of Service but there are failing intersection approaches primarily due to background growth of existing traffic plus committed trips. The project is adding trips to these failing approaches which will require mitigation as follows:

  - At SR 17 and Dundee Road (Main Street)
    The addition of Eastbound Left turns phase to the signal operations.

  - At SR 17 & Waverly Road
    The addition of a southbound right turn lane on a proportionate share basis (if right of way is available)

  - At SR 17 and Welsh Road
    A paved two-lane roadway to serve the development along with the approved traffic control based upon ICE.

    These mitigations measured are being communicated with FDOT and the Town of Dundee along with proportionate share calculation for the Developer.

APPENDICES

APPENDIX A

Related Correspondence

Appendix A - Table of Contents

DEAKIN
PROPERTY SERVICES

2905 Bayshore Boulevard
Suite 200
Tampa, FL 33629
(O) 813-839-2811
(F) 813-839-1481

August 21, 2023

Ms. Brenda Carter (via email: bcarter@Townofdundee.com)
Development Services Clerk
Town of Dundee
124 Dundee Road
Dundee, FL 33838

RE: Traffic Review Comments, 08/17/23 DRC Meeting, Velencia Ridge Major Traffic Study

COMMENTS:

As a consultant to the Town of Dundee via a subconsultant contract with Rayl Engineering and Surveying, LLC, below is a summary of traffic review comments from the Valencia Ridge DRC meeting 08/17/23.

TRAFFIC REVIEW COMMENTS FROM THE VALENCIA RIDGE DRC MEETING 08/17/23 INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING

1. **Send Valencia Ridge Information to Brenda Carter and Lorraine Peterson, Town Of Dundee, So That They Have a File of All Correspondence and Information Submitted By, and Submitted to the Valencia Ridge Applicant**

   Please send comments, responses to traffic review comments, traffic analyses, summaries of telephone conversation, and any other Valencia Ridge related information that is requesting Town of Dundee approval, or be reviewed by the Town of Dundee, to Brenda Carter and Lorraine Peterson, Town of Dundee; so that they have a file of all correspondence and information submitted by, and submitted to the Valencia Ridge Applicant.

   Send me a cc of the traffic information, analyses, etc., that you sent to Brenda Carter and Lorraine Patterson.

2. **Use Existing Traffic Counts and a Compound Growth Rate**

   The existing traffic counts previously used in the May 23, 2023, Revised April 2022 Velencia Ridge Major Traffic Study may be used, and need to be factored up to the new build-out year of 2028. Use a compound growth rate of 2 percent per year.

3. **Use the Valencia Ridge Trip Distribution Pattern from the Previous Velencia Ridge Major Traffic Study**

   Use the Valencia Ridge trip distribution pattern from the previous Valencia Ridge Major Traffic Study.

4. **Committed Trips from other Projects**

   Use the same committed trips from other projects as were noted in the previous May 23, 2023, Revised April 2022 Velencia Ridge Major Traffic Study

5. **Acceptable Level of Service Standard for an Intersection Lane Group Movements**

   In a change from what was discussed at the DRC meeting, after researching the Highway Capacity Manual, 2020, TRB, Volume 3, Interrupted Flow, an intersection lane group level of service F is acceptable for an intersection lane group movement if the level of service F is based solely on control delay. However, if the intersection lane group movement level of service F is based on a v/c ratio over 1.0, then the level of service is not acceptable.

6. **Transportation Review Participants and Coordination of Information**

   Because of the transportation impacts on FDOT roadways, County roadways and Town of Dundee roadways, the FDOT, Polk County, Central Florida Regional Planning Council, and the Town of Dundee will review the transportation impacts of the referenced project.

   Please provide to the Town of Dundee a copy of any reports, analysis, correspondence, or any other information the Applicant has had with the FDOT, Polk County, or the Central Florida Regional Planning Council.

7. **Add Specific Date to Report**

   Please add a specific date to future Major Traffic Study reports. For example, rather than dating a report "January, 2023" date the report "January, xx, 2023."

8. **Add Intersection Numbers to the Intersections Shown in Figures Shown in Appendices**

   Please add the Applicant's intersection number to each intersection shown in figures, and as shown in appendices.

9. **Add Page Numbering and Table of Contents for Each Appendix.**

   In any material submitted in the future to the Town of Dundee, for this project, or any other project, please consecutively number every page, hand numbering is acceptable.

   If there is an Appendix in a report, e.g., Appendix A, number the pages A-1, A-2, etc. Also, do not combine existing and background intersection analyses, and total buildout intersection analyses into the same appendix.

   Additionally, if any appendix is more than 5 pages, please provide a table of contents at the beginning of the appendix. In non-Synchro appendices, in the appendix table of contents note the item, scenario, and page number of the item on each page in the appendix.

   In appendices that contain Synchro analysis printout, please provide a table of contents at the beginning of each Synchro appendix that notes, at a minimum; the intersection name, intersection number (intersections are numbered by the Applicant), analysis scenario (existing, future background, future background with improvements, total traffic at buildout, total traffic at buildout with improvements), AM or PM analysis, intersection overall level of service, intersection level of service for each approach, are improvements required (yes, no), if improvements were required, note what the improvement entails.

10. Synchro Analyses, Capacity and other Warnings, and V/C over 1.0

For each intersection Synchro analysis, check the bottom of each printout page for each intersection for notes. For example, if at the bottom of a printout page is a "~ " symbol, the note for this symbol is: "Volume exceeds capacity, queue is theoretically infinite." Another example is a "#" symbol. The note for this symbol is: "95th percentile volume exceeds capacity, queue may be longer."

Please make sure that for each intersection, that all of the final, projected intersection analysis does not have any of these warnings, or other warnings at the bottom of the Synchro printout, or a v/c ratio over 1.0.

If there is a warning, or if the approach movement has a v/c ratio over 1.0, please add an improvement that eliminates the warnings and or v/c ratio over 1.0, and rerun the analysis to document that the improvement eliminates the warning and or v/c ratio over 1.0.

11. Use Pedestrian Calls from Count Field Data Sheets in Synchro Analysis

The intersection count field data sheets note that during the AM or PM peak period, some of intersections had pedestrian calls. But the pedestrian calls were not incorporated into the Synchro analyses. Please incorporate the pedestrian calls from the field data sheets into the Synchro analyses.

12. Intersection Approaches, Level of Service Standard

As noted in the Polk County Land Development Code, Appendix C, Polk County Traffic Impact Study, Methodology and Procedures, Section I, paragraph 3: "When an intersection analysis is required, the performance standard for the roadway segment shall govern the intersection approaches."

In some of the Applicant's Synchro analysis, a roadway segment intersection approach has a worse level of service than the performance standard for the roadway segment, and no improvements are proposed that would raise the approach level of service to be equal to, or better than the segment roadway level of service standard. Please revise the analyses to be consistent with Polk County methodology and procedures.

13. Intersection Signal Phasing and Red Times

In the May 2023 revised April 22 Major Traffic Study, TIS, the US 27 & Waverly Road intersection, improved condition (pages F-39, F-40), and the US 27 & SR 542 intersection, improved condition (pages F-31, F-32); dual lane permissive left turns against opposing through movements, are assumed. FDOT does not accept this traffic signal phasing. Please revise the analyses to eliminate dual lane permissive left turns against opposing through movements,

In the May 2023 revised April 22 Major Traffic Study, SR 17 & Lake Trask intersection projected analysis, page F-35 and F-36, and the SR 17 &Waverly Road intersection (pages 37, F-38) the projected red time is 0.0 seconds. This is not acceptable. Please assume a red time for any signalized intersection.

14. Mitigation/Proportionate Share Analyses

Please conduct a mitigation/proportionate share analysis (see Florida Statute 163.1380, (5)(h)), and provide intersection results printouts, intersection analyses software, and written summaries that documents the analyses, mitigation, and conclusions.

One of the concepts of proportionate share is that the Applicant's proposed project only has a proportionate share obligation for needed improvements that are a result of the Applicant's proposed project. The Applicant is not responsible for needed improvements that are a result of background and other vested project traffic.

Determining what improvements are subject to a proportionate share responsibility of the Applicant are briefly, outlined below:

(a). Conduct an Applicant's project build out year capacity analyses on the existing network with only background and vested traffic from other projects (do not include the Applicant's proposed project traffic).

(b). If improvements are needed because of (a) above, add those needed improvements to the roadway network and rerun the build out year capacity analyses with only background and vested traffic from other projects to ensure that there are no deficiencies with the improvements.

(c). Next, run a capacity analysis for the project buildout year with total traffic (the Applicant's proposed project traffic, plus the background and vested traffic from other projects) using the improved roadway network (if improvements were necessary as the result of (b) above). If there are no roadway network deficiencies, then a proportionate share analysis is not required.

(d). If roadway network improvements are needed in (c) above, add those needed improvements to the roadway network and rerun the project buildout year capacity analyses with total traffic to ensure that there are no deficiencies.

(e). If roadway network improvements are needed in (d) above, then conduct a proportionate share analysis of the needed improvements that are noted in (d) above.

(f). The proportionate-share contribution is calculated based on the number of project trips expected to reach roadways during the peak hour from the stage or phase being approved, divided by the change in the peak hour maximum service volume of roadways resulting from construction of an improvement necessary to maintain or achieve the adopted level of service multiplied by the construction cost necessary to maintain or achieve the adopted level of service.

15. Provide a Software Copy of the Synchro Files

Please provide an electronic software copy of the Synchro files so that the reviewer can review the files for input data, output data, and error messages.

16. **Provide a Complete, Revised Major Traffic Study**

Please provide a complete, revised Major Traffic Study that is a standalone document that includes the responses to the comments/questions and request for additional information. A standalone document is requested so that the responses are not spread out among several different documents.

Sincerely,

Deakin Property Services, Inc.

George Deakin, P.E.
Vice President
Cc: Brenda Carter <bcarter@Townofdundee.com>; Lorraine Peterson <lpeterson@Townofdundee.com>

C:\Users\George\OneDrive\Documents\GEORGE'S FILES\Dundee, Town, Traffic Consultant\Valencia Ridge\082123 Traffic Review Comments, Valencia Ridge Major Traffic Study, DRC Meeting, 081723.docx

Sean Smith

From: Turgut Dervish
Sent: Friday, August 25, 2023 3:06 PM
To: Sean Smith
Subject: FW: Valencia Ridge Reserve

FYI

Turgut Dervish, P.E., President
TRAFFIC PLANNING AND DESIGN, INC.
535 Versailles Drive
Maitland, Florida 32751
407-628-9955
turgut@tpdtraffic.com

From: Elaina Hilyard <EHilyard@QuiggEngineering.com>
Sent: Friday, August 25, 2023 2:31 PM
To: Turgut Dervish <turgut@tpdtraffic.com>
Cc: Rita Merhi <rita@tpdtraffic.com>; Tom Chapman <tom@CornerstoneLandCompany.com>; Susan Collins <susan@CornerstoneLandCompany.com>; Joe Esposito (progresshomes@gmail.com) <progresshomes@gmail.com>; David Holden <DHolden@QuiggEngineering.com>
Subject: Valencia Ridge Reserve

Turgut,
I received the following comments from FDOT regarding the traffic study:

1. Nearly 600 homes by the proposed buildout year of 2025 seems aggressive. Please confirm this information is accurate or if a different buildout year should be provided.
2. Please provide HCS files as well as the timing sheets used for the signalized intersections (AM and PM peaks). Some of the splits did not add up the cycle length and minimum green splits seemed low.
3. For HCS analysis, use 0.95 for PHF (even if raw counts show a PHF of 0.97) The input should be 0.95
4. To assist with the review process, can volume sheets show existing, Peak Season Conversion Traffic, growth, background (including approved development traffic), project traffic, and total traffic?

Hopefully you can incorporate these changes into the revision for Dundee as well. If you have any questions, please do not hesitate to contact me.

Thank you,

Elaina Hilyard
Engineering Technician

Office. (863) 422-5517 Ext. 4005
Email. ehilyard@quiggengineering.com
Address. 600 North Broadway Avenue Suite 301, Bartow, FL 33830

APPENDIX B

Polk County Roadway Network Database

Link	Road Segment	From	To	Roadway Characteristics: Laneage Lane Type	Capacity Group	Segment Length	Functional Classification	Estimated Traffic Characteristics: 2021 Annual Avg. Daily Traffic	AADT Growth Rate (%)	100th Highest Hour D-Factor	K-Factor	Peak Hour / Peak Season: Two-Hour Average Volume	Level of Service	Directional Capacity	LOS Standard: Multi-Modal	High-Way	Volume to Capacity Ratio	Volume-to-Capacity Ratio In Five Years	Projected LOS in Five Years	Historical Crash Data 2017 - 2021: Total Crashes	Crash Rate	Multimodal Factors: Transit Presence	Sidewalk Presence	Sidewalk Coverage	Bicycle Facility Presence	Bicycle Facility Coverage
[illegible]	DUFF RD	CR 35A (KATHLEEN RD)	US 98	2U	U02	3.6	URBAN COLLECTOR	8,900	2.0	0.490	0.0900	393	C	790	TRANSITIONING	D	0.50	0.55	C	63	1.277	YES	PARTIAL	0.56	NONE	0.00
[illegible]	DUFF RD	CR 35A (KATHLEEN RD)	US 98	2U	U02	3.6	URBAN COLLECTOR	8,900	2.0	0.510	0.0900	409	C	790	TRANSITIONING	D	0.52	0.57	C	63	1.277	YES	PARTIAL	0.56	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	DUNSON ROAD	US 27	DEAD END EAST	2U	B02	1.6	URBAN COLLECTOR	4,500	2.0	0.490	0.0900	199	C	880	TSDA	D	0.23	0.25	C	3	0.358	YES	PARTIAL	0.74	NONE	0.00
[illegible]	DUNSON ROAD	US 27	DEAD END EAST	2U	B02	1.6	URBAN COLLECTOR	4,500	2.0	0.510	0.0900	207	C	880	TSDA	D	0.23	0.26	C	3	0.358	YES	PARTIAL	0.74	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	EAGLE LAKE LOOP RD/EAGLE AVE E	US 17 (4TH STREET)	CR 655 (RIFLE RANGE RD)	2U	U02	3.3	URBAN COLLECTOR	4,600	2.0	0.490	0.0750	169	C	790	TCDD	E	0.21	0.23	C	21	1.284	YES	PARTIAL	0.48	NONE	0.00
[illegible]	EAGLE LAKE LOOP RD/EAGLE AVE E	US 17 (4TH STREET)	CR 655 (RIFLE RANGE RD)	2U	U02	3.3	URBAN COLLECTOR	4,600	2.0	0.510	0.0750	176	C	790	TCDD	E	0.22	0.24	C	21	1.284	YES	PARTIAL	0.48	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	EDGEWOOD DRIVE E	SR 37 (FLORIDA AVENUE S)	CR 37B (LAKELAND HIGHLANDS ROAD)	2D	U02	2.0	URBAN COLLECTOR	17,500	2.0	0.510	0.0750	636	C	830	MULTI-MODAL	D	0.77	0.84	C	86	1.505	YES	FULL	1.82	NONE	0.00
[illegible]	EDGEWOOD DRIVE E	SR 37 (FLORIDA AVENUE S)	CR 37B (LAKELAND HIGHLANDS ROAD)	2D	U02	2.0	URBAN COLLECTOR	17,500	2.0	0.490	0.0750	611	C	830	MULTI-MODAL	D	0.74	0.81	C	86	1.505	YES	FULL	1.82	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	ELOISE LOOP ROAD	CR 653 (RIFLE RANGE ROAD)	EAGLE LAKE LOOP ROAD	2U	U02	1.2	URBAN COLLECTOR	7,900	2.0	0.510	0.0900	360	C	790	TRANSITIONING	D	0.46	0.50	C	11	0.882	NO	PARTIAL	0.04	NONE	0.00
[illegible]	ELOISE LOOP ROAD	CR 653 (RIFLE RANGE ROAD)	EAGLE LAKE LOOP ROAD	2U	U02	1.2	URBAN COLLECTOR	7,900	2.0	0.490	0.0900	348	C	790	TRANSITIONING	D	0.44	0.48	C	11	0.882	NO	PARTIAL	0.04	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	ERNIE CALDWELL ROAD	HELLER BROTHERS BLVD	PINE TREE TRAIL	4D	U02	0.7	URBAN COLLECTOR	9,400	2.0	0.490	0.0750	329	C	1,800	TCDD	D	0.18	0.20	C	27	0.549	YES	PARTIAL	1.82	FULL	2.00
[illegible]	ERNIE CALDWELL ROAD	HELLER BROTHERS BLVD	PINE TREE TRAIL	4D	U02	0.7	URBAN COLLECTOR	9,400	2.0	0.510	0.0750	342	C	1,800	TCDD	D	0.19	0.21	C	27	0.549	YES	PARTIAL	1.82	FULL	2.00
[illegible]																										
[illegible]																										
[illegible]	EVENHOUSE ROAD	CR 557 (BUENA VISTA DRIVE)	EXPERIMENT STATION ROAD	2U	U02	1.1	URBAN COLLECTOR	3,300	2.0	0.490	0.0900	134	D	790	TRANSITIONING	D	0.20	0.21	C	3	0.414	NO	PARTIAL	0.62	NONE	0.00
[illegible]	EVENHOUSE ROAD	CR 557 (BUENA VISTA DRIVE)	EXPERIMENT STATION ROAD	2U	U02	1.1	URBAN COLLECTOR	3,300	2.0	0.510	0.0900	141	C	790	TRANSITIONING	D	0.20	0.22	C	3	0.414	NO	PARTIAL	0.62	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	EXPERIMENT STATION ROAD	OLD HAINES CITY - LAKE ALFRED ROAD	EVENHOUSE ROAD	2U	U02	0.6	URBAN COLLECTOR	2,500	2.0	0.510	0.0900	115	C	790	TRANSITIONING	D	0.15	0.16	C	4	1.377	NO	NONE	0.00	NONE	0.00
[illegible]	EXPERIMENT STATION ROAD	OLD HAINES CITY - LAKE ALFRED ROAD	EVENHOUSE ROAD	2U	U02	0.6	URBAN COLLECTOR	2,500	2.0	0.490	0.0900	110	C	790	TRANSITIONING	D	0.14	0.15	C	4	1.377	NO	NONE	0.00	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	FIFTEENTH STREET SW	LAKE SHIPP DRIVE	LAKE HOWARD DRIVE SW	2U	U02	2.4	URBAN COLLECTOR	3,300	2.0	0.510	0.0750	127	C	790	TCDD	E	0.16	0.18	C	1	0.417	NO	PARTIAL	0.67	NONE	0.00
[illegible]	FIFTEENTH STREET SW	LAKE SHIPP DRIVE	LAKE HOWARD DRIVE SW	2U	U02	2.4	URBAN COLLECTOR	3,300	2.0	0.490	0.0750	122	D	790	TCDD	E	0.15	0.17	C	1	0.417	NO	PARTIAL	0.67	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	FIRST STREET SOUTH	SR 542 CENTRAL AVE	SR 540 (CYPRESS GARDENS BLVD SE)	4D	U02	1.3	MINOR ARTERIAL	26,300	2.0	0.490	0.0750	916	C	1,800	TCDD	E	0.51	0.56	C	115	1.915	YES	PARTIAL	1.67	NONE	0.00
[illegible]	FIRST STREET SOUTH	SR 542 CENTRAL AVE	SR 540 (CYPRESS GARDENS BLVD SE)	4D	U02	1.3	MINOR ARTERIAL	26,300	2.0	0.510	0.0750	899	C	1,800	TCDD	E	0.50	0.55	C	115	1.915	YES	PARTIAL	1.67	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	FITZGERALD ROAD	SR 37 (FLORIDA AVENUE S)	CR 37A (SCOTT LAKE ROAD)	2U	U02	0.9	URBAN COLLECTOR	5,500	2.0	0.490	0.0900	242	C	790	TSDA	D	0.31	0.34	C	4	0.445	NO	PARTIAL	0.33	NONE	0.00
[illegible]	FITZGERALD ROAD	SR 37 (FLORIDA AVENUE S)	CR 37A (SCOTT LAKE ROAD)	2U	U02	0.9	URBAN COLLECTOR	5,500	2.0	0.510	0.0900	252	C	790	TSDA	D	0.32	0.35	C	4	0.445	NO	PARTIAL	0.33	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	FLORIDA AVENUE N/PINEHURST ST	US 98	CR 582 (GRIFFIN ROAD)	2U	U02	0.6	URBAN COLLECTOR	4,400	2.0	0.490	0.0750	154	D	790	TCDD	E	0.19	0.21	C	3	0.577	YES	PARTIAL	1.17	NONE	0.00
[illegible]	FLORIDA AVENUE N/PINEHURST ST	US 98	CR 582 (GRIFFIN ROAD)	2U	U02	0.6	URBAN COLLECTOR	4,400	2.0	0.510	0.0750	160	C	790	TCDD	E	0.20	0.22	C	3	0.577	YES	PARTIAL	1.17	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	GAPWAY ROAD	SR 655 (BERKLEY ROAD)	CR 559	2U	U02	1.9	URBAN COLLECTOR	3,800	2.0	0.490	0.0900	168	C	790	TRANSITIONING	D	0.21	0.23	C	6	0.402	NO	PARTIAL	0.09	NONE	0.00
[illegible]	GAPWAY ROAD	SR 655 (BERKLEY ROAD)	CR 559	2U	U02	1.9	URBAN COLLECTOR	3,800	2.0	0.510	0.0900	174	C	790	TRANSITIONING	D	0.22	0.24	C	6	0.402	NO	PARTIAL	0.09	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	GEORGE JENKINS BLVD	SLOAN AVE N	SR 35 (FLORIDA AVE N)	4D	B02	0.6	PRINCIPAL ARTERIAL	18,800	2.0	0.490	0.0750	650	C	2,000	TCDD	E	0.33	0.36	C	81	3.791	YES	FULL	1.89	FULL	2.00
[illegible]	GEORGE JENKINS BLVD	SLOAN AVE N	SR 35 (FLORIDA AVE N)	4D	B02	0.6	PRINCIPAL ARTERIAL	18,800	2.0	0.510	0.0750	680	C	2,000	TCDD	E	0.34	0.38	C	81	3.791	YES	FULL	1.89	FULL	2.00
[illegible]																										
[illegible]																										
[illegible]	GRACE AVENUE E/NORRET DRIVE	SR 17/TENTH STREET	30TH STREET	2U	U02	1.1	URBAN COLLECTOR	3,400	2.0	0.490	0.0750	119	C	790	TCDD	E	0.15	0.17	C	7	1.072	YES	PARTIAL	1.03	NONE	0.00
[illegible]	GRACE AVENUE E/NORRET DRIVE	SR 17/TENTH STREET	30TH STREET	2U	U02	1.1	URBAN COLLECTOR	3,400	2.0	0.510	0.0750	124	C	790	TCDD	E	0.16	0.17	C	7	1.072	YES	PARTIAL	1.03	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	GREEN ROAD	DAUGHTERY RD W	DUFF RD	2U	U02	1.0	URBAN COLLECTOR	6,800	2.0	0.510	0.0900	312	C	790	TRANSITIONING	D	0.40	0.43	C	3	0.229	NO	PARTIAL	1.01	NONE	0.00
[illegible]	GREEN ROAD	DAUGHTERY RD W	DUFF RD	2U	U02	1.0	URBAN COLLECTOR	6,800	2.0	0.490	0.0900	300	C	790	TRANSITIONING	D	0.38	0.42	C	3	0.229	NO	PARTIAL	1.01	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	HALLAM DRIVE	CLEVELAND HEIGHTS BLVD	CR 37B (LAKELAND HIGHLANDS ROAD)	2U	U02	1.6	URBAN COLLECTOR	5,100	2.0	0.490	0.0900	226	C	790	TRANSITIONING	D	0.28	0.31	C	31	1.397	NO	PARTIAL	1.27	NONE	0.00
[illegible]	HALLAM DRIVE	CLEVELAND HEIGHTS BLVD	CR 37B (LAKELAND HIGHLANDS ROAD)	2U	U02	1.6	URBAN COLLECTOR	5,100	2.0	0.510	0.0900	234	C	790	TRANSITIONING	D	0.30	0.33	C	31	1.397	NO	PARTIAL	1.27	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	HARDIN-COMBEE ROAD	SR 659 (COMBEE ROAD)	FISH HATCHERY ROAD	2U	U02	0.6	URBAN COLLECTOR	1,700	2.0	0.510	0.0900	78	C	790	TSDA	D	0.10	0.11	C	6	2.573	NO	PARTIAL	0.09	NONE	0.00
[illegible]	HARDIN-COMBEE ROAD	SR 659 (COMBEE ROAD)	FISH HATCHERY ROAD	2U	U02	0.6	URBAN COLLECTOR	1,700	2.0	0.490	0.0900	75	C	790	TSDA	D	0.09	0.10	C	6	2.573	NO	PARTIAL	0.09	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	HATCHER ROAD	SHEPHERD ROAD	EWELL ROAD	2U	U02	1.0	URBAN COLLECTOR	2,100	2.0	0.510	0.0900	96	C	790	TSDA	D	0.12	0.13	C	3	0.520	NO	PARTIAL	0.18	NONE	0.00
[illegible]	HATCHER ROAD	SHEPHERD ROAD	EWELL ROAD	2U	U02	1.0	URBAN COLLECTOR	2,100	2.0	0.490	0.0900	93	C	790	TSDA	D	0.12	0.13	C	3	0.520	NO	PARTIAL	0.18	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	HELLER BROTHERS BLVD	FDC GROVE ROAD	US 27	4D	C02	0.4	URBAN COLLECTOR	2,900	2.0	0.510	0.0900	133	C	1,600	TSDA	D	0.08	0.09	C	2	0.987	YES	FULL	2.00	FULL	2.00
[illegible]	HELLER BROTHERS BLVD	FDC GROVE ROAD	US 27	4D	C02	0.4	URBAN COLLECTOR	2,900	2.0	0.490	0.0900	128	C	1,600	TSDA	D	0.08	0.08	C	2	0.987	YES	FULL	2.00	FULL	2.00
[illegible]																										
[illegible]																										
[illegible]	HIGHLAND ST W/GREENWOOD ST W	CR 542 (OLD TAMPA HWY)	SR 563 (SIKES BLVD)	2U	U02	2.1	URBAN COLLECTOR	2,800	2.0	0.510	0.0900	129	C	790	TSDA	D	0.16	0.18	C	25	1.194	YES	PARTIAL	1.05	NONE	0.00
[illegible]	HIGHLAND ST W/GREENWOOD ST W	CR 542 (OLD TAMPA HWY)	SR 563 (SIKES BLVD)	2U	U02	2.1	URBAN COLLECTOR	2,800	2.0	0.490	0.0900	123	C	790	TSDA	D	0.16	0.17	C	25	1.194	YES	PARTIAL	1.05	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	HINSON AVENUE/POWER LINE ROAD	US 17/92	CR 580 (JOHNSON AVENUE)	2U	U02	2.2	URBAN COLLECTOR	9,500	2.0	0.490	0.0750	352	C	790	TCDD	E	0.42	0.46	C	36	0.948	YES	PARTIAL	0.38	NONE	0.00
[illegible]	HINSON AVENUE/POWER LINE ROAD	US 17/92	CR 580 (JOHNSON AVENUE)	2U	U02	2.2	URBAN COLLECTOR	9,500	2.0	0.510	0.0750	346	C	790	TCDD	E	0.44	0.48	C	36	0.948	YES	PARTIAL	0.38	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	HOLLY HILL ROAD	CR 547	US 27	2U	U02	2.0	URBAN COLLECTOR	6,100	2.0	0.490	0.0750	213	C	790	TCDD	E	0.27	0.30	C	36	1.639	NO	PARTIAL	0.68	NONE	0.00
[illegible]	HOLLY HILL ROAD	CR 547	US 27	2U	U02	2.0	URBAN COLLECTOR	6,100	2.0	0.510	0.0750	222	C	790	TCDD	E	0.28	0.31	C	36	1.639	NO	PARTIAL	0.68	NONE	0.00
[illegible]																										
[illegible]																										
[illegible]	INGRAHAM AVENUE	US 98	US 92 (MEMORIAL BLVD)	2D	C02	0.9	URBAN COLLECTOR	4,800	2.0	0.490	0.0750	180	C	840	TCDD	E	0.20	0.23	C	18	2.334	YES	FULL	1.79	FULL	2.00
[illegible]	INGRAHAM AVENUE	US 98	US 92 (MEMORIAL BLVD)	2D	C02	0.9	URBAN COLLECTOR	4,800	2.0	0.510	0.0750	174	C	840	TCDD	E	0.21	0.23	C	18	2.334	YES	FULL	1.79	FULL	2.00
[illegible]																										
[illegible]																										
[illegible]	INTERSTATE 4	SR 570 (POLK PARKWAY)	SR 33	6F	F03	11.4	PRINCIPAL ARTERIAL	82,500	2.0	0.490	0.0900	4,076	C	5,600	SIS	D	0.73	0.80	C	802	3.475	NO	NONE	0.00	NONE	0.00
[illegible]	INTERSTATE 4	SR 570 (POLK PARKWAY)	SR 33	6F	F03	11.4	PRINCIPAL ARTERIAL	82,500	2.0	0.510	0.0900	4,240	C	5,600	SIS	D	0.76	0.83	D	802	3.475	NO	NONE	0.00	NONE	0.00

Source: Polk Transportation Planning Organization April 8, 2022

Link	Road Segment	From	To	Roadway Characteristics: Laneage Lane Type	Capacity Group	Segment Length	Functional Classification	Estimated Traffic Characteristics: 2021 Annual Avg. Daily Traffic	AADT Growth Rate (%)	100th Highest Hour D-Factor	K-Factor	Peak Hour / Peak Season: Two-Hour Average Volume	Level of Service	Directional Capacity	LOS Standard Multi-Modal	LOS Standard High-Way	Volume to Capacity Ratio	Volume-to-Capacity Ratio in Five Years	Projected LOS in Five Years	Historical Crash Data 2017 - 2021: Total Crashes	Crash Rate	Multimodal Factors: Transit Presence	Sidewalk Presence	Sidewalk Coverage	Bicycle Facility Presence	Bicycle Facility Coverage
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	INTERSTATE 4	CR 557	OSCEOLA COUNTY LINE	6F	F03	8.6	PRINCIPAL ARTERIAL	100,500	3.0	0.510	0.0900	4,613	D	5,620	SIS	D	0.82	[illegible]	D	1,289	0.779	NO	NONE	0.00	NONE	0.00
[illegible]	INTERSTATE 4	CR 557	OSCEOLA COUNTY LINE	6F	F03	8.6	PRINCIPAL ARTERIAL	100,500	3.0	0.460	[illegible]	4,433	C	5,620	SIS	D	0.79	[illegible]	D	1,289	0.779	NO	NONE	0.00	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	RONNY HARMON ROAD	US 17/92	OSCEOLA COUNTY LINE	2U	L02	1.0	URBAN COLLECTOR	10,000	3.0	0.510	0.0900	459	C	790	TRANSITIONING	D	0.58	0.64	C	2	0.083	NO	PARTIAL	1.06	FULL	2.00
[illegible]	RONNY HARMON ROAD	US 17/92	OSCEOLA COUNTY LINE	2U	L02	1.0	URBAN COLLECTOR	10,000	3.0	0.490	0.0900	441	C	790	TRANSITIONING	D	0.56	0.61	C	2	0.083	NO	PARTIAL	1.06	FULL	2.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LAKE BEULAH DR	OLIVE ST	OLIVE ST	2U	L02	1.3	URBAN COLLECTOR	2,400	3.0	0.510	0.0750	67	C	790	TCOD	E	0.11	0.12	C	4	1.342	YES	PARTIAL	1.42	NONE	0.00
[illegible]	LAKE BEULAH DR	OLIVE ST	OLIVE ST	2U	L02	1.3	URBAN COLLECTOR	2,400	3.0	0.490	0.0750	64	C	790	TCOD	E	0.11	0.12	C	4	1.342	YES	PARTIAL	1.42	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LAKE HAMILTON DR W	COUNTRY CLUB RD N	SR 544 (LUCERNE PARK ROAD)	2U	L02	2.8	URBAN COLLECTOR	3,200	3.0	0.490	0.0900	141	C	790	TRANSITIONING	D	0.18	0.20	C	10	0.614	NO	NONE	0.00	NONE	0.00
[illegible]	LAKE HAMILTON DR W	COUNTRY CLUB RD N	SR 544 (LUCERNE PARK ROAD)	2U	L02	2.8	URBAN COLLECTOR	3,200	3.0	0.510	0.0900	147	C	790	TRANSITIONING	D	0.19	0.20	C	10	0.614	NO	NONE	0.00	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LAKE HOLLINGSWORTH DRIVE (NORTH)	BELMAR STREET	CRYSTAL LAKE DRIVE	2U	L02	1.1	URBAN COLLECTOR	9,900	3.0	0.490	0.0750	346	C	790	MULTI-MODAL	D	0.44	0.48	C	12	0.619	YES	FULL	1.87	PARTIAL	1.00
[illegible]	LAKE HOLLINGSWORTH DRIVE (NORTH)	BELMAR STREET	CRYSTAL LAKE DRIVE	2U	L02	1.1	URBAN COLLECTOR	9,900	3.0	0.510	0.0750	360	C	790	MULTI-MODAL	D	0.46	0.50	C	12	0.619	YES	FULL	1.87	PARTIAL	1.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LAKE HOWARD DRIVE	21ST STREET SW	AVENUE C NW	2U	L02	1.6	URBAN COLLECTOR	5,100	3.0	0.490	0.0750	176	C	790	TCOD	E	0.22	0.25	C	32	[illegible]	YES	PARTIAL	0.48	PARTIAL	0.14
[illegible]	LAKE HOWARD DRIVE	21ST STREET SW	AVENUE C NW	2U	L02	1.6	URBAN COLLECTOR	5,100	3.0	0.510	0.0750	185	C	790	TCOD	E	0.23	0.26	C	32	[illegible]	YES	PARTIAL	0.48	PARTIAL	0.14
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LAKE LOWERY RD	OLD HAINES CITY-LAKE ALFRED RD	CR 17 (POLK CITY ROAD)	2U	H02	5.9	URBAN COLLECTOR	400	3.0	0.490	0.0900	18	B	730	TRANSITIONING	D	[illegible]	[illegible]	B	8	[illegible]	NO	NONE	0.00	NONE	0.00
[illegible]	LAKE LOWERY RD	OLD HAINES CITY-LAKE ALFRED RD	CR 17 (POLK CITY ROAD)	2U	H02	5.9	URBAN COLLECTOR	400	3.0	0.510	0.0900	18	B	730	TRANSITIONING	D	[illegible]	[illegible]	B	8	[illegible]	NO	NONE	0.00	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LAKE MABEL LOOP RD/LAKE TRASK ROAD	CANAL AVENUE	SR 17 (SCENIC HIGHWAY)	2U	L02	2.1	URBAN COLLECTOR	4,100	3.0	0.490	0.0750	143	C	790	TCOD	E	0.18	0.20	C	3	0.191	NO	PARTIAL	0.17	NONE	0.00
[illegible]	LAKE MABEL LOOP RD/LAKE TRASK ROAD	CANAL AVENUE	SR 17 (SCENIC HIGHWAY)	2U	L02	2.1	URBAN COLLECTOR	4,100	3.0	0.510	0.0750	149	C	790	TCOD	E	0.19	0.21	C	3	0.191	NO	PARTIAL	0.17	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LAKE MARION CREEK DR/[illegible] RD/EASTYWAY RD/ MIDWAY RD/LK MARION CREEK RD	POINCIANA PARKWAY	CR 580 (CYPRESS PARKWAY)	2U	[illegible]	6.0	URBAN COLLECTOR	5,400	3.0	0.490	0.0900	238	C	720	TRANSITIONING	D	0.33	0.36	C	43	0.725	NO	PARTIAL	0.23	PARTIAL	1.00
[illegible]	LAKE MARION CREEK DR/[illegible] RD/EASTYWAY RD/ MIDWAY RD/LK MARION CREEK RD	POINCIANA PARKWAY	CR 580 (CYPRESS PARKWAY)	2U	[illegible]	6.0	URBAN COLLECTOR	5,400	3.0	0.510	0.0900	248	C	720	TRANSITIONING	D	0.34	0.38	C	43	0.725	NO	PARTIAL	0.23	PARTIAL	1.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LAKE MIRIAM DR	SR 37 (FLORIDA AVENUE S)	CR 37B (LAKELAND HIGHLANDS ROAD)	2U	M02	2.2	URBAN COLLECTOR	14,800	3.0	0.510	0.0900	679	D	660	TRANSITIONING	D	1.03	[illegible]	F	89	1.432	YES	PARTIAL	1.08	NONE	0.00
[illegible]	LAKE MIRIAM DR	SR 37 (FLORIDA AVENUE S)	CR 37B (LAKELAND HIGHLANDS ROAD)	2U	M02	2.2	URBAN COLLECTOR	14,800	3.0	0.490	0.0900	653	D	660	TRANSITIONING	D	0.99	[illegible]	F	89	1.432	YES	PARTIAL	1.08	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LAKE NED/LAKE DAISY RD	CYPRESS GARDENS RD	CR [illegible] (OVERLOOK DRIVE SE)	2U	L02	2.6	URBAN COLLECTOR	5,800	3.0	0.490	0.0900	260	C	790	TSDA	D	0.33	0.36	C	17	0.794	NO	PARTIAL	0.26	NONE	0.00
[illegible]	LAKE NED/LAKE DAISY RD	CYPRESS GARDENS RD	CR [illegible] (OVERLOOK DRIVE SE)	2U	L02	2.6	URBAN COLLECTOR	5,800	3.0	0.510	0.0900	271	C	790	TSDA	D	0.34	0.38	C	17	0.794	NO	PARTIAL	0.26	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LAKE REEDY BOULEVARD N	CR 630	LAKE ARBUCKLE RD	2U	H02	4.9	URBAN COLLECTOR	800	2.0	0.490	0.0900	35	B	730	TRANSITIONING	D	0.05	0.05	B	4	[illegible]	NO	NONE	0.00	NONE	0.00
[illegible]	LAKE REEDY BOULEVARD N	CR 630	LAKE ARBUCKLE RD	2U	H02	4.9	URBAN COLLECTOR	800	2.0	0.510	0.0900	37	B	730	TRANSITIONING	D	0.05	0.06	B	4	[illegible]	NO	NONE	0.00	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LAKE SHORE DRIVE/WEST LAKE PARKER DRIVE	PARKER STREET	GRANADA STREET	2U	L02	1.8	URBAN COLLECTOR	3,800	2.0	0.510	0.0750	143	C	790	TCOD	E	0.18	0.20	C	24	1.739	NO	PARTIAL	1.18	PARTIAL	0.26
[illegible]	LAKE SHORE DRIVE/WEST LAKE PARKER DRIVE	PARKER STREET	GRANADA STREET	2U	L02	1.8	URBAN COLLECTOR	3,800	2.0	0.490	0.0750	138	C	790	TCOD	E	0.17	0.19	C	24	1.739	NO	PARTIAL	1.18	PARTIAL	0.26
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LAKE STELLA DR	SR 559	SHELBY ST	2D	[illegible]	0.7	URBAN COLLECTOR	3,500	3.0	0.510	0.0750	[illegible]	C	[illegible]	TCOD	E	0.08	0.08	C	8	[illegible]	YES	PARTIAL	[illegible]	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LIME STREET	LAKE BEULAH DRIVE	SR 37 (FLORIDA AVENUE S)	4U	L02	0.6	URBAN COLLECTOR	10,700	2.0	0.510	0.0750	386	C	1,710	TCOD	E	0.23	0.25	C	11	[illegible]	YES	FULL	1.56	NONE	0.00
[illegible]	LIME STREET	LAKE BEULAH DRIVE	SR 37 (FLORIDA AVENUE S)	4U	L02	0.6	URBAN COLLECTOR	10,700	2.0	0.490	0.0750	374	C	1,710	TCOD	E	0.22	0.24	C	11	[illegible]	YES	FULL	1.56	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LIME STREET	INGRAHAM AVENUE S	US 98 (BARTOW RD)	2U	L02	0.3	URBAN COLLECTOR	1,000	3.0	0.510	0.0750	36	C	790	TCOD	E	0.05	0.05	C	4	[illegible]	NO	PARTIAL	1.54	NONE	0.00
[illegible]	LIME STREET	INGRAHAM AVENUE S	US 98 (BARTOW RD)	2U	L02	0.3	URBAN COLLECTOR	1,000	3.0	0.490	0.0750	35	C	790	TCOD	E	0.04	0.05	C	4	[illegible]	NO	PARTIAL	1.54	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LIVE OAK ROAD/LAKE SEWARD DRIVE	CR 37B (LAKELAND HIGHLANDS RD)	LAKE MIRIAM DRIVE	2U	L02	1.5	URBAN COLLECTOR	1,600	3.0	0.490	0.0900	[illegible]	C	790	TRANSITIONING	D	0.10	0.11	C	3	[illegible]	NO	PARTIAL	0.59	PARTIAL	0.26
[illegible]	LIVE OAK ROAD/LAKE SEWARD DRIVE	CR 37B (LAKELAND HIGHLANDS RD)	LAKE MIRIAM DRIVE	2U	L02	1.5	URBAN COLLECTOR	1,600	3.0	0.510	0.0900	[illegible]	C	790	TRANSITIONING	D	0.10	0.12	C	3	[illegible]	NO	PARTIAL	0.59	PARTIAL	0.26
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LOGISTICS PARKWAY	OLD BARTOW LAKE WALES RD	INTERMODAL DRIVE	2U	A02	1.0	URBAN COLLECTOR	2,500	3.0	0.510	0.0900	115	B	1,200	TSDA	D	0.10	0.11	B	0	0.000	NO	NONE	0.00	FULL	2.00
[illegible]	LOGISTICS PARKWAY	OLD BARTOW LAKE WALES RD	INTERMODAL DRIVE	2U	A02	1.0	URBAN COLLECTOR	2,500	3.0	0.490	0.0900	110	B	1,200	TSDA	D	0.09	0.10	B	0	0.000	NO	NONE	0.00	FULL	2.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LUCERNE LOOP ROAD NE	SR 544 (LUCERNE PARK ROAD)	OLD LUCERNE PARK ROAD	2U	L02	0.8	URBAN COLLECTOR	2,100	2.0	0.510	0.0900	96	C	790	TRANSITIONING	D	0.12	0.13	C	0	0.000	YES	PARTIAL	0.47	NONE	0.00
[illegible]	LUCERNE LOOP ROAD NE	SR 544 (LUCERNE PARK ROAD)	OLD LUCERNE PARK ROAD	2U	L02	0.8	URBAN COLLECTOR	2,100	2.0	0.490	0.0900	93	C	790	TRANSITIONING	D	0.12	0.13	C	0	0.000	YES	PARTIAL	0.47	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LUNN ROAD	SHEPHERD ROAD	EWELL ROAD	2U	L02	1.0	URBAN COLLECTOR	6,000	3.0	0.490	0.0900	265	C	790	TSDA	D	0.32	[illegible]	C	15	[illegible]	NO	PARTIAL	0.36	NONE	0.00
[illegible]	LUNN ROAD	SHEPHERD ROAD	EWELL ROAD	2U	L02	1.0	URBAN COLLECTOR	6,000	3.0	0.510	0.0900	276	C	790	TSDA	D	[illegible]	[illegible]	C	15	[illegible]	NO	PARTIAL	0.36	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	LYNCHBURG ROAD/MYERS LANE	US 92	LAKE ALFRED ROAD	2U	L02	1.6	URBAN COLLECTOR	4,700	2.0	0.490	0.0900	207	C	790	TRANSITIONING	D	0.26	0.29	C	10	[illegible]	NO	PARTIAL	[illegible]	NONE	0.00
[illegible]	LYNCHBURG ROAD/MYERS LANE	US 92	LAKE ALFRED ROAD	2U	L02	1.6	URBAN COLLECTOR	4,700	2.0	0.510	0.0900	216	C	790	TRANSITIONING	D	0.27	0.30	C	10	[illegible]	NO	PARTIAL	[illegible]	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	MAIN STREET	US 92	LAKE STELLA DRIVE	2U	[illegible]	0.7	URBAN COLLECTOR	6,800	2.0	0.510	0.0750	247	C	[illegible]	TCOD	D	0.28	0.31	C	47	[illegible]	YES	FULL	1.87	NONE	0.00
[illegible]	MAIN STREET	US 92	LAKE STELLA DRIVE	2U	[illegible]	0.7	URBAN COLLECTOR	6,800	2.0	0.490	0.0750	237	C	[illegible]	TCOD	D	0.27	0.30	C	47	[illegible]	YES	FULL	1.87	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	MAIN STREET E/FLAMINGO DRIVE E	SR 60	SR 60	2U	[illegible]	2.2	URBAN COLLECTOR	6,500	2.0	0.510	0.0750	238	C	[illegible]	TCOD	E	0.27	[illegible]	C	78	[illegible]	YES	PARTIAL	1.44	NONE	0.00
[illegible]	MAIN STREET E/FLAMINGO DRIVE E	SR 60	SR 60	2U	[illegible]	2.2	URBAN COLLECTOR	6,500	2.0	0.490	0.0750	227	C	[illegible]	TCOD	E	[illegible]	[illegible]	C	78	[illegible]	YES	PARTIAL	1.44	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	MAIN STREET/SECOND STREET/SMITH AVENUE	US 27	SR 17 (SCENIC HIGHWAY)	2U	L02	1.0	URBAN COLLECTOR	1,800	2.0	0.510	0.0750	[illegible]	C	790	TCOD	E	0.09	0.10	C	3	[illegible]	YES	PARTIAL	0.37	NONE	0.00
[illegible]	MAIN STREET/SECOND STREET/SMITH AVENUE	US 27	SR 17 (SCENIC HIGHWAY)	2U	L02	1.0	URBAN COLLECTOR	1,800	2.0	0.490	0.0750	[illegible]	C	790	TCOD	E	0.08	0.09	C	3	[illegible]	YES	PARTIAL	0.37	NONE	0.00

Source: Polk Transportation Planning Organization April 8, 2022

Link	Road Segment	From	To	Roadway Characteristics: Lanes / Lane Type	Capacity Group	Segment Length	Functional Classification	Estimated Traffic Characteristics: 2021 Annual Avg. Daily Traffic	AADT Growth Rate (%)	100th Highest Hour D-Factor	K-Factor	Peak Hour / Peak Season: Two-Hour Average Volume	Level of Service	Directional Capacity	LOS Standard: Multi-Modal	High-Way	Volume to Capacity Ratio	Volume-to-Capacity Ratio in Five Years	Projected LOS in Five Years	Historical Crash Data 2017 - 2021: Total Crashes	Crash Rate	Multimodal Factors: Transit Presence	Sidewalk Presence	Sidewalk Coverage	Bicycle Facility Presence	Bicycle Facility Coverage
[illegible]	SR 17 (SCENIC HIGHWAY)	SEMINOLE AVE	PASSION PLAY RD	2D	A02	6.5	URBAN COLLECTOR	5,800	2.0	0.490	0.0750	190	B	1,220	TCCO	D	0.16	0.18	B	40	1.205	YES	PARTIAL	0.30	FULL	1.66
[illegible]	SR 17 (SCENIC HIGHWAY)	SEMINOLE AVE	PASSION PLAY RD	2D	A02	6.5	URBAN COLLECTOR	5,800	2.0	0.510	0.0750	201	B	1,220	TCCO	D	0.17	0.18	B	40	1.205	YES	PARTIAL	0.30	FULL	1.66
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 17 (SCENIC HIGHWAY)	MOUNTAIN LAKE CUTOFF	WAVERLY RD	2D	A02	3.8	URBAN COLLECTOR	7,700	2.0	0.490	0.0750	285	B	1,220	TCCO	D	0.23	0.24	B	95	1.768	YES	PARTIAL	0.22	FULL	1.82
[illegible]	SR 17 (SCENIC HIGHWAY)	MOUNTAIN LAKE CUTOFF	WAVERLY RD	2D	A02	3.8	URBAN COLLECTOR	7,700	2.0	0.510	0.0750	295	B	1,220	TCCO	D	0.23	0.25	B	95	1.768	YES	PARTIAL	0.22	FULL	1.82
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 17 (SCENIC HIGHWAY)	MAIN ST @ CENTER ST	SR 544	2D	A02	4.3	URBAN COLLECTOR	8,000	2.0	0.490	0.0750	279	C	640	TCCO	D	0.44	0.46	C	68	1.580	YES	PARTIAL	0.12	PARTIAL	1.36
[illegible]	SR 17 (SCENIC HIGHWAY)	MAIN ST @ CENTER ST	SR 544	2D	A02	4.3	URBAN COLLECTOR	8,000	2.0	0.510	0.0750	291	C	640	TCCO	D	0.46	0.50	C	68	1.580	YES	PARTIAL	0.12	PARTIAL	1.36
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 33	I-4 @ SOCRUM LOOP RD N	I-4	2D	A02	4.6	MINOR ARTERIAL	14,500	2.0	0.490	0.0750	500	B	1,220	TCCO	D	0.41	0.46	B	204	1.576	YES	PARTIAL	0.63	FULL	1.98
[illegible]	SR 33	I-4 @ SOCRUM LOOP RD N	I-4	2D	A02	4.6	MINOR ARTERIAL	14,500	2.0	0.510	0.0750	527	B	1,220	TCCO	D	0.43	0.46	B	204	1.576	YES	PARTIAL	0.63	FULL	1.98
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 33	OLD POLK CITY ROAD	SR 559 (BROADWAY BLVD SE)	2D	A02	3.4	MINOR ARTERIAL	11,000	2.0	0.510	0.0750	400	B	1,220	TCCO	D	0.33	0.36	B	80	1.170	NO	PARTIAL	0.28	PARTIAL	1.77
[illegible]	SR 33	OLD POLK CITY ROAD	SR 559 (BROADWAY BLVD SE)	2D	A02	3.4	MINOR ARTERIAL	11,000	2.0	0.490	0.0750	384	B	1,220	TCCO	D	0.31	0.35	B	80	1.170	NO	PARTIAL	0.28	PARTIAL	1.77
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 33 (LAKELAND HILLS BLVD)	BELLA VISTA ST E	I-4 @ SOCRUM LOOP RD N	4D	B02	1.9	MINOR ARTERIAL	26,000	2.0	0.510	0.0750	1,017	C	2,000	MULTI-MODAL	D	0.51	0.56	C	199	2.033	YES	FULL	1.84	PARTIAL	0.20
[illegible]	SR 33 (LAKELAND HILLS BLVD)	BELLA VISTA ST E	I-4 @ SOCRUM LOOP RD N	4D	B02	1.9	MINOR ARTERIAL	26,000	2.0	0.490	0.0750	970	C	2,000	MULTI-MODAL	D	0.49	0.54	C	199	2.033	YES	FULL	1.84	PARTIAL	0.20
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 35 (BARTOW RD)	LAKE PARKER AVE S	MAIN ST E	4D	B02	0.8	PRINCIPAL ARTERIAL	33,500	2.0	0.510	0.0750	1,317	C	2,100	TCCO	D	0.58	0.64	C	89	2.046	YES	PARTIAL	0.85	FULL	2.00
[illegible]	SR 35 (BARTOW RD)	LAKE PARKER AVE S	MAIN ST E	4D	B02	0.8	PRINCIPAL ARTERIAL	33,300	2.0	0.490	0.0750	1,170	C	2,100	TCCO	D	0.56	0.61	C	89	2.046	YES	PARTIAL	0.85	FULL	2.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 37	MANATEE COUNTY LINE	SR 674	2D	A02	4.7	MINOR ARTERIAL	3,800	2.0	0.490	0.0900	168	B	900	OTHER	C	0.19	0.20	B	22	0.674	NO	NONE	0.00	FULL	2.00
[illegible]	SR 37	MANATEE COUNTY LINE	SR 674	2D	A02	4.7	MINOR ARTERIAL	3,800	2.0	0.510	0.0900	174	B	900	OTHER	C	0.19	0.21	B	22	0.674	NO	NONE	0.00	FULL	2.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 37	CR 640	ALAFIA RIVER (NORTH PRONG)	2D	A02	3.7	MINOR ARTERIAL	12,000	2.0	0.510	0.0750	400	B	1,220	MULTI-MODAL	D	0.36	0.38	B	30	0.610	YES	PARTIAL	0.21	FULL	2.00
[illegible]	SR 37	CR 640	ALAFIA RIVER (NORTH PRONG)	2D	A02	3.7	MINOR ARTERIAL	12,000	2.0	0.490	0.0750	416	B	1,220	MULTI-MODAL	D	0.34	0.36	B	30	0.610	YES	PARTIAL	0.21	FULL	2.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 37 (CHURCH AVE E)	ALAFIA RIVER (NORTH PRONG)	SR 60 (CANAL STREET E)	4D	B02	0.4	MINOR ARTERIAL	13,500	2.0	0.490	0.0750	475	C	2,000	TCCO	D	0.24	0.26	C	28	2.791	YES	FULL	1.76	PARTIAL	1.43
[illegible]	SR 37 (CHURCH AVE E)	ALAFIA RIVER (NORTH PRONG)	SR 60 (CANAL STREET E)	4D	B02	0.4	MINOR ARTERIAL	13,500	2.0	0.510	0.0750	494	C	2,000	TCCO	D	0.25	0.27	C	28	2.791	YES	FULL	1.76	PARTIAL	1.43
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 37 (FLORIDA AVE S)	ALAMO DR W	SR 570 (POLK PARKWAY)	4D	B02	1.0	MINOR ARTERIAL	32,300	2.0	0.490	0.0750	1,128	C	3,000	TCCO	D	0.37	0.41	C	165	3.385	YES	FULL	1.72	NONE	0.00
[illegible]	SR 37 (FLORIDA AVE S)	ALAMO DR W	SR 570 (POLK PARKWAY)	4D	B02	1.0	MINOR ARTERIAL	32,300	2.0	0.510	0.0750	1,174	C	3,000	TCCO	D	0.39	0.43	C	165	3.385	YES	FULL	1.72	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 37 (FLORIDA AVE S)	ARIANA ST	MAIN ST E	4D	C02	1.3	MINOR ARTERIAL	21,400	2.0	0.490	0.0750	747	D	1,600	TCCO	D	0.46	0.50	D	106	4.043	YES	FULL	1.76	NONE	0.00
[illegible]	SR 37 (FLORIDA AVE S)	ARIANA ST	MAIN ST E	4D	C02	1.3	MINOR ARTERIAL	21,400	2.0	0.510	0.0750	778	D	1,600	TCCO	D	0.48	0.52	D	106	4.043	YES	FULL	1.76	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 471	US 98	SUMTER COUNTY LINE	2D	A02	5.0	MINOR ARTERIAL	3,900	2.0	0.490	0.0900	172	B	900	OTHER	C	0.19	0.21	B	26	0.562	NO	NONE	0.00	NONE	0.00
[illegible]	SR 471	US 98	SUMTER COUNTY LINE	2D	A02	5.0	MINOR ARTERIAL	3,900	2.0	0.510	0.0900	179	B	900	OTHER	C	0.20	0.22	B	26	0.562	NO	NONE	0.00	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 540 (CYPRESS GARDENS BLVD)	US 17	9TH ST SE	4D	C02	1.0	MINOR ARTERIAL	31,000	2.0	0.510	0.0750	1,120	D	1,600	TCCO	D	0.69	0.76	D	264	8.424	YES	FULL	1.73	PARTIAL	0.04
[illegible]	SR 540 (CYPRESS GARDENS BLVD)	US 17	9TH ST SE	4D	C02	1.0	MINOR ARTERIAL	31,000	2.0	0.490	0.0750	1,082	D	1,600	TCCO	D	0.68	0.72	D	264	8.424	YES	FULL	1.73	PARTIAL	0.04
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 540 (CYPRESS GARDENS BLVD)	CR 559 (OVERLOOK DRIVE SE)	CYPRESS GARDENS ROAD	4D	B02	2.9	MINOR ARTERIAL	26,300	2.0	0.510	0.0750	940	C	2,000	TCCO	D	0.47	0.52	C	252	1.886	YES	PARTIAL	1.03	FULL	2.00
[illegible]	SR 540 (CYPRESS GARDENS BLVD)	CR 559 (OVERLOOK DRIVE SE)	CYPRESS GARDENS ROAD	4D	B02	2.9	MINOR ARTERIAL	26,300	2.0	0.490	0.0750	906	C	2,000	TCCO	D	0.45	0.50	C	252	1.886	YES	PARTIAL	1.03	FULL	2.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 540 (WINTER LAKE RD)	US 98	REYNOLDS RD	2U	B02	0.5	MINOR ARTERIAL	15,600	2.0	0.490	0.0750	545	C	891	TCCO	D	0.62	0.66	C	98	6.807	YES	PARTIAL	0.94	PARTIAL	1.82
[illegible]	SR 540 (WINTER LAKE RD)	US 98	REYNOLDS RD	2U	B02	0.5	MINOR ARTERIAL	15,600	2.0	0.510	0.0750	567	C	891	TCCO	D	0.64	0.71	C	98	6.807	YES	PARTIAL	0.94	PARTIAL	1.82
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 540 (WINTER LAKE RD)	SR 570 (POLK PARKWAY)	SPIRIT LAKE RD	4D	A02	3.8	MINOR ARTERIAL	25,500	2.0	0.490	0.0750	887	B	3,120	TCCO	D	0.28	0.31	B	201	1.109	NO	PARTIAL	0.38	FULL	2.00
[illegible]	SR 540 (WINTER LAKE RD)	SR 570 (POLK PARKWAY)	SPIRIT LAKE RD	4D	A02	3.8	MINOR ARTERIAL	25,500	2.0	0.510	0.0750	927	B	3,120	TCCO	D	0.30	0.32	B	201	1.109	NO	PARTIAL	0.38	FULL	2.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 542 (CENTRAL AVE E)	SR 549 (FIRST STREET N)	BUCKEYE LOOP RD	2U	B02	2.1	MINOR ARTERIAL	13,100	2.0	0.490	0.0750	467	C	880	TCCO	D	0.52	0.57	C	128	2.560	YES	PARTIAL	1.12	PARTIAL	0.59
[illegible]	SR 542 (CENTRAL AVE E)	SR 549 (FIRST STREET N)	BUCKEYE LOOP RD	2U	B02	2.1	MINOR ARTERIAL	13,100	2.0	0.510	0.0750	476	C	880	TCCO	D	0.54	0.60	C	128	2.560	YES	PARTIAL	1.12	PARTIAL	0.59
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 542 (DUNDEE ROAD)	CARL FLOYD RD	US 27	4D	B02	3.6	MINOR ARTERIAL	18,300	2.0	0.510	0.0900	875	C	2,000	TRANSITIONING	D	0.42	0.46	C	125	1.327	YES	PARTIAL	0.58	FULL	1.91
[illegible]	SR 542 (DUNDEE ROAD)	CARL FLOYD RD	US 27	4D	B02	3.6	MINOR ARTERIAL	18,300	2.0	0.490	0.0900	803	C	2,000	TRANSITIONING	D	0.40	0.44	C	125	1.327	YES	PARTIAL	0.58	FULL	1.91
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 544 (HAVENDALE BLVD NW)	US 92	TWENTY SIXTH STREET NW	4D	C02	1.6	PRINCIPAL ARTERIAL	22,500	2.0	0.490	0.0750	780	C	2,520	MULTI-MODAL	D	0.31	0.34	C	260	4.154	YES	PARTIAL	0.31	NONE	0.00
[illegible]	SR 544 (HAVENDALE BLVD NW)	US 92	TWENTY SIXTH STREET NW	4D	C02	1.6	PRINCIPAL ARTERIAL	22,500	2.0	0.510	0.0750	810	C	2,520	MULTI-MODAL	D	0.32	0.36	C	260	4.154	YES	PARTIAL	0.31	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 544 (LUCERNE PARK RD)	1ST ST N	US 27	2U	A02	6.2	PRINCIPAL ARTERIAL	16,500	2.0	0.490	0.0900	726	C	1,200	TRANSITIONING	D	0.61	0.67	C	212	1.137	YES	PARTIAL	0.25	PARTIAL	1.83
[illegible]	SR 544 (LUCERNE PARK RD)	1ST ST N	US 27	2U	A02	6.2	PRINCIPAL ARTERIAL	16,500	2.0	0.510	0.0900	757	C	1,200	TRANSITIONING	D	0.63	0.69	C	212	1.137	YES	PARTIAL	0.25	PARTIAL	1.83
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 546 (MEMORIAL BLVD W)	I-4	WABASH AVE N	4D	B02	3.4	PRINCIPAL ARTERIAL	20,500	2.0	0.510	0.0750	745	C	2,000	TCCO	D	0.37	0.41	C	112	1.305	YES	PARTIAL	0.35	PARTIAL	1.55
[illegible]	SR 546 (MEMORIAL BLVD W)	I-4	WABASH AVE N	4D	B02	3.4	PRINCIPAL ARTERIAL	20,500	2.0	0.490	0.0750	716	C	2,000	TCCO	D	0.36	0.39	C	112	1.305	YES	PARTIAL	0.35	PARTIAL	1.55
[illegible]	SR 548 (BARTOW ROAD)	SR 35 (FLORIDA AVE N)	MAIN STREET E	4D	B02	3.6	PRINCIPAL ARTERIAL	31,500	2.0	0.510	0.0750	1,146	C	2,000	TCCO	D	0.57	0.63	C	81	1.100	YES	PARTIAL	0.60	PARTIAL	1.07
[illegible]	SR 548 (BARTOW ROAD)	SR 35 (FLORIDA AVE N)	MAIN STREET E	4D	B02	3.6	PRINCIPAL ARTERIAL	31,500	2.0	0.490	0.0750	1,100	C	2,000	TCCO	D	0.55	0.61	C	81	1.100	YES	PARTIAL	0.60	PARTIAL	1.07
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 559	I-4	SR 33	2U	A02	2.4	URBAN COLLECTOR	5,700	2.0	0.510	0.0750	207	B	1,200	TCCO	D	0.17	0.18	B	61	2.425	NO	PARTIAL	0.11	FULL	1.89
[illegible]	SR 559	I-4	SR 33	2U	A02	2.4	URBAN COLLECTOR	5,700	2.0	0.490	0.0750	199	B	1,200	TCCO	D	0.17	0.18	B	61	2.425	NO	PARTIAL	0.11	FULL	1.89
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	SR 559 (MAIN STREET)	SR 655 (RECKER HIGHWAY)	US 92 (MAGNOLIA AVENUE)	2U	B02	0.9	URBAN COLLECTOR	5,000	2.0	0.510	0.0750	182	C	880	TCCO	E	0.21	0.23	C	20	2.328	NO	PARTIAL	0.43	NONE	0.00
[illegible]	SR 559 (MAIN STREET)	SR 655 (RECKER HIGHWAY)	US 92 (MAGNOLIA AVENUE)	2U	B02	0.9	URBAN COLLECTOR	5,000	2.0	0.490	0.0750	175	C	880	TCCO	E	0.20	0.22	C	20	2.328	NO	PARTIAL	0.43	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Source: Polk Transportation Planning Organization April 8, 2022

Link	Road Segment	From	To	Roadway Characteristics: Laneage Lane Type	Capacity Group	Segment Length	Functional Classification	Estimated Traffic Characteristics: 2021 Annual Avg. Daily Traffic	AADT Growth Rate (%)	100th Highest Hour D-Factor	K-Factor	Peak Hour / Peak Season: Two-Hour Average Volume	Level of Service	Directional Capacity	LOS Standard Multi-Modal	LOS Standard Highway	Volume to Capacity Ratio	Volume-to-Capacity Ratio in Five Years	Projected LOS in Five Years	Historical Crash Data 2017 - 2021: Total Crashes	Crash Rate	Multimodal Factors: Transit Presence	Sidewalk Presence	Sidewalk Coverage	Bicycle Facility Presence	Bicycle Facility Coverage
5306E	US 92	SR 659 (COMBEE ROAD N)	SR 655 (RECKER HIGHWAY)	4D	B02	5.9	PRINCIPAL ARTERIAL	31,800	2.0	0.490	0.0750	1,110	C	2,000	TCDO	D	0.56	0.61	C	471	1.380	YES	PARTIAL	0.22	FULL	1.69
5306W	US 92	SR 659 (COMBEE ROAD N)	SR 655 (RECKER HIGHWAY)	4D	B02	5.9	PRINCIPAL ARTERIAL	31,800	2.0	0.510	0.0750	1,156	C	2,000	TCDO	D	0.58	0.64	C	471	1.380	YES	PARTIAL	0.22	FULL	1.69
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5307E	US 92 (MAGNOLIA AVE)	SR 655 (RECKER HIGHWAY)	SR 544 (HAVENDALE BLVD HW)	4D	B02	1.9	PRINCIPAL ARTERIAL	32,200	2.0	0.490	0.0750	1,134	C	3,020	TCDO	D	0.37	0.41	C	244	2.146	YES	FULL	1.70	NONE	0.00
5307W	US 92 (MAGNOLIA AVE)	SR 655 (RECKER HIGHWAY)	SR 544 (HAVENDALE BLVD HW)	4D	B02	1.9	PRINCIPAL ARTERIAL	32,200	2.0	0.510	0.0750	1,170	C	3,020	TCDO	D	0.39	0.43	C	244	2.146	YES	FULL	1.70	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5309E	US 92 (NEW TAMPA HWY)	COUNTY LINE ROAD	SR 572 (AIRPORT ROAD)	2U	B02	2.3	PRINCIPAL ARTERIAL	11,100	2.0	0.490	0.0750	389	C	887	TCDO	D	0.44	0.48	C	153	3.294	YES	NONE	0.00	PARTIAL	1.79
5309W	US 92 (NEW TAMPA HWY)	COUNTY LINE ROAD	SR 572 (AIRPORT ROAD)	2U	B02	2.3	PRINCIPAL ARTERIAL	11,100	2.0	0.510	0.0750	405	C	880	TCDO	D	0.46	0.50	C	153	3.294	YES	NONE	0.00	PARTIAL	1.79
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5302E	US 92 (WABASH AVE N)	GEORGE JENKINS BLVD	SR 546	4D	B02	5.9	PRINCIPAL ARTERIAL	16,200	2.0	0.510	0.0750	620	C	2,000	TCDO	D	0.31	0.32	C	66	2.453	YES	FULL	1.74	NONE	0.00
5302W	US 92 (WABASH AVE N)	GEORGE JENKINS BLVD	SR 546	4D	B02	2.6	PRINCIPAL ARTERIAL	16,200	2.0	0.490	0.0750	596	C	2,000	TCDO	D	0.30	0.31	C	66	2.453	YES	FULL	1.74	NONE	0.00
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5315E	US 92/98 (MEMORIAL BLVD E)	LAKE PARKER AVENUE N	SR 659 (COMBEE RD N)	4D	B02	3.1	PRINCIPAL ARTERIAL	32,800	2.0	0.510	0.0750	1,182	C	2,000	TCDO	D	0.60	0.66	C	254	1.663	YES	PARTIAL	0.88	PARTIAL	0.84
5315W	US 92/98 (MEMORIAL BLVD E)	LAKE PARKER AVENUE N	SR 659 (COMBEE RD N)	4D	B02	3.1	PRINCIPAL ARTERIAL	32,800	2.0	0.490	0.0750	1,146	C	2,000	TCDO	D	0.57	0.63	C	254	1.663	YES	PARTIAL	0.88	PARTIAL	0.84
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5401N	US 98	AVON PARK CUTOFF ROAD	EDGEWOOD DR N	2U	H02	4.5	PRINCIPAL ARTERIAL	4,300	2.0	0.490	0.0900	189	B	820	OTHER	C	0.23	0.25	B	54	1.077	NO	NONE	0.00	PARTIAL	0.19
5401S	US 98	AVON PARK CUTOFF ROAD	EDGEWOOD DR N	2U	H02	6.5	PRINCIPAL ARTERIAL	4,300	2.0	0.510	0.0900	197	B	820	OTHER	C	0.24	0.26	B	54	1.077	NO	NONE	0.00	PARTIAL	0.19
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5400N	US 98	LYLE PKWY	CR 540A	6D	B02	3.2	PRINCIPAL ARTERIAL	38,500	2.0	0.510	0.0900	1,767	C	3,020	SIS	D	0.59	0.64	C	156	3.898	YES	PARTIAL	1.01	FULL	2.00
5400S	US 98	LYLE PKWY	CR 540A	6D	B02	3.2	PRINCIPAL ARTERIAL	38,500	2.0	0.490	0.0900	1,698	C	3,020	SIS	D	0.56	0.62	C	156	3.898	YES	PARTIAL	1.01	FULL	2.00
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5407N	US 98	SR 540 (WINTER LAKE ROAD)	SR 570 (POLK PARKWAY)	6D	B02	2.3	PRINCIPAL ARTERIAL	39,500	2.0	0.510	0.0750	1,445	C	3,020	TCDO	D	0.48	0.53	C	124	5.555	YES	PARTIAL	0.06	FULL	2.00
5407S	US 98	SR 540 (WINTER LAKE ROAD)	SR 570 (POLK PARKWAY)	6D	B02	2.3	PRINCIPAL ARTERIAL	39,500	2.0	0.490	0.0750	1,390	C	3,020	TCDO	D	0.46	0.51	C	124	5.555	YES	PARTIAL	0.06	FULL	2.00
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5410N	US 98	MEMORIAL BLVD	CR 582 (GRIFFIN ROAD)	4D	B02	1.6	PRINCIPAL ARTERIAL	33,300	2.0	0.510	0.0750	1,210	C	2,000	TCDO	D	0.61	0.67	C	370	3.152	YES	FULL	1.80	FULL	2.00
5410S	US 98	MEMORIAL BLVD	CR 582 (GRIFFIN ROAD)	4D	B02	1.6	PRINCIPAL ARTERIAL	33,300	2.0	0.490	0.0750	1,163	C	2,000	TCDO	D	0.58	0.64	C	370	3.152	YES	FULL	1.80	FULL	2.00
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5412N	US 98	SLEEPY HILL RD	DAUGHTERY RD W	6D	B02	1.8	PRINCIPAL ARTERIAL	44,000	2.0	0.490	0.0750	1,586	C	3,020	TCDO	D	0.51	0.56	C	273	2.647	YES	FULL	1.80	FULL	2.00
5412S	US 98	SLEEPY HILL RD	DAUGHTERY RD W	6D	B02	1.8	PRINCIPAL ARTERIAL	44,000	2.0	0.510	0.0750	1,589	C	3,020	TCDO	D	0.53	0.56	C	273	2.647	YES	FULL	1.80	FULL	2.00
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5415N	US 98	SR 471	PASCO COUNTY LINE	4U	C02	1.5	PRINCIPAL ARTERIAL	8,400	2.0	0.510	0.0900	421	B	3,230	OTHER	C	0.16	0.21	B	44	1.759	NO	NONE	0.00	FULL	2.00
5415S	US 98	SR 471	PASCO COUNTY LINE	4U	C02	1.5	PRINCIPAL ARTERIAL	8,400	2.0	0.490	0.0900	410	B	3,230	OTHER	C	0.16	0.20	B	44	1.759	NO	NONE	0.00	FULL	2.00
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5417N	US 98	CR 582 (GRIFFIN ROAD)	I-4	6D	B02	3.4	PRINCIPAL ARTERIAL	38,000	2.0	0.510	0.0750	1,413	C	3,020	TCDO	D	0.47	0.52	C	167	4.083	YES	FULL	1.74	FULL	2.00
5417S	US 98	CR 582 (GRIFFIN ROAD)	I-4	6D	B02	3.4	PRINCIPAL ARTERIAL	38,000	2.0	0.490	0.0750	1,362	C	3,020	TCDO	D	0.45	0.50	C	167	4.083	YES	FULL	1.74	FULL	2.00
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5419N	US 98	SOCRUM LOOP RD W	ROCK RIDGE RD	4U	H02	2.6	PRINCIPAL ARTERIAL	17,200	2.0	0.510	0.0750	625	B	2,640	TCDO	D	0.25	0.26	B	41	0.517	NO	NONE	0.00	FULL	2.00
5419S	US 98	SOCRUM LOOP RD W	ROCK RIDGE RD	4U	H02	2.6	PRINCIPAL ARTERIAL	17,200	2.0	0.490	0.0750	600	B	2,640	TCDO	D	0.23	0.25	B	41	0.517	NO	NONE	0.00	FULL	2.00
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5408N	US 98 (LAKE PARKER AVE S)	BARTOW RD	MEMORIAL BLVD E	4D	C02	1.1	PRINCIPAL ARTERIAL	12,500	2.0	0.490	0.0750	349	C	1,630	TCDO	D	0.21	0.24	C	145	8.893	YES	FULL	1.71	NONE	0.00
5408S	US 98 (LAKE PARKER AVE S)	BARTOW RD	MEMORIAL BLVD E	4D	C02	1.1	PRINCIPAL ARTERIAL	12,500	2.0	0.510	0.0750	363	C	1,630	TCDO	D	0.22	0.25	C	145	8.893	YES	FULL	1.71	NONE	0.00
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4150N	WABASH AVE S	ARIANA ST	US 92 (GEORGE JENKINS BLVD)	2U	L02	1.1	URBAN COLLECTOR	8,100	2.0	0.490	0.0900	357	C	750	TSDA	D	0.46	0.50	C	16	1.008	YES	PARTIAL	0.73	NONE	0.00
4150S	WABASH AVE S	ARIANA ST	US 92 (GEORGE JENKINS BLVD)	2U	L02	1.1	URBAN COLLECTOR	8,100	2.0	0.510	0.0900	372	C	750	TSDA	D	0.47	0.52	C	16	1.008	YES	PARTIAL	0.73	NONE	0.00
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4157N	WALK-IN-WATER RD	CR 630	SR 60	2U	H02	8.8	RURAL MAJOR COLLECTOR	1,300	2.0	0.490	0.0900	57	B	450	OTHER	C	0.13	0.14	B	32	1.527	NO	NONE	0.00	NONE	0.00
4157S	WALK-IN-WATER RD	CR 630	SR 60	2U	H02	8.8	RURAL MAJOR COLLECTOR	1,300	2.0	0.510	0.0900	60	B	450	OTHER	C	0.13	0.15	B	32	1.527	NO	NONE	0.00	NONE	0.00
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9030E	WALT LOOP ROAD	CR 582 (SOCRUM LOOP ROAD)	OLD POLK CITY ROAD	2U	L02	1.4	URBAN COLLECTOR	9,100	2.0	0.510	0.0900	418	C	790	TRANSITIONING	D	0.53	0.58	C	25	1.003	NO	PARTIAL	0.49	NONE	0.00
9030W	WALT LOOP ROAD	CR 582 (SOCRUM LOOP ROAD)	OLD POLK CITY ROAD	2U	L02	1.4	URBAN COLLECTOR	9,100	2.0	0.490	0.0900	401	C	790	TRANSITIONING	D	0.51	0.56	C	23	1.003	NO	PARTIAL	0.49	NONE	0.00
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9052N	WARING ROAD	OLD MEDULLA ROAD	SR 570 (POLK PARKWAY)	2U	L02	1.1	URBAN COLLECTOR	10,700	2.0	0.490	0.0900	472	C	790	TSDA	D	0.60	0.66	C	6	0.275	NO	PARTIAL	0.94	PARTIAL	1.00
9052S	WARING ROAD	OLD MEDULLA ROAD	SR 570 (POLK PARKWAY)	2U	L02	1.1	URBAN COLLECTOR	10,700	2.0	0.510	0.0900	491	C	790	TSDA	D	0.62	0.68	C	6	0.275	NO	PARTIAL	0.94	PARTIAL	1.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9034E	WATER TANK ROAD	SR 17 (SCENIC HIGHWAY)	DETOUR ROAD	2U	L02	0.6	URBAN COLLECTOR	400	2.0	0.490	0.0750	14	C	750	TCDO	E	0.02	0.02	C	1	2.673	NO	NONE	0.00	NONE	0.00
9034W	WATER TANK ROAD	SR 17 (SCENIC HIGHWAY)	DETOUR ROAD	2U	L02	0.6	URBAN COLLECTOR	400	2.0	0.510	0.0750	15	C	750	TCDO	E	0.02	0.02	C	1	2.673	NO	NONE	0.00	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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9036E	WATER TANK ROAD	NICE GROVE ROAD	TYNER ROAD	2U	H02	1.0	URBAN COLLECTOR	200	2.0	0.510	0.0900	8	C	840	OTHER	C	0.01	0.02	C	1	2.728	NO	NONE	0.00	NONE	0.00
9036W	WATER TANK ROAD	NICE GROVE ROAD	TYNER ROAD	2U	H02	1.0	URBAN COLLECTOR	200	2.0	0.490	0.0900	8	C	840	OTHER	C	0.01	0.02	C	1	2.728	NO	NONE	0.00	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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9405E	WEST EDGEWOOD DRIVE	SR 563	SR 37 (S FLORIDA AVE)	2U	C02	1.1	URBAN COLLECTOR	10,300	2.0	0.510	0.0900	473	D	750	TSDA	D	0.63	0.69	D	22	1.558	YES	PARTIAL	0.46	FULL	2.00
9405W	WEST EDGEWOOD DRIVE	SR 563	SR 37 (S FLORIDA AVE)	2U	C02	1.1	URBAN COLLECTOR	10,300	2.0	0.490	0.0900	454	D	750	TSDA	D	0.61	0.67	D	22	1.558	YES	PARTIAL	0.46	FULL	2.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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9420N	WESTSIDE BLVD	CR 54 (RONALD REAGAN PARKWAY)	OSCEOLA COUNTY LINE	2U	B02	0.1	URBAN COLLECTOR	6,300	2.0	0.490	0.0900	284	C	880	TSDA	D	0.27	0.29	C	4	3.401	NO	PARTIAL	0.88	NONE	0.00
9420S	WESTSIDE BLVD	CR 54 (RONALD REAGAN PARKWAY)	OSCEOLA COUNTY LINE	2U	B02	0.1	URBAN COLLECTOR	6,300	2.0	0.510	0.0900	295	C	880	TSDA	D	0.28	0.30	C	4	3.401	NO	PARTIAL	0.88	NONE	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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9053N	YATES ROAD	EWELL ROAD	PIPKIN ROAD W	2U	L02	1.5	URBAN COLLECTOR	5,900	2.0	0.510	0.0750	214	C	750	TCDO	E	0.27	0.30	C	6	0.368	NO	PARTIAL	0.34	NONE	0.00
9053S	YATES ROAD	EWELL ROAD	PIPKIN ROAD W	2U	L02	1.5	URBAN COLLECTOR	5,900	2.0	0.490	0.0750	206	C	750	TCDO	E	0.26	0.28	C	6	0.368	NO	PARTIAL	0.34	NONE	0.00

Source: Polk Transportation Planning Organization April 8, 2022

APPENDIX C

Turning Movement Counts, Geometry,
Traffic Controls and Seasonal Factors

Appendix C - Table of Contents

National Data & Surveying Services Intersection Turning Movement Count

Location: US 27/SR 25 & SR 542/Dundee Rd
City: Dundee
Control: Signalized

Project ID: 22-130069-001
Date: 3/17/2022

Data - Total

NS/EW Streets:	US 27/SR 25				US 27/SR 25				SR 542/Dundee Rd				SR 542/Dundee Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	41	173	27	2	2	163	32	0	61	45	49	0	34	66	16	0	711
7:15 AM	47	210	30	3	13	228	41	0	56	54	67	0	41	73	11	0	874
7:30 AM	62	269	36	2	8	254	28	0	61	42	55	0	38	93	10	0	958
7:45 AM	52	255	28	2	20	224	46	2	73	51	45	0	55	77	14	0	944
8:00 AM	47	215	42	4	15	213	43	0	49	70	59	0	50	91	9	0	907
8:15 AM	51	278	29	1	22	246	61	1	47	47	67	0	46	84	10	0	990
8:30 AM	79	199	31	0	14	198	52	0	58	57	65	0	52	83	14	0	902
8:45 AM	65	214	27	2	13	195	46	1	49	55	42	0	50	67	15	0	841
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	444	1813	250	16	107	1721	349	4	454	421	449	0	366	634	99	0	7127
APPROACH %'s :	17.60%	71.86%	9.91%	0.63%	4.91%	78.91%	16.00%	0.18%	34.29%	31.80%	33.91%	0.00%	33.30%	57.69%	9.01%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	212	1017	135	9	65	937	178	3	230	210	226	0	189	345	43	0	3799
PEAK HR FACTOR :	0.855	0.915	0.804	0.563	0.739	0.922	0.730	0.375	0.788	0.750	0.843	0.000	0.859	0.927	0.768	0.000	0.959
	0.930				0.896				0.935				0.962				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	47	298	42	5	29	283	58	4	63	49	60	0	57	52	14	0	1061
4:15 PM	81	297	52	1	36	210	58	1	51	60	63	0	52	66	13	0	1041
4:30 PM	63	301	50	3	20	285	61	0	73	73	64	0	61	72	10	0	1136
4:45 PM	70	287	46	4	31	249	51	2	54	82	51	0	43	86	14	0	1070
5:00 PM	41	319	50	5	26	299	71	0	76	73	67	0	59	75	11	0	1172
5:15 PM	60	326	35	7	22	257	60	0	57	88	71	0	40	60	9	0	1092
5:30 PM	68	317	52	7	18	309	60	1	66	71	62	0	48	61	19	0	1159
5:45 PM	59	307	41	3	30	233	44	2	44	83	64	0	39	74	18	0	1041
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	489	2452	368	35	212	2125	463	10	484	579	502	0	399	546	108	0	8772
APPROACH %'s :	14.62%	73.33%	11.00%	1.05%	7.54%	75.62%	16.48%	0.36%	30.93%	37.00%	32.08%	0.00%	37.89%	51.85%	10.26%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	239	1249	183	23	97	1114	242	3	253	314	251	0	190	282	53	0	4493
PEAK HR FACTOR :	0.854	0.958	0.880	0.821	0.782	0.901	0.852	0.375	0.832	0.892	0.884	0.000	0.805	0.820	0.697	0.000	0.958
	0.954				0.919				0.947				0.905				

Prepared by National Data & Surveying Services

US 27/SR 25 & SR 542/Dundee Rd

Peak Hour Turning Movement Count

ID: 22-130069-001
City: Dundee

Day: Thursday
Date: 3/17/2022

	PEAK HOURS	COUNT PERIODS
AM	07:30 AM - 08:30 AM	7:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:45 PM - 05:45 PM	4:00 PM - 06:00 PM

US 27/SR 25 – SOUTHBOUND

	Right	Thru	Left	U-Turn	Total (departing)
AM	178	937	65	3	1293
NOON	0	0	0	0	0
PM	242	1114	97	3	1558
(red)	0	0	0	0	

SR 542/Dundee Rd – EASTBOUND

	AM	NOON	PM	(red)
Total (departing)	735	0	763	
U-Turn	0	0	0	0
Left	230	0	253	0
Thru	210	0	314	0
Right	226	0	251	0

SR 542/Dundee Rd – WESTBOUND

	PM	NOON	AM	(red)
Right	53	0	43	0
Thru	282	0	345	0
Left	190	0	189	0
U-Turn	0	0	0	0
Total (departing)	594	0	410	

US 27/SR 25 – NORTHBOUND

	Total (departing)	U-Turn	Left	Thru	Right
(red)		0	0	0	0
PM	1578	23	239	1249	183
NOON	0	0	0	0	0
AM	1361	9	212	1017	135

CONTROL

Signalized

	AM	NOON	PM
TEV	3799	0	4493
PHF	0.96		0.96

Cars (AM)

Approach	Left	Thru	Right
Southbound	58	828	166
Eastbound	222	198	217
Westbound	178	339	39
Northbound	201	909	125

HT (AM)

Approach	Left	Thru	Right
Southbound	7	109	12
Eastbound	8	12	9
Westbound	11	6	4
Northbound	11	108	10

Cars (NOON)

Approach	Left	Thru	Right
Southbound	0	0	0
Eastbound	0	0	0
Westbound	0	0	0
Northbound	0	0	0

HT (NOON)

Approach	Left	Thru	Right
Southbound	0	0	0
Eastbound	0	0	0
Westbound	0	0	0
Northbound	0	0	0

Cars (PM)

Approach	Left	Thru	Right
Southbound	92	1033	237
Eastbound	240	312	244
Westbound	182	275	51
Northbound	233	115	177

HT (PM)

Approach	Left	Thru	Right
Southbound	5	81	5
Eastbound	13	2	7
Westbound	8	7	2
Northbound	6	90	6

Pedestrians (Crosswalks)

Crosswalk	Direction	AM	NOON	PM
North	Eastbound	0	0	0
North	Westbound	0	0	0
South	Eastbound	3	0	0
South	Westbound	0	0	0
West	Southbound	2	0	0
West	Northbound	1	0	0
East	Southbound	0	0	0
East	Northbound	1	0	0
Northwest (diagonal)		0	0	0
Northeast (diagonal)		0	0	0
Southwest (diagonal)		0	0	0
Southeast (diagonal)		0	0	0

National Data & Surveying Services

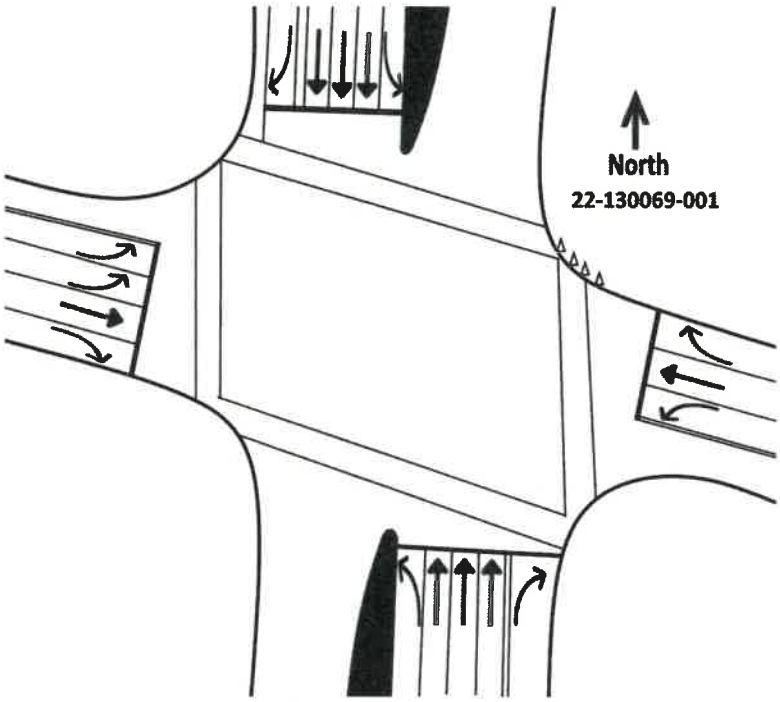
Site Code:	**22-130069-001**
Date:	**03/17/2022**
Weather:	**Sunny**
City:	**Dundee**
County:	**Polk**
Count Times:	**07:00 - 09:00**
	16:00 - 18:00
Control:	**Signalized**

SIGNAL TIMING

PHASES	1	2	3
NL/SL	00:27	00:28	00:28
NL/NT	00:21	00:21	00:20
NT/ST	01:04	01:03	01:03
EL/WL	00:36	00:36	00:39
ET/WT	00:52	00:53	00:50

N↑

N/S Street: **US 27/SR 25** | Speed: **50 MPH**



E/W Street: **SR 542/Dundee Rd** | Speed: **45 MPH**

Time of Day Plan

Designed By:	RM
Date:	03/2022
Checked By:	
Date:	

Arterial: SR 25 (US 27)
System ID: 16180B2
Section: 16180000
From: SR 542/Dundee Road
To: SR 544

ALL SEASON PLAN

Day	Time	Pattern	Cycle Length
Monday Thru Friday (Day 1)	0000 - 0630	-	FREE
	0630 - 0930	1	170
	0930 - 1300	2	170
	1300 - 1900	3	200
	1900 - 0000	-	FREE
Saturday (Day 2)	0000 - 0800	-	FREE
	0800 - 1030	6	170
	1030 - 1630	4	170
	1630 - 1900	6	170
	1900 - 0000	-	FREE
Sunday (Day 3)	0000 - 0930	-	FREE
	0930 - 1130	6	170
	1130 - 1630	5	170
	1630 - 1900	6	170
	1900 - 0000	-	FREE

Note:
1) This system is coordinated with System 16180B1 to the south during the morning, midday, weekend off-peak, and weekend peak periods.
2) US 27 & SR 544 runs in FREE all days and times

Designed By:	BMH
Date:	12/01/20
Checked By:	NJS
Date:	12/01/20

Location Details					
Section:	*16180000*			Mile Post:	*8.694*
Major Street:	*SR 25 (US 27)*			Orientation:	*North-South*
Minor Street:	*SR 542/Dundee Road*			Orientation:	*East-West*
Sig ID:	*744*	ATMS ID:	*1301*	System ID:	*1618082*

Controller Timings (seconds)

Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	*NBL*	*SB*	*EBL*	*WB*	*SBL*	*NB*	*WBL*	*EB*	
Turn Type	*Prot*		*Prot*		*Prot*		*Prot*		
Min Green	*5*	*24*	*5*	*7*	*5*	*24*	*5*	*10*	
Ext	*3.0*	*2.5*	*3.0*	*3.0*	*3.0*	*2.5*	*3.0*	*3.0*	
Yellow	*5.1*	*5.1*	*4.8*	*4.2*	*5.1*	*5.1*	*4.2*	*4.8*	
All Red	*3.0*	*2.0*	*2.6*	*3.2*	*3.0*	*2.0*	*2.7*	*2.1*	
Max I	*30*	*52*	*15*	*34*	*20*	*52*	*18*	*34*	
Max II									
Walk		*7*		*7*		*7*		*7*	
Flashing Don't Walk		*24*		*40*		*24*		*42*	
Detector Memory									
Det. Cross Switch.									
Dual Entry		*ON*		*ON*		*ON*		*ON*	
Vehicle Recall		*MIN*				*MIN*			
CNA									
Rest in Walk									

Coordination Timings (seconds)

Pattern	C/O/S	Cycle Length	Splits								Offset	Sequence	Coord Ø
1	-	*170*	*33*	*57*	*30*	*50*	*20*	*70*	*40*	*40*	*158*	*3*	*2*
2	-	*170*	*41*	*53*	*26*	*50*	*23*	*71*	*36*	*40*	*149*	*3*	*2*
3	-	*200*	*52*	*65*	*33*	*50*	*30*	*87*	*36*	*47*	*44*	*1*	*2*
4	-	*170*	*40*	*58*	*27*	*45*	*20*	*78*	*42*	*30*	*156*	*3*	*2*
5	-	*170*	*40*	*58*	*27*	*45*	*20*	*78*	*42*	*30*	*156*	*3*	*2*
6	-	*170*	*41*	*53*	*26*	*50*	*23*	*71*	*36*	*40*	*149*	*3*	*2*

Offset Reference Point
End of Green

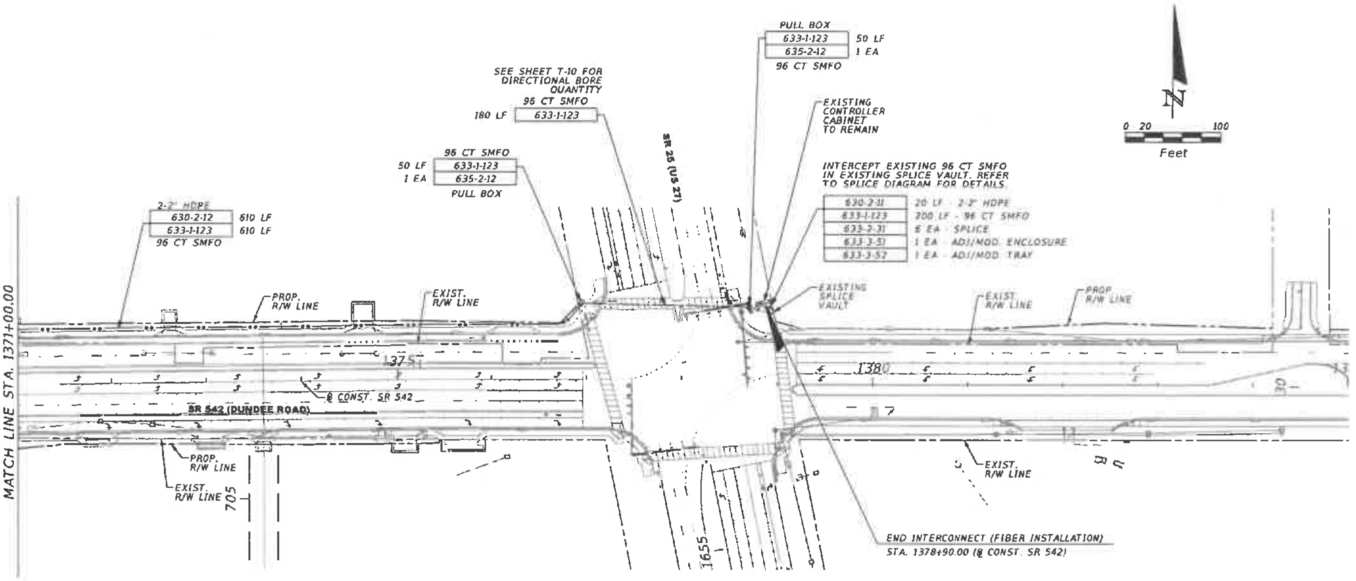
Notes:
1) Use 'Max I' during FREE operation and 'Inhibit Max' during coordination
2) Use Fixed Force Offs
3) Sequence 1 used during FREE operation
4) Max recall Ø2 and Ø6 during coordination
5) Program 8 seconds detection delay for minor street right turn movements
6) Controller Brand: Naztec, Controller Model: ATC
6.a) Program 'MinPerm' for pedestrian phases during coordination
6.b) 'Stop In Walk': ON
6.c) Program 'Return Hold' during coordination
6.d) Short/Long percentage is 10/22 for all patterns
6.e) Ped Recycle: 3478_INH

SOP 10 (Sequence 1)

Ring - 1	1	2	3	4
Ring - 2	5	6	7	8

SOP 10 (Sequence 3)

Ring - 1	2	1	3	4
Ring - 2	5	6	7	8



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ANGELO BELLUCCIA, P.E.
P.E. LICENSE NUMBER 46548
ICON CONSULTANT GROUP, INC
10006 N. DALE MABRY HIGHWAY, SUITE 201
TAMPA, FLORIDA 33618
CERTIFICATE OF AUTHORIZATION NO. 8230

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 542	POLK	410666-3-52-01

INTERCONNECT PLAN (11)

SHEET NO.
T-26

fgarcia 1/8/2020 1:19:05 PM

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

National Data & Surveying Services Intersection Turning Movement Count

Location: Center St & SR 17/Main St/E Main St
City: Dundee
Control: Signalized

Project ID: 22-130069-002
Date: 3/17/2022

Data - Total

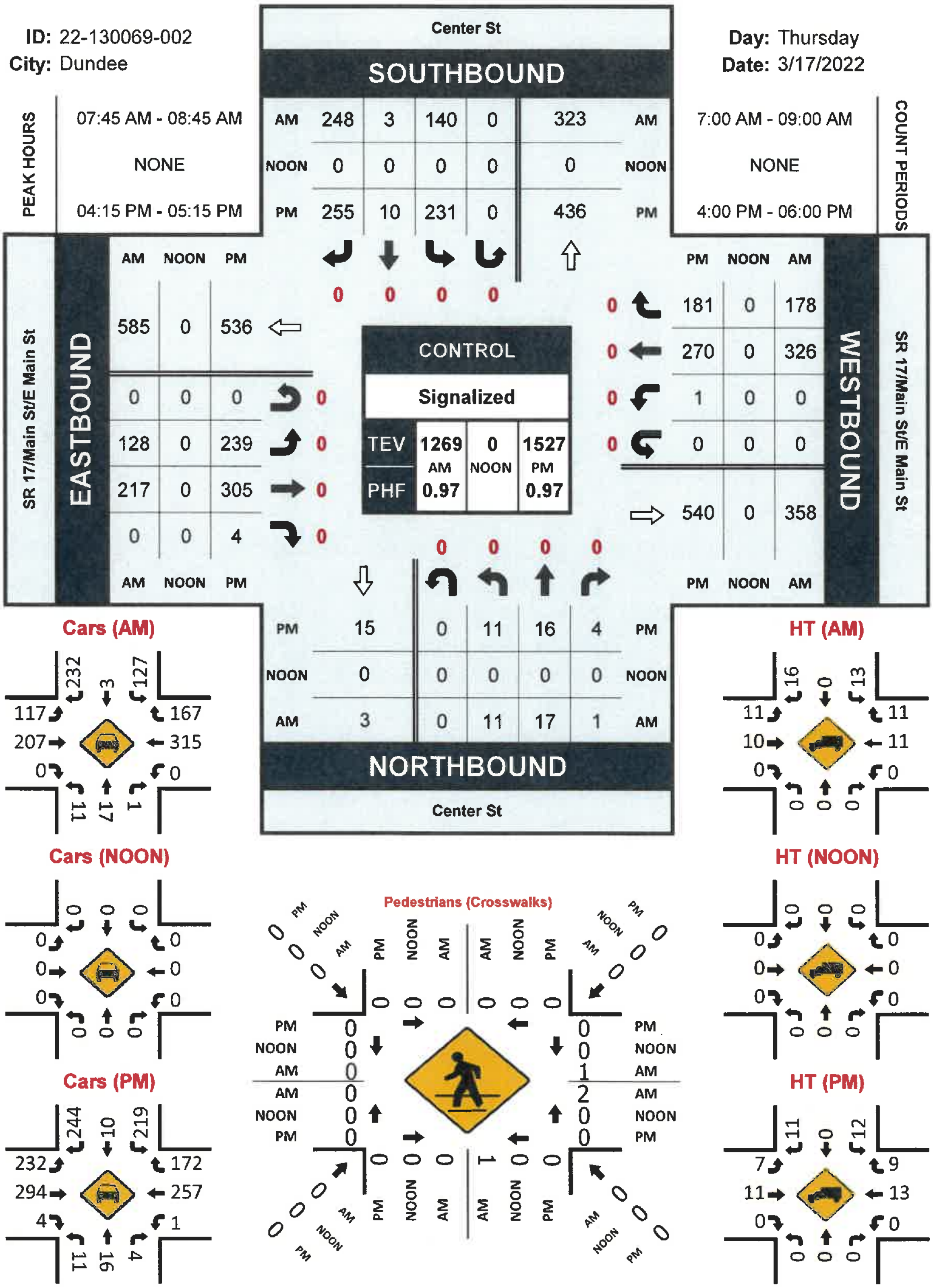
NS/EW Streets:	Center St				Center St				SR 17/Main St/E Main St				SR 17/Main St/E Main St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	2	5	1	0	15	2	48	0	33	27	0	0	0	52	34	0	219
7:15 AM	0	2	0	0	27	1	53	0	44	41	0	0	0	78	53	0	299
7:30 AM	2	2	0	0	28	0	58	0	44	38	0	0	3	71	49	0	295
7:45 AM	3	8	0	0	29	1	65	0	30	53	0	0	0	83	50	0	322
8:00 AM	2	3	0	0	45	0	56	0	32	61	0	0	0	83	46	0	328
8:15 AM	5	3	0	0	32	0	63	0	34	53	0	0	0	87	35	0	312
8:30 AM	1	3	1	0	34	2	64	0	32	50	0	0	0	73	47	0	307
8:45 AM	1	3	1	0	31	1	48	0	41	40	0	0	0	76	50	0	292
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	16	29	3	0	241	7	455	0	290	363	0	0	3	603	364	0	2374
APPROACH %'s :	33.33%	60.42%	6.25%	0.00%	34.28%	1.00%	64.72%	0.00%	44.41%	55.59%	0.00%	0.00%	0.31%	62.16%	37.53%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	11	17	1	0	140	3	248	0	128	217	0	0	0	326	178	0	1269
PEAK HR FACTOR :	0.550	0.531	0.250	0.000	0.778	0.375	0.954	0.000	0.941	0.889	0.000	0.000	0.000	0.937	0.890	0.000	0.967
		0.659				0.968				0.927				0.947			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	2	4	1	0	61	4	65	0	58	82	1	0	0	67	37	0	382
4:15 PM	2	1	2	0	61	3	72	0	58	68	1	0	1	63	55	0	387
4:30 PM	4	6	1	0	55	2	74	0	60	73	1	0	0	74	40	0	390
4:45 PM	0	2	0	0	54	1	54	0	64	80	0	0	0	63	40	0	358
5:00 PM	5	7	1	0	61	4	55	0	57	84	2	0	0	70	46	0	392
5:15 PM	3	1	0	0	58	1	48	0	72	76	0	0	1	58	37	0	355
5:30 PM	0	3	1	0	71	1	65	0	83	75	1	0	0	55	35	0	390
5:45 PM	1	1	2	0	67	0	47	0	61	75	0	0	0	52	50	0	356
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	17	25	8	0	488	16	480	0	513	613	6	0	2	502	340	0	3010
APPROACH %'s :	34.00%	50.00%	16.00%	0.00%	49.59%	1.63%	48.78%	0.00%	45.32%	54.15%	0.53%	0.00%	0.24%	59.48%	40.28%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	11	16	4	0	231	10	255	0	239	305	4	0	1	270	181	0	1527
PEAK HR FACTOR :	0.550	0.571	0.500	0.000	0.947	0.625	0.861	0.000	0.934	0.908	0.500	0.000	0.250	0.912	0.823	0.000	0.974
		0.596				0.912				0.951				0.950			

Prepared by National Data & Surveying Services

Center St & SR 17/Main St/E Main St

Peak Hour Turning Movement Count



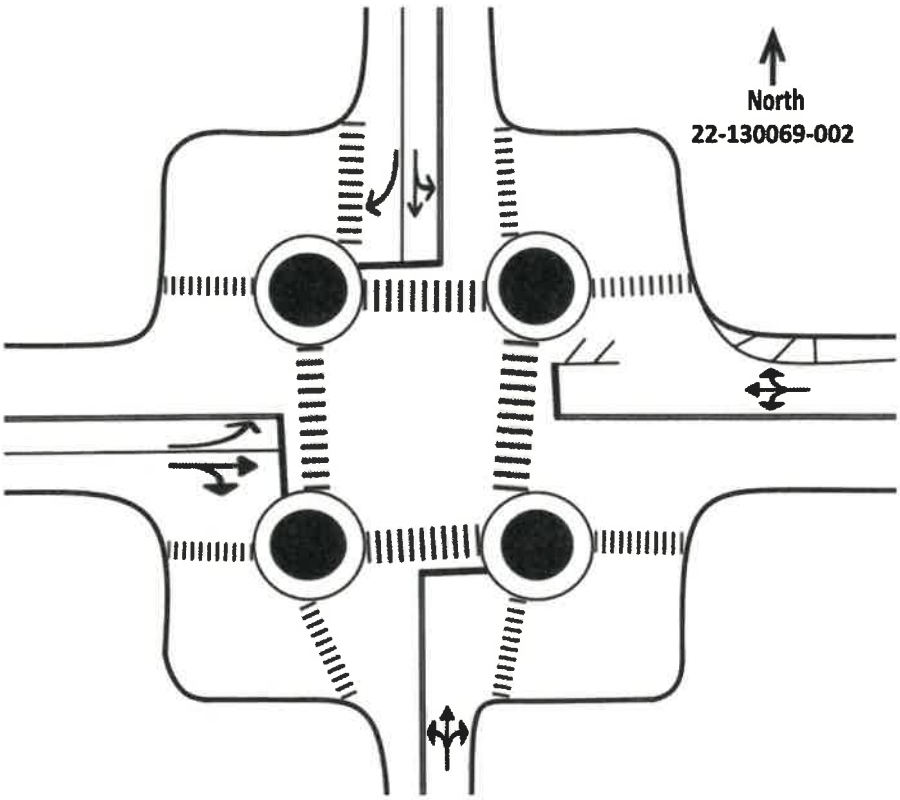
National Data & Surveying Services

Site Code:	**22-130069-002**
Date:	**03/17/2022**
Weather:	**Sunny**
City:	**Dundee**
County:	**Polk**
Count Times:	**07:00 - 09:00**
	16:00 - 18:00
Control:	**Signalized**

SIGNAL TIMING

PHASES	1	2	3
NT/ST	00:27	00:26	00:31
ET/WT	00:28	00:40	00:45

N↑ | N/S Street: **Center St** | Speed: **30 MPH**



E/W Street: **SR 17/Main St/E Main St**

Speed: **30 MPH**

FDOT - DISTRICT 1

Signal Timing Report

(For isolated traffic signal)

Drawn By:	RL
Date:	09/2015
Checked By:	EMC
Date:	09/2015

Approved By:

Rovindra Churaman, P.E. # 73829

Date: 09.17.2015

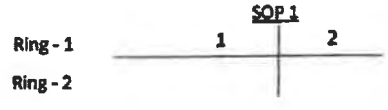
Revisions	Location Details	
11/2014: Updated the controller timing parameters to June 2014 Guidelines. Added detection delay for minor street right turn movements.	Section: *16090000*	Mile Post: *28.988*
	Major Street: *SR 17*	Orientation: *N-S*
	Minor Street: *CR 542*	Orientation: *E-W*
	Sig ID: *690*	
	Implemented: 02.05.2015	

Disclaimer Statement

The revisions noted above are the only timing parameters being approved. The remaining timing data was previously approved as part of previous revisions or as part of previous retiming efforts.

Controller Timings

Movement # (Controller Phase #)	1	2	3	4	5	6	7	8	Notes
Direction	*EB/WB*	*NB/SB*							
Turn Type									
Min Green	*7*	*7*							
Ext	*3.0*	*3.0*							
Yellow	*3.7*	*3.7*							
All Red	*2.1*	*2.0*							
Max I	*40*	*40*							
Max II									
Max Limit									
Adjust By									
Walk	*7*	*7*							
Flashing Don't Walk	*13*	*15*							
Detector Memory									
Det. Cross Switch.									
Dual Entry	*ON*	*ON*							
Recall	*MIN*								



Notes:

1) Program 8 secs detection delay for minor street right turn.

National Data & Surveying Services Intersection Turning Movement Count

Location: Lake Trask Rd & SR 17/N Scenic Hwy
City: Dundee
Control: 1-Way Stop(SB)

Project ID: 22-130069-003
Date: 3/17/2022

Data - Total

NS/EW Streets:	Lake Trask Rd				Lake Trask Rd				SR 17/N Scenic Hwy				SR 17/N Scenic Hwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	0	0	0	0	23	0	20	0	8	41	0	0	0	37	15	0	144
7:15 AM	0	0	0	0	21	0	25	1	10	41	0	0	0	57	22	0	177
7:30 AM	0	0	0	0	40	0	29	0	11	36	0	0	0	55	13	0	184
7:45 AM	0	0	0	0	37	0	32	0	17	43	0	0	0	61	23	0	213
8:00 AM	0	0	0	0	36	0	28	0	21	50	0	0	0	58	19	0	212
8:15 AM	0	0	0	0	31	0	25	0	23	38	0	0	0	55	17	0	189
8:30 AM	0	0	0	0	22	0	37	0	25	34	0	0	0	51	19	0	188
8:45 AM	0	0	0	0	30	0	52	0	21	38	0	0	0	43	30	0	214
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	240	0	248	1	136	321	0	0	0	417	158	0	1521
APPROACH %'s :					49.08%	0.00%	50.72%	0.20%	29.76%	70.24%	0.00%	0.00%	0.00%	72.52%	27.48%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	119	0	142	0	90	160	0	0	0	207	85	0	803
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.826	0.000	0.683	0.000	0.900	0.800	0.000	0.000	0.000	0.892	0.708	0.000	0.938
							0.796				0.880				0.948		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	0	0	0	0	37	0	60	0	39	76	0	0	0	50	28	0	290
4:15 PM	0	0	0	0	30	0	28	0	32	72	0	0	0	61	29	0	252
4:30 PM	0	0	0	0	29	0	33	0	15	52	0	0	0	46	26	0	201
4:45 PM	0	0	0	0	28	0	13	0	20	79	0	0	0	62	32	0	234
5:00 PM	0	0	0	0	35	0	30	0	33	71	0	0	0	54	33	0	256
5:15 PM	0	0	0	0	24	0	17	0	24	63	0	0	0	63	37	0	228
5:30 PM	0	0	0	0	15	0	12	0	18	72	0	0	0	53	36	0	206
5:45 PM	0	0	0	0	20	0	20	0	33	78	0	0	0	52	39	0	242
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	218	0	213	0	214	563	0	0	0	441	260	0	1909
APPROACH %'s :					50.58%	0.00%	49.42%	0.00%	27.54%	72.46%	0.00%	0.00%	0.00%	62.91%	37.09%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	124	0	134	0	106	279	0	0	0	219	115	0	977
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.838	0.000	0.558	0.000	0.679	0.883	0.000	0.000	0.000	0.883	0.898	0.000	0.842
							0.665				0.837				0.888		

Prepared by National Data & Surveying Services

Lake Trask Rd & SR 17/N Scenic Hwy

Peak Hour Turning Movement Count

ID: 22-130069-003
City: Dundee

Day: Thursday
Date: 3/17/2022

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	7:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	4:00 PM - 06:00 PM

Lake Trask Rd

SOUTHBOUND

AM	142	0	119	0	175	AM
NOON	0	0	0	0	0	NOON
PM	134	0	124	0	221	PM

EASTBOUND (SR 17/N Scenic Hwy)

AM	NOON	PM	
349	0	353	⇦
0	0	0	0
90	0	106	0
160	0	279	0
0	0	0	0
AM	NOON	PM	

CONTROL
1-Way Stop(SB)

TEV	803	0	977
	AM	NOON	PM
PHF	0.94		0.84

WESTBOUND (SR 17/N Scenic Hwy)

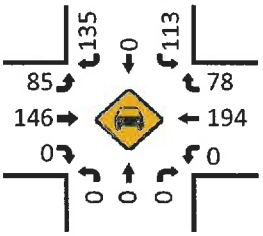
PM	NOON	AM	
115	0	85	0
219	0	207	0
0	0	0	0
0	0	0	0
403	0	279	⇨
PM	NOON	AM	

NORTHBOUND

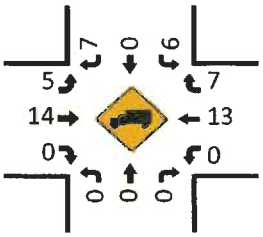
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

Lake Trask Rd

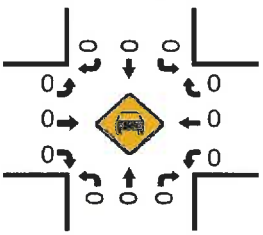
Cars (AM)



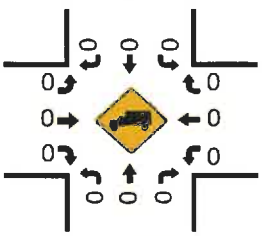
HT (AM)



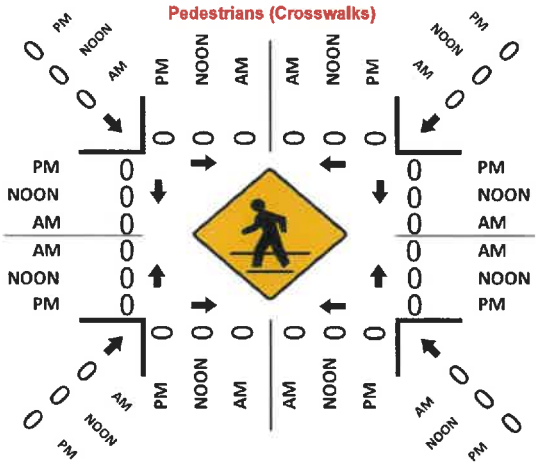
Cars (NOON)



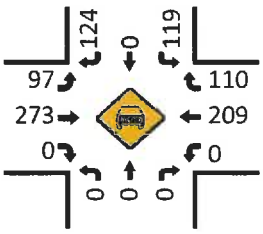
HT (NOON)



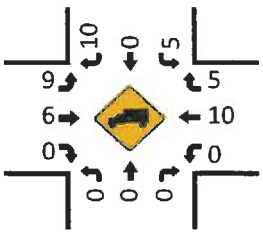
Pedestrians (Crosswalks)



Cars (PM)



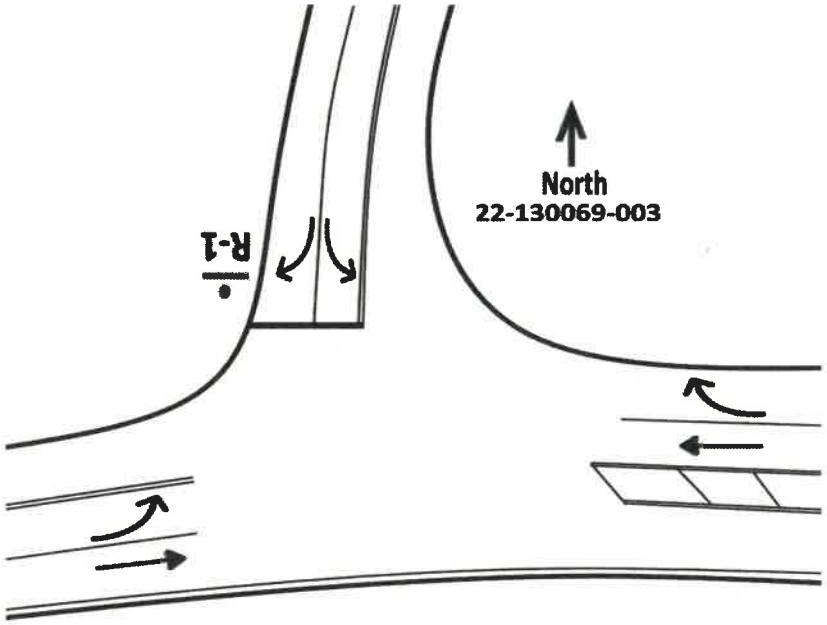
HT (PM)



National Data & Surveying Services

Site Code:	**22-130069-003**
Date:	**03/17/2022**
Weather:	**Sunny**
City:	**Dundee**
County:	**Polk**
Count Times:	**07:00 - 09:00**
	16:00 - 18:00
Control:	**1-Way Stop(SB)**

N↑ | N/S Street: **Lake Trask Rd** | Speed: **30 MPH**



E/W Street: **SR 17/N Scenic Hwy** | Speed: **55 MPH**

National Data & Surveying Services Intersection Turning Movement Count

Location: H L Smith Rd & Lake Mabel Loop Rd
City: Dundee
Control: 1-Way Stop(SB)

Project ID: 22-130069-004
Date: 3/17/2022

Data - Total

NS/EW Streets:	H L Smith Rd				H L Smith Rd				Lake Mabel Loop Rd				Lake Mabel Loop Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	0	0	0	0	2	0	12	0	9	2	0	0	0	16	13	0	54
7:15 AM	0	0	0	0	8	0	15	0	10	3	0	0	0	13	8	0	57
7:30 AM	0	0	0	0	3	0	29	0	12	4	0	0	0	21	14	0	83
7:45 AM	0	0	0	0	11	0	24	0	13	7	0	0	0	15	14	0	84
8:00 AM	0	0	0	0	8	0	20	0	8	8	0	0	0	11	7	0	62
8:15 AM	0	0	0	0	4	0	19	0	11	6	0	0	0	10	2	0	52
8:30 AM	0	0	0	0	7	0	8	0	9	7	0	0	0	17	4	0	52
8:45 AM	0	0	0	0	2	0	14	0	18	3	0	0	0	8	3	0	48
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	45	0	141	0	90	40	0	0	0	111	65	0	492
APPROACH %'s :					24.19%	0.00%	75.81%	0.00%	69.23%	30.77%	0.00%	0.00%	0.00%	63.07%	36.93%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	30	0	88	0	43	22	0	0	0	60	43	0	286
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.682	0.000	0.759	0.000	0.827	0.688	0.000	0.000	0.000	0.714	0.768	0.000	0.851
							0.843				0.813				0.736		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	0	0	0	0	14	0	14	0	21	23	0	0	0	5	3	0	80
4:15 PM	0	0	0	0	8	0	4	0	25	16	0	0	0	8	4	0	65
4:30 PM	0	0	0	0	8	0	12	0	17	11	0	0	0	10	7	0	65
4:45 PM	0	0	0	0	12	0	15	0	13	9	0	0	0	6	5	0	60
5:00 PM	0	0	0	0	9	0	12	0	23	21	0	0	0	10	6	0	81
5:15 PM	0	0	0	0	15	0	18	0	27	17	0	0	0	9	5	0	91
5:30 PM	0	0	0	0	10	0	5	0	18	13	0	0	0	7	3	0	56
5:45 PM	0	0	0	0	6	0	8	0	17	22	0	0	0	9	3	0	65
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	82	0	88	0	161	132	0	0	0	64	36	0	563
APPROACH %'s :					48.24%	0.00%	51.76%	0.00%	54.95%	45.05%	0.00%	0.00%	0.00%	64.00%	36.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	44	0	57	0	80	58	0	0	0	35	23	0	297
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.733	0.000	0.792	0.000	0.741	0.690	0.000	0.000	0.000	0.875	0.821	0.000	0.816
							0.765				0.784				0.853		

Prepared by National Data & Surveying Services

H L Smith Rd & Lake Mabel Loop Rd

Peak Hour Turning Movement Count

ID: 22-130069-004
City: Dundee

Day: Thursday
Date: 3/17/2022

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

SOUTHBOUND (H L Smith Rd)

AM	88	0	30	0	86
NOON	0	0	0	0	0
PM	57	0	44	0	103

EASTBOUND (Lake Mabel Loop Rd)

AM	NOON	PM	
148	0	92	⇦
0	0	0	↰ 0
43	0	80	↑ 0
22	0	58	→ 0
0	0	0	↱ 0

WESTBOUND (Lake Mabel Loop Rd)

PM	NOON	AM	
23	0	43	0 ↰
35	0	60	0 ←
0	0	0	0 ↰
0	0	0	0 ↰
102	0	52	⇨

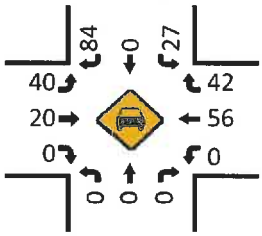
CONTROL: 1-Way Stop(SB)

TEV	286 AM	0 NOON	297 PM
PHF	0.85		0.82

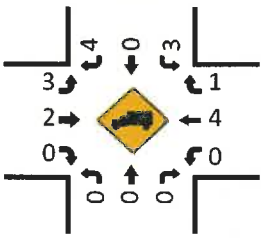
NORTHBOUND (H L Smith Rd)

PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0

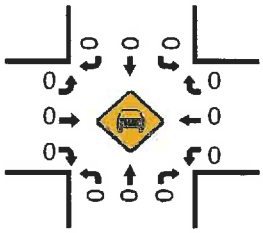
Cars (AM)



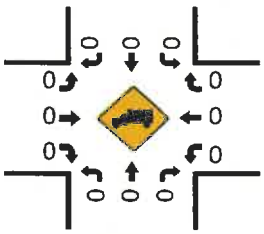
HT (AM)



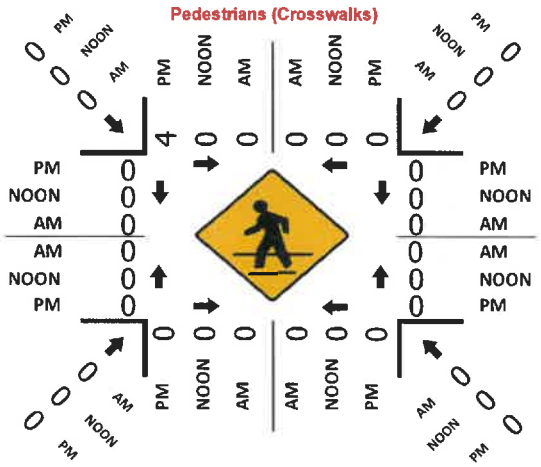
Cars (NOON)



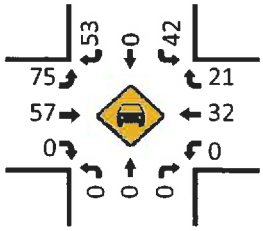
HT (NOON)



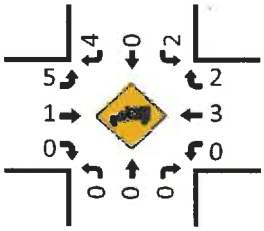
Pedestrians (Crosswalks)



Cars (PM)



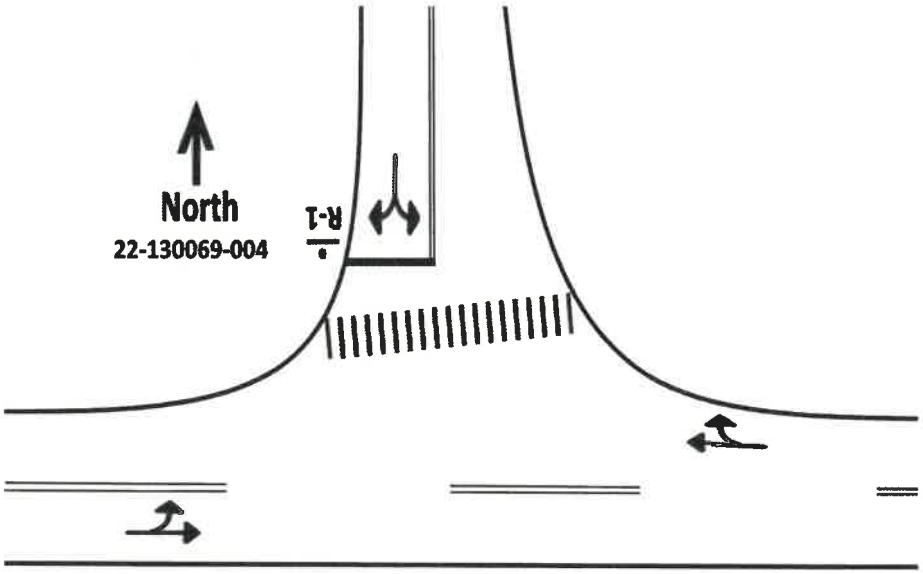
HT (PM)



National Data & Surveying Services

Site Code:	**22-130069-004**
Date:	**03/17/2022**
Weather:	**Sunny**
City:	**Dundee**
County:	**Polk**
Count Times:	**07:00 - 09:00**
	16:00 - 18:00
Control:	**1-Way Stop(SB)**

N↑ | N/S Street: **H L Smith Rd** | Speed: **35 MPH**



E/W Street: **Lake Mabel Loop Rd** | Speed: **45 MPH**

National Data & Surveying Services Intersection Turning Movement Count

Location: SR 17/N Scenic Hwy & Waverly Rd
City: Lake Wales
Control: 1-Way Stop(EB)

Project ID: 22-130069-006
Date: 3/17/2022

Data - Total

NS/EW Streets:	SR 17/N Scenic Hwy				SR 17/N Scenic Hwy				Waverly Rd				Waverly Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	14	49	0	0	0	67	21	0	5	0	8	0	0	0	0	0	164
7:15 AM	14	68	0	0	0	72	16	0	8	0	13	0	0	0	0	0	191
7:30 AM	11	63	0	0	0	79	22	0	7	0	12	0	0	0	0	0	194
7:45 AM	19	74	0	0	0	80	38	0	11	0	10	0	0	0	0	0	232
8:00 AM	11	65	0	0	0	82	20	0	8	0	12	0	0	0	0	0	198
8:15 AM	16	66	0	0	0	78	16	0	11	0	14	0	0	0	0	0	201
8:30 AM	15	64	0	0	0	54	12	0	6	0	10	0	0	0	0	0	161
8:45 AM	18	52	0	0	0	69	19	0	11	0	11	0	0	0	0	0	180
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	118	501	0	0	0	581	164	0	67	0	90	0	0	0	0	0	1521
APPROACH %'s :	19.06%	80.94%	0.00%	0.00%	0.00%	77.99%	22.01%	0.00%	42.68%	0.00%	57.32%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	57	268	0	0	0	319	96	0	37	0	48	0	0	0	0	0	825
PEAK HR FACTOR :	0.750	0.905	0.000	0.000	0.000	0.973	0.632	0.000	0.841	0.000	0.857	0.000	0.000	0.000	0.000	0.000	0.889
		0.874				0.879				0.850							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	15	73	0	0	0	83	21	0	31	0	11	0	0	0	0	0	234
4:15 PM	21	85	0	0	0	89	32	0	28	0	20	0	0	0	0	0	275
4:30 PM	18	77	0	0	0	71	18	0	30	0	21	0	0	0	0	0	235
4:45 PM	18	87	0	0	0	97	26	0	37	0	32	0	0	0	0	0	297
5:00 PM	16	81	0	0	0	97	23	0	32	0	18	0	0	0	0	0	267
5:15 PM	17	82	0	0	0	78	9	0	36	0	18	0	0	0	0	0	240
5:30 PM	17	93	0	0	0	78	20	0	43	0	17	0	0	0	0	0	268
5:45 PM	16	82	0	0	0	89	24	0	33	0	15	0	0	0	0	0	259
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	138	660	0	0	0	682	173	0	270	0	152	0	0	0	0	0	2075
APPROACH %'s :	17.29%	82.71%	0.00%	0.00%	0.00%	79.77%	20.23%	0.00%	63.98%	0.00%	36.02%	0.00%					
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	73	330	0	0	0	354	99	0	127	0	91	0	0	0	0	0	1074
PEAK HR FACTOR :	0.869	0.948	0.000	0.000	0.000	0.912	0.773	0.000	0.858	0.000	0.711	0.000	0.000	0.000	0.000	0.000	0.904
		0.950				0.921				0.790							

Prepared by National Data & Surveying Services

SR 17/N Scenic Hwy & Waverly Rd

Peak Hour Turning Movement Count

ID: 22-130069-006
City: Lake Wales

Day: Thursday
Date: 3/17/2022

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	7:00 AM - 09:00 AM
NONE	NONE
04:15 PM - 05:15 PM	4:00 PM - 06:00 PM

SR 17/N Scenic Hwy — SOUTHBOUND

AM	96	319	0	0	305	AM
NOON	0	0	0	0	0	NOON
PM	99	354	0	0	457	PM

EASTBOUND (Waverly Rd)

AM	NOON	PM	
153	0	172	⇦
0	0	0	↰ 0
37	0	127	↱ 0
0	0	0	→ 0
48	0	91	↱ 0
AM	NOON	PM	

WESTBOUND (Waverly Rd)

PM	NOON	AM	
0	0	0	↱ 0
0	0	0	← 0
0	0	0	↰ 0
0	0	0	↰ 0
0	0	0	⇨
PM	NOON	AM	

CONTROL: 1-Way Stop(EB)

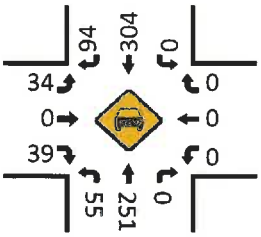
TEV	825 AM	0 NOON	1074 PM
PHF	0.89		0.90

PM	445	0	73	330	0	PM
NOON	0	0	0	0	0	NOON
AM	367	0	57	268	0	AM

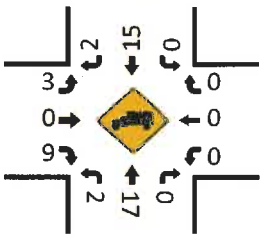
NORTHBOUND

SR 17/N Scenic Hwy

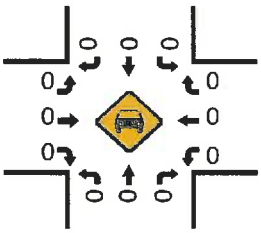
Cars (AM)



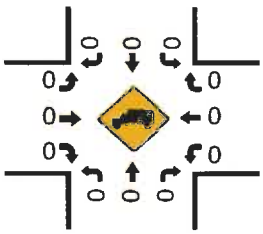
HT (AM)



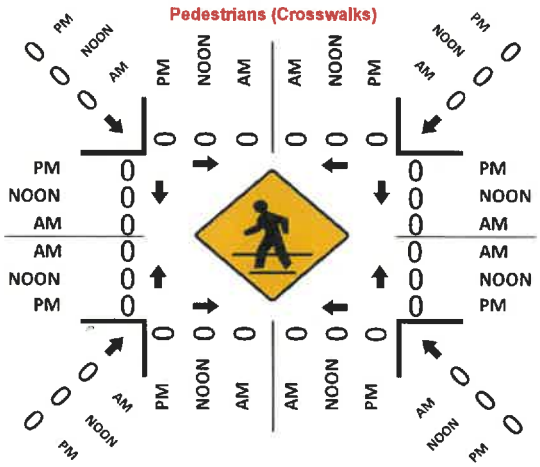
Cars (NOON)



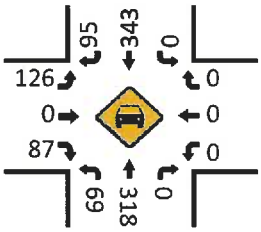
HT (NOON)



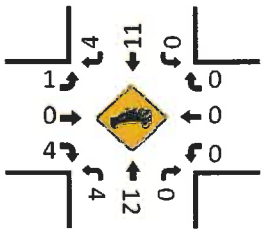
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)

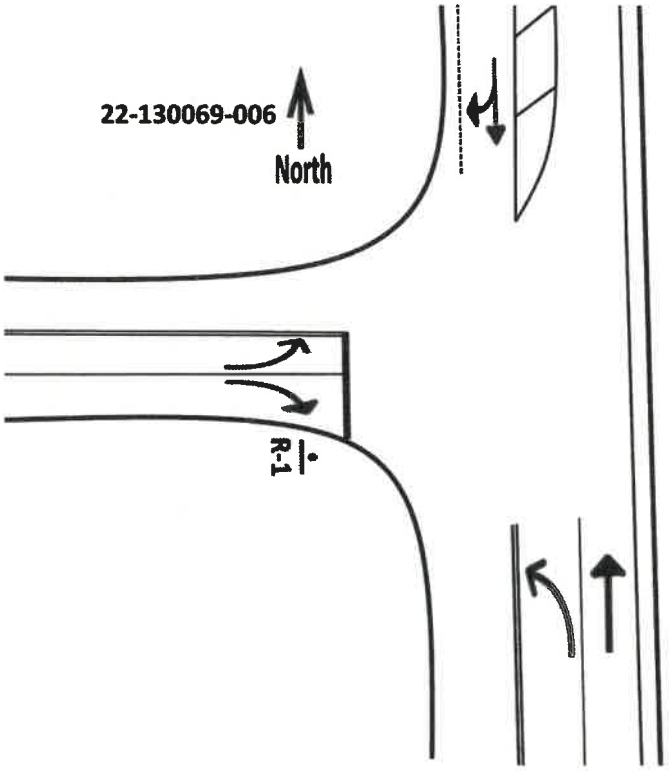


National Data & Surveying Services

Site Code:	**22-130069-006**
Date:	**03/17/2022**
Weather:	**Sunny**
City:	**Lake Wales**
County:	**Polk**
Count Times:	**07:00 - 09:00**
	16:00 - 18:00
Control:	**1-Way Stop(EB)**

N

N/S Street: **SR 17/N Scenic Hwy** | Speed: **55 MPH**



E/W Street: **Waverly Rd** | Speed: **45 MPH**

National Data & Surveying Services Intersection Turning Movement Count

Location: US 27/SR 25 & SR 540/Cypress Gardens Blvd/Waverly Rd
City: Lake Wales
Control: Signalized

Project ID: 22-130069-005
Date: 3/17/2022

Data - Total

NS/EW Streets:	US 27/SR 25				US 27/SR 25				SR 540/Cypress Gardens Blvd/Waverly Rd				SR 540/Cypress Gardens Blvd/Waverly Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	84	161	6	0	7	168	47	1	70	16	74	0	6	41	7	0	688
7:15 AM	110	247	9	0	2	247	53	0	60	13	100	0	6	18	4	0	869
7:30 AM	109	259	7	0	7	299	62	0	72	14	109	1	13	29	6	0	987
7:45 AM	100	220	9	0	8	224	81	0	84	27	128	0	14	46	8	0	949
8:00 AM	124	237	7	0	7	246	73	0	67	16	110	0	7	39	6	0	939
8:15 AM	111	274	9	0	2	240	73	1	74	28	104	1	10	27	7	0	961
8:30 AM	107	212	6	0	4	220	78	0	60	18	107	0	7	24	6	0	849
8:45 AM	118	204	14	1	7	192	72	0	64	19	116	1	4	30	9	0	851
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	863	1814	67	1	44	1836	539	2	551	151	848	3	67	254	53	0	7093
APPROACH %'s :	31.44%	66.08%	2.44%	0.04%	1.82%	75.84%	22.26%	0.08%	35.48%	9.72%	54.60%	0.19%	17.91%	67.91%	14.17%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	444	990	32	0	24	1009	289	1	297	85	451	2	44	141	27	0	3836
PEAK HR FACTOR :	0.895	0.903	0.889	0.000	0.750	0.844	0.892	0.250	0.884	0.759	0.881	0.500	0.786	0.766	0.844	0.000	0.972
	0.930				0.899				0.873				0.779				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	120	290	21	1	12	296	110	0	100	39	136	0	6	30	5	0	1166
4:15 PM	142	302	22	0	7	214	97	0	114	42	154	0	7	45	15	0	1161
4:30 PM	155	268	14	1	12	246	99	0	99	40	172	0	9	35	10	0	1160
4:45 PM	111	297	12	0	11	286	99	0	89	38	142	0	11	30	6	0	1132
5:00 PM	129	290	18	0	15	255	107	0	117	51	143	0	14	45	13	0	1197
5:15 PM	155	288	17	0	5	248	109	1	98	56	171	0	3	32	11	0	1194
5:30 PM	158	333	26	0	9	278	112	0	92	44	176	0	8	27	11	0	1274
5:45 PM	135	271	13	1	6	263	96	0	108	35	154	0	10	24	7	0	1123
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1105	2339	143	3	77	2086	829	1	817	345	1248	0	68	268	78	0	9407
APPROACH %'s :	30.78%	65.15%	3.98%	0.08%	2.57%	69.70%	27.70%	0.03%	33.90%	14.32%	51.78%	0.00%	16.43%	64.73%	18.84%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	553	1208	73	0	40	1067	427	1	396	189	632	0	36	134	41	0	4797
PEAK HR FACTOR :	0.875	0.907	0.702	0.000	0.667	0.933	0.953	0.250	0.846	0.844	0.898	0.000	0.643	0.744	0.788	0.000	0.941
	0.887				0.962				0.936				0.733				

Prepared by National Data & Surveying Services

US 27/SR 25 & SR 540/Cypress Gardens Blvd/Waverly Rd

Peak Hour Turning Movement Count

ID: 22-130069-005
City: Lake Wales

Day: Thursday
Date: 3/17/2022

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	7:00 AM - 09:00 AM
NONE	NONE
04:45 PM - 05:45 PM	4:00 PM - 06:00 PM

US 27/SR 25 — SOUTHBOUND

AM	289	1009	24	1	1315	AM
NOON	0	0	0	0	0	NOON
PM	427	1067	40	1	1646	PM

SR 540/Cypress Gardens Blvd/Waverly Rd — EASTBOUND

AM	NOON	PM	
876	0	1114	⇦
2	0	0	↰
297	0	396	↑
85	0	189	→
451	0	632	↱

SR 540/Cypress Gardens Blvd/Waverly Rd — WESTBOUND

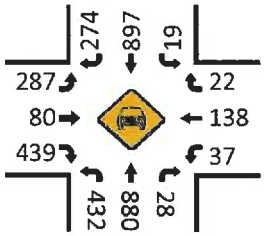
PM	NOON	AM	
41	0	27	↱
134	0	141	↑
36	0	44	→
0	0	0	↰
302	0	141	⇨

US 27/SR 25 — NORTHBOUND

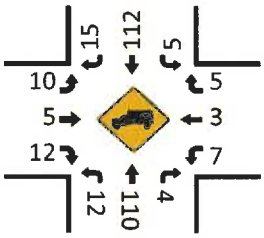
PM	1735	0	553	1208	73	PM
NOON	0	0	0	0	0	NOON
AM	1504	0	444	990	32	AM

CONTROL			
Signalized			
TEV	3836 AM	0 NOON	4797 PM
PHF	0.97		0.94

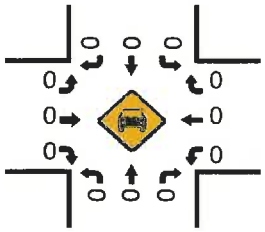
Cars (AM)



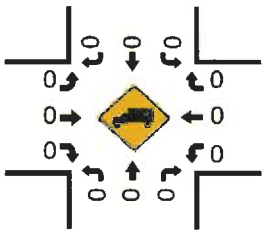
HT (AM)



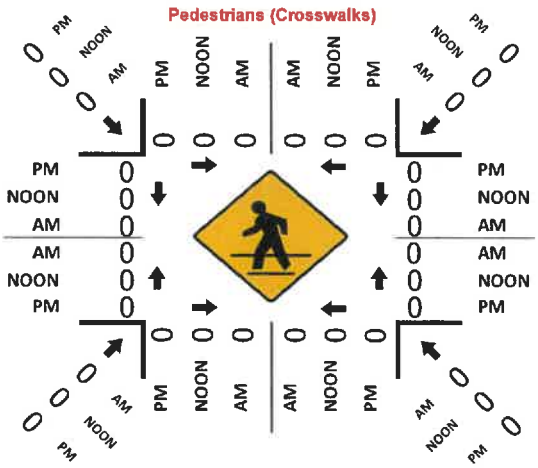
Cars (NOON)



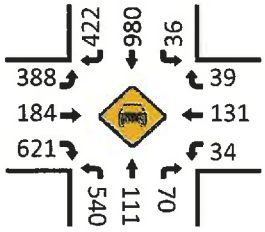
HT (NOON)



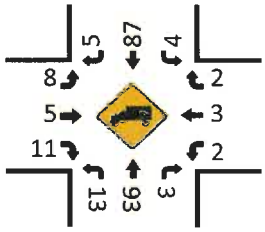
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services

Site Code:	**22-130069-005**
Date:	**03/17/2022**
Weather:	**Sunny**
City:	**Lake Wales**
County:	**Polk**
Count Times:	**07:00 - 09:00**
	16:00 - 18:00
Control:	**Signalized**

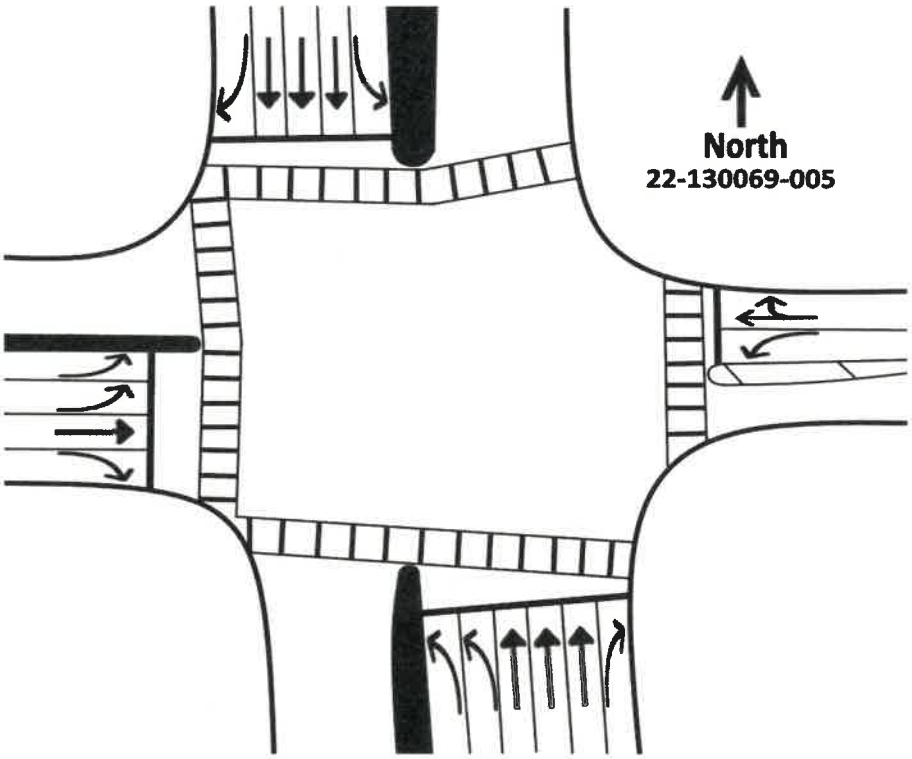
SIGNAL TIMING

PHASES	1	2	3
NL/NT	00:40	00:39	00:40
NT/ST	01:07	00:46	00:48
SL/ST	-	00:20	00:17
EL/WL	00:20	00:17	00:20
EL/ET	00:05	00:11	00:06
ET/WT	00:39	00:37	00:39

N↑

N/S Street: **US 27/SR 25**

Speed: **50 MPH**



E/W Street: **SR 540/Cypress Gardens Blvd/Waverly Rd**

Speed: **45 MPH**

FDOT - DISTRICT 1

Signal Timing Report

(For isolated traffic signal)

Drawn By:	
Date:	
Checked By:	
Date:	

Approved By:

Renjan Joseph, P.E. # 68284

Date:

Revisions	Location Details	
02/2016: Updated controller timing parameters to June 2014 D1 guidelines. Revised Max Times and added Max Limit and Adjust By values for phases 1, 2, 3 & 6.	Section: *16180*	Mile Post: *5.958*
	Major Street: *US 27*	Orientation: *N-S*
	Minor Street: *SR 540/Waverly Road*	Orientation: *E-W*
	Sig ID: *743*	

Disclaimer Statement

The revisions noted above are the only timing parameters being approved. The remaining timing data was previously approved as part of previous revisions or as part of previous retiming efforts.

Controller Timings

Movement # (Controller Phase #)	1	2	3	4	5	6	7	8	Notes
Direction	*NBL*	*SB*	*EBL*	*WB*	*SBL*	*NB*	*WBL*	*EB*	
Turn Type	*Protected*		*Protected*		*Protected*		*Protected*		
Min Green	*5*	*27*	*5*	*10*	*5*	*27*	*5*	*10*	
Ext	*3.0*	*2.6*	*3.0*	*3.0*	*3.0*	*2.6*	*3.0*	*3.0*	
Yellow	*6.0*	*6.0*	*4.9*	*4.9*	*6.0*	*6.0*	*4.9*	*4.9*	
All Red	*3.0*	*2.0*	*2.1*	*2.0*	*2.1*	*2.0*	*2.6*	*2.0*	
Max I	*35*	*65*	*35*	*20*	*20*	*65*	*20*	*20*	
Max II									
Max Limit	*45*	*70*	*45*			*70*			
Adjust By	*10*	*5*	*10*			*5*			
Walk		*7*		*7*		*7*		*7*	
Flashing Don't Walk		*32*		*38*		*17*		*39*	
Detector Memory									
Det. Cross Switch.									
Dual Entry		*ON*		*ON*		*ON*		*ON*	
Recall		*MIN*				*MIN*			

SOP 10

Ring - 1	1	2	3	4
Ring - 2	5	6	7	8

Notes:

1) Program 8 Seconds detection delay for minor street right turn movements.

2) Controller Brand: Naztec Controller Model: 980

2020 PEAK SEAS AC CA EG Y EP - EP YPE: ALL
CATEGORY: 1600 POLK COUNTYWIDE

WEEK	DATES	SF	MOCF: 0.93 PSCF
* 1	01/01/2020 - 01/04/2020	0.95	1.02
* 2	01/05/2020 - 01/11/2020	0.93	1.00
* 3	01/12/2020 - 01/18/2020	0.91	0.98
* 4	01/19/2020 - 01/25/2020	0.90	0.97
* 5	01/26/2020 - 02/01/2020	0.88	0.95
* 6	02/02/2020 - 02/08/2020	0.87	0.94
* 7	02/09/2020 - 02/15/2020	0.86	0.92
* 8	02/16/2020 - 02/22/2020	0.88	0.95
* 9	02/23/2020 - 02/29/2020	0.91	0.98
*10	03/01/2020 - 03/07/2020	0.93	1.00
*11	03/08/2020 - 03/14/2020	0.96	1.03
*12	03/15/2020 - 03/21/2020	0.98	1.05
*13	03/22/2020 - 03/28/2020	1.07	1.15
14	03/29/2020 - 04/04/2020	1.16	1.25
15	04/05/2020 - 04/11/2020	1.25	1.34
16	04/12/2020 - 04/18/2020	1.33	1.43
17	04/19/2020 - 04/25/2020	1.28	1.38
18	04/26/2020 - 05/02/2020	1.22	1.31
19	05/03/2020 - 05/09/2020	1.16	1.25
20	05/10/2020 - 05/16/2020	1.11	1.19
21	05/17/2020 - 05/23/2020	1.10	1.18
22	05/24/2020 - 05/30/2020	1.08	1.16
23	05/31/2020 - 06/06/2020	1.07	1.15
24	06/07/2020 - 06/13/2020	1.06	1.14
25	06/14/2020 - 06/20/2020	1.04	1.12
26	06/21/2020 - 06/27/2020	1.05	1.13
27	06/28/2020 - 07/04/2020	1.06	1.14
28	07/05/2020 - 07/11/2020	1.06	1.14
29	07/12/2020 - 07/18/2020	1.07	1.15
30	07/19/2020 - 07/25/2020	1.06	1.14
31	07/26/2020 - 08/01/2020	1.05	1.13
32	08/02/2020 - 08/08/2020	1.03	1.11
33	08/09/2020 - 08/15/2020	1.02	1.10
34	08/16/2020 - 08/22/2020	1.02	1.10
35	08/23/2020 - 08/29/2020	1.01	1.09
36	08/30/2020 - 09/05/2020	1.01	1.09
37	09/06/2020 - 09/12/2020	1.00	1.08
38	09/13/2020 - 09/19/2020	1.00	1.08
39	09/20/2020 - 09/26/2020	0.99	1.06
40	09/27/2020 - 10/03/2020	0.98	1.05
41	10/04/2020 - 10/10/2020	0.97	1.04
42	10/11/2020 - 10/17/2020	0.95	1.02
43	10/18/2020 - 10/24/2020	0.96	1.03
44	10/25/2020 - 10/31/2020	0.96	1.03
45	11/01/2020 - 11/07/2020	0.96	1.03
46	11/08/2020 - 11/14/2020	0.96	1.03
47	11/15/2020 - 11/21/2020	0.96	1.03
48	11/22/2020 - 11/28/2020	0.96	1.03
49	11/29/2020 - 12/05/2020	0.96	1.03
50	12/06/2020 - 12/12/2020	0.95	1.02
51	12/13/2020 - 12/19/2020	0.95	1.02
52	12/20/2020 - 12/26/2020	0.93	1.00
53	12/27/2020 - 12/31/2020	0.91	0.98

* PEAK SEASON

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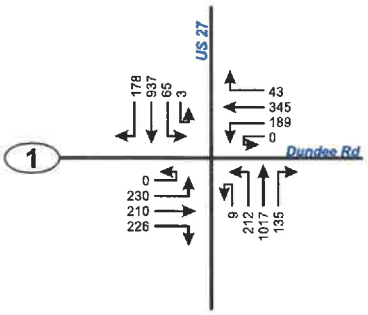

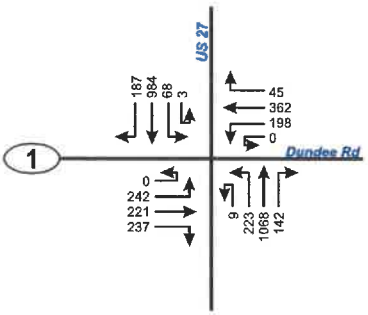

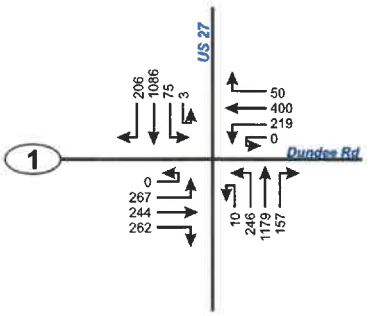

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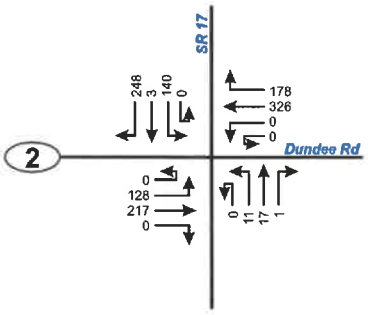
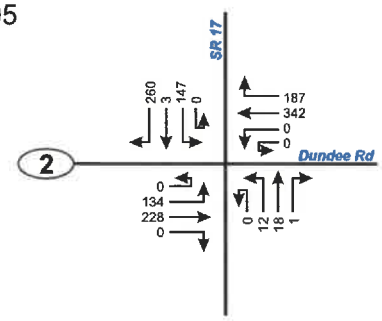
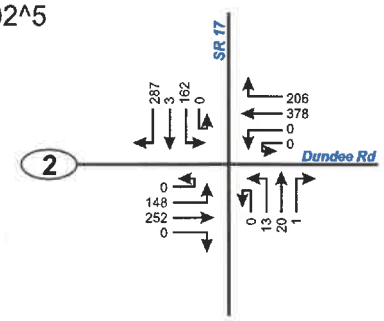
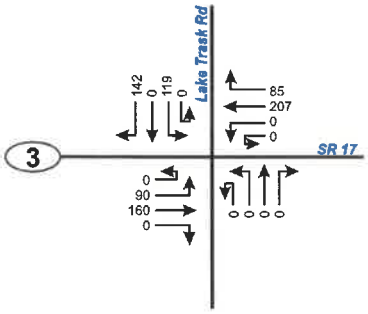
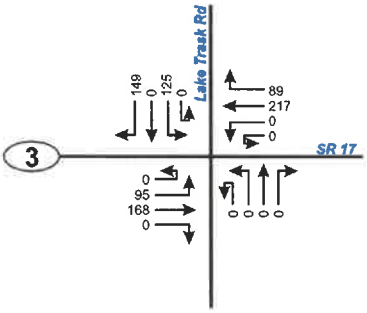
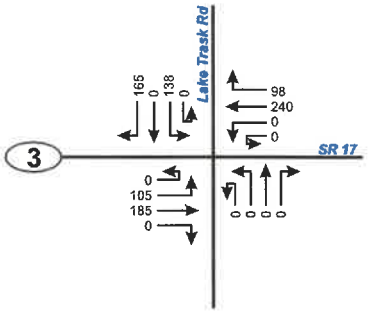










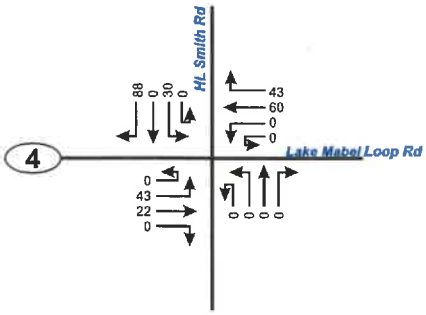


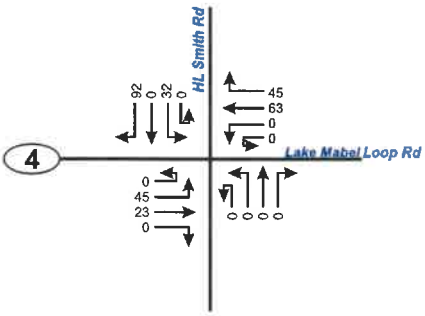
Counts

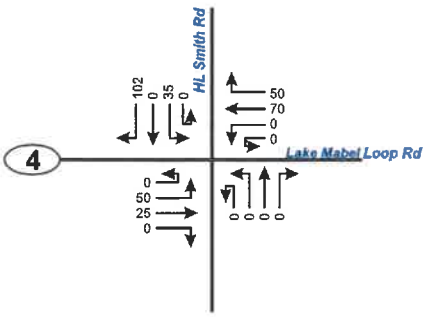
Existing

Bkgd

A.M. Peak Hour







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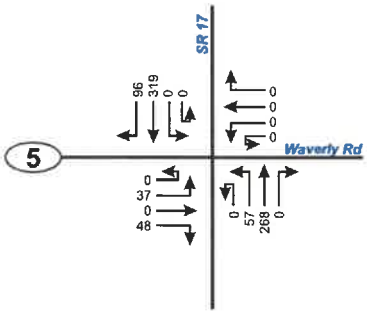
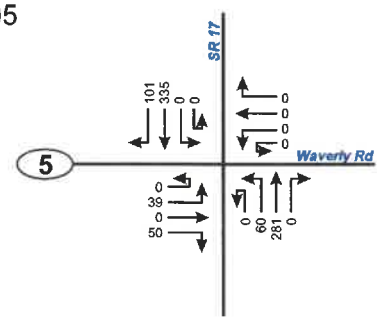
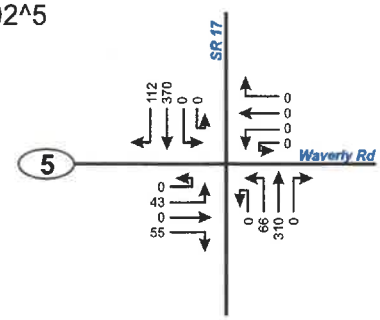
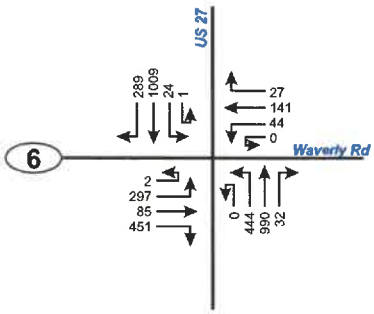
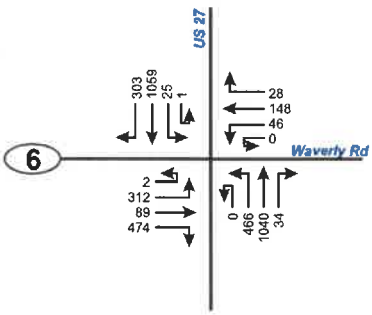
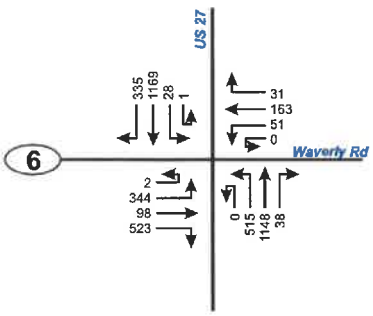










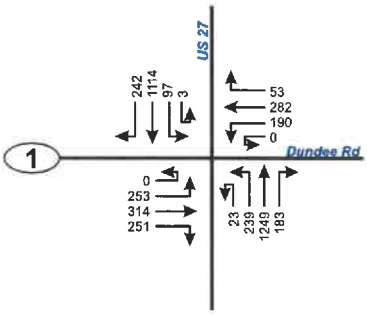


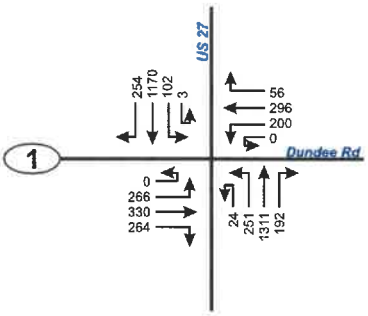
Counts

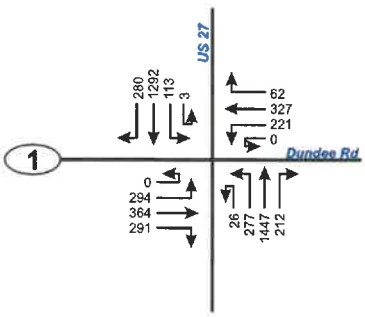
Existing

Bkgd

A.M. Peak Hour







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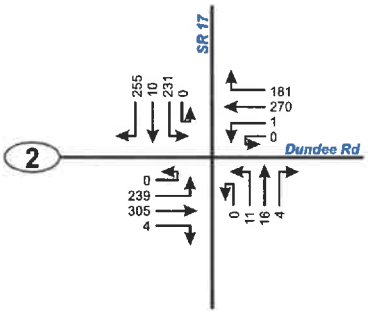
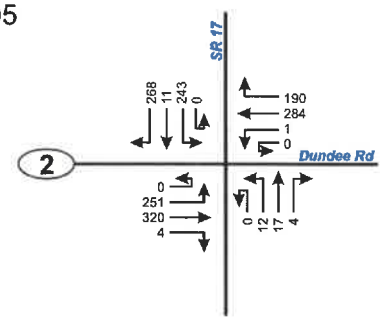
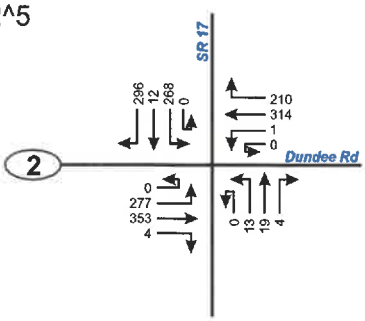
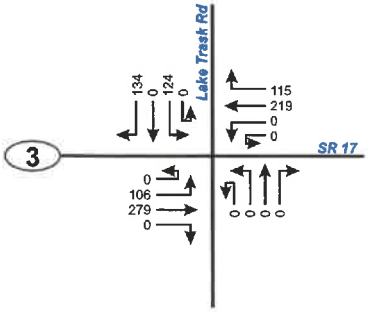
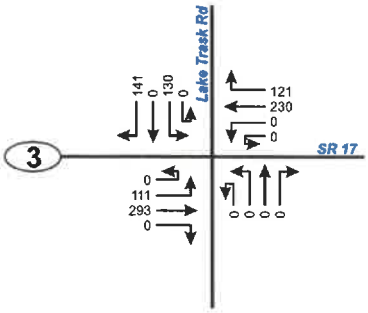
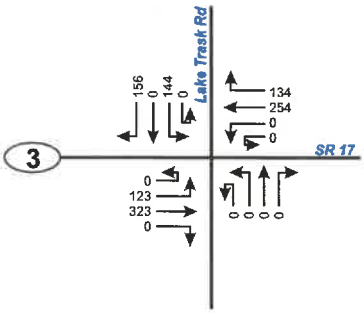










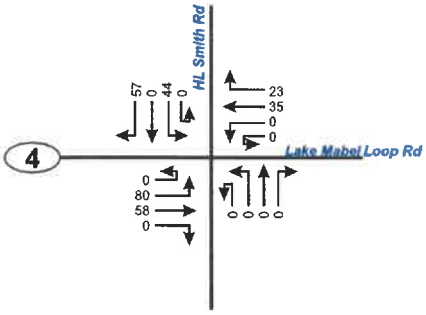


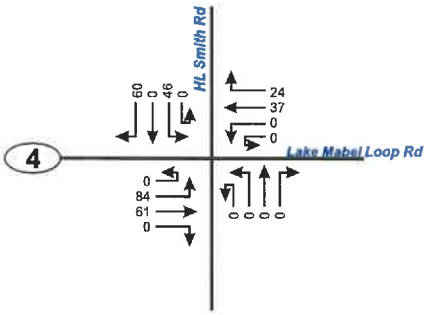
Counts

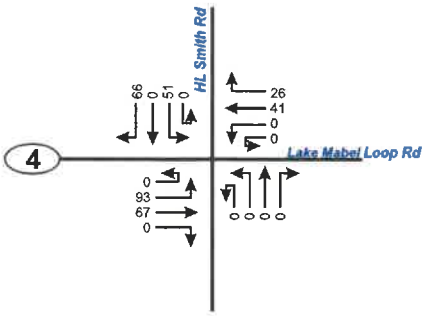
Existing

Bkgd

P.M. Peak Hour







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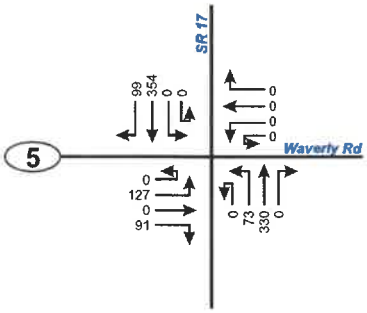
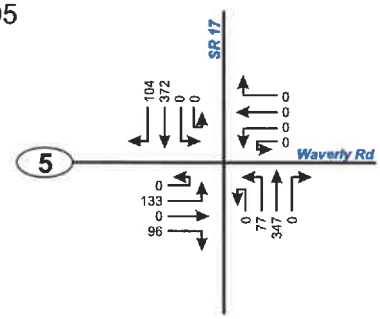
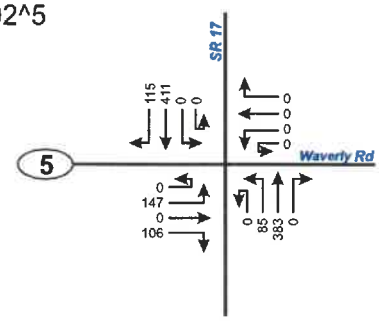
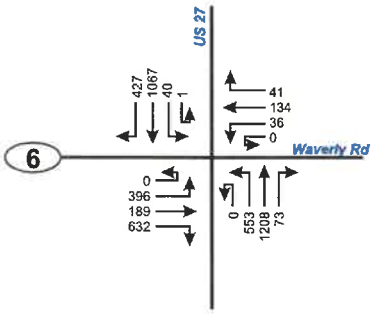
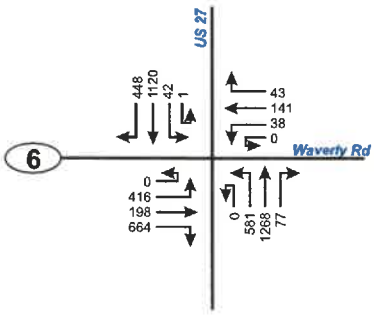
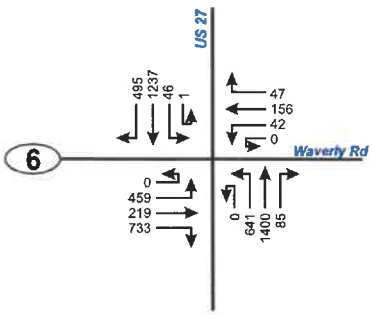












Counts

Existing

Bkgd

P.M. Peak Hour

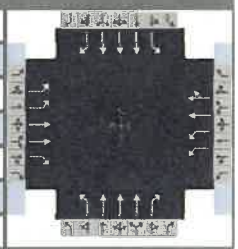
APPENDIX D

Existing Capacity Analysis Worksheets

Appendix D - Table of Contents

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Oct 17, 2023	Area Type	Other
Jurisdiction	Polk County	Time Period	Existing AM	PHF	0.95
Urban Street	US 27	Analysis Year	2023	Analysis Period	1> 7:30
Intersection	SR 542	File Name	1 - US 27 & Dundee Rd - Existing AM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	242	221	237	198	362	45	232	1068	142	71	984	187

Signal Information			
Cycle, s	170.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	9.4	8.7		73.6	11.6	3.9	25.1					
Yellow	5.1	5.1		5.1	4.2	0.0	4.2					
Red	3.0	3.0		2.0	2.7	0.0	3.2					

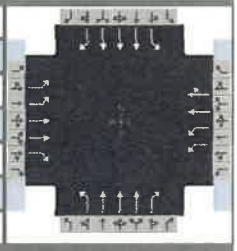
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	1.1	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	22.4	36.4	18.5	32.5	34.4	97.6	17.5	80.7
Change Period, ($Y+R_c$), s	7.4	7.4	6.9	7.4	8.1	7.1	8.1	7.1
Max Allow Headway (*MAH*), s	4.0	4.0	4.0	4.0	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	14.4	25.7	10.8	21.3	25.5		9.5	
Green Extension Time (g_e), s	0.6	3.3	0.7	3.3	0.8	0.0	0.2	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		0.97	
Max Out Probability	0.06	0.00	0.00	0.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	255	233	223	208	217	211	244	1124	149	75	1036	197
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1716	1724	1552	1675	1870	1798	1739	1577	1521	1668	1564	1520
Queue Service Time (g_s), s	12.4	10.2	23.7	8.8	19.0	19.3	23.5	24.8	8.7	7.5	27.3	14.3
Cycle Queue Clearance Time (g_c), s	12.4	10.2	23.7	8.8	19.0	19.3	23.5	24.8	8.7	7.5	27.3	14.3
Green Ratio (*g/C*)	0.09	0.17	0.17	0.22	0.15	0.15	0.15	0.53	0.53	0.06	0.43	0.43
Capacity (*c*), veh/h	303	589	265	533	276	265	269	2518	809	93	2032	658
Volume-to-Capacity Ratio (*X*)	0.840	0.395	0.842	0.391	0.786	0.796	0.909	0.447	0.185	0.807	0.510	0.299
Back of Queue (Q), ft/ln (95 th percentile)	249.3	208.1	385.4	176.9	366.3	379.5	431.3	383	149.5	173.8	428.1	243.5
Back of Queue (Q), veh/ln (95 th percentile)	9.7	7.9	14.9	6.8	14.4	14.2	16.6	14.1	5.7	6.4	15.6	9.2
Queue Storage Ratio (*RQ*) (95 th percentile)	0.68	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.21	0.00	0.00
Uniform Delay (d_1), s/veh	76.3	62.7	68.3	56.0	69.9	70.0	70.7	24.4	20.6	79.4	35.1	31.4
Incremental Delay (d_2), s/veh	8.6	0.4	7.1	0.5	4.9	5.4	11.4	0.6	0.5	15.0	0.9	1.2
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	84.9	63.1	75.4	56.4	74.8	75.4	82.1	25.0	21.1	94.4	36.0	32.5
Level of Service (LOS)	F	E	E	E	E	E	F	C	C	F	D	C
Approach Delay, s/veh / LOS	74.8	E		69.0	E		33.8	C		38.8	D	
Intersection Delay, s/veh / LOS	47.7						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.75	C	2.75	C	2.43	B	2.62	C
Bicycle LOS Score / LOS	1.07	A	1.01	A	1.32	A	1.21	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Oct 17, 2023	Area Type	Other
Jurisdiction	Polk County	Time Period	Existing PM	PHF	0.95
Urban Street	US 27	Analysis Year	2023	Analysis Period	1> 16:45
Intersection	SR 542	File Name	1 - US 27 & Dundee Rd - Existing PM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	266	330	264	200	296	56	275	1311	192	105	1170	254

Signal Information			
Cycle, s	200.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	14.8	12.0		86.1	13.0	6.5		29.9				
Yellow	5.1	5.1		5.1	4.2	0.0		4.2				
Red	3.0	3.0		2.0	2.7	0.0		3.2				

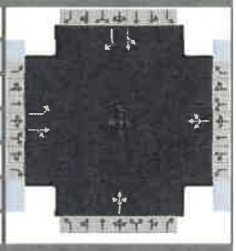
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	1.1	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	26.4	43.8	19.9	37.3	43.1	113.4	22.9	93.2
Change Period, ($Y+R_c$), s	7.4	7.4	6.9	7.4	8.1	7.1	8.1	7.1
Max Allow Headway (*MAH*), s	4.0	4.0	4.0	4.0	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	18.4	32.7	12.4	22.7	34.0		14.6	
Green Extension Time (g_e), s	0.6	3.7	0.7	3.7	1.0	0.0	0.3	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.12	0.01	0.00	0.01	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	280	347	248	211	198	172	289	1380	202	111	1232	267
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1689	1795	1572	1702	1870	1586	1781	1631	1572	1739	1631	1585
Queue Service Time (g_s), s	16.4	17.5	30.7	10.4	20.2	20.7	32.0	36.8	13.8	12.6	38.3	23.1
Cycle Queue Clearance Time (g_c), s	16.4	17.5	30.7	10.4	20.2	20.7	32.0	36.8	13.8	12.6	38.3	23.1
Green Ratio (*g/C*)	0.09	0.18	0.18	0.21	0.15	0.15	0.17	0.53	0.53	0.07	0.43	0.43
Capacity (*c*), veh/h	321	653	286	465	280	237	312	2600	835	129	2107	682
Volume-to-Capacity Ratio (*X*)	0.874	0.532	0.869	0.453	0.709	0.725	0.929	0.531	0.242	0.857	0.585	0.392
Back of Queue (*Q*), ft/ln (95 th percentile)	320.3	322.3	492	207	384.3	349.5	562.3	546.4	233.1	265.5	580.1	362.5
Back of Queue (*Q*), veh/ln (95 th percentile)	12.3	12.8	19.2	8.0	15.1	13.5	22.1	20.7	9.1	10.2	22.0	14.3
Queue Storage Ratio (*RQ*) (95 th percentile)	0.80	0.00	0.00	0.00	0.00	0.00	0.59	0.00	0.00	0.32	0.00	0.00
Uniform Delay (d_1), s/veh	89.3	74.1	79.5	66.2	80.9	81.1	81.3	30.6	25.2	91.5	43.3	39.0
Incremental Delay (d_2), s/veh	14.0	0.7	11.3	0.7	3.3	4.2	12.9	0.8	0.7	14.7	1.2	1.7
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	103.3	74.8	90.8	66.9	84.2	85.3	94.1	31.4	25.9	106.2	44.5	40.7
Level of Service (LOS)	F	E	F	E	F	F	F	C	C	F	D	D
Approach Delay, s/veh / LOS	88.4	F		78.3	E		40.5	D		48.1	D	
Intersection Delay, s/veh / LOS	55.9						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.75	C	2.75	C	2.43	B	2.63	C
Bicycle LOS Score / LOS	1.21	A	0.97	A	1.52	B	1.37	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 24, 2023	Area Type	Other
Jurisdiction	Polk County	Time Period	Existing AM	PHF	0.95
Urban Street	SR 17	Analysis Year	2023	Analysis Period	1> 7:45
Intersection	Dundee Rd	File Name	2 - SR 17 & Dundee Rd - Existing AM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	134	228	0	0	342	187	12	18	1	147	3	260

Signal Information			
Cycle, s	68.7	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	33.0	15.2	3.3	0.0	0.0	0.0	
Yellow	3.7	3.7	3.7	0.0	0.0	0.0	
Red	2.1	2.0	2.0	0.0	0.0	0.0	

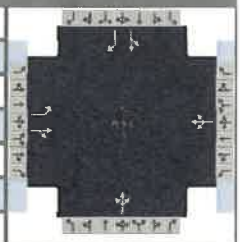
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		6.0		8.0		12.0		11.0
Phase Duration, s		38.8		38.8		9.0		20.9
Change Period, ($Y+R_c$), s		5.8		5.8		5.7		5.7
Max Allow Headway (*MAH*), s		4.4		4.4		4.1		4.3
Queue Clearance Time (g_s), s		29.7		19.0		3.2		13.4
Green Extension Time (g_e), s		3.3		4.3		0.1		1.8
Phase Call Probability		1.00		1.00		0.46		1.00
Max Out Probability		0.35		0.05		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	141	0			0			33			158	274
Adjusted Saturation Flow Rate (*s*), veh/h/ln	832	0			0			1853			1684	1556
Queue Service Time (g_s), s	10.8	0.0			0.0			1.2			5.5	11.4
Cycle Queue Clearance Time (g_c), s	27.7	0.0			0.0			1.2			5.5	11.4
Green Ratio (*g/C*)	0.48							0.05			0.22	0.22
Capacity (*c*), veh/h	300							88			374	346
Volume-to-Capacity Ratio (*X*)	0.471	0.000			0.000			0.369			0.422	0.791
Back of Queue (*Q*), ft/ln (95 th percentile)	98	0			0			25.7			104.5	201.4
Back of Queue (*Q*), veh/ln (95 th percentile)	3.8	0.0			0.0			1.0			3.9	7.8
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00			0.00			0.00			0.00	0.00
Uniform Delay (d_1), s/veh	24.3							31.8			23.0	25.3
Incremental Delay (d_2), s/veh	1.1	0.0			0.0			2.6			0.8	4.1
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0			0.0			0.0	0.0
Control Delay (*d*), s/veh	25.4							34.3			23.7	29.3
Level of Service (LOS)	C							C			C	C
Approach Delay, s/veh / LOS	16.3	B		15.0	B		34.3	C		27.3	C	
Intersection Delay, s/veh / LOS	19.6						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.66	B	1.89	B	1.71	B	1.94	B
Bicycle LOS Score / LOS	1.12	A	1.41	A	0.54	A	1.20	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 24, 2023	Area Type	Other
Jurisdiction	Polk County	Time Period	Existing PM	PHF	0.95
Urban Street	SR 17	Analysis Year	2023	Analysis Period	1> 16:15
Intersection	Dundee Rd	File Name	2 - SR 17 & Dundee Rd - Existing PM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	251	320	4	1	284	190	12	17	4	243	11	268

Signal Information			
Cycle, s	78.6	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	40.0	17.7	3.7	0.0	0.0	0.0	
Yellow	3.7	3.7	3.7	0.0	0.0	0.0	
Red	2.1	2.0	2.0	0.0	0.0	0.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		6.0		8.0		12.0		11.0
Phase Duration, s		45.8		45.8		9.4		23.4
Change Period, ($Y+R_c$), s		5.8		5.8		5.7		5.7
Max Allow Headway (*MAH*), s		4.5		4.5		4.2		4.3
Queue Clearance Time (g_s), s		41.1		18.0		3.5		15.5
Green Extension Time (g_e), s		0.0		5.4		0.1		2.2
Phase Call Probability		1.00		1.00		0.53		1.00
Max Out Probability		1.00		0.09		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	264	341			500			35			267	282
Adjusted Saturation Flow Rate (*s*), veh/h/ln	892	1837			1703			1827			1743	1560
Queue Service Time (g_s), s	23.0	8.8			0.0			1.5			11.0	13.5
Cycle Queue Clearance Time (g_c), s	39.1	8.8			16.0			1.5			11.0	13.5
Green Ratio (*g/C*)	0.51	0.51			0.51			0.05			0.22	0.22
Capacity (*c*), veh/h	409	935			912			87			392	351
Volume-to-Capacity Ratio (*X*)	0.646	0.365			0.548			0.401			0.682	0.804
Back of Queue (*Q*), ft/ln (95 th percentile)	222.4	155.5			251.1			31.7			213.3	232.6
Back of Queue (*Q*), veh/ln (95 th percentile)	8.7	6.0			9.7			1.3			8.2	9.0
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00			0.00			0.00			0.00	0.00
Uniform Delay (d_1), s/veh	27.0	11.6			13.4			36.4			27.9	28.8
Incremental Delay (d_2), s/veh	3.5	0.2			0.7			3.0			2.1	4.3
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0			0.0			0.0	0.0
Control Delay (*d*), s/veh	30.6	11.9			14.1			39.3			30.0	33.1
Level of Service (LOS)	C	B			B			D			C	C
Approach Delay, s/veh / LOS	20.0	C		14.1	B		39.3	D		31.6	C	
Intersection Delay, s/veh / LOS	22.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.66	B	1.89	B	1.72	B	1.94	B
Bicycle LOS Score / LOS	1.49	A	1.31	A	0.54	A	1.39	A

HCS Two-Way Stop-Control Report

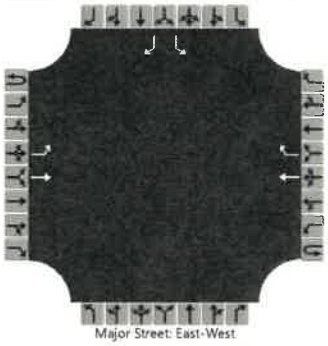
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/24/2023
Analysis Year	2023
Time Analyzed	Existing AM
Intersection Orientation	East-West
Project Description	5611.1

Site Information

Intersection	SR 17 & Lake Trask Road
Jurisdiction	Polk County
East/West Street	SR 17
North/South Street	Lake Trask Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		95	168				217	89						125		149
Percent Heavy Vehicles (%)		6												5		5
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized							No							No		
Median Type | Storage							Undivided									

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.16												6.45		6.25
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.55		3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		100												132		157
Capacity, c (veh/h)		1216												418		803
v/c Ratio		0.08												0.31		0.20
95% Queue Length, Q_{95} (veh)		0.3												1.3		0.7
Control Delay (s/veh)		8.2												17.5		10.6
Level of Service (LOS)		A												C		B
Approach Delay (s/veh)		3.0												13.7		
Approach LOS		A												B		

HCS Two-Way Stop-Control Report

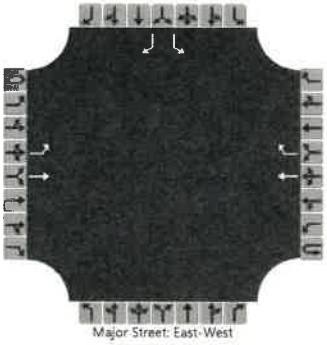
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/24/2023
Analysis Year	2023
Time Analyzed	Existing PM
Intersection Orientation	East-West
Project Description	5611.1

Site Information

Intersection	SR 17 & Lake Trask Road
Jurisdiction	Polk County
East/West Street	SR 17
North/South Street	Lake Trask Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		111	293				230	121						130		141
Percent Heavy Vehicles (%)		8												4		7
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized							No							No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.18												6.44		6.27
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.27												3.54		3.36

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		117												137		148
Capacity, c (veh/h)		1157												323		785
v/c Ratio		0.10												0.42		0.19
95% Queue Length, Q_{95} (veh)		0.3												2.0		0.7
Control Delay (s/veh)		8.5												24.1		10.7
Level of Service (LOS)		A												C		B
Approach Delay (s/veh)		2.3												17.1		
Approach LOS		A												C		

HCS Two-Way Stop-Control Report

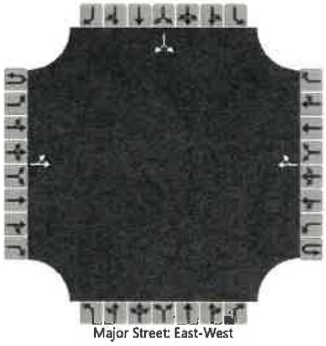
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/24/2023
Analysis Year	2023
Time Analyzed	Existing AM
Intersection Orientation	East-West
Project Description	5611.1

Site Information

Intersection	Lk Mabel Loop Rd & HL Smith Rd
Jurisdiction	Polk County
East/West Street	Lake Mabel Loop Road
North/South Street	HL Smith Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		45	23				63	45						32		92
Percent Heavy Vehicles (%)		7												10		5
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.17												6.50		6.25
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.26												3.59		3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		47													131	
Capacity, c (veh/h)		1445													890	
v/c Ratio		0.03													0.15	
95% Queue Length, Q_{95} (veh)		0.1													0.5	
Control Delay (s/veh)		7.6	0.3												9.7	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)	5.1												9.7			
Approach LOS	A												A			

HCS Two-Way Stop-Control Report

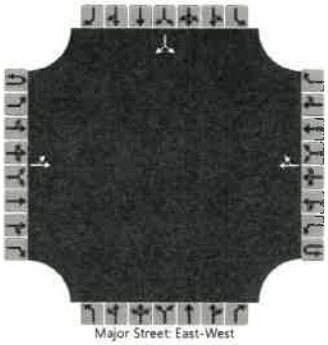
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/24/2023
Analysis Year	2023
Time Analyzed	Existing PM
Intersection Orientation	East-West
Project Description	5611.1

Site Information

Intersection	Lk Mabel Loop Rd & HL Smith Rd
Jurisdiction	Polk County
East/West Street	Lake Mabel Loop Road
North/South Street	HL Smith Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		84	61				37	24						46		60
Percent Heavy Vehicles (%)		6												5		7
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.16												6.45		6.27
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.55		3.36

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		88													112	
Capacity, c (veh/h)		1513													808	
v/c Ratio		0.06													0.14	
95% Queue Length, Q_{95} (veh)		0.2													0.5	
Control Delay (s/veh)		7.5	0.5												10.2	
Level of Service (LOS)		A	A												B	
Approach Delay (s/veh)	4.6												10.2			
Approach LOS	A												B			

HCS Two-Way Stop-Control Report

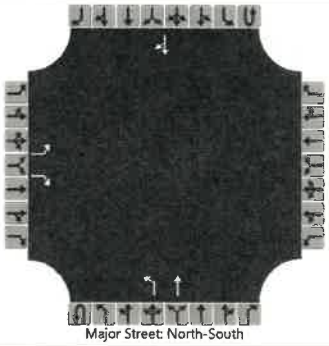
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/24/2023
Analysis Year	2023
Time Analyzed	Existing AM
Intersection Orientation	North-South
Project Description	5611.1

Site Information

Intersection	SR 17 & Waverly Rd
Jurisdiction	Polk County
East/West Street	Waverly Rd
North/South Street	SR 17
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration		L		R						L	T					TR
Volume (veh/h)		39		50						60	281				335	101
Percent Heavy Vehicles (%)		8		19						4						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.48		6.39						4.14						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.57		3.47						2.24						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		41		53						63						
Capacity, c (veh/h)		314		610						1092						
v/c Ratio		0.13		0.09						0.06						
95% Queue Length, Q_{95} (veh)		0.4		0.3						0.2						
Control Delay (s/veh)		18.2		11.5						8.5						
Level of Service (LOS)		C		B						A						
Approach Delay (s/veh)		14.4								1.5						
Approach LOS		B								A						

HCS Two-Way Stop-Control Report

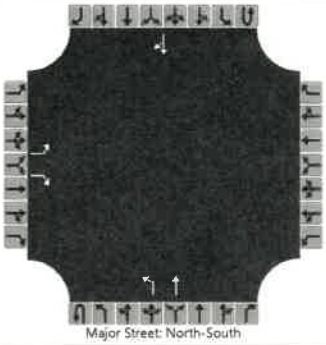
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/24/2023
Analysis Year	2023
Time Analyzed	Existing PM
Intersection Orientation	North-South
Project Description	5611.1

Site Information

Intersection	SR 17 & Waverly Rd
Jurisdiction	Polk County
East/West Street	Waverly Rd
North/South Street	SR 17
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration		L		R						L	T					TR
Volume (veh/h)		133		96						77	347				372	104
Percent Heavy Vehicles (%)		1		4						5						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type | Storage		Undivided														

Critical and Follow-up Headways

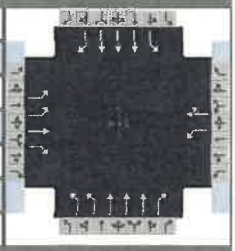
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.41		6.24						4.15						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.51		3.34						2.25						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		140		101						81						
Capacity, c (veh/h)		259		608						1048						
v/c Ratio		0.54		0.17						0.08						
95% Queue Length, Q_{95} (veh)		2.9		0.6						0.3						
Control Delay (s/veh)		34.2		12.1						8.7						
Level of Service (LOS)		D		B						A						
Approach Delay (s/veh)		24.9								1.6						
Approach LOS		C								A						

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 24, 2023	Area Type	Other
Jurisdiction	Polk County	Time Period	Existing AM	PHF	0.95
Urban Street	US 27	Analysis Year	2023	Analysis Period	1> 7:30
Intersection	Waverly Rd	File Name	6 - US 27 & Waverly Rd - Existing AM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	314	89	474	46	148	28	466	1040	34	26	1059	303

Signal Information			
Cycle, s	126.1	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.1	10.1	43.8	4.8	2.8	15.0	
Yellow	6.0	6.0	6.0	4.9	4.9	4.9	
Red	2.1	3.0	2.0	2.6	2.1	2.0	

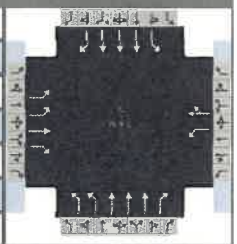
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	22.1	31.7	12.3	21.9	30.3	70.9	11.2	51.8
Change Period, ($Y+R_c$), s	7.0	6.9	7.5	6.9	9.0	8.0	8.1	8.0
Max Allow Headway (*MAH*), s	4.0	4.1	4.0	4.1	4.0	3.9	4.0	3.9
Queue Clearance Time (g_s), s	13.8	25.8	5.8	14.6	19.5	21.0	4.2	27.4
Green Extension Time (g_e), s	1.2	0.0	0.1	0.4	1.8	17.3	0.0	16.4
Phase Call Probability	1.00	1.00	0.82	1.00	1.00	1.00	0.62	1.00
Max Out Probability	0.00	1.00	0.00	0.65	0.01	0.15	0.00	0.21

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	331	94	299	48	185		491	1095	36	27	1115	319
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1716	1811	1572	1584	1818		1716	1577	1447	1527	1577	1547
Queue Service Time (g_s), s	11.8	5.5	23.8	3.8	12.6		17.5	19.0	1.6	2.2	25.4	21.4
Cycle Queue Clearance Time (g_c), s	11.8	5.5	23.8	3.8	12.6		17.5	19.0	1.6	2.2	25.4	21.4
Green Ratio (*g/C*)	0.12	0.20	0.20	0.04	0.12		0.17	0.50	0.50	0.02	0.35	0.35
Capacity (*c*), veh/h	412	356	309	61	216		580	2362	722	37	1644	538
Volume-to-Capacity Ratio (*X*)	0.803	0.263	0.968	0.797	0.857		0.846	0.464	0.050	0.731	0.678	0.593
Back of Queue (*Q*), ft/ln (95 th percentile)	229	116.5	475.6	94.1	277.4		309.3	293	25.3	57.1	390.9	322.8
Back of Queue (*Q*), veh/ln (95 th percentile)	8.9	4.4	18.6	3.3	10.9		12.1	10.8	0.9	2.0	14.4	12.4
Queue Storage Ratio (*RQ*) (95 th percentile)	0.45	0.00	0.00	0.39	0.00		0.42	0.00	0.00	0.12	0.00	0.00
Uniform Delay (d_1), s/veh	54.1	43.0	50.3	60.2	54.6		50.9	20.6	16.2	61.2	35.2	33.9
Incremental Delay (d_2), s/veh	3.7	0.4	42.4	20.5	17.4		3.9	0.1	0.0	23.6	0.5	1.0
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	57.8	43.4	92.7	80.7	71.9		54.8	20.7	16.3	84.8	35.7	34.9
Level of Service (LOS)	E	D	F	F	E		D	C	B	F	D	C
Approach Delay, s/veh / LOS	70.4	E		73.8	E		30.9	C		36.4	D	
Intersection Delay, s/veh / LOS	42.5						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.86	C	2.74	C	1.91	B	2.71	C
Bicycle LOS Score / LOS	1.68	B	0.87	A	1.38	A	1.29	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 24, 2023	Area Type	Other
Jurisdiction	Polk County	Time Period	Existing PM	PHF	0.95
Urban Street	US 27	Analysis Year	2023	Analysis Period	1> 16:45
Intersection	Waverly Rd	File Name	6 - US 27 & Waverly Rd - Existing PM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	416	198	664	38	141	43	581	1268	77	43	1120	448

Signal Information			
Cycle, s	155.6	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.4	16.9	52.8	4.6	10.6	18.7						
Yellow	6.0	6.0	6.0	4.9	4.9	4.9						
Red	2.1	3.0	2.0	2.6	2.1	2.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	29.8	43.3	12.1	25.6	39.4	86.7	13.5	60.8
Change Period, ($Y+R_c$), s	7.0	6.9	7.5	6.9	9.0	8.0	8.1	8.0
Max Allow Headway (*MAH*), s	4.0	4.1	4.0	4.1	4.0	3.9	4.0	3.9
Queue Clearance Time (g_s), s	21.3	38.4	5.6	18.6	28.9	31.2	6.2	45.1
Green Extension Time (g_e), s	1.5	0.0	0.1	0.1	1.4	20.1	0.1	7.7
Phase Call Probability	1.00	1.00	0.82	1.00	1.00	1.00	0.86	1.00
Max Out Probability	0.01	1.00	0.00	1.00	0.45	0.44	0.00	0.64

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	438	208	419	40	194		612	1335	81	45	1179	472
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1856	1585	1725	1795		1730	1618	1560	1668	1618	1598
Queue Service Time (g_s), s	19.3	15.1	36.4	3.6	16.6		26.9	29.2	4.2	4.2	33.0	43.1
Cycle Queue Clearance Time (g_c), s	19.3	15.1	36.4	3.6	16.6		26.9	29.2	4.2	4.2	33.0	43.1
Green Ratio (*g/C*)	0.15	0.23	0.23	0.03	0.12		0.20	0.51	0.51	0.03	0.34	0.34
Capacity (*c*), veh/h	507	434	371	52	216		675	2455	789	58	1647	542
Volume-to-Capacity Ratio (*X*)	0.864	0.480	1.130	0.775	0.897		0.906	0.544	0.103	0.784	0.716	0.870
Back of Queue (*Q*), ft/ln (95 th percentile)	347.6	291.7	849	88.6	366.7		472.6	432.2	70.3	101.6	503.2	632.4
Back of Queue (*Q*), veh/ln (95 th percentile)	13.7	11.4	33.4	3.4	14.4		18.6	16.2	2.7	3.8	18.9	25.1
Queue Storage Ratio (*RQ*) (95 th percentile)	0.68	0.00	0.00	0.37	0.00		0.65	0.00	0.00	0.22	0.00	0.00
Uniform Delay (d_1), s/veh	64.9	51.5	59.7	75.0	67.5		61.3	26.2	20.1	74.6	44.9	48.2
Incremental Delay (d_2), s/veh	6.4	0.8	87.1	21.5	32.1		13.0	0.2	0.1	20.2	0.9	10.2
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	71.4	52.3	146.7	96.5	99.6		74.3	26.5	20.1	94.8	45.8	58.4
Level of Service (LOS)	E	D	F	F	F		E	C	C	F	D	E
Approach Delay, s/veh / LOS	97.3	F		99.1	F		40.7	D		50.6	D	
Intersection Delay, s/veh / LOS	58.7						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.86	C	2.75	C	1.92	B	2.83	C
Bicycle LOS Score / LOS	2.25	B	0.87	A	1.60	B	1.42	A

APPENDIX E

ITE Pages

Single-Family Detached Housing
(210)

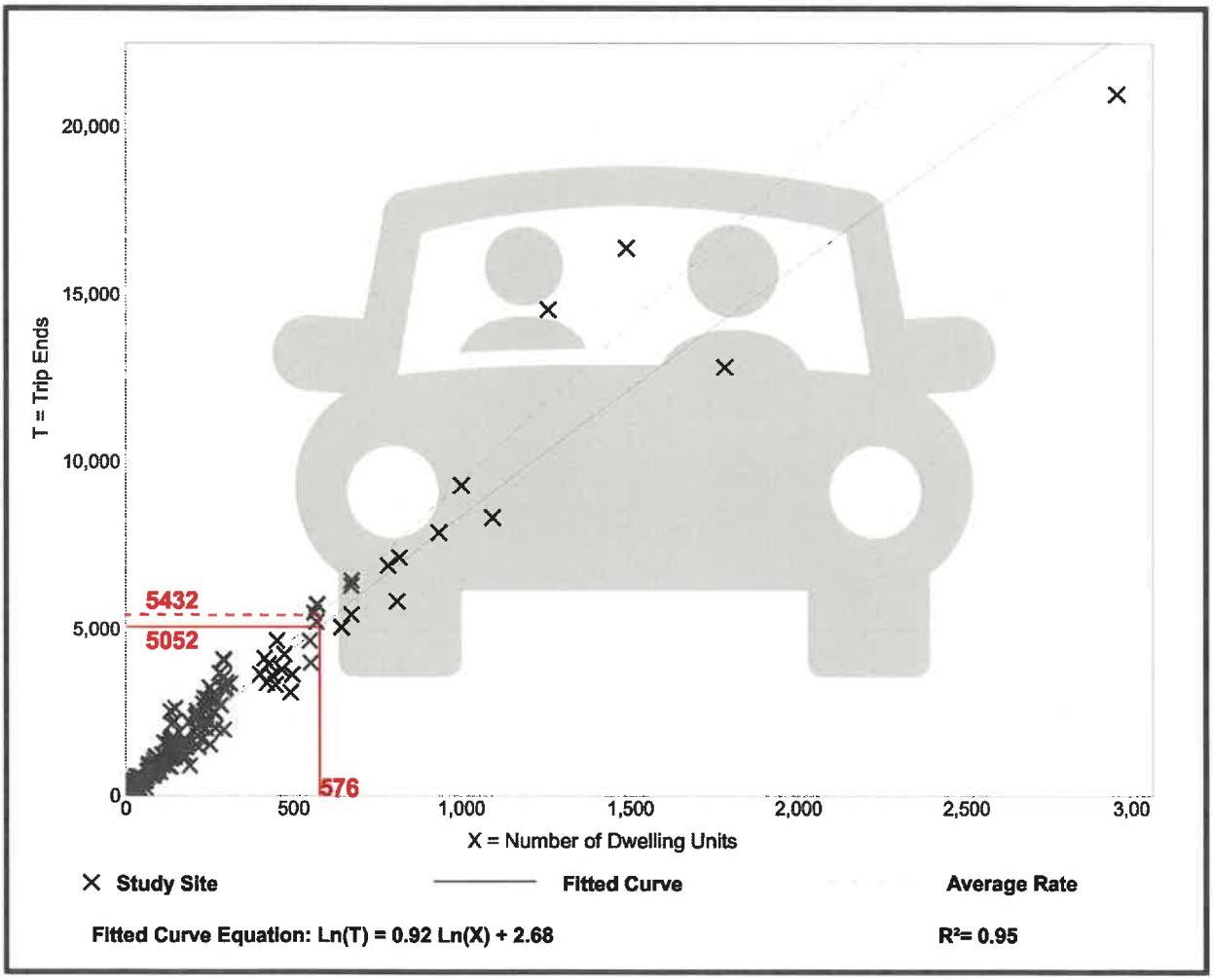
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

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

Vehicle Trip Generation per Dwelling Unit

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

Data Plot and Equation



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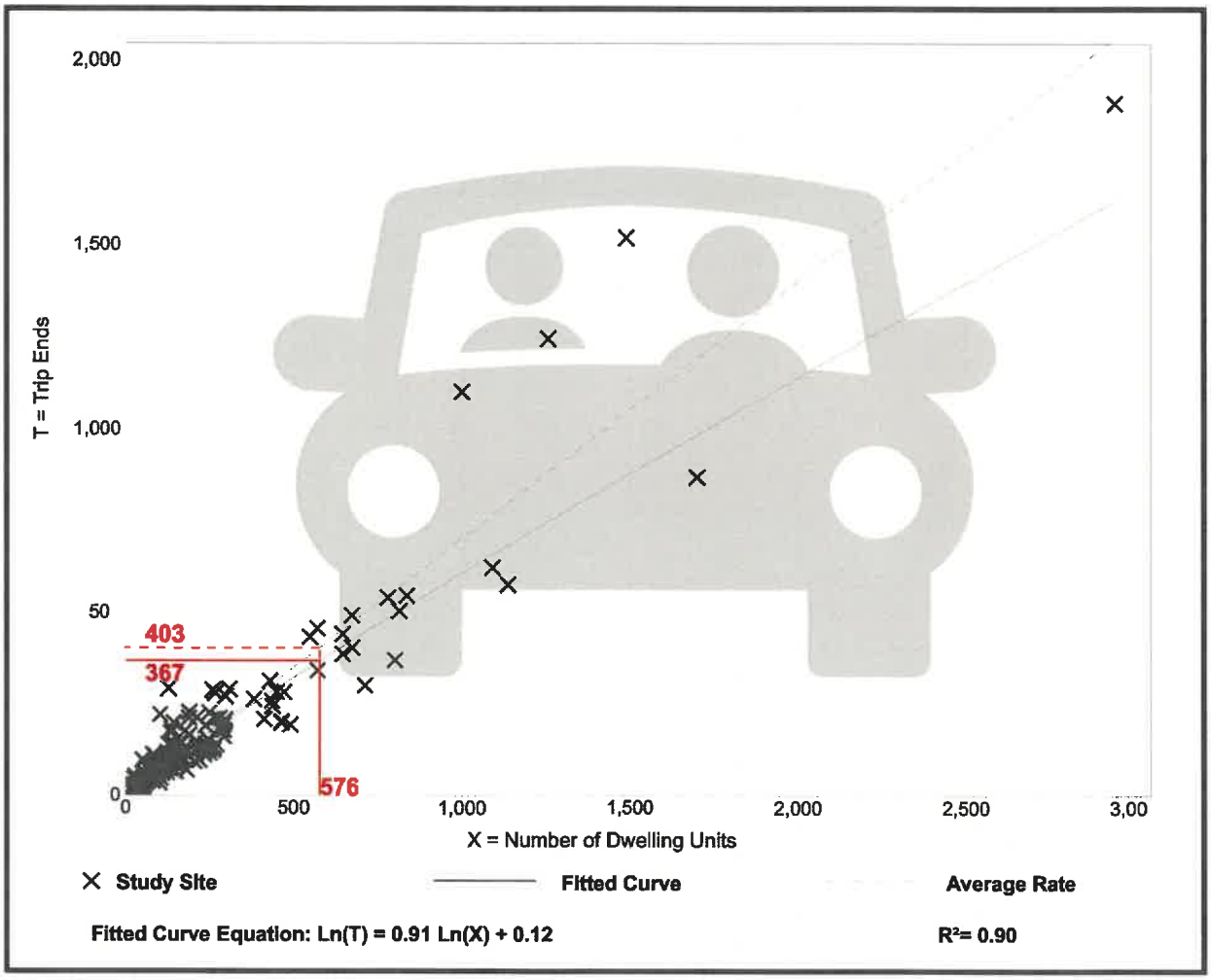
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 192
Avg. Num. of Dwelling Units: 226
Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



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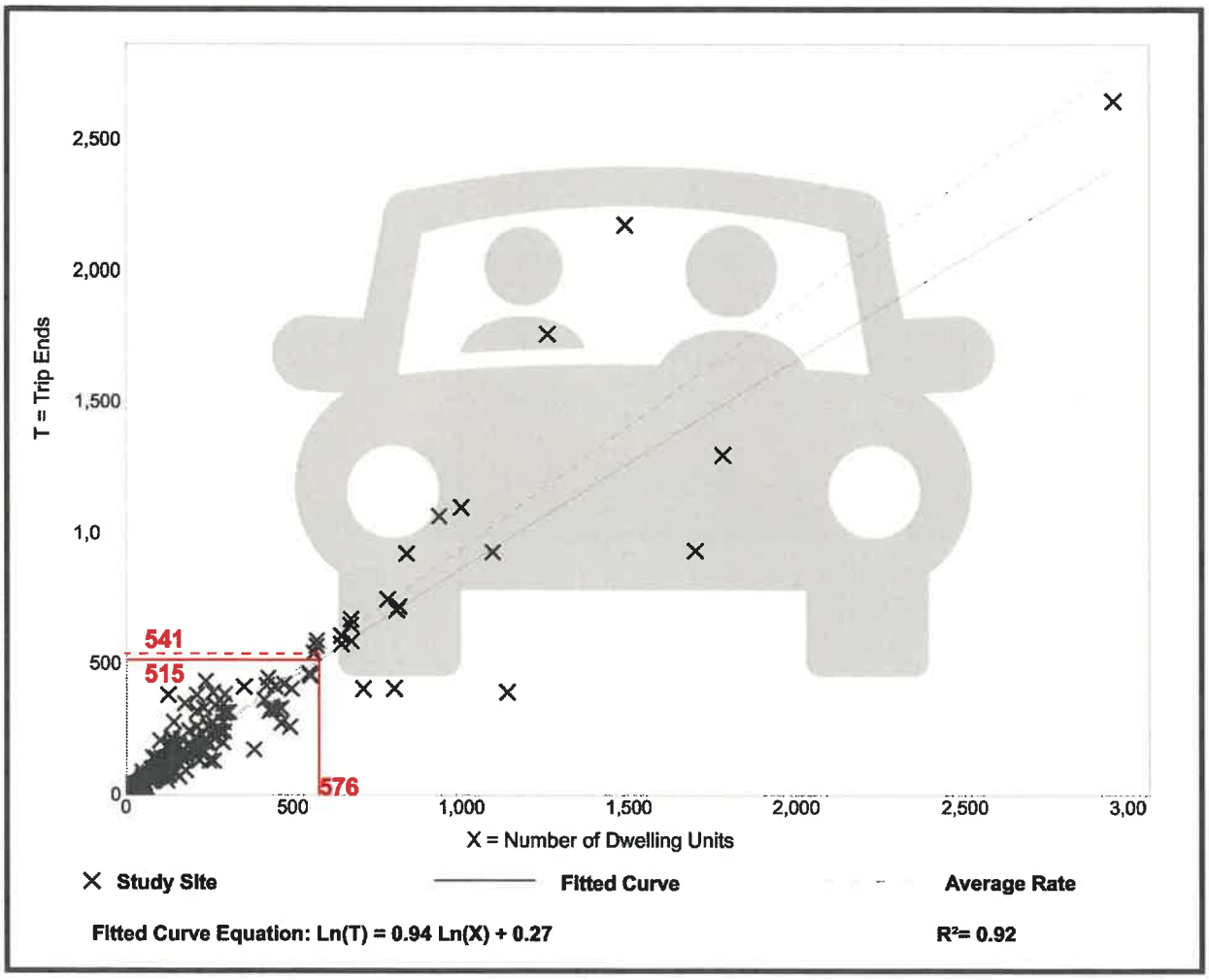
Single-Family Detached Housing
(210)

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

Vehicle Trip Generation per Dwelling Unit

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

Data Plot and Equation



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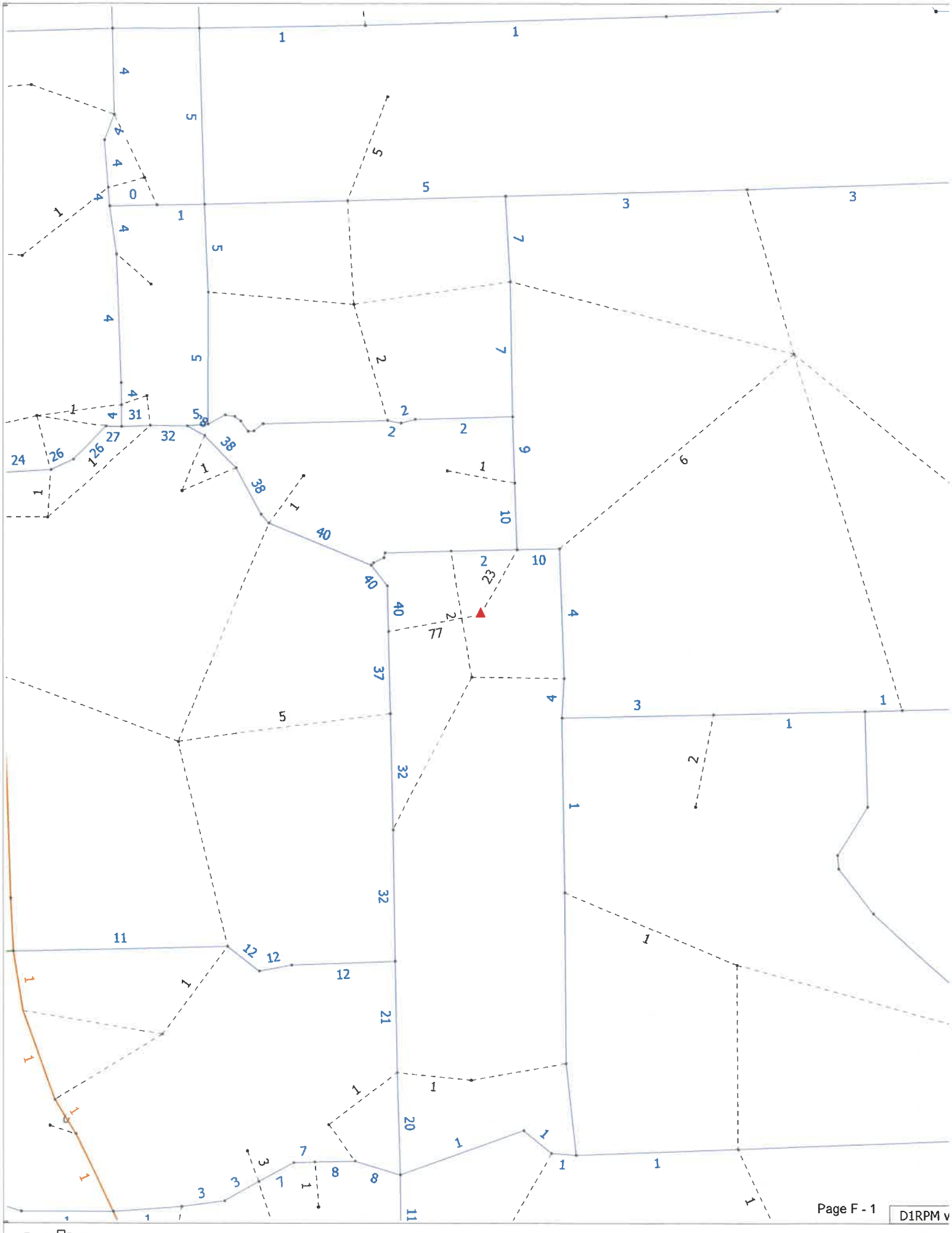
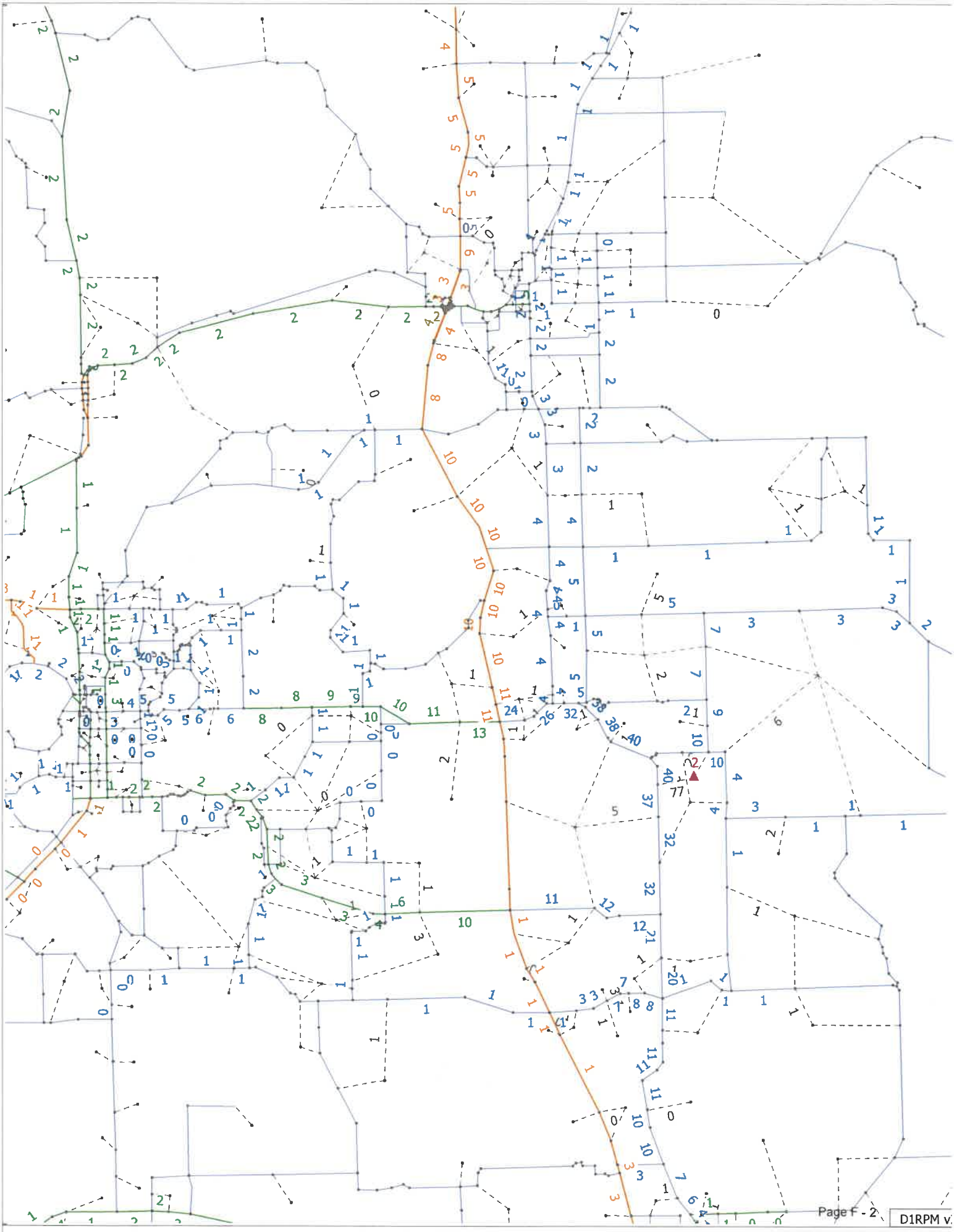
APPENDIX F

Model Output

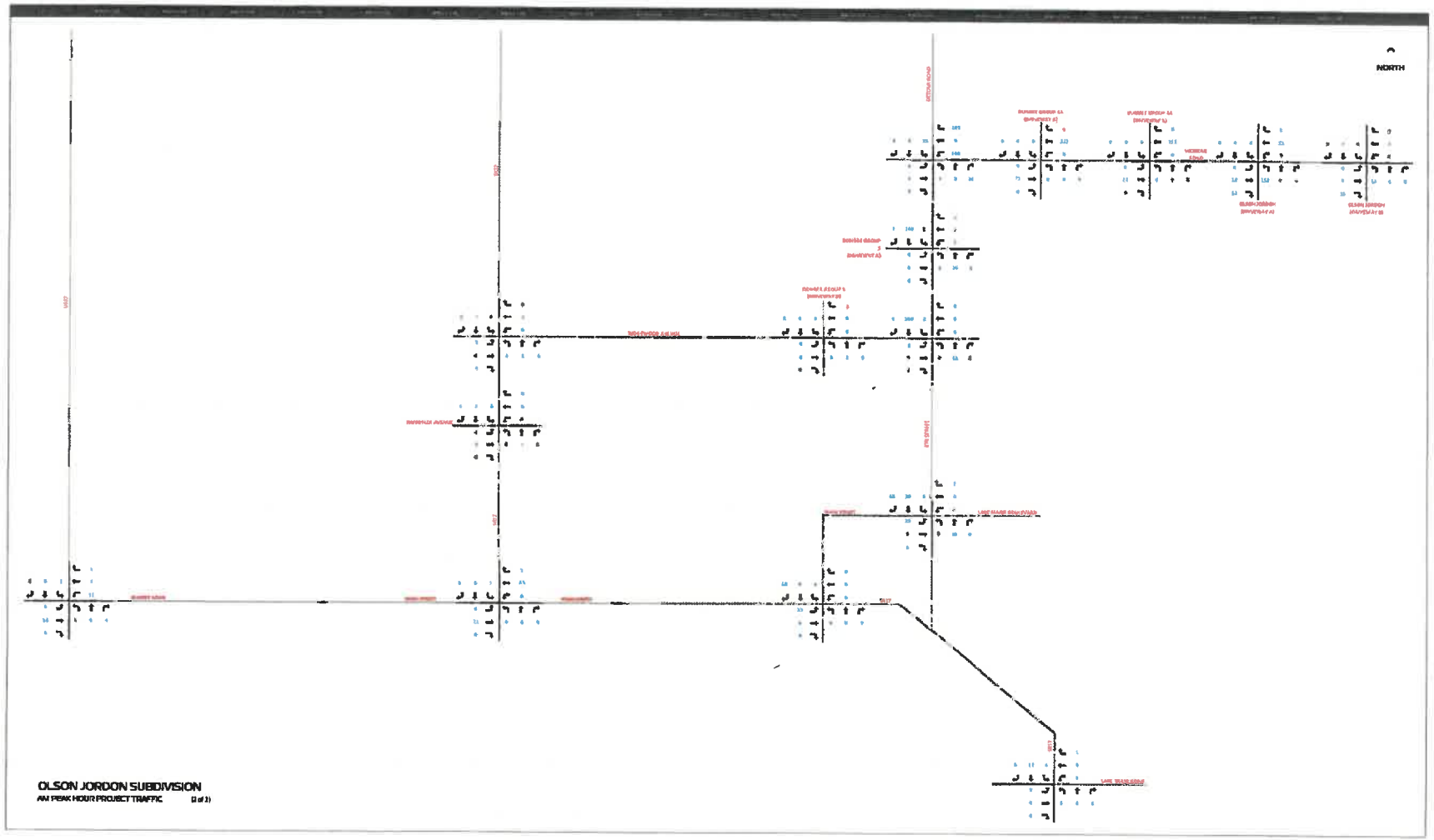


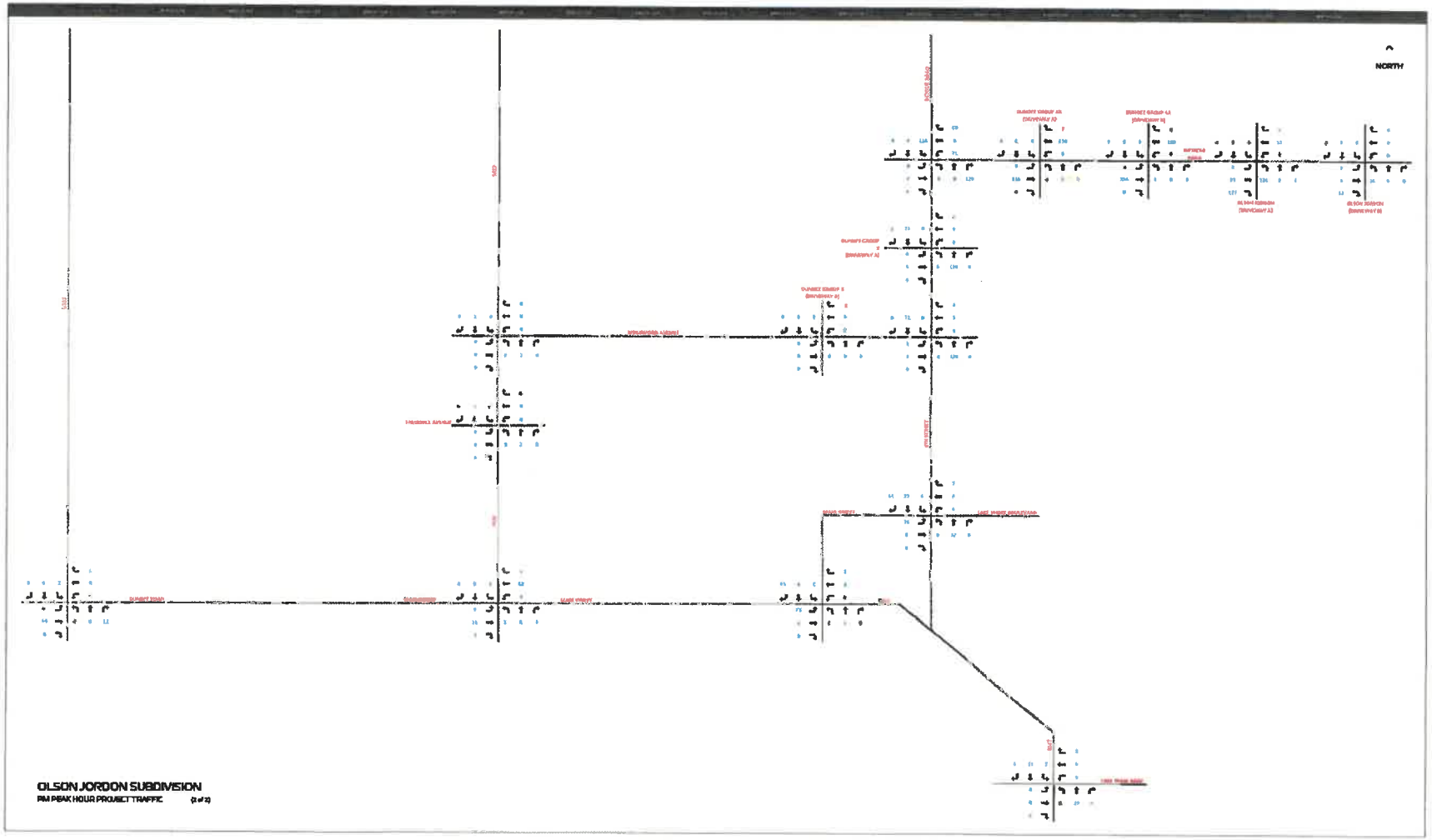


APPENDIX G

Approved Development Trips

Appendix G - Table of Contents


NORTH
OLSON JORDON SUBDIVISION
AM PEAK HOUR PROJECT TRAFFIC


NORTH
OLSON JORDON SUBDIVISION
PM PEAK HOUR PROJECT TRAFFIC

NORTH
SCENIC TERRACE NORTH SUBDIVISION
AM PEAK HOUR PROJECT TRAFFIC

G - 2 of 16

NORTH
SCENIC TERRACE NORTH SUBDIVISION
PM PEAK HOUR PROJECT TRAFFIC

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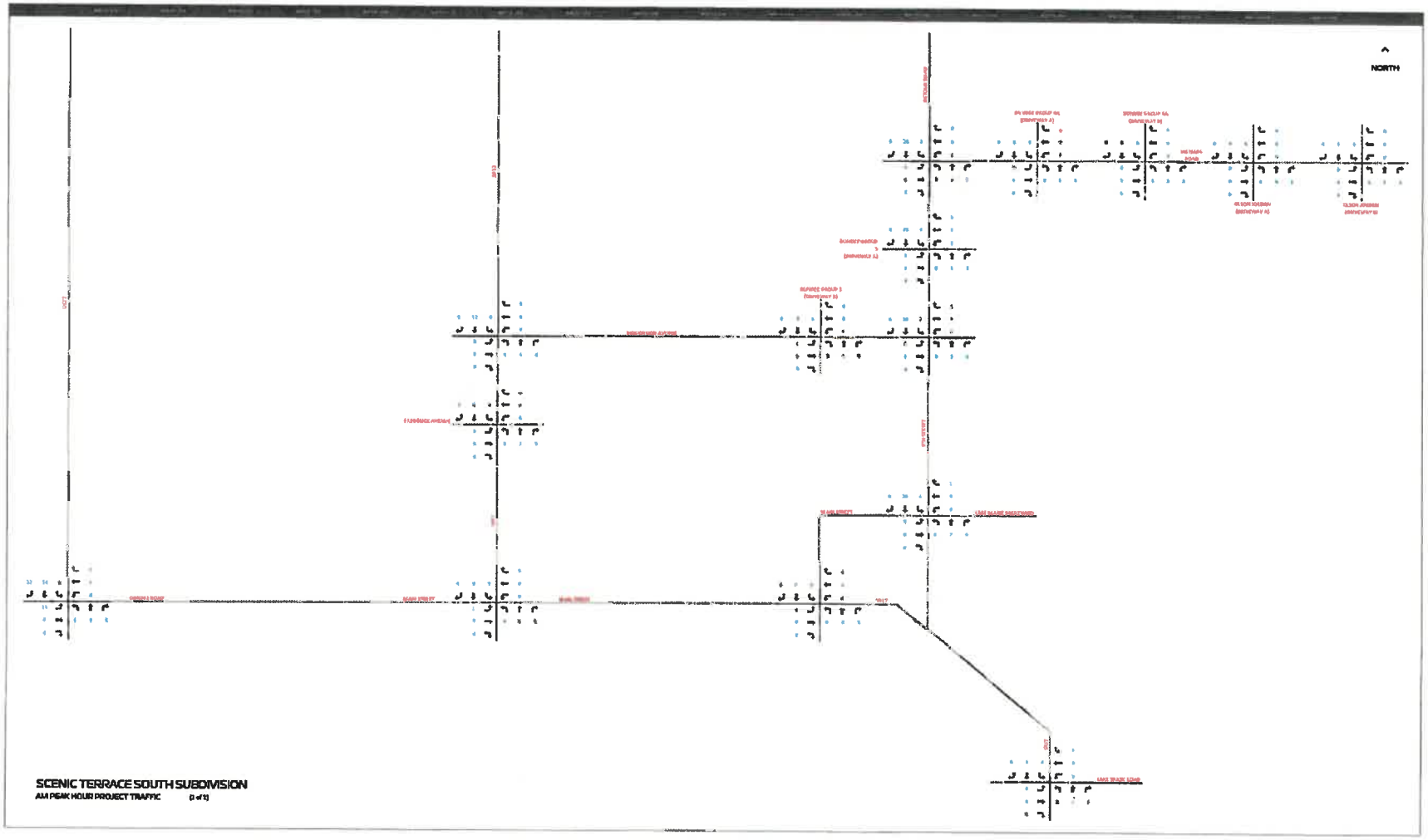
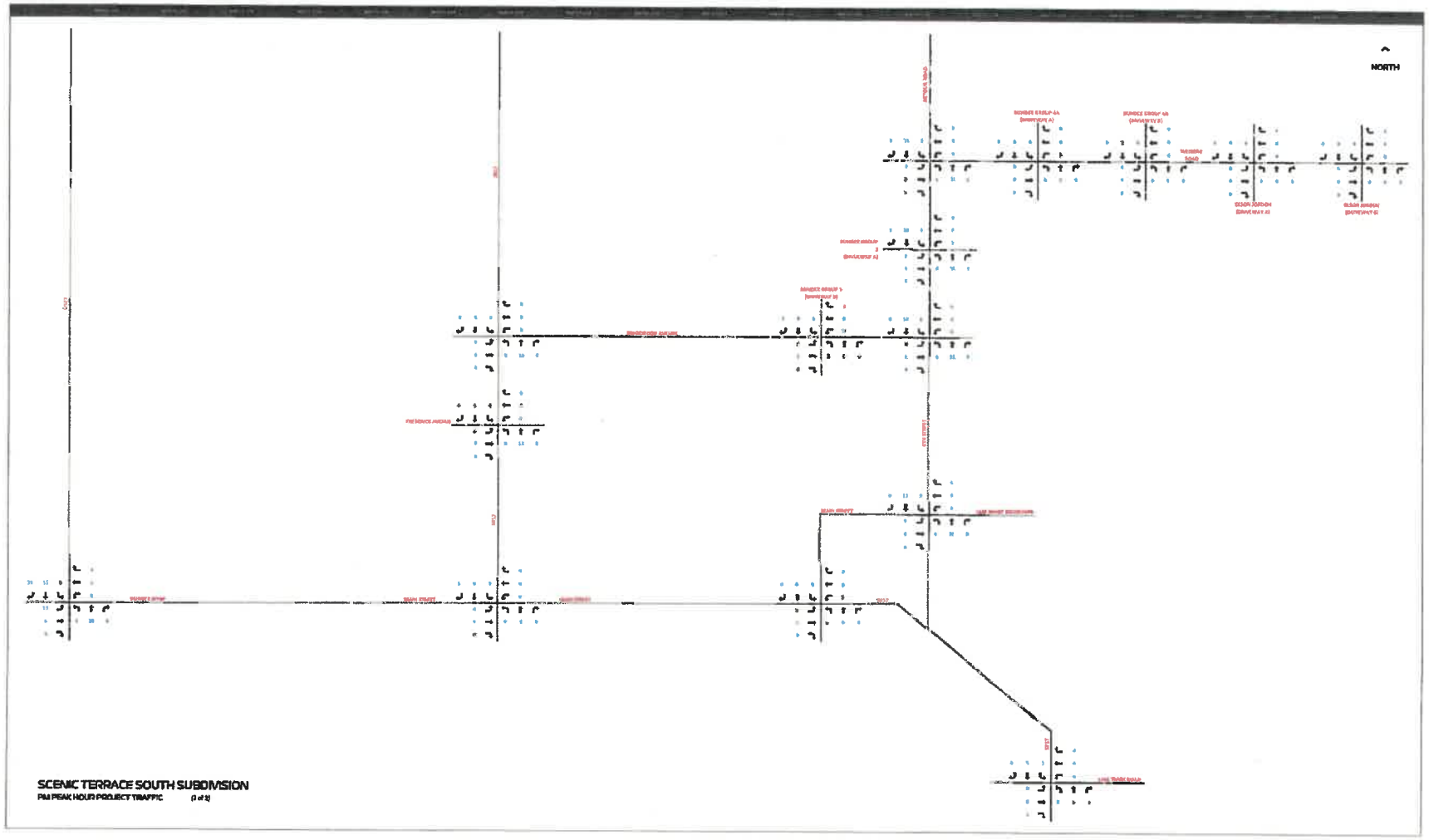

NORTH
SCENIC TERRACE SOUTH SUBDIVISION
AM PEAK HOUR PROJECT TRAFFIC


NORTH
SCENIC TERRACE SOUTH SUBDIVISION
PM PEAK HOUR PROJECT TRAFFIC (3 of 3)

NORTH
DUNDEE GROUP 3 SUBDIVISION
AM PEAK HOUR PROJECT TRAFFIC

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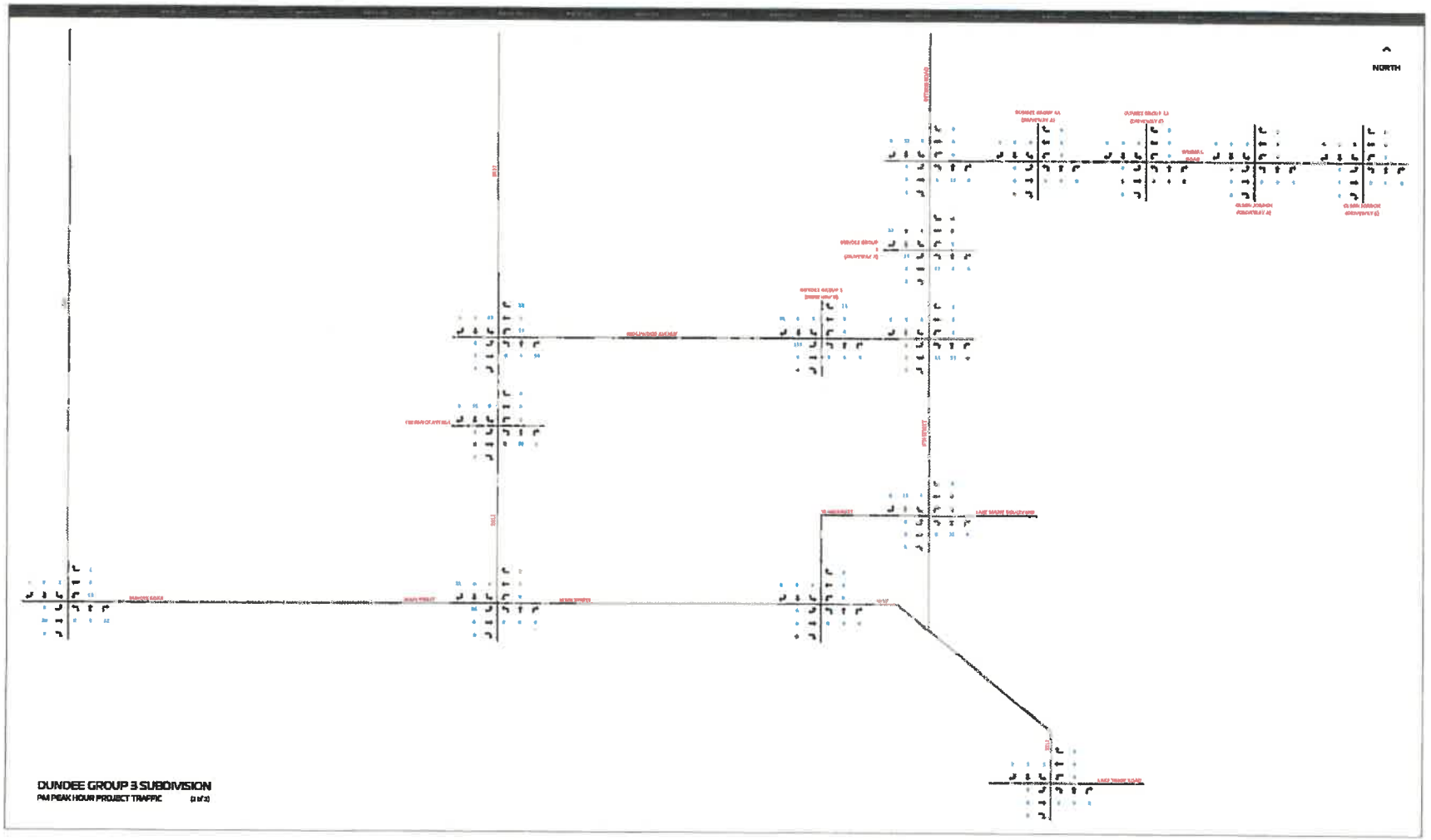
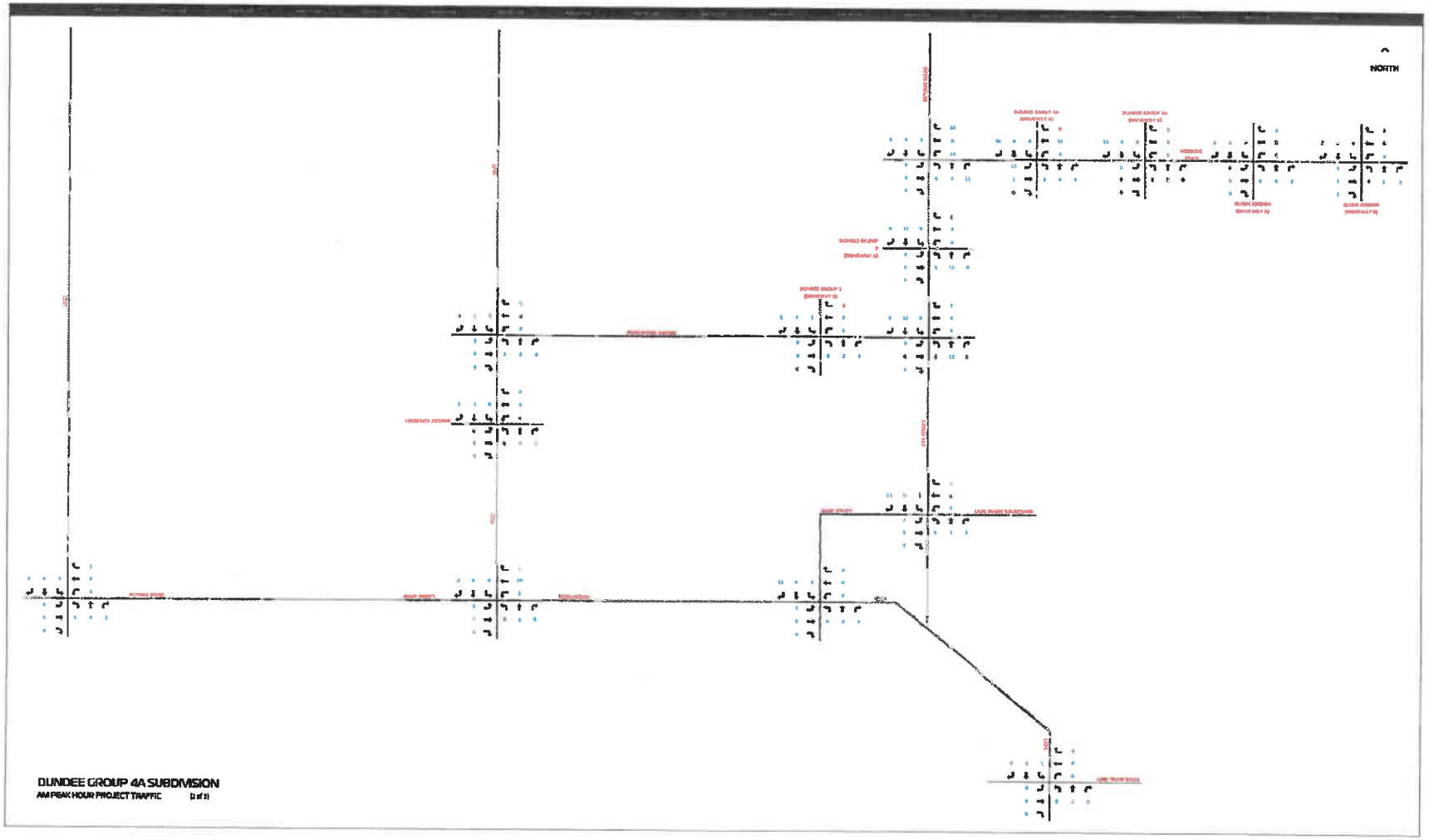
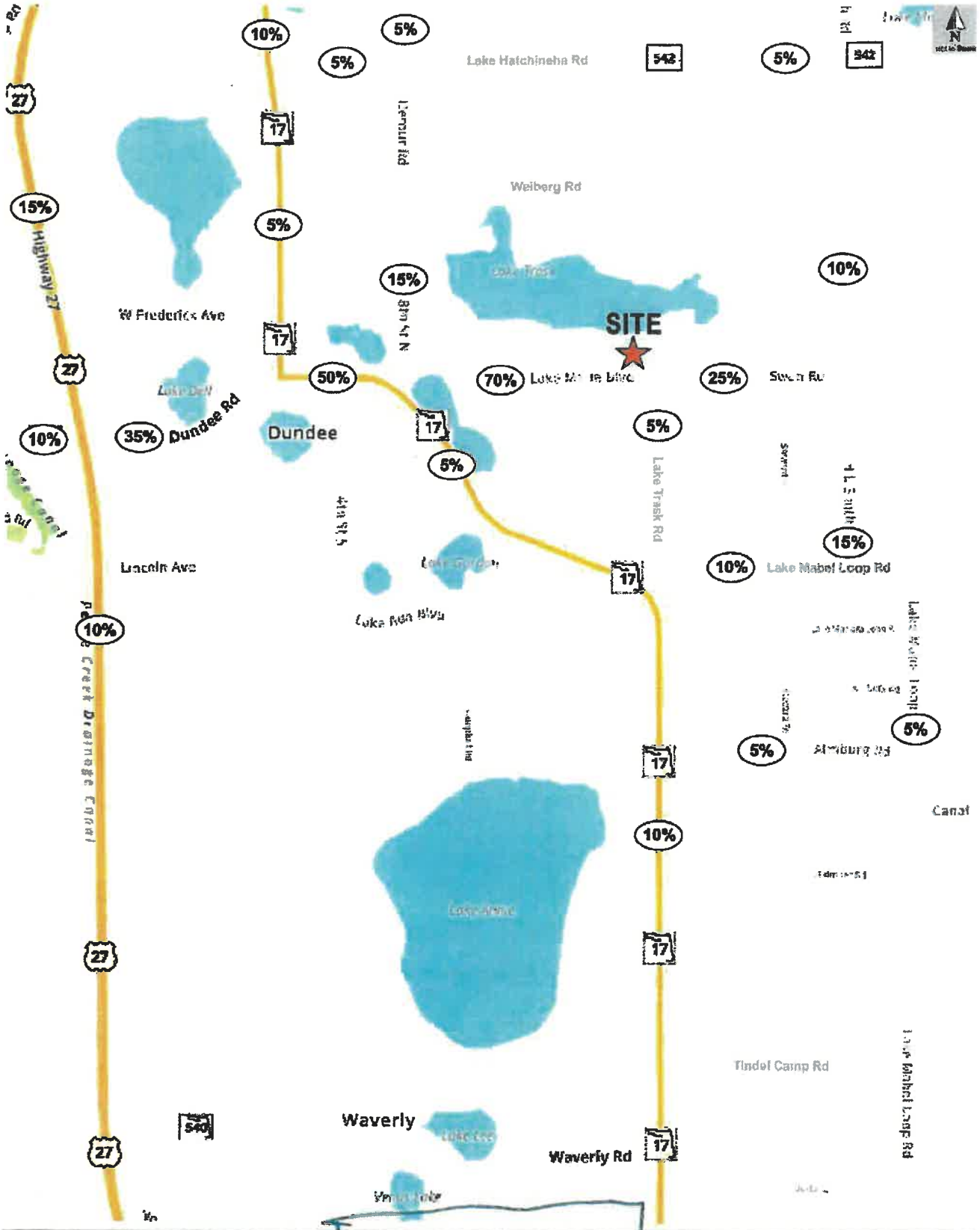

NORTH
DUNDEE GROUP 3 SUBDIVISION
PM PEAK HOUR PROJECT TRAFFIC


NORTH
DUNDEE GROUP 4A SUBDIVISION
AM PEAK HOUR PROJECT TRAFFIC (2 of 3)

NORTH
DUNDEE GROUP 4A SUBDIVISION
PM PEAK HOUR PROJECT TRAFFIC



Project Trip Distribution

The Reserve at Dundee Lakes

Figure 4

3.0 PROJECT TRAFFIC

3.1 Trip Generation

A trip generation of the proposed development was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition.* The resulting trip generation analysis is summarized in **Table 3**. The ITE information sheets are provided in **Appendix F.**

Table 3
Trip Generation Analysis

ITE Code	Land Use	Size	Daily Rate	Daily Trips	AM Peak Hour Rate	AM Peak Hour Total	AM Peak Hour Enter	AM Peak Hour Exit	PM Peak Hour Rate	PM Peak Hour Total	PM Peak Hour Enter	PM Peak Hour Exit
210	Single Family Residential	865 DU	8.75	7,569	0.72	619	155	464	0.93	806	508	298

Trip Generation analysis based on ITE Trip Generation Manual, 10th Edition

The proposed development is projected to generate 7,569 daily trips, of which 619 trips occur during the AM peak hour and 806 trips occur during the PM peak hour.

3.2 Trip Distribution

A trip distribution pattern was estimated using The *District One Regional Planning Model (D1RPM, version 7.0)*. The model distribution was slightly adjusted based on local knowledge, professional engineering judgement, and the location of the development with respect to the study area attractions and activity centers, to reflect prevailing travel patterns in the vicinity of the site and the surrounding transportation network. The adjusted trip distribution is presented in **Figure 4**, and the raw model plots are included in **Appendix G.**

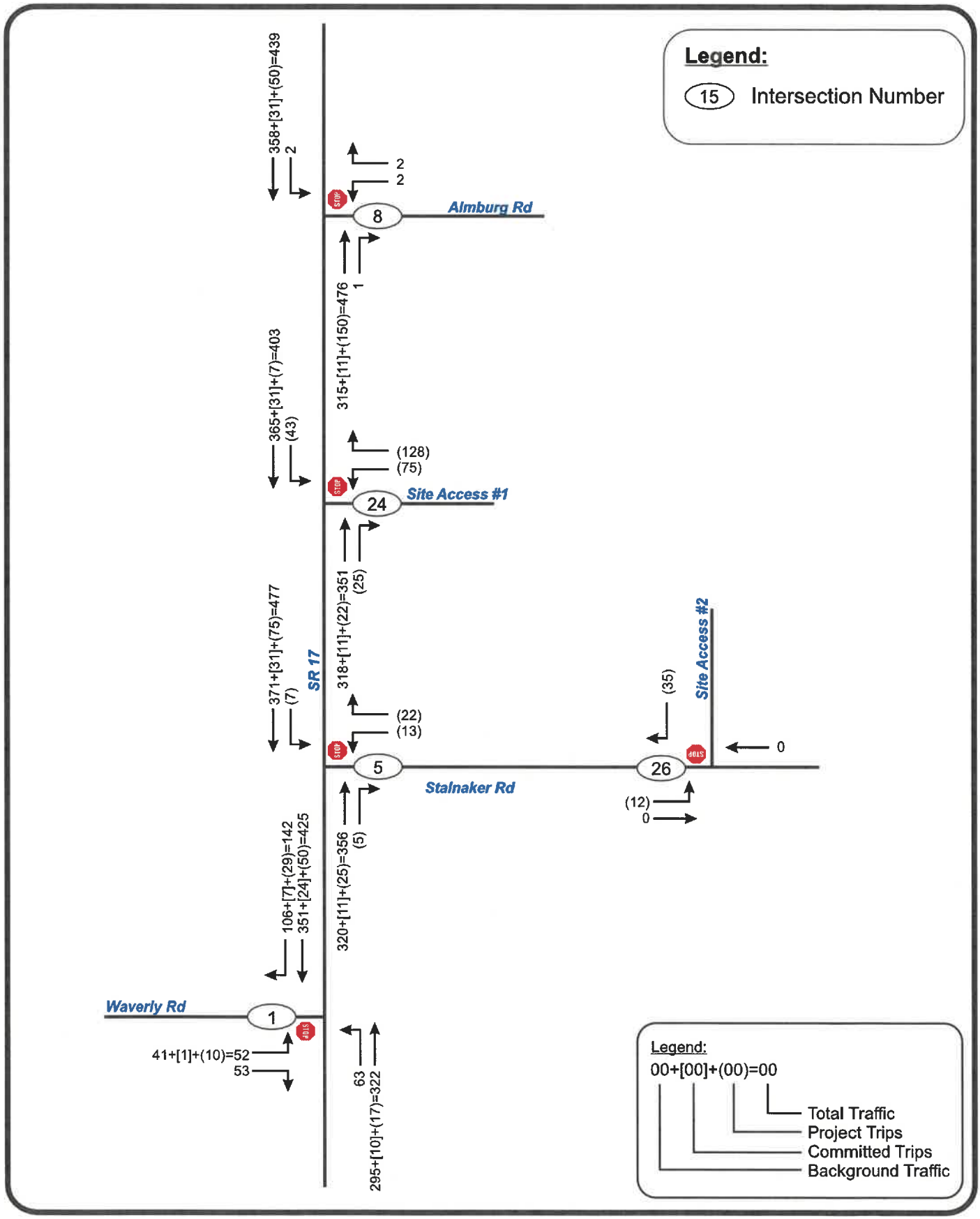
Roadway Segment Analysis

The study roadway segments were analyzed similar to existing conditions by comparing their total directional projected traffic volumes with the adopted capacities. It should be noted that the volumes of vested and project trips used in the analysis are the highest volumes for each segment. The segment of SR 17 from Waverly Road to Main Street (at Center Street) is 4.1 miles long, and the sections of the segment where the vested trips and project trips are concentrated do not overlap. Therefore, the segment was split into two new segments at the intersection of SR 17 and Lake Trask Road and the segments were analyzed separately. The projected Levels of Service for the study roadway segments during the P.M. peak hour are summarized in **Table 5.** As shown, study roadway segments are projected to operate at satisfactory Levels of Service upon completion of the project.

Table 5
Projected Roadway Capacity Analysis

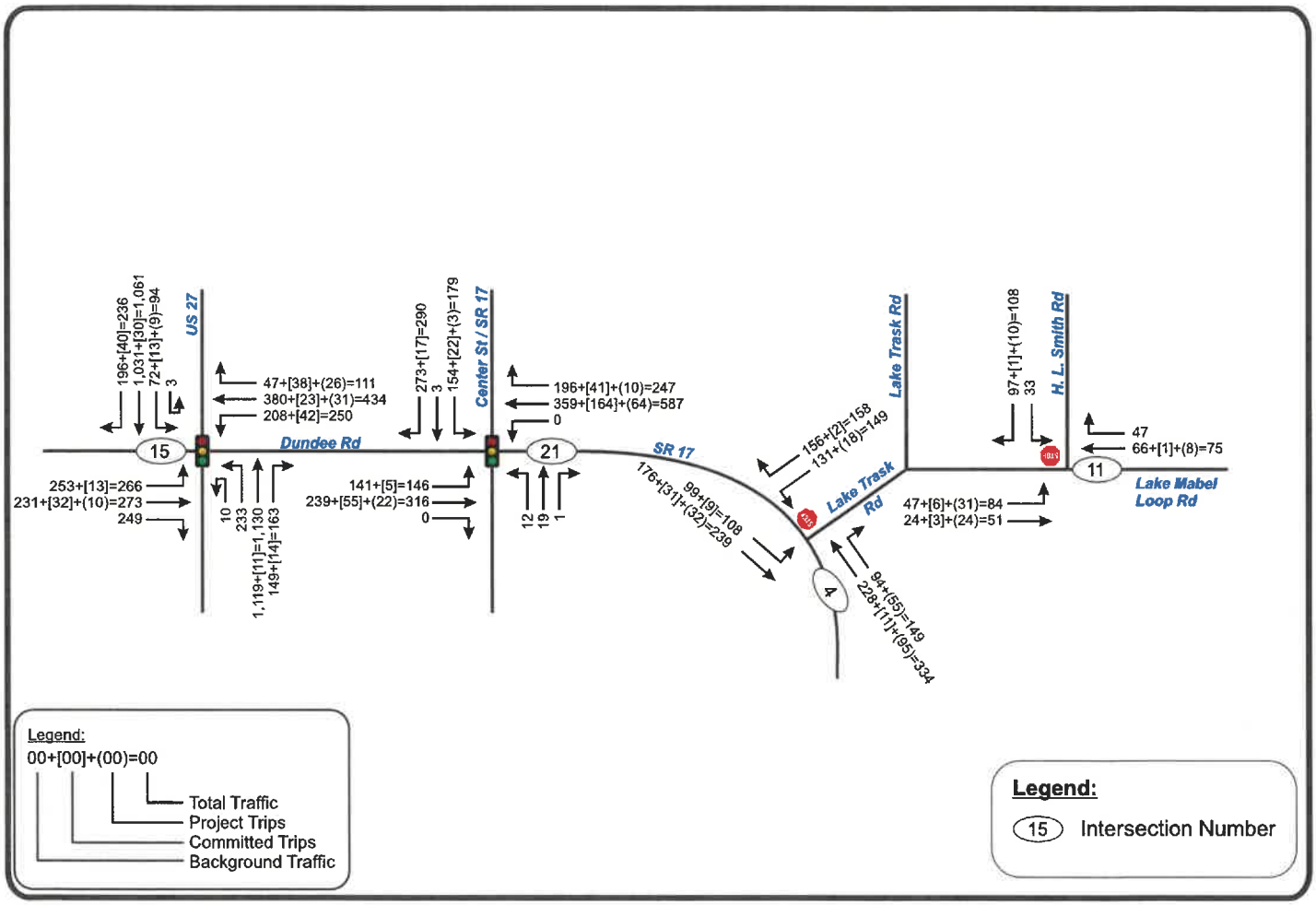
Link ID	Roadway Segment	No. of Lanes	LOS Standard	P.M. Peak Hour Capacity	Background Traffic		Project Trips**	Total Traffic	LOS
					Background Growth*	Approved Trips**			
SR 17 (Scenic Highway)									
5206N	Waverly Rd to Lake Trask Rd	2B	D	640	273	30	104	407	D
5206S		2B	D	640	284	21	176	481	D
5206N	Lake Trask Rd to Main St @ Center St	2B	D	640	273	141	66	480	D
5206S		2B	D	640	284	229	112	625	D
Dundee Road									
8103E	US 27 to SR 17	2U	E	800	484	200	73	757	E
8103W		2U	E	800	504	118	43	665	D
Lake Mabel Loop Road									
8204N	Canal Ave to SR 17	2U	E	790	157	10	64	231	C
8204S		2U	E	790	164	7	38	209	C

* Existing x 1.10
**Highest trips on segment



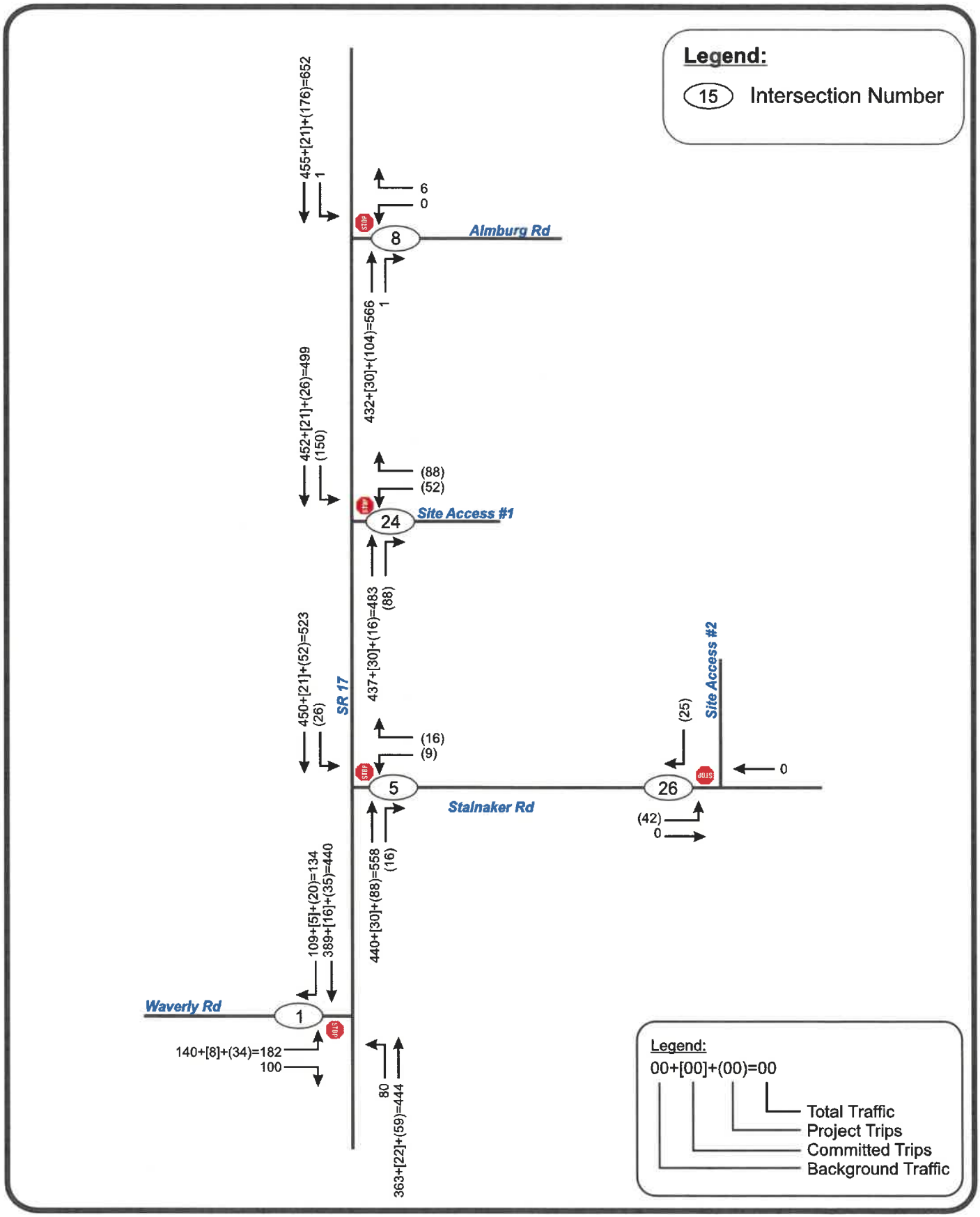
Legacy Hill
Project № 5751
Figure 5a

Projected A.M. Peak Hour Volumes



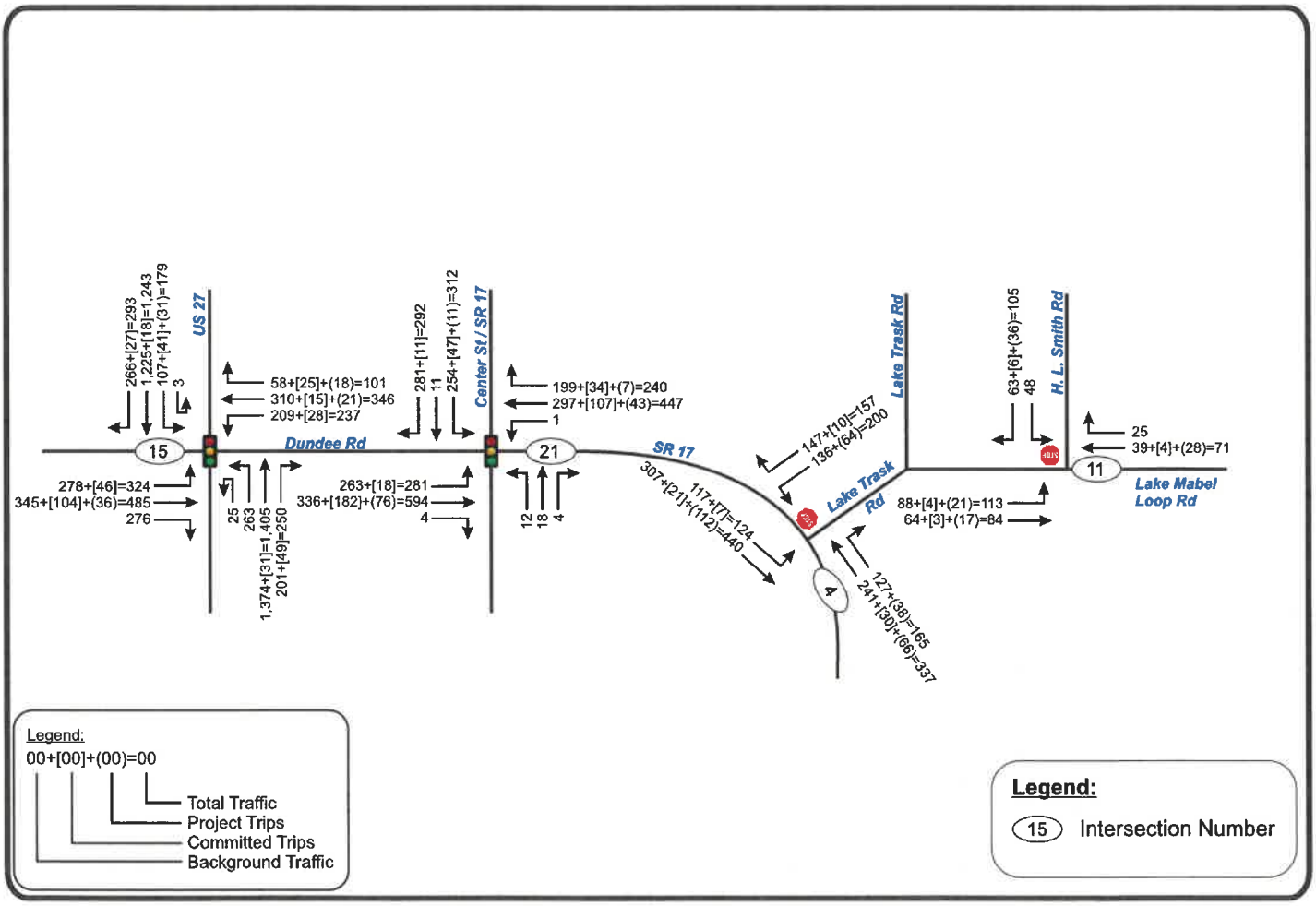
Legacy Hill
Project № 5751
Figure 5b

Projected A.M. Peak Hour Volumes



Legacy Hill
Project № 5751
Figure 5c

Projected P.M. Peak Hour Volumes



Legacy Hill
Project № 5751
Figure 5d

Projected P.M. Peak Hour Volumes

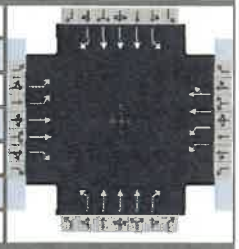
APPENDIX H

Background Capacity Analysis Worksheets

Appendix H - Table of Contents

HCS Signalized Intersection Results Summary

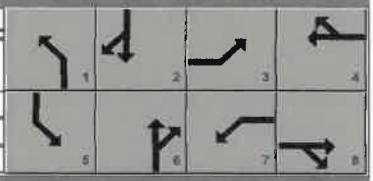
General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 19, 2024	Area Type	Other
Jurisdiction	Polk County	Time Period	Bkgd AM	PHF	0.95
Urban Street	US 27	Analysis Year	2028	Analysis Period	1> 7:30
Intersection	SR 542	File Name	1 - US 27 & Dundee Rd - Bkgd AM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	280	306	262	283	457	120	256	1190	180	105	1116	246

Signal Information			
Cycle, s	170.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	13.3	7.2	60.4	17.0	0.4	34.2	
Yellow	5.1	5.1	5.1	4.8	0.0	4.8	
Red	3.0	3.0	2.0	2.6	0.0	2.1	



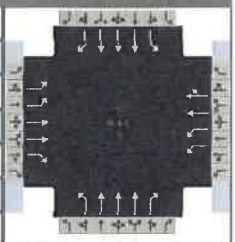
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	24.4	41.1	24.8	41.5	36.7	82.8	21.4	67.5
Change Period, ($Y+R_c$), s	7.4	7.4	6.9	7.4	8.1	7.1	8.1	7.1
Max Allow Headway (*MAH*), s	4.0	4.0	4.0	4.0	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	16.4	28.1	16.9	29.7	27.9		13.1	
Green Extension Time (g_e), s	0.6	4.5	1.0	4.4	0.7	0.0	0.2	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		0.99	
Max Out Probability	0.24	0.06	0.00	0.08	0.01		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	295	322	249	298	313	294	269	1253	189	111	1175	259
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1716	1724	1553	1675	1870	1736	1739	1577	1520	1668	1564	1520
Queue Service Time (g_s), s	14.4	14.0	26.1	14.9	27.4	27.7	25.9	34.0	13.4	11.1	36.6	22.5
Cycle Queue Clearance Time (g_c), s	14.4	14.0	26.1	14.9	27.4	27.7	25.9	34.0	13.4	11.1	36.6	22.5
Green Ratio (*g/C*)	0.10	0.20	0.20	0.11	0.20	0.20	0.17	0.45	0.45	0.08	0.36	0.36
Capacity (*c*), veh/h	343	683	308	352	375	348	292	2107	677	130	1666	540
Volume-to-Capacity Ratio (*X*)	0.860	0.471	0.811	0.846	0.836	0.845	0.922	0.595	0.280	0.849	0.705	0.480
Back of Queue (*Q*), ft/ln (95 th percentile)	285	268	419	284	502	507	495	514	230	242	563	360
Back of Queue (*Q*), veh/ln (95 th percentile)	11.1	10.2	16.2	10.8	19.8	18.9	19.0	18.9	8.7	9.0	20.5	13.6
Queue Storage Ratio (*RQ*) (95 th percentile)	0.78	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.00	0.29	0.00	0.00
Uniform Delay (d_1), s/veh	75.3	60.3	65.1	74.7	65.3	65.4	69.6	35.6	29.9	77.4	47.2	42.6
Incremental Delay (d_2), s/veh	12.1	0.5	7.5	5.6	7.9	9.1	21.9	1.2	1.0	13.9	2.5	3.0
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	87.4	60.8	72.7	80.3	73.2	74.6	91.5	36.8	30.9	91.3	49.7	45.7
Level of Service (LOS)	F	E	E	F	E	E	F	D	C	F	D	D
Approach Delay, s/veh / LOS	73.3	E		76.0	E		44.8	D		52.0	D	
Intersection Delay, s/veh / LOS	57.5						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.74	C	2.74	C	2.44	B	2.63	C
Bicycle LOS Score / LOS	1.20	A	1.23	A	1.43	A	1.34	A

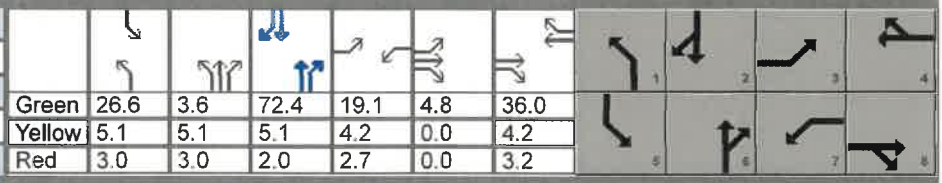
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 19, 2024	Area Type	Other
Jurisdiction	Polk County	Time Period	Bkgd PM	PHF	0.95
Urban Street	US 27	Analysis Year	2028	Analysis Period	1> 16:45
Intersection	SR 542	File Name	1 - US 27 & Dundee Rd - Bkgd PM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	340	563	291	267	368	113	303	1478	291	203	1310	307

Signal Information			
Cycle, s	200.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	26.6	3.6		72.4	19.1	4.8		36.0				
Yellow	5.1	5.1		5.1	4.2	0.0		4.2				
Red	3.0	3.0		2.0	2.7	0.0		3.2				

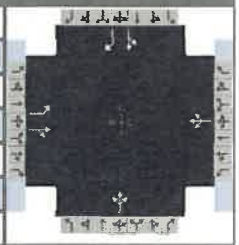
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	30.7	48.2	26.0	43.4	46.3	91.2	34.7	79.5
Change Period, ($Y+R_c$), s	7.4	7.4	6.9	7.4	8.1	7.1	8.1	7.1
Max Allow Headway (*MAH*), s	4.0	4.0	4.0	4.0	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	22.9	36.0	18.3	30.9	37.3		26.3	
Green Extension Time (g_e), s	0.4	4.7	0.8	4.8	0.9	0.0	0.3	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	1.00	0.25	0.01	0.24	0.00		0.71	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	358	593	277	281	275	231	319	1556	306	214	1379	323
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1689	1795	1572	1702	1870	1541	1781	1631	1572	1739	1631	1585
Queue Service Time (g_s), s	20.9	31.5	34.0	16.3	28.3	28.9	35.3	54.0	28.0	24.3	50.1	32.7
Cycle Queue Clearance Time (g_c), s	20.9	31.5	34.0	16.3	28.3	28.9	35.3	54.0	28.0	24.3	50.1	32.7
Green Ratio (*g/C*)	0.12	0.20	0.20	0.10	0.18	0.18	0.19	0.42	0.42	0.13	0.36	0.36
Capacity (*c*), veh/h	394	732	321	325	337	277	340	2058	661	231	1772	574
Volume-to-Capacity Ratio (*X*)	0.908	0.810	0.864	0.866	0.817	0.833	0.937	0.756	0.463	0.925	0.778	0.563
Back of Queue (*Q*), ft/ln (95 th percentile)	404	536	548	313	526	470	636	787	428	490	747	495
Back of Queue (*Q*), veh/ln (95 th percentile)	15.6	21.3	21.4	12.1	20.7	18.2	25.0	29.8	16.7	18.9	28.3	19.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	87.3	75.9	76.9	89.2	78.8	79.1	79.7	49.2	41.7	85.7	56.6	51.1
Incremental Delay (d_2), s/veh	21.7	4.7	15.5	9.9	9.8	13.3	22.0	2.6	2.3	33.3	3.4	4.0
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	109.0	80.6	92.4	99.1	88.7	92.4	101.7	51.9	44.0	119.0	60.1	55.1
Level of Service (LOS)	F	F	F	F	F	F	F	D	D	F	E	E
Approach Delay, s/veh / LOS	91.5	F		93.5	F		58.1	E		65.8	E	
Intersection Delay, s/veh / LOS	71.8						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.75	C	2.75	C	2.45	B	2.64	C
Bicycle LOS Score / LOS	1.50	B	1.14	A	1.69	B	1.54	B

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 19, 2024	Area Type	Other
Jurisdiction	Polk County	Time Period	Bkgd AM	PHF	0.95
Urban Street	SR 17	Analysis Year	2028	Analysis Period	1> 7:45
Intersection	Dundee Rd	File Name	2 - SR 17 & Dundee Rd - Bkgd AM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	180	341	0	0	618	235	13	20	1	180	3	381

Signal Information					EB		WB			NB		
Cycle, s	86.8	Reference Phase	2									
Offset, s	0	Reference Point	End	Green	40.0	25.6	4.1	0.0	0.0	0.0		
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	3.7	3.7	3.7	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.1	2.0	2.0	0.0	0.0	0.0		

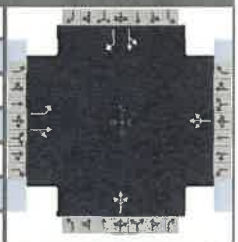
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		6.0		8.0		12.0		11.0
Phase Duration, s		45.8		45.8		9.8		31.3
Change Period, ($Y+R_c$), s		5.8		5.8		5.7		5.7
Max Allow Headway (*MAH*), s		4.5		4.5		4.1		4.4
Queue Clearance Time (g_s), s		42.0		42.0		3.6		23.2
Green Extension Time (g_e), s		0.0		0.0		0.1		2.3
Phase Call Probability		1.00		1.00		0.58		1.00
Max Out Probability		1.00		1.00		0.00		0.02

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	189	0			0			36			193	401
Adjusted Saturation Flow Rate (*s*), veh/h/ln	605	0			0			1854			1684	1557
Queue Service Time (g_s), s	0.0	0.0			0.0			1.6			7.9	21.2
Cycle Queue Clearance Time (g_c), s	40.0	0.0			0.0			1.6			7.9	21.2
Green Ratio (*g/C*)	0.46							0.05			0.29	0.29
Capacity (*c*), veh/h	83							87			496	459
Volume-to-Capacity Ratio (*X*)	2.285	0.000			0.000			0.414			0.388	0.874
Back of Queue (*Q*), ft/ln (95 th percentile)	745	0			0			36			152	345
Back of Queue (*Q*), veh/ln (95 th percentile)	28.6	0.0			0.0			1.5			5.7	13.4
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00			0.00			0.00			0.00	0.00
Uniform Delay (d_1), s/veh	43.4							40.2			24.4	29.1
Incremental Delay (d_2), s/veh	614.6	0.0			0.0			3.1			0.5	7.4
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0			0.0			0.0	0.0
Control Delay (*d*), s/veh	658.0							43.4			24.9	36.5
Level of Service (LOS)	F							D			C	D
Approach Delay, s/veh / LOS	237.8	F		90.4	F		43.4	D		32.8	C	
Intersection Delay, s/veh / LOS	112.0						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.90	B	1.72	B	1.94	B
Bicycle LOS Score / LOS	1.39	A	1.97	B	0.55	A	1.47	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 19, 2024	Area Type	Other
Jurisdiction	Polk County	Time Period	Bkgd PM	PHF	0.95
Urban Street	SR 17	Analysis Year	2028	Analysis Period	1> 16:15
Intersection	Dundee Rd	File Name	2 - SR 17 & Dundee Rd - Bkgd PM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	381	649	4	1	486	238	13	19	4	304	12	358

Signal Information			
Cycle, s	85.8	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	40.0	24.4	4.2	0.0	0.0	0.0	
Yellow	3.7	3.7	3.7	0.0	0.0	0.0	
Red	2.1	2.0	2.0	0.0	0.0	0.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		6.0		8.0		12.0		11.0
Phase Duration, s		45.8		45.8		9.9		30.1
Change Period, ($Y+R_c$), s		5.8		5.8		5.7		5.7
Max Allow Headway (*MAH*), s		4.7		4.7		4.2		4.3
Queue Clearance Time (g_s), s		42.0		38.4		3.7		21.5
Green Extension Time (g_e), s		0.0		1.4		0.1		2.8
Phase Call Probability		1.00		1.00		0.59		1.00
Max Out Probability		1.00		1.00		0.00		0.03

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	401	687			763			38			333	377
Adjusted Saturation Flow Rate (*s*), veh/h/ln	699	1839			1724			1830			1742	1560
Queue Service Time (g_s), s	3.6	27.3			1.6			1.7			14.5	19.5
Cycle Queue Clearance Time (g_c), s	40.0	27.3			36.4			1.7			14.5	19.5
Green Ratio (*g/C*)	0.47	0.47			0.47			0.05			0.28	0.28
Capacity (*c*), veh/h	155	857			846			89			496	444
Volume-to-Capacity Ratio (*X*)	2.588	0.802			0.902			0.426			0.671	0.849
Back of Queue (*Q*), ft/ln (95 th percentile)	1587	459			602			38			262	315
Back of Queue (*Q*), veh/ln (95 th percentile)	62.0	17.8			23.1			1.5			10.1	12.2
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00			0.00			0.00			0.00	0.00
Uniform Delay (d_1), s/veh	42.6	19.5			21.9			39.6			27.1	28.9
Incremental Delay (d_2), s/veh	733.1	5.5			12.9			3.2			1.6	5.2
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0			0.0			0.0	0.0
Control Delay (*d*), s/veh	775.7	25.0			34.8			42.9			28.7	34.1
Level of Service (LOS)	F	C			C			D			C	C
Approach Delay, s/veh / LOS	301.6	F		34.8	C		42.9	D		31.6	C	
Intersection Delay, s/veh / LOS	145.8						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.90	B	1.72	B	1.94	B
Bicycle LOS Score / LOS	2.28	B	1.75	B	0.55	A	1.66	B

HCS Two-Way Stop-Control Report

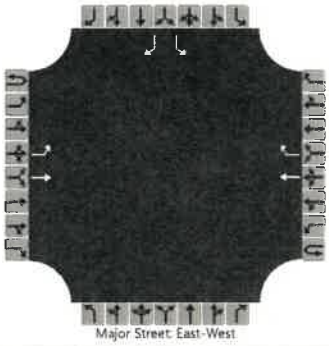
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/19/2024
Analysis Year	2028
Time Analyzed	Bkgd AM
Intersection Orientation	East-West
Project Description	5611.1

Site Information

Intersection	SR 17 & Lake Trask Road
Jurisdiction	Polk County
East/West Street	SR 17
North/South Street	Lake Trask Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		119	268				350	164						171		170
Percent Heavy Vehicles (%)		6												5		5
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized							No							No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.16												6.45		6.25
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.55		3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		125												180		179
Capacity, c (veh/h)		1008												267		670
v/c Ratio		0.12												0.67		0.27
95% Queue Length, Q_{95} (veh)		0.4												4.4		1.1
95% Queue Length, Q_{95} (ft)		10.5												114.4		28.6
Control Delay (s/veh)		9.1												42.5		12.3
Level of Service (LOS)		A												E		B
Approach Delay (s/veh)		2.8												27.4		
Approach LOS		A												D		

HCS Two-Way Stop-Control Report

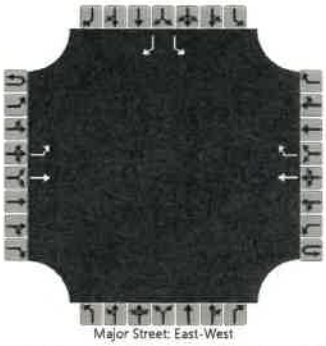
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/19/2024
Analysis Year	2028
Time Analyzed	Bkgd PM
Intersection Orientation	East-West
Project Description	5611.1

Site Information

Intersection	SR 17 & Lake Trask Road
Jurisdiction	Polk County
East/West Street	SR 17
North/South Street	Lake Trask Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		137	469				375	205						228		165
Percent Heavy Vehicles (%)		8												4		7
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized						No								No		
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.18												6.44		6.27
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.27												3.54		3.36

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		144												240		174
Capacity, c (veh/h)		940												177		644
v/c Ratio		0.15												1.36		0.27
95% Queue Length, Q_{95} (veh)		0.5												14.2		1.1
95% Queue Length, Q_{95} (ft)		13.3												366.4		29.0
Control Delay (s/veh)		9.5												242.3		12.6
Level of Service (LOS)		A												F		B
Approach Delay (s/veh)		2.2												145.9		
Approach LOS		A												F		

HCS Two-Way Stop-Control Report

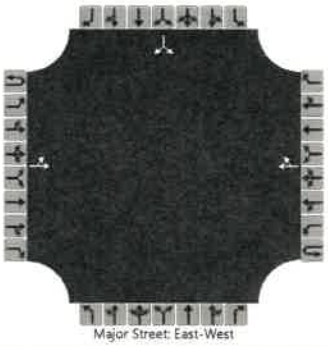
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/19/2024
Analysis Year	2028
Time Analyzed	Bkgd AM
Intersection Orientation	East-West
Project Description	5611.1

Site Information

Intersection	Lk Mabel Loop Rd & HL Smith Rd
Jurisdiction	Polk County
East/West Street	Lake Mabel Loop Road
North/South Street	HL Smith Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		92	49				78	55						48		138
Percent Heavy Vehicles (%)		7												10		5
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.17												6.50		6.25
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.26												3.59		3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		97													196	
Capacity, c (veh/h)		1413													808	
v/c Ratio		0.07													0.24	
95% Queue Length, Q_{95} (veh)		0.2													0.9	
95% Queue Length, Q_{95} (ft)		5.3													23.6	
Control Delay (s/veh)		7.7	0.5												10.9	
Level of Service (LOS)		A	A												B	
Approach Delay (s/veh)	5.2												10.9			
Approach LOS	A												B			

HCS Two-Way Stop-Control Report

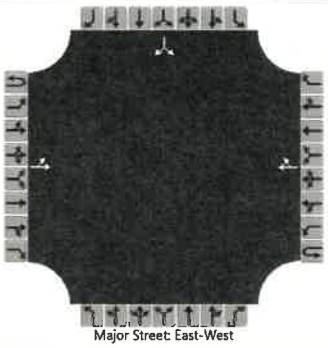
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/19/2024
Analysis Year	2028
Time Analyzed	Bkgd PM
Intersection Orientation	East-West
Project Description	5611.1

Site Information

Intersection	Lk Mabel Loop Rd & HL Smith Rd
Jurisdiction	Polk County
East/West Street	Lake Mabel Loop Road
North/South Street	HL Smith Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		147	84				69	43						60		122
Percent Heavy Vehicles (%)		6												5		7
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.16												6.45		6.27
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.55		3.36

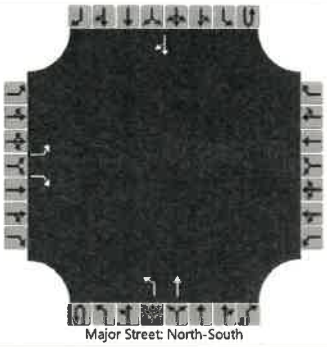
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		155													192	
Capacity, c (veh/h)		1446													707	
v/c Ratio		0.11													0.27	
95% Queue Length, Q_{95} (veh)		0.4													1.1	
95% Queue Length, Q_{95} (ft)		10.5													28.9	
Control Delay (s/veh)		7.8	0.9												12.0	
Level of Service (LOS)		A	A												B	
Approach Delay (s/veh)	5.3												12.0			
Approach LOS	A												B			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	SS	Intersection	SR 17 & Waverly Rd
Agency/Co.	TPD, Inc.	Jurisdiction	Polk County
Date Performed	8/19/2024	East/West Street	Waverly Rd
Analysis Year	2028	North/South Street	SR 17
Time Analyzed	Bkgd AM	Peak Hour Factor	0.95
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	5611.1		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration		L		R						L	T					TR
Volume (veh/h)		53		55						66	327				420	141
Percent Heavy Vehicles (%)		8		19						4						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.48		6.39						4.14						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.57		3.47						2.24						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		56		58						69						
Capacity, c (veh/h)		244		527						975						
v/c Ratio		0.23		0.11						0.07						
95% Queue Length, Q_{95} (veh)		0.9		0.4						0.2						
95% Queue Length, Q_{95} (ft)		23.9		11.5						5.2						
Control Delay (s/veh)		24.1		12.7						9.0						
Level of Service (LOS)		C		B						A						
Approach Delay (s/veh)		18.3								1.5						
Approach LOS		C								A						

HCS Two-Way Stop-Control Report

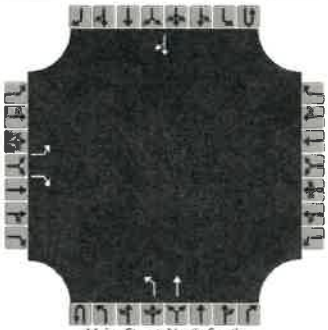
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/19/2024
Analysis Year	2028
Time Analyzed	Bkgd PM
Intersection Orientation	North-South
Project Description	5611.1

Site Information

Intersection	SR 17 & Waverly Rd
Jurisdiction	Polk County
East/West Street	Waverly Rd
North/South Street	SR 17
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration		L		R						L	T					TR
Volume (veh/h)		181		106						85	442				446	135
Percent Heavy Vehicles (%)		1		4						5						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type | Storage	Undivided															

Critical and Follow-up Headways

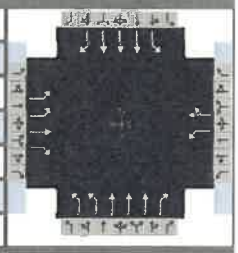
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.41		6.24						4.15						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.51		3.34						2.25						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		191		112						89						
Capacity, c (veh/h)		190		538						953						
v/c Ratio		1.00		0.21						0.09						
95% Queue Length, Q_{95} (veh)		8.5		0.8						0.3						
95% Queue Length, Q_{95} (ft)		214.2		20.6						7.8						
Control Delay (s/veh)		116.8		13.4						9.2						
Level of Service (LOS)		F		B						A						
Approach Delay (s/veh)	78.6								1.5							
Approach LOS	F								A							

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 19, 2024	Area Type	Other
Jurisdiction	Polk County	Time Period	Bkgd AM	PHF	0.95
Urban Street	US 27	Analysis Year	2028	Analysis Period	1> 7:30
Intersection	Waverly Rd	File Name	6 - US 27 & Waverly Rd - Bkgd AM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	346	98	523	51	163	31	515	1148	38	29	1169	335

Signal Information			
Cycle, s	138.8	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

	EB			WB			NB			SB		
Green	3.5		13.6	47.5		5.9	4.3		17.6			
Yellow	6.0		6.0	6.0		4.9	4.9		4.9			
Red	2.1		3.0	2.0		2.6	2.1		2.0			

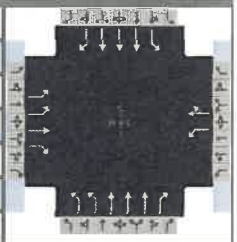
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	24.7	35.8	13.4	24.5	34.1	78.0	11.6	55.5
Change Period, ($Y+R_c$), s	7.0	6.9	7.5	6.9	9.0	8.0	8.1	8.0
Max Allow Headway (*MAH*), s	4.0	4.1	4.0	4.1	4.0	3.9	4.0	3.9
Queue Clearance Time (g_s), s	16.4	31.0	6.7	17.3	23.3	25.6	4.8	34.1
Green Extension Time (g_e), s	1.3	0.0	0.1	0.2	1.8	19.5	0.0	13.3
Phase Call Probability	1.00	1.00	0.87	1.00	1.00	1.00	0.69	1.00
Max Out Probability	0.00	1.00	0.00	1.00	0.04	0.28	0.00	0.38

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	364	103	351	54	204		542	1208	40	31	1231	353
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1716	1811	1572	1584	1818		1716	1577	1447	1527	1577	1547
Queue Service Time (g_s), s	14.4	6.6	29.0	4.7	15.3		21.3	23.6	2.0	2.8	32.1	27.0
Cycle Queue Clearance Time (g_c), s	14.4	6.6	29.0	4.7	15.3		21.3	23.6	2.0	2.8	32.1	27.0
Green Ratio (*g/C*)	0.13	0.21	0.21	0.04	0.13		0.18	0.50	0.50	0.02	0.34	0.34
Capacity (*c*), veh/h	439	378	328	67	230		621	2387	730	38	1618	529
Volume-to-Capacity Ratio (*X*)	0.830	0.273	1.069	0.797	0.886		0.872	0.506	0.055	0.801	0.761	0.667
Back of Queue (*Q*), ft/ln (95 th percentile)	269	141	646	112	341		375	355	32	72	485	397
Back of Queue (*Q*), veh/ln (95 th percentile)	10.5	5.4	25.3	4.0	13.4		14.6	13.1	1.1	2.5	17.8	15.3
Queue Storage Ratio (*RQ*) (95 th percentile)	0.53	0.00	0.00	0.47	0.00		0.51	0.00	0.00	0.15	0.00	0.00
Uniform Delay (d_1), s/veh	59.1	46.1	55.0	65.9	59.7		55.3	22.9	17.5	67.4	40.7	39.0
Incremental Delay (d_2), s/veh	4.1	0.4	69.3	18.8	26.3		7.3	0.2	0.0	30.6	1.1	1.5
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	63.2	46.5	124.3	84.7	86.0		62.6	23.1	17.6	98.0	41.7	40.4
Level of Service (LOS)	E	D	F	F	F		E	C	B	F	D	D
Approach Delay, s/veh / LOS	87.3	F		85.7	F		34.9	C		42.5	D	
Intersection Delay, s/veh / LOS	50.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.86	C	2.74	C	1.91	B	2.72	C
Bicycle LOS Score / LOS	1.84	B	0.91	A	1.47	A	1.38	A

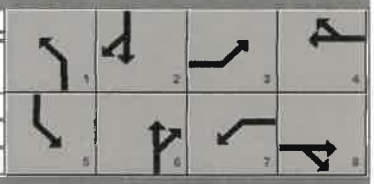
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 19, 2024	Area Type	Other
Jurisdiction	Polk County	Time Period	Bkgd PM	PHF	0.95
Urban Street	US 27	Analysis Year	2028	Analysis Period	1> 16:45
Intersection	Waverly Rd	File Name	6 - US 27 & Waverly Rd - Bkgd PM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	459	219	733	42	156	47	641	1400	85	47	1237	495

Signal Information			
Cycle, s	173.8	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	6.5	20.4	60.7	5.7	14.0	20.0	
Yellow	6.0	6.0	6.0	4.9	4.9	4.9	
Red	2.1	3.0	2.0	2.6	2.1	2.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	34.2	47.9	13.2	26.9	44.0	98.1	14.6	68.7
Change Period, ($Y+R_c$), s	7.0	6.9	7.5	6.9	9.0	8.0	8.1	8.0
Max Allow Headway (*MAH*), s	4.0	4.1	4.0	4.1	4.0	3.9	4.0	3.9
Queue Clearance Time (g_s), s	25.8	43.0	6.4	22.0	35.6	38.5	7.1	56.7
Green Extension Time (g_e), s	1.4	0.0	0.1	0.0	0.0	19.2	0.1	3.9
Phase Call Probability	1.00	1.00	0.88	1.00	1.00	1.00	0.91	1.00
Max Out Probability	0.10	1.00	0.00	1.00	1.00	0.64	0.00	0.92

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	483	231	492	44	214		675	1474	89	49	1302	521
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1856	1585	1725	1796		1730	1618	1560	1668	1618	1598
Queue Service Time (g_s), s	23.8	18.8	41.0	4.4	20.0		33.6	36.5	5.1	5.1	41.5	54.7
Cycle Queue Clearance Time (g_c), s	23.8	18.8	41.0	4.4	20.0		33.6	36.5	5.1	5.1	41.5	54.7
Green Ratio (*g/C*)	0.16	0.24	0.24	0.03	0.12		0.20	0.52	0.52	0.04	0.35	0.35
Capacity (*c*), veh/h	541	438	374	57	207		697	2515	808	63	1694	558
Volume-to-Capacity Ratio (*X*)	0.892	0.527	1.315	0.779	1.034		0.968	0.586	0.111	0.790	0.768	0.934
Back of Queue (*Q*), ft/ln (95 th percentile)	427	354	1238	107	496		607	530	86	122	622	827
Back of Queue (*Q*), veh/ln (95 th percentile)	16.8	13.8	48.7	4.1	19.5		23.9	19.9	3.3	4.5	23.4	32.8
Queue Storage Ratio (*RQ*) (95 th percentile)	0.84	0.00	0.00	0.45	0.00		0.83	0.00	0.00	0.26	0.00	0.00
Uniform Delay (d_1), s/veh	71.9	57.9	66.4	83.4	76.9		68.8	29.0	21.4	82.9	50.3	54.6
Incremental Delay (d_2), s/veh	11.6	1.2	159.6	20.1	71.8		26.4	0.4	0.1	19.4	1.9	21.3
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	83.4	59.1	226.0	103.5	148.6		95.2	29.3	21.5	102.4	52.2	75.9
Level of Service (LOS)	F	E	F	F	F		F	C	C	F	D	E
Approach Delay, s/veh / LOS	136.9	F		140.9	F		48.9	D		60.1	E	
Intersection Delay, s/veh / LOS	76.0						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.86	C	2.75	C	1.92	B	2.83	C
Bicycle LOS Score / LOS	2.48	B	0.91	A	1.72	B	1.52	B

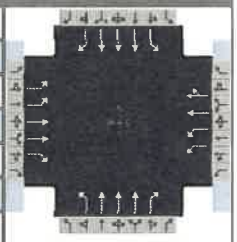
APPENDIX I

Projected Capacity Analysis Worksheets

Appendix I - Table of Contents

HCS Signalized Intersection Results Summary

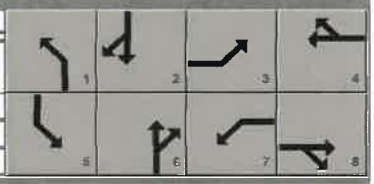
General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 19, 2024	Area Type	Other
Jurisdiction	Polk County	Time Period	Projected AM	PHF	0.95
Urban Street	US 27	Analysis Year	2028	Analysis Period	1> 7:30
Intersection	SR 542	File Name	1 - US 27 & Dundee Rd - Projected AM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	280	318	262	283	493	150	256	1190	180	115	1116	246

Signal Information			
Cycle, s	170.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	14.3	6.1	57.1	17.0	0.4	37.5	
Yellow	5.1	5.1	5.1	4.8	0.0	4.8	
Red	3.0	3.0	2.0	2.6	0.0	2.1	



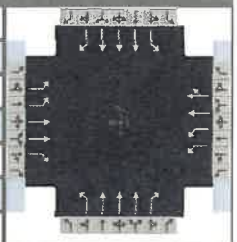
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	24.4	44.4	24.8	44.8	36.6	78.4	22.4	64.2
Change Period, ($Y+R_c$), s	7.4	7.4	6.9	7.4	8.1	7.1	8.1	7.1
Max Allow Headway (*MAH*), s	4.0	4.0	4.0	4.0	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	16.4	27.4	16.9	33.0	28.0		14.2	
Green Extension Time (g_e), s	0.6	4.9	1.0	4.5	0.5	0.0	0.2	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.24	0.08	0.00	0.17	0.09		0.01	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	295	335	249	298	351	326	269	1253	189	121	1175	259
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1716	1724	1553	1675	1870	1720	1739	1577	1520	1668	1564	1520
Queue Service Time (g_s), s	14.4	14.3	25.4	14.9	30.7	31.0	26.0	35.5	14.1	12.2	37.7	23.2
Cycle Queue Clearance Time (g_c), s	14.4	14.3	25.4	14.9	30.7	31.0	26.0	35.5	14.1	12.2	37.7	23.2
Green Ratio (*g/C*)	0.10	0.22	0.22	0.11	0.22	0.22	0.17	0.42	0.42	0.08	0.34	0.34
Capacity (*c*), veh/h	343	751	338	352	411	378	291	1985	638	141	1577	511
Volume-to-Capacity Ratio (*X*)	0.860	0.446	0.738	0.846	0.854	0.860	0.925	0.631	0.297	0.861	0.745	0.507
Back of Queue (*Q*), ft/ln (95 th percentile)	285	270	403	284	560	559	504	538	240	264	580	371
Back of Queue (*Q*), veh/ln (95 th percentile)	11.1	10.3	15.6	10.8	22.1	20.9	19.4	19.8	9.1	9.8	21.2	14.1
Queue Storage Ratio (*RQ*) (95 th percentile)	0.78	0.00	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.31	0.00	0.00
Uniform Delay (d_1), s/veh	75.3	57.6	62.0	74.7	63.7	63.8	69.7	39.0	32.7	76.9	50.0	45.2
Incremental Delay (d_2), s/veh	12.1	0.4	4.7	5.6	10.4	11.8	25.5	1.5	1.2	17.6	3.2	3.6
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	87.4	58.0	66.7	80.3	74.0	75.6	95.2	40.5	33.9	94.4	53.2	48.7
Level of Service (LOS)	F	E	E	F	E	E	F	D	C	F	D	D
Approach Delay, s/veh / LOS	70.3	E		76.5	E		48.4	D		55.7	E	
Intersection Delay, s/veh / LOS	59.7						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.74	C	2.74	C	2.44	B	2.63	C
Bicycle LOS Score / LOS	1.21	A	1.29	A	1.43	A	1.34	A

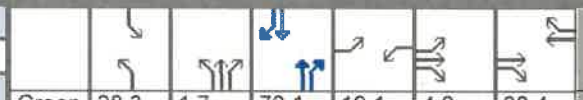
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 19, 2024	Area Type	Other
Jurisdiction	Polk County	Time Period	Projected PM	PHF	0.95
Urban Street	US 27	Analysis Year	2028	Analysis Period	1> 16:45
Intersection	SR 542	File Name	1 - US 27 & Dundee Rd - Projected PM.xus		
Project Description	5611.1				

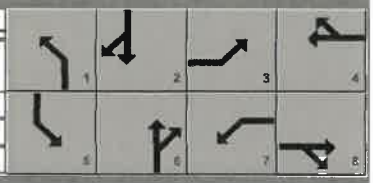


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	340	605	291	267	393	134	303	1478	291	239	1310	307

Signal Information			
Cycle, s	200.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	28.3	1.7	70.1	19.1	4.8	38.4
Yellow	5.1	5.1	5.1	4.2	0.0	4.2
Red	3.0	3.0	2.0	2.7	0.0	3.2



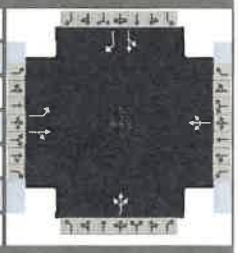
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	30.7	50.6	26.0	45.8	46.3	87.0	36.4	77.2
Change Period, ($Y+R_c$), s	7.4	7.4	6.9	7.4	8.1	7.1	8.1	7.1
Max Allow Headway (*MAH*), s	4.0	4.0	4.0	4.0	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	22.9	35.8	18.3	33.9	37.3		30.3	
Green Extension Time (g_e), s	0.4	5.1	0.8	4.6	0.9	0.0	0.0	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	1.00	0.28	0.01	0.40	0.01		1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	358	637	277	281	303	252	319	1556	306	252	1379	323
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1689	1795	1572	1702	1870	1529	1781	1631	1572	1739	1631	1585
Queue Service Time (g_s), s	20.9	33.8	33.5	16.3	31.2	31.9	35.3	56.0	29.1	28.3	51.0	33.3
Cycle Queue Clearance Time (g_c), s	20.9	33.8	33.5	16.3	31.2	31.9	35.3	56.0	29.1	28.3	51.0	33.3
Green Ratio (*g/C*)	0.12	0.22	0.22	0.10	0.19	0.19	0.19	0.40	0.40	0.14	0.35	0.35
Capacity (*c*), veh/h	394	775	340	325	360	294	340	1955	628	246	1714	555
Volume-to-Capacity Ratio (*X*)	0.908	0.821	0.815	0.866	0.842	0.857	0.938	0.796	0.488	1.022	0.805	0.582
Back of Queue (*Q*), ft/ln (95 th percentile)	404	570	531	313	579	515	641	818	444	621	763	505
Back of Queue (*Q*), veh/ln (95 th percentile)	15.6	22.6	20.7	12.1	22.8	19.9	25.2	31.0	17.3	23.9	28.9	19.9
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	87.3	74.7	74.6	89.2	77.9	78.1	79.8	52.9	44.8	85.8	58.8	53.0
Incremental Delay (d_2), s/veh	21.7	5.5	11.2	9.9	12.8	16.9	23.8	3.5	2.7	63.1	4.1	4.4
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	109.0	80.2	85.8	99.1	90.6	95.1	103.5	56.3	47.5	148.9	62.9	57.4
Level of Service (LOS)	F	F	F	F	F	F	F	E	D	F	E	E
Approach Delay, s/veh / LOS	89.5	F		94.8	F		62.0	E		73.1	E	
Intersection Delay, s/veh / LOS	75.5						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.75	C	2.75	C	2.45	B	2.64	C
Bicycle LOS Score / LOS	1.54	B	1.18	A	1.69	B	1.56	B

HCS Signalized Intersection Results Summary

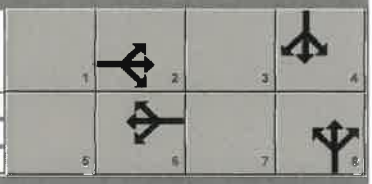
General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 19, 2024	Area Type	Other
Jurisdiction	Polk County	Time Period	Projected AM	PHF	0.95
Urban Street	SR 17	Analysis Year	2028	Analysis Period	1> 7:45
Intersection	Dundee Rd	File Name	2 - SR 17 & Dundee Rd - Projected AM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	180	366	0	0	692	246	13	20	1	184	3	381

Signal Information			
Cycle, s	86.8	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	40.0	25.6	4.1	0.0	0.0	0.0	
Yellow	3.7	3.7	3.7	0.0	0.0	0.0	
Red	2.1	2.0	2.0	0.0	0.0	0.0	



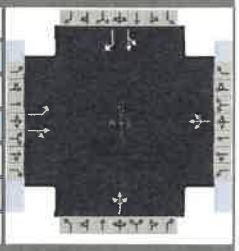
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		6.0		8.0		12.0		11.0
Phase Duration, s		45.8		45.8		9.8		31.3
Change Period, ($Y+R_c$), s		5.8		5.8		5.7		5.7
Max Allow Headway (*MAH*), s		4.6		4.6		4.1		4.4
Queue Clearance Time (g_s), s		42.0		42.0		3.6		23.2
Green Extension Time (g_e), s		0.0		0.0		0.1		2.3
Phase Call Probability		1.00		1.00		0.58		1.00
Max Out Probability		1.00		1.00		0.00		0.02

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	189	0			0			36			197	401
Adjusted Saturation Flow Rate (*s*), veh/h/ln	556	0			0			1854			1684	1557
Queue Service Time (g_s), s	0.0	0.0			0.0			1.6			8.1	21.2
Cycle Queue Clearance Time (g_c), s	40.0	0.0			0.0			1.6			8.1	21.2
Green Ratio (*g/C*)	0.46							0.05			0.29	0.29
Capacity (*c*), veh/h	83							87			496	459
Volume-to-Capacity Ratio (*X*)	2.285	0.000			0.000			0.414			0.397	0.874
Back of Queue (Q), ft/ln (95 th percentile)	745	0			0			36			155	345
Back of Queue (Q), veh/ln (95 th percentile)	28.7	0.0			0.0			1.5			5.8	13.4
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00			0.00			0.00			0.00	0.00
Uniform Delay (d_1), s/veh	43.4							40.2			24.5	29.1
Incremental Delay (d_2), s/veh	614.8	0.0			0.0			3.1			0.5	7.4
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0			0.0			0.0	0.0
Control Delay (*d*), s/veh	658.2							43.4			25.0	36.5
Level of Service (LOS)	F							D			C	D
Approach Delay, s/veh / LOS	228.0		F	133.5		F	43.4		D	32.7		C
Intersection Delay, s/veh / LOS	129.3						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.90	B	1.72	B	1.94	B
Bicycle LOS Score / LOS	1.44	A	2.12	B	0.55	A	1.47	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 19, 2024	Area Type	Other
Jurisdiction	Polk County	Time Period	Projected PM	PHF	0.95
Urban Street	SR 17	Analysis Year	2028	Analysis Period	1> 16:15
Intersection	Dundee Rd	File Name	2 - SR 17 & Dundee Rd - Projected PM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	381	737	4	1	537	246	13	19	4	317	12	358

Signal Information			
Cycle, s	85.8	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	40.0	24.5	4.2	0.0	0.0	0.0	
Yellow	3.7	3.7	3.7	0.0	0.0	0.0	
Red	2.1	2.0	2.0	0.0	0.0	0.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		6.0		8.0		12.0		11.0
Phase Duration, s		45.8		45.8		9.9		30.2
Change Period, ($Y+R_c$), s		5.8		5.8		5.7		5.7
Max Allow Headway (*MAH*), s		4.7		4.7		4.2		4.3
Queue Clearance Time (g_s), s		42.0		42.0		3.7		21.5
Green Extension Time (g_e), s		0.0		0.0		0.1		2.9
Phase Call Probability		1.00		1.00		0.59		1.00
Max Out Probability		1.00		1.00		0.00		0.03

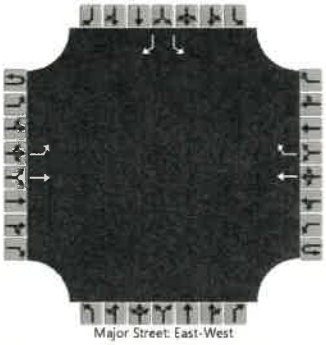
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	401	780			825			38			346	377
Adjusted Saturation Flow Rate (*s*), veh/h/ln	659	1839			1728			1830			1742	1560
Queue Service Time (g_s), s	0.0	33.8			5.2			1.7			15.2	19.5
Cycle Queue Clearance Time (g_c), s	40.0	33.8			40.0			1.7			15.2	19.5
Green Ratio (*g/C*)	0.47	0.47			0.47			0.05			0.29	0.29
Capacity (*c*), veh/h	126	857			847			89			497	445
Volume-to-Capacity Ratio (*X*)	3.188	0.910			0.974			0.426			0.697	0.847
Back of Queue (*Q*), ft/ln (95 th percentile)	1726	601			753			38			273	315
Back of Queue (*Q*), veh/ln (95 th percentile)	67.4	23.3			28.9			1.5			10.5	12.2
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00			0.00			0.00			0.00	0.00
Uniform Delay (d_1), s/veh	42.9	21.3			23.4			39.7			27.4	28.9
Incremental Delay (d_2), s/veh	1004.8	13.7			24.6			3.2			1.8	5.1
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0			0.0			0.0	0.0
Control Delay (*d*), s/veh	1047.7	34.9			48.0			42.9			29.2	34.0
Level of Service (LOS)	F	C			D			D			C	C
Approach Delay, s/veh / LOS	378.8	F		48.0	D		42.9	D		31.7	C	
Intersection Delay, s/veh / LOS	184.9						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.90	B	1.72	B	1.94	B
Bicycle LOS Score / LOS	2.44	B	1.85	B	0.55	A	1.68	B

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	SS	Intersection	SR 17 & Lake Trask Road
Agency/Co.	TPD, Inc.	Jurisdiction	Polk County
Date Performed	8/19/2024	East/West Street	SR 17
Analysis Year	2028	North/South Street	Lake Trask Road
Time Analyzed	Projected AM	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	5611.1		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		133	291				419	164						171		211
Percent Heavy Vehicles (%)		6												5		5
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized					No								No			
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.16												6.45		6.25
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.55		3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		140												180		222
Capacity, c (veh/h)		947												218		610
v/c Ratio		0.15												0.82		0.36
95% Queue Length, Q_{95} (veh)		0.5												6.2		1.7
95% Queue Length, Q_{95} (ft)		13.1												161.2		44.2
Control Delay (s/veh)		9.5												69.6		14.2
Level of Service (LOS)		A												F		B
Approach Delay (s/veh)	3.0												39.0			
Approach LOS	A												E			

HCS Two-Way Stop-Control Report

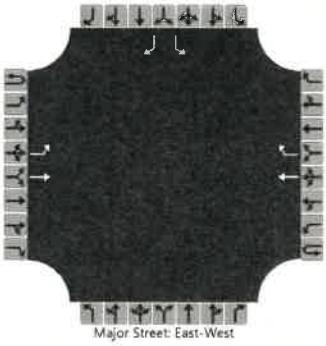
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/19/2024
Analysis Year	2028
Time Analyzed	Projected PM
Intersection Orientation	East-West
Project Description	5611.1

Site Information

Intersection	SR 17 & Lake Trask Road
Jurisdiction	Polk County
East/West Street	SR 17
North/South Street	Lake Trask Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		186	550				423	205						228		193
Percent Heavy Vehicles (%)		8												4		7
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized						No								No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.18												6.44		6.27
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.27												3.54		3.36

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		196												240		203
Capacity, c (veh/h)		899												117		603
v/c Ratio		0.22												2.05		0.34
95% Queue Length, Q_{95} (veh)		0.8												19.9		1.5
95% Queue Length, Q_{95} (ft)		21.3												513.4		39.6
Control Delay (s/veh)		10.1												561.4		14.0
Level of Service (LOS)		B												F		B
Approach Delay (s/veh)		2.6												310.5		
Approach LOS		A												F		

HCS Two-Way Stop-Control Report

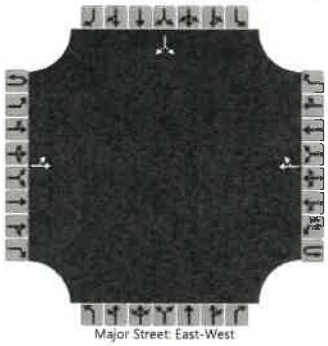
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/19/2024
Analysis Year	2028
Time Analyzed	Projected AM
Intersection Orientation	East-West
Project Description	5611.1

Site Information

Intersection	Lk Mabel Loop Rd & HL Smith Rd
Jurisdiction	Polk County
East/West Street	Lake Mabel Loop Road
North/South Street	HL Smith Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		128	76				87	55						48		150
Percent Heavy Vehicles (%)		7												10		5
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.17												6.50		6.25
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.26												3.59		3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		135													208	
Capacity, c (veh/h)		1402													756	
v/c Ratio		0.10													0.28	
95% Queue Length, Q_{95} (veh)		0.3													1.1	
95% Queue Length, Q_{95} (ft)		7.9													28.9	
Control Delay (s/veh)		7.8	0.8												11.6	
Level of Service (LOS)		A	A												B	
Approach Delay (s/veh)	5.2												11.6			
Approach LOS	A												B			

HCS Two-Way Stop-Control Report

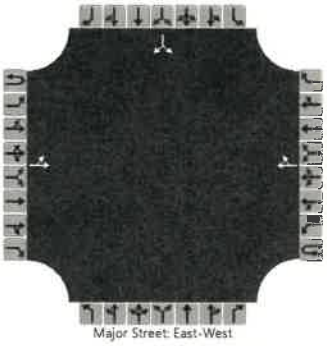
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/19/2024
Analysis Year	2028
Time Analyzed	Projected PM
Intersection Orientation	East-West
Project Description	5611.1

Site Information

Intersection	Lk Mabel Loop Rd & HL Smith Rd
Jurisdiction	Polk County
East/West Street	Lake Mabel Loop Road
North/South Street	HL Smith Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		172	103				102	43						60		164
Percent Heavy Vehicles (%)		6												5		7
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.16												6.45		6.27
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.55		3.36

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		181													236	
Capacity, c (veh/h)		1404													670	
v/c Ratio		0.13													0.35	
95% Queue Length, Q_{95} (veh)		0.4													1.6	
95% Queue Length, Q_{95} (ft)		10.5													42.1	
Control Delay (s/veh)		7.9	1.1												13.3	
Level of Service (LOS)		A	A												B	
Approach Delay (s/veh)	5.4												13.3			
Approach LOS	A												B			

HCS Two-Way Stop-Control Report

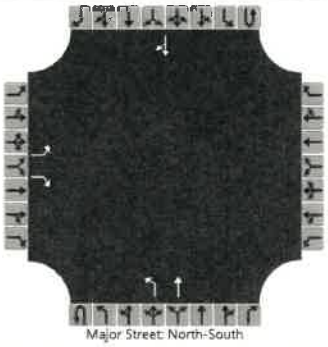
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/19/2024
Analysis Year	2028
Time Analyzed	Projected AM
Intersection Orientation	North-South
Project Description	5611.1

Site Information

Intersection	SR 17 & Waverly Rd
Jurisdiction	Polk County
East/West Street	Waverly Rd
North/South Street	SR 17
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration		L		R						L	T					TR
Volume (veh/h)		64		55						66	345				475	174
Percent Heavy Vehicles (%)		8		19						4						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.48		6.39						4.14						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.57		3.47						2.24						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		67		58						69						
Capacity, c (veh/h)		213		476						901						
v/c Ratio		0.32		0.12						0.08						
95% Queue Length, Q_{95} (veh)		1.3		0.4						0.3						
95% Queue Length, Q_{95} (ft)		34.6		11.5						7.7						
Control Delay (s/veh)		29.6		13.6						9.3						
Level of Service (LOS)		D		B						A						
Approach Delay (s/veh)		22.2								1.5						
Approach LOS		C								A						

HCS Two-Way Stop-Control Report

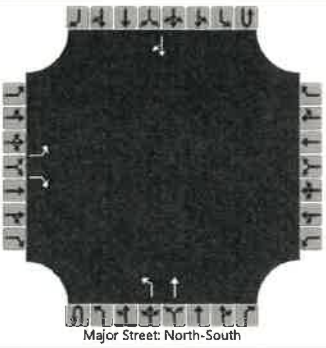
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/19/2024
Analysis Year	2028
Time Analyzed	Projected PM
Intersection Orientation	North-South
Project Description	5611.1

Site Information

Intersection	SR 17 & Waverly Rd
Jurisdiction	Polk County
East/West Street	Waverly Rd
North/South Street	SR 17
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration		L		R						L	T					TR
Volume (veh/h)		220		106						85	507				484	158
Percent Heavy Vehicles (%)		1		4						5						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type | Storage		Undivided														

Critical and Follow-up Headways

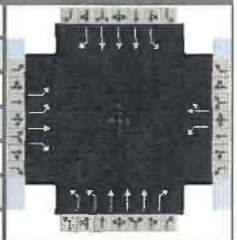
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.41		6.24						4.15						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.51		3.34						2.25						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		232		112						89						
Capacity, c (veh/h)		160		502						902						
v/c Ratio		1.45		0.22						0.10						
95% Queue Length, Q_{95} (veh)		14.8		0.8						0.3						
95% Queue Length, Q_{95} (ft)		373.0		20.6						7.8						
Control Delay (s/veh)		286.1		14.2						9.4						
Level of Service (LOS)		F		B						A						
Approach Delay (s/veh)		197.7								1.4						
Approach LOS		F								A						

HCS Signalized Intersection Results Summary

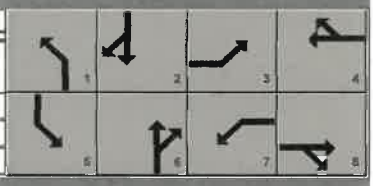
General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 19, 2024	Area Type	Other
Jurisdiction	Polk County	Time Period	Projected AM	PHF	0.95
Urban Street	US 27	Analysis Year	2028	Analysis Period	1> 7:30
Intersection	Waverly Rd	File Name	6 - US 27 & Waverly Rd - Projected AM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	346	107	523	54	190	31	515	1148	39	29	1169	335

Signal Information			
Cycle, s	142.2	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.5	14.0	47.7	6.4	4.2	19.9	
Yellow	6.0	6.0	6.0	4.9	4.9	4.9	
Red	2.1	3.0	2.0	2.6	2.1	2.0	



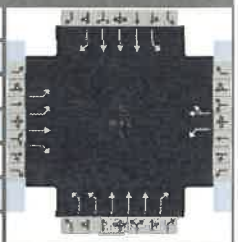
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	25.1	38.0	13.9	26.8	34.6	78.7	11.6	55.7
Change Period, ($Y+R_c$), s	7.0	6.9	7.5	6.9	9.0	8.0	8.1	8.0
Max Allow Headway (*MAH*), s	4.0	4.1	4.0	4.1	4.0	3.9	4.0	3.9
Queue Clearance Time (g_s), s	16.7	33.1	7.1	19.9	23.9	26.5	4.8	35.2
Green Extension Time (g_e), s	1.3	0.0	0.1	0.0	1.7	19.3	0.0	12.5
Phase Call Probability	1.00	1.00	0.89	1.00	1.00	1.00	0.70	1.00
Max Out Probability	0.00	1.00	0.00	1.00	0.05	0.29	0.00	0.40

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	364	113	351	57	233		542	1208	41	31	1231	353
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1716	1811	1572	1584	1824		1716	1577	1447	1527	1577	1547
Queue Service Time (g_s), s	14.7	7.4	31.1	5.1	17.9		21.9	24.5	2.1	2.8	33.2	27.9
Cycle Queue Clearance Time (g_c), s	14.7	7.4	31.1	5.1	17.9		21.9	24.5	2.1	2.8	33.2	27.9
Green Ratio (*g/C*)	0.13	0.22	0.22	0.04	0.14		0.18	0.50	0.50	0.02	0.34	0.34
Capacity (*c*), veh/h	437	396	344	71	255		618	2353	719	38	1587	519
Volume-to-Capacity Ratio (*X*)	0.834	0.284	1.019	0.798	0.911		0.877	0.514	0.057	0.811	0.775	0.679
Back of Queue (*Q*), ft/ln (95 th percentile)	275	157	619	120	401		385	370	34	74	502	411
Back of Queue (*Q*), veh/ln (95 th percentile)	10.8	6.0	24.2	4.3	15.8		15.0	13.6	1.2	2.6	18.5	15.8
Queue Storage Ratio (*RQ*) (95 th percentile)	0.54	0.00	0.00	0.50	0.00		0.53	0.00	0.00	0.16	0.00	0.00
Uniform Delay (d_1), s/veh	60.6	46.3	55.6	67.3	60.3		56.8	24.1	18.5	69.0	42.5	40.7
Incremental Delay (d_2), s/veh	4.2	0.4	53.5	18.0	33.5		7.9	0.2	0.0	32.1	1.3	1.6
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	64.8	46.7	109.1	85.3	93.8		64.7	24.3	18.5	101.2	43.7	42.3
Level of Service (LOS)	E	D	F	F	F		E	C	B	F	D	D
Approach Delay, s/veh / LOS	81.1	F		92.2	F		36.4	D		44.5	D	
Intersection Delay, s/veh / LOS	51.0						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.86	C	2.74	C	1.91	B	2.72	C
Bicycle LOS Score / LOS	1.85	B	0.97	A	1.47	A	1.38	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Aug 19, 2024	Area Type	Other
Jurisdiction	Polk County	Time Period	Projected PM	PHF	0.95
Urban Street	US 27	Analysis Year	2028	Analysis Period	1> 16:45
Intersection	Waverly Rd	File Name	6 - US 27 & Waverly Rd - Projected PM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	459	252	733	44	175	47	641	1400	88	47	1237	495

Signal Information			
Cycle, s	173.8	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.5	20.4	60.7	6.0	13.7	20.0	
Yellow	6.0	6.0	6.0	4.9	4.9	4.9	
Red	2.1	3.0	2.0	2.6	2.1	2.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	34.2	47.6	13.5	26.9	44.0	98.0	14.6	68.7
Change Period, ($Y+R_c$), s	7.0	6.9	7.5	6.9	9.0	8.0	8.1	8.0
Max Allow Headway (*MAH*), s	4.0	4.1	4.0	4.1	4.0	3.9	4.0	3.9
Queue Clearance Time (g_s), s	25.8	42.7	6.6	22.0	35.6	38.5	7.1	56.7
Green Extension Time (g_e), s	1.4	0.0	0.1	0.0	0.0	19.2	0.1	3.9
Phase Call Probability	1.00	1.00	0.89	1.00	1.00	1.00	0.91	1.00
Max Out Probability	0.10	1.00	0.00	1.00	1.00	0.64	0.00	0.92

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	483	265	492	46	234		675	1474	93	49	1302	521
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1856	1585	1725	1802		1730	1618	1560	1668	1618	1598
Queue Service Time (g_s), s	23.8	22.2	40.7	4.6	20.0		33.6	36.5	5.3	5.1	41.5	54.7
Cycle Queue Clearance Time (g_c), s	23.8	22.2	40.7	4.6	20.0		33.6	36.5	5.3	5.1	41.5	54.7
Green Ratio (*g/C*)	0.16	0.23	0.23	0.03	0.12		0.20	0.52	0.52	0.04	0.35	0.35
Capacity (*c*), veh/h	541	435	371	59	207		697	2515	808	63	1694	558
Volume-to-Capacity Ratio (*X*)	0.892	0.610	1.324	0.780	1.127		0.968	0.586	0.115	0.790	0.769	0.934
Back of Queue (*Q*), ft/ln (95 th percentile)	427	409	1246	112	570		607	530	90	122	622	827
Back of Queue (*Q*), veh/ln (95 th percentile)	16.8	16.0	49.1	4.3	22.4		23.9	19.9	3.5	4.5	23.4	32.8
Queue Storage Ratio (*RQ*) (95 th percentile)	0.84	0.00	0.00	0.47	0.00		0.83	0.00	0.00	0.26	0.00	0.00
Uniform Delay (d_1), s/veh	71.9	59.4	66.5	83.2	76.9		68.8	29.0	21.4	82.9	50.3	54.6
Incremental Delay (d_2), s/veh	11.6	2.5	163.3	19.5	100.8		26.4	0.4	0.1	19.4	1.9	21.3
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	83.4	61.9	229.8	102.7	177.7		95.2	29.3	21.5	102.4	52.2	75.9
Level of Service (LOS)	F	E	F	F	F		F	C	C	F	D	E
Approach Delay, s/veh / LOS	136.9	F		165.3	F		48.8	D		60.1	E	
Intersection Delay, s/veh / LOS	77.8						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.86	C	2.75	C	1.92	B	2.83	C
Bicycle LOS Score / LOS	2.53	C	0.95	A	1.72	B	1.52	B

HCS Two-Way Stop-Control Report

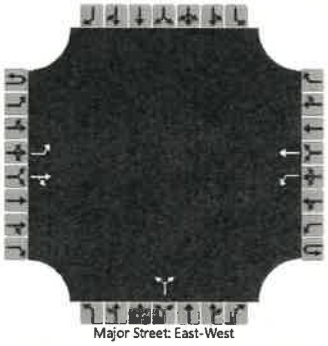
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/19/2024
Analysis Year	2028
Time Analyzed	Projected AM
Intersection Orientation	East-West
Project Description	5611.1

Site Information

Intersection	Lake Mabel Loop Rd & Site Access #1
Jurisdiction	Polk County
East/West Street	Lake Mabel Loop Rd
North/South Street	Site Access #1
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		0	1	0		0	0	0
Configuration		L		TR		L	T				LR					
Volume (veh/h)		0	205	14		21	282			41		63				
Percent Heavy Vehicles (%)		3				3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1		6.2				
Critical Headway (sec)		4.13				4.13				7.13		6.23				
Base Follow-Up Headway (sec)		2.2				2.2				3.5		3.3				
Follow-Up Headway (sec)		2.23				2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				22					109					
Capacity, c (veh/h)		1259				1331					600					
v/c Ratio		0.00				0.02					0.18					
95% Queue Length, Q_{95} (veh)		0.0				0.1					0.7					
95% Queue Length, Q_{95} (ft)						2.6					17.9					
Control Delay (s/veh)		7.9				7.7					12.3					
Level of Service (LOS)		A				A					B					
Approach Delay (s/veh)	0.0				0.5				12.3							
Approach LOS	A				A				B							

HCS Two-Way Stop-Control Report

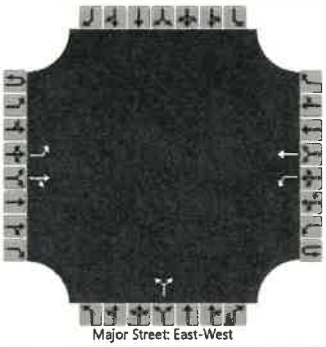
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/19/2024
Analysis Year	2028
Time Analyzed	Projected PM
Intersection Orientation	East-West
Project Description	5611.1

Site Information

Intersection	Lake Mabel Loop Rd & Site Access #1
Jurisdiction	Polk County
East/West Street	Lake Mabel Loop Rd
North/South Street	Site Access #1
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		0	1	0		0	0	0
Configuration		L		TR		L	T				LR					
Volume (veh/h)		0	280	49		75	288			28		44				
Percent Heavy Vehicles (%)		3				3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1		6.2				
Critical Headway (sec)		4.13				4.13				7.13		6.23				
Base Follow-Up Headway (sec)		2.2				2.2				3.5		3.3				
Follow-Up Headway (sec)		2.23				2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				79					76					
Capacity, c (veh/h)		1252				1207					457					
v/c Ratio		0.00				0.07					0.17					
95% Queue Length, Q_{95} (veh)		0.0				0.2					0.6					
95% Queue Length, Q_{95} (ft)						5.1					15.4					
Control Delay (s/veh)		7.9				8.2					14.4					
Level of Service (LOS)		A				A					B					
Approach Delay (s/veh)	0.0				1.7				14.4							
Approach LOS	A				A				B							

HCS Two-Way Stop-Control Report

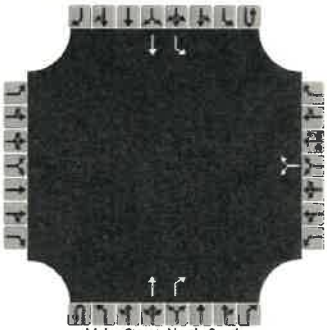
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/19/2024
Analysis Year	2028
Time Analyzed	Projected AM
Intersection Orientation	North-South
Project Description	5611.1

Site Information

Intersection	SR 17 & Site Access #2
Jurisdiction	Polk County
East/West Street	Site Access #2
North/South Street	SR 17
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	1	0	1	1	0
Configuration							LR				T	R		L	T	
Volume (veh/h)						102		69			514	34		23	439	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized										No						
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							180							24		
Capacity, c (veh/h)							313							992		
v/c Ratio							0.58							0.02		
95% Queue Length, Q_{95} (veh)							3.4							0.1		
95% Queue Length, Q_{95} (ft)							87.0							2.6		
Control Delay (s/veh)							31.0							8.7		
Level of Service (LOS)							D							A		
Approach Delay (s/veh)						31.0								0.4		
Approach LOS						D								A		

HCS Two-Way Stop-Control Report

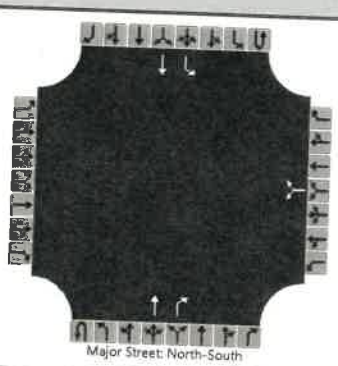
General Information

Analyst	SS
Agency/Co.	TPD, Inc.
Date Performed	8/19/2024
Analysis Year	2028
Time Analyzed	Projected PM
Intersection Orientation	North-South
Project Description	5611.1

Site Information

Intersection	SR 17 & Site Access #2
Jurisdiction	Polk County
East/West Street	Site Access #2
North/South Street	SR 17
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	1	0	1	1	0
Configuration							LR				T	R		L	T	
Volume (veh/h)						70		48			580	120		81	697	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized										No						
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							124							85		
Capacity, c (veh/h)							171							864		
v/c Ratio							0.73							0.10		
95% Queue Length, Q_{95} (veh)							4.5							0.3		
95% Queue Length, Q_{95} (ft)							115.2							7.7		
Control Delay (s/veh)							67.9							9.6		
Level of Service (LOS)							F							A		
Approach Delay (s/veh)					67.9						1.0					
Approach LOS					F						A					

APPENDIX J

Response to Comments (Town of Dundee)

RESPONSE TO TOWN OF DUNDEE COMMENT
Valencia Ridge Major Traffic Study

The following is our response to the Town of Dundee comment regarding the Valencia Ridge project dated December 8, 2023. The comment is listed in **bold** followed by our response.

Comment: **Mitigation/Proportionate Share Analyses**
The estimated cost for the signalization of the SR 17 & Lake Trask Road intersection appears low, when compared to the cost of signalization of other intersections noted in the latest 5 Transportation Improvement Program.

Please review your estimated cost for the signalization and provide detailed documentation.

Response: The SR 17 & Lake Trask Road intersection has a 3-way configuration (T intersection) and is isolated from other signals. The estimated construction cost of $400,000 without the benefit of design appears more than adequate. Adding 10% design/administration cost would result in a total cost of $440,000.

TPD No. 5611.1
January 31, 2024

Response to Town of Dundee Comments
Valencia Ridge TIA

The following is our response to the comments dated October 11, 2023, for the above-referenced project. Each comment is listed in **bold** followed by our response.

Comment 1 – Site Location Figure does is not same as Site Plan Figure
The Site Location Figure (Figure 1, page 2) is not the same as the Site Plan Figure (Figure 2, page 3). The north/south, eastern boundary of Phase 1 is not in the same location in the two referenced figures.

Please revise the figures so that the project boundaries are the same.

Response: The figures revised so that the project boundaries are the same.

Comment 2- The Phasing of Project noted in the Site Plan, Figure 2, Page 3 is not consistent with the Major Traffic Study Text.
It appears that the Applicant is conducting a Major Traffic Study for the entire project (576 single family dwelling units). However, the project phasing noted in Figure 2, page 3, notes "Phase 1" lots in solid black lines, and the lots in the other three phases are noted in faded gray lines. Phases 2 and 3 are noted "Future" phases, and Phase 4 is noted as an "Optional Phase 4."

The terminology "Future" and "Optional," when used for phasing implies that these phases may or may not be built, and that they are not part of the proposed construction plan under consideration for approval. Will Phases 2 through 4 be built at a later date than the build out date of 2028 noted in the Major Traffic Study text?

Please make the Major Traffic Study text and the Site Plan, Figure 2, Page 3, phasing description consistent.

Response: As per the approved methodology, the major study was performed for 576 single family units to be completed by 2028. The construction phasing was removed from the site plan.

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Comment 3- Three Lots have overlapping Numbers.
There are overlapping lot numbers in the Site Plan, page 3. There are two lots numbered 148, two lots numbered 149 and two lots numbered 150.

Please update the lot numbering and change the trip generation in the Major Traffic Study, as appropriate.

Response: We apologize for the overlapping lot numbers. The lot numbering has been updated.

Comment 4- Provide documentation on the completion Date of Planned Improvements to the US 27 and Dundee Road intersection.

It is noted on page 15, last paragraph, that there are planned improvements (by FDOT) to the US 27 & Dundee Road intersection. The planned FDOT improvements were assumed to be in place in the Valencia Ridge Major Traffic Study at the buildout date (2028) of Valencia Ridge.

Please provide documentation on the planned completion date of the improvements to the US 27 & Dundee Road intersection. If the completion date is after the buildout date of the Valencia Ridge, do not assume the intersection improvements in the Valencia Ridge Major Traffic Study.

Response: The improvements to the us 27 and Dundee Road intersection indicated in the traffic study have clearly been implemented (constructed).

Comment 5- Turn Lane Analysis, Table 12, Page 20, Existing/Proposed Length vs Total Length
In Table 12, page 20, the SR 17& Site Access #2 intersection, northbound right tum; the total length needed for the tum lane is noted as 405 feet. However, there is no assumed queue length, which appears to be in contradiction to the "Queue Length" column heading that appears to require a minimum of25 feet for queue length.**

It appears that the net result is that the required "Total Length" is greater than the "Existing/Proposed Length." It appears that the ""Existing/Proposed Length" needs to be revised to be longer than the "Total Length."

Response: The NB right turns are not under stop or signal control and, therefore, they do not stop in making their turns. As the HCS analysis confirms, no queue length is required for NB right turns. Table corrected to show existing/proposed length equating total length.

Comment 6- Intersection Signal Phasing

In the Major Traffic Study. the US 27 & Dundee Road intersection, AM, and PM analysis (pages 1-1, and I-2) dual lane permissive left turns against opposing through movement, are assumed.

This is not acceptable traffic signal phasing. Please revise the analyses to eliminate dual lane permissive left turns against opposing through movements.

Response: The permissive left turn operation was a carryover from existing conditions when Dundee Road had a single left turn lane. The analysis for the intersection has been revised with dual lanes on Dundee Road. Attached are the revised analyses.

Comment 7- Mitigation/Proportionate Share Analyses

The Major Traffic study, references on page 21, a "FOOT Intersection Proportionate Share Methodology." The Major Traffic Study uses the referenced methodology to calculate a 28% proportionate share of the required signalization mitigation.

In contrast, the FOOT Multimodal Transportation Site Impact Handbook, July 2023, notes on page 128, the use of Florida Statute 163.3180 in "Section 5.5. I, Optional Concurrency Mitigation (Proportionate Share)."

Please provide detailed calculations on the Applicant's proportionate share percentage, the total signalization mitigation cost (including design and construction costs), and the Applicant's proportionate share cost.

Response: In the absence of signalization plans, we cannot provide detailed calculations for the cost of the proposed signal. Based upon a past experience we have estimated a total cost of $400,000 (design and construction) with a 28% proportionate share. This is documented on page 21 of the traffic study.

Comment 8-Provide an Electronic Copy of the HCS Intersection Analyses files.

Please provide an electronic copy of the HCS intersection files so that the reviewer can review,

with the reviewer's copy of the HCS software, the Major Traffic Study HCS intersection files (input data, output data, error messages, etc.).

Response: Electronic copy of the HCS intersection analysis files provided.

Comment 9- Provide Page Numbers in the Tabe of Contents for All Sections and Subsections listed in the Table of Contents.

In the future, when you submit any traffic information/reports to the Town of Dundee, please provide the page numbers in the Table of Contents for all sections and subsections listed in the Table of Contents.

The Table of Contents in the Major Traffic Study has five sections (excluding the Appendices, List of Tables, and List of Figures), and nine subsections; that start on page 1, and end on page 22. The nine subsections have no page numbers, and it is time consuming to find a particular subsection. For example, the subsection "Tum Lane Analysis" has no page number in the Table of Contents and is located someplace between pages 12 and 22.

Response: Comment noted.

Response to Town of Dundee Comments
Valencia Ridge TIA

The following is our response to the comments dated August 17, 2023, for the above-referenced project. Each comment is listed in **bold** followed by our response.

Comment 1 – Send Valenica Ridge Information to Brenda Carter
Response: Comment noted.

Comment 2- Use Existing Traffic Counts and a compound Growth Rate
Response: Existing traffic counts and compound growth rates used.

Comment 3- Use the Valencia Ridge Trip Distribution Pattern from the previous Valencia Ridge
Response: The distribution from the original Valencia Ridge Major Traffic Study used.

Comment 4- Committed Trips from Other projects.
Response: Same committed trips as included in May 23, 2023 Revised traffic study used.

Comment 5- Acceptable Level of Service Standard for an Intersection Lane Group Movements
Response: The acceptable intersection lane group LOS determined based upon this comment.

Comment 6- Transportation Review Participants Coordination of Information.
Response: Town of Dundee will be provided with any reports, analysis and information to FDOT and other agencies

Comment 7- Add Specific Date to Report
Response: Specific date added to the report.

Comment 8- Add Intersection Numbers to the Intersections shown in Figures Shown in Appendices
Response: Intersections numbered added as per the comment.

Comment 9- Add Page Numbering and Table of Contents for Each Appendix.
Response: Page numbers and Table of Contents added as per the comment.

Comment 10- Synchro Analyses, Capacity and other Warnings, and V/C over 1.0.
Response: The bottom of each printout page was checked and addressed as per the comment.

TPD No. 5611.1
09/08/2023

Traffic Planning and Design, Inc.
535 Versailles Drive, Maitland, Florida 32751 ■ Phone (407) 628-9955 ■ Fax (407) 628-8850 ■ www.tpdtraffic.com

Comment 11- Use Pedestrian Calls from Count Field Data Sheets in Synchro Analysis
Response: Pedestrian calls used from field data sheets.

Comment 12- Intersection Approaches, Level of Service Standard.
Response: Agreed, the performance standard for the roadway segment shall govern the intersection approaches.

Comment 13- Intersection Signal Phasing and Red Times
Response: Intersection Signal Phasing and red times addressed as per the comment.

Comment 14- Mitigation/Proportionate Share Analyses
Response: Mitigation/Proportionate Share addressed as per the comment.

Comment 15- Provide a software Copy of the Synchro Files
Response: Software Copy of files provided.

Comment 16- Provide a completer, Revised Major Traffic Study
Response: Complete, revised major traffic study provided.

Response to City Comments
Valencia Ridge TIA

The following is our response to the comments dated May 11, 2022, for the above-referenced project. Each comment is listed in **bold** followed by our response.

Comment 1 – In any material submitted in the future, please number every page, hand numbering is acceptable. If you have an Appendix A, number the pages A-1, A-2, etc. Also, do not combine background intersection analyses, and total buildout ("Projected") intersection analyses into the same appendix section. The Appendices (over 100 pages) in the April 2022, Traffic Impact Study have no page numbers and it takes longer to review the report, and longer to prepare comments if there are no page numbers.

Response:
Comment noted.

Comment 2 – Please provide a complete, revised Traffic Impact Statement that includes the responses to the comments/questions and request for additional information noted in this May 11, 2022 letter.

Response:
Revised TIA provided.

Comment 3 – Please review the intersection analyses, and printouts in the April 2022, Traffic Impact Study and make sure that all volume to capacity ratios for any movement are not larger than 1.0, even if the overall intersection level of service is acceptable. A ratio larger than 1.0 for any traffic movement denotes that all of the traffic volumes did not pass through the intersection in the analyzed time period. The demand exceeds capacity, and a multi-period analysis should be conducted, or geometric improvements should be made.

Response: The background and projected HCS results were reviewed for the v/c ratios for each movement. The only intersections with v/c ratios greater than 1.00 that are caused by the addition of the project trips and not background traffic growth are the intersections of SR 17 with Dundee Road, Lake Trask Road, and Waverly Road. The signal timings for SR 17 and Dundee Road were optimized, and HCS results are included in Appendix F. The intersections of SR 17 with Lake Trask Road and with Waverly Road are stop-controlled intersections that already have auxiliary turn lanes for the minor approaches. Therefore, the developer will participate in the proportionate-share cost to install signals at these locations. See response to Comment 5.

TPD No. 5611
05/16/2023

The intersections of US 27 with Dundee Road and Waverly Road, as well as the intersection of Dundee Road and SR 17, were analyzed with additional improvements and signal timings in order to reduce the v/c ratios and failing Levels of Service caused by background traffic growth. The results of the improved intersection analysis are summarized in Table 7 of the report. The improvements are made in response to deficiencies caused by background growth, so the Developer is not required to participate in the proportionate-share cost of the improvements.

Comment 4 – In the Polk County Land Development Code, Appendix C (Polk County Traffic Impact Study Methodology and Procedures), Section I (Level of Service Standards), Item Number 3, it is noted: "When an intersection analysis is required, the performance standard for the road segment shall govern intersection approaches."

In the April 2022, Traffic Impact Study, there are some intersections in which the level of service for an intersection approach leg is worse than the level of service for the leg roadway segment. Please revise the analyses to be consistent with the above referenced portion of the Polk County Land Development Code.

Response: The HCS results were reviewed and Tables 2, 6a, and 6b were updated to be consistent with the Level of Service Standards in the Polk County Land Development Code.

Comment 5 – Please conduct a mitigation/proportionate share analysis, and provide intersection results printouts, intersection analyses software, and written summaries that documents the analyses, mitigation, and conclusions.

Response: The intersections of SR 17 with both Lake Trask Road and with Waverly Road are operating deficiently due to the existing stop-control at the intersection. This condition will continue to prevail until signals become warranted and installed at these locations. Proportionate share costs are typically calculated based on the increased capacity created by the recommended improvements; however, the installation of a signal reduces the capacity of an intersection. Therefore, the procedures of the *FDOT Intersection Proportionate Share Methodology* were used to determine the proportionate share cost of the signals. The methodology states that the FDOT Signal Warrant #3 may be used to determine the cost of the signal.

For the intersection of SR 17 and Lake Trask Road, the major roadway has a volume of 1,089 vehicles in the P.M. peak hour, which means the minor approach volume threshold for Warrant 3 is 76 vehicles. The project is adding 29 vehicles to the minor approach of the intersection; therefore the Developer's proportionate share cost of the signal is 38% (29 veh divided by 76 veh).

For the intersection of SR 17 and Waverly Road, the major roadway has a volume of 1,080 vehicles in the P.M. peak hour, which means the minor approach volume threshold for Warrant 3 is 76 vehicles. The project is adding 39 vehicles to the minor approach of the intersection; therefore the Developer's proportionate share

cost of the signal is 51% (39 veh divided by 76 veh). The signal warrant worksheets are included in the Attachment.

Comment 6 – The signal timing information noted on the vehicle data sheets that were provided in the April 2022, Traffic Impact Study does not note the length of the yellow, nor all red times. Please document how the yellow and all red times, used in the intersection analysis, were determined.

Response: The yellow and all-red times were obtained from signal timing data provided by Polk County. Signal timing sheets have been added to the report in Appendix C.

Comment 7 – Additional Traffic Methodology Analysis Comments from March 3, 2022 letter.

(1) Attached to this May 11, 2022 letter is a copy of a previous comment letter dated March 3, 2022, and which was emailed on March 3, 2022. A copy of the sent email record is also attached.

(2) Most of the requested information noted in the March 3, 2022 letter has been provided or requested above, except for the following:

(A) Please provide the "software" requested in comment "I.b)"

Response:
Software copy of the intersection analysis computer runs provided.

Attachment

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Dundee	Engineer:	SS
County:	16 – Polk	Date:	May 16, 2023
District:			

Major Street:	SR 17	Lanes:	1	Major Approach Speed:	45
Minor Street:	Lake Trask Rd	Lanes:	1	Minor Approach Speed:	35

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☐ 100%

WARRANT 3 - PEAK HOUR

*If all three criteria are fulfilled **or** the plotted point lies above the appropriate line, then the warrant is satisfied.*

Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

Unusual condition justifying use of warrant:

Industrial Complex

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Peak Hour 100% Volume		
Time	Major Vol.	Minor Vol.

Peak Hour 70% Volume		
Time	Major Vol.	Minor Vol.
4:15 to 5:15 P.M.	1089	317

Criteria

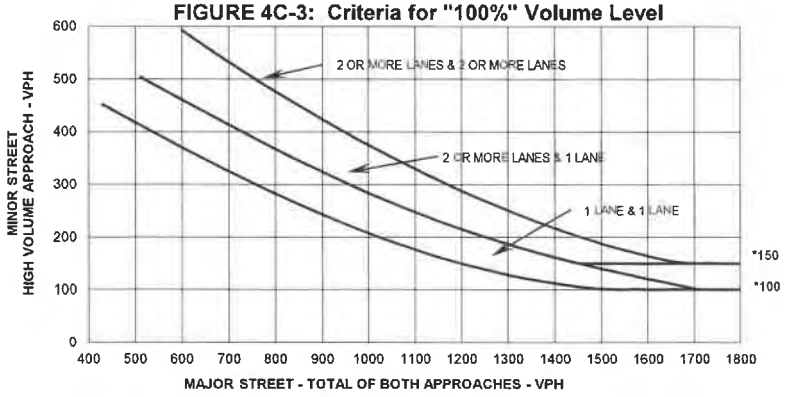
1. Delay on Minor Approach *(vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*		
Fulfilled?:	☐ Yes	☐ No

2. Volume on Minor Approach One-Direction *(vehicles per hour)		
Approach Lanes	1	2
Volume Criteria*	100	150
Volume*		
Fulfilled?:	☐ Yes	☐ No

3. Total Intersection Entering Volume *(vehicles per hour)		
No. of Approaches	3	4
Volume Criteria*	650	800
Volume*		
Fulfilled?:	☐ Yes	☐ No

Plot volume combination on the applicable figure below.

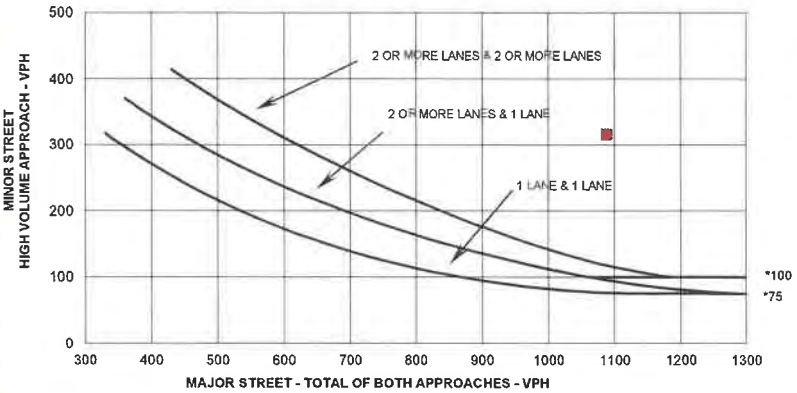
FIGURE 4C-3: Criteria for "100%" Volume Level



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

FIGURE 4C-4: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 100 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 75 phi applies as the lower threshold volume threshold for a minor street approach with one lane.*

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Dundee	Engineer:	SS
County:	16 – Polk	Date:	May 16, 2023
District:			

Major Street:	SR 17	Lanes:	1	Major Approach Speed:	55
Minor Street:	Waverly Rd	Lanes:	1	Minor Approach Speed:	45

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☐ 100%

WARRANT 3 - PEAK HOUR

*If all three criteria are fulfilled **or** the plotted point lies above the appropriate line, then the warrant is satisfied.*

Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

Unusual condition justifying use of warrant:
Industrial Complex

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Peak Hour 100% Volume		
Time	Major Vol.	Minor Vol.

Peak Hour 70% Volume		
Time	Major Vol.	Minor Vol.
4:15 to 5:15 P.M	1080	282

Criteria

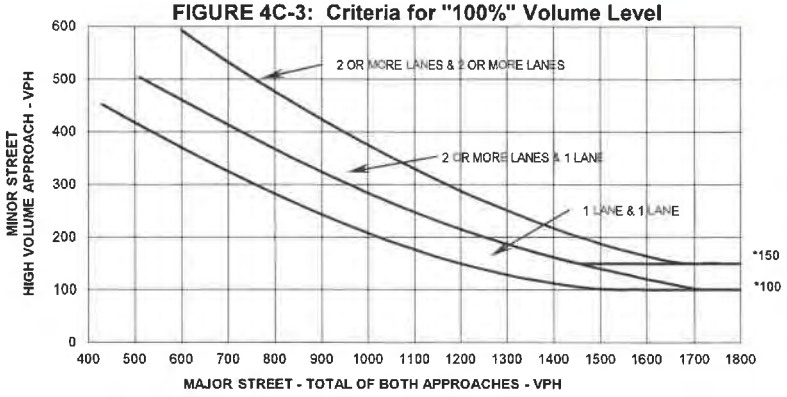
1. Delay on Minor Approach *(vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*		
Fulfilled?:	☐ Yes	☐ No

2. Volume on Minor Approach One-Direction *(vehicles per hour)		
Approach Lanes	1	2
Volume Criteria*	100	150
Volume*		
Fulfilled?:	☐ Yes	☐ No

3. Total Intersection Entering Volume *(vehicles per hour)		
No. of Approaches	3	4
Volume Criteria*	650	800
Volume*		
Fulfilled?:	☐ Yes	☐ No

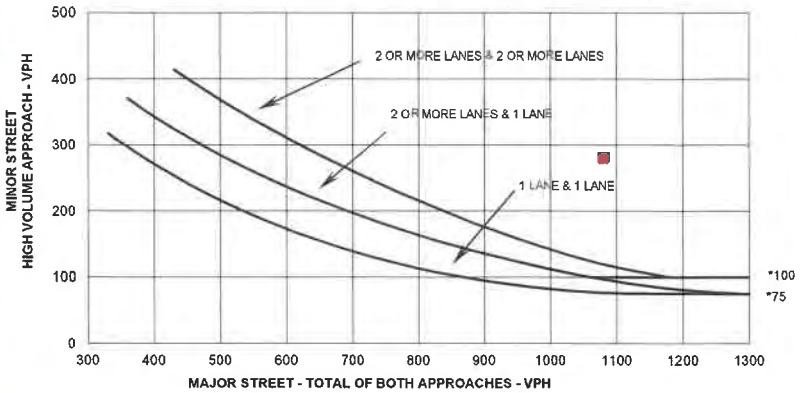
Plot volume combination on the applicable figure below.

FIGURE 4C-3: Criteria for "100%" Volume Level



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

FIGURE 4C-4: Criteria for "70%" Volume Level
(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)

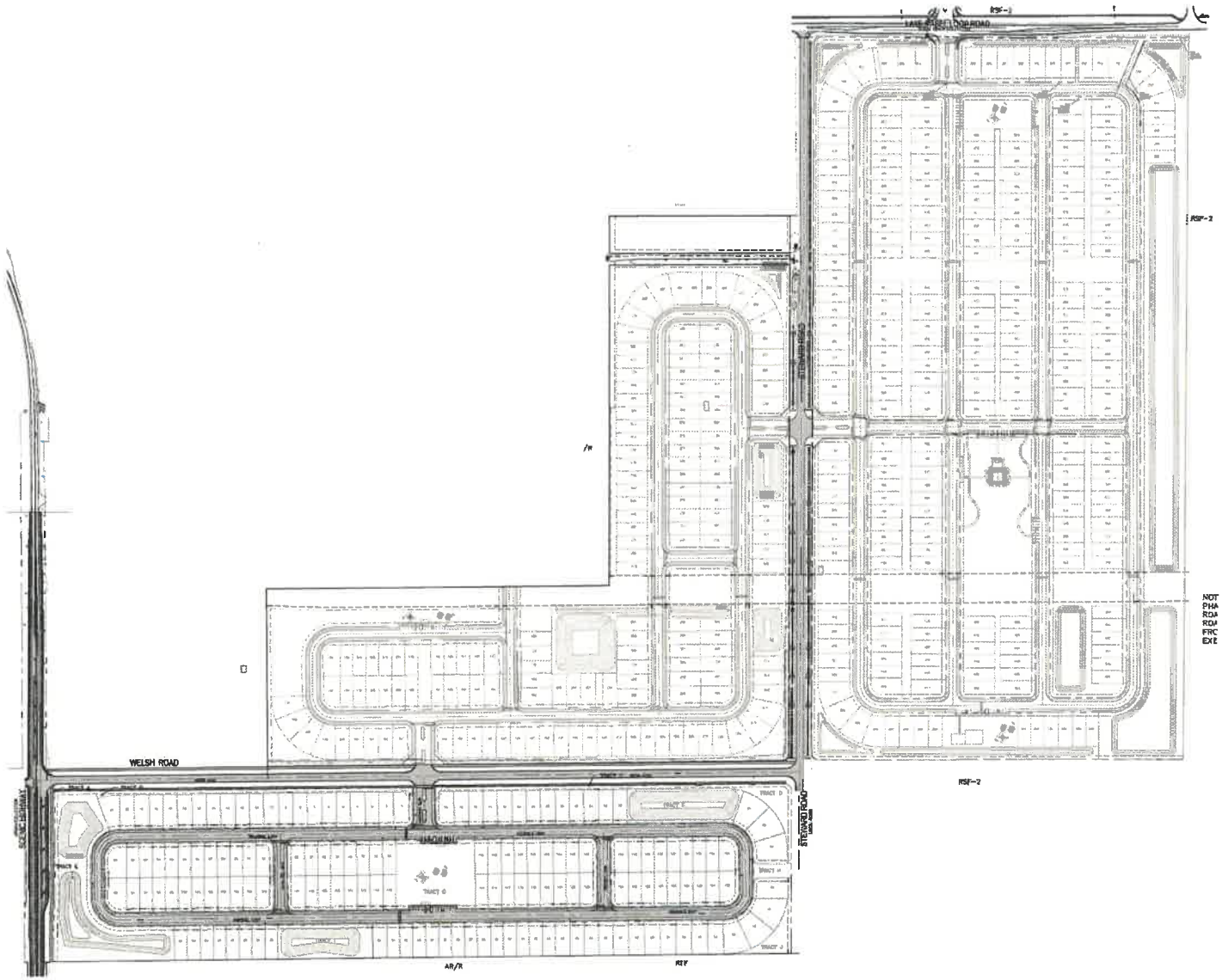


** Note: 100 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 75 phi applies as the lower threshold volume threshold for a minor street approach with one lane.*

Site Location (Figure 1) & Site Plan (Figure 2)

Valencia Ridge
Project № 5611.1
Figure 1
Page 2

Site Location



Valencia Ridge
Project № 5611.1
Figure 2
Page 3

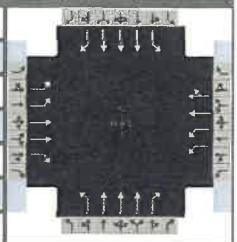
Site Plan

N
NTS

Revised HCS (US 27 & Dundee Road)

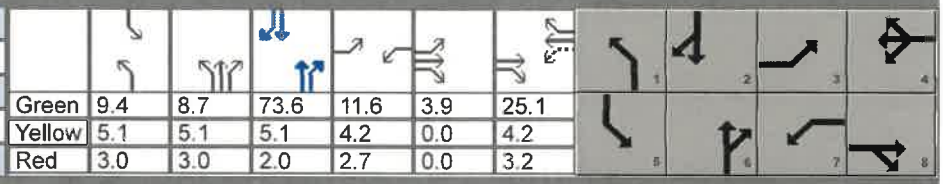
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Oct 17, 2023	Area Type	Other
Jurisdiction	Polk County	Time Period	Existing AM	PHF	0.95
Urban Street	US 27	Analysis Year	2023	Analysis Period	1> 7:30
Intersection	SR 542	File Name	1 - US 27 & Dundee Rd - Existing AM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	242	221	237	198	362	45	232	1068	142	71	984	187

Signal Information			
Cycle, s	170.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	9.4	8.7	73.6	11.6	3.9	25.1	
Yellow	5.1	5.1	5.1	4.2	0.0	4.2	
Red	3.0	3.0	2.0	2.7	0.0	3.2	

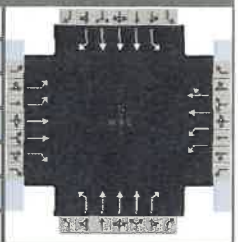
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	1.1	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	22.4	36.4	18.5	32.5	34.4	97.6	17.5	80.7
Change Period, ($Y+R_c$), s	7.4	7.4	6.9	7.4	8.1	7.1	8.1	7.1
Max Allow Headway (*MAH*), s	4.0	4.0	4.0	4.0	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	14.4	25.7	10.8	21.3	25.5		9.5	
Green Extension Time (g_e), s	0.6	3.3	0.7	3.3	0.8	0.0	0.2	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		0.97	
Max Out Probability	0.06	0.00	0.00	0.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	255	233	223	208	217	211	244	1124	149	75	1036	197
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1716	1724	1552	1675	1870	1798	1739	1577	1521	1668	1564	1520
Queue Service Time (g_s), s	12.4	10.2	23.7	8.8	19.0	19.3	23.5	24.8	8.7	7.5	27.3	14.3
Cycle Queue Clearance Time (g_c), s	12.4	10.2	23.7	8.8	19.0	19.3	23.5	24.8	8.7	7.5	27.3	14.3
Green Ratio (*g/C*)	0.09	0.17	0.17	0.22	0.15	0.15	0.15	0.53	0.53	0.06	0.43	0.43
Capacity (*c*), veh/h	303	589	265	533	276	265	269	2518	809	93	2032	658
Volume-to-Capacity Ratio (*X*)	0.840	0.395	0.842	0.391	0.786	0.796	0.909	0.447	0.185	0.807	0.510	0.299
Back of Queue (*Q*), ft/ln (95 th percentile)	249.3	208.1	385.4	176.9	366.3	379.5	431.3	383	149.5	173.8	428.1	243.5
Back of Queue (*Q*), veh/ln (95 th percentile)	9.7	7.9	14.9	6.8	14.4	14.2	16.6	14.1	5.7	6.4	15.6	9.2
Queue Storage Ratio (*RQ*) (95 th percentile)	0.68	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.21	0.00	0.00
Uniform Delay (d_1), s/veh	76.3	62.7	68.3	56.0	69.9	70.0	70.7	24.4	20.6	79.4	35.1	31.4
Incremental Delay (d_2), s/veh	8.6	0.4	7.1	0.5	4.9	5.4	11.4	0.6	0.5	15.0	0.9	1.2
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	84.9	63.1	75.4	56.4	74.8	75.4	82.1	25.0	21.1	94.4	36.0	32.5
Level of Service (LOS)	F	E	E	E	E	E	F	C	C	F	D	C
Approach Delay, s/veh / LOS	74.8	E		69.0	E		33.8	C		38.8	D	
Intersection Delay, s/veh / LOS	47.7						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.75	C	2.75	C	2.43	B	2.62	C
Bicycle LOS Score / LOS	1.07	A	1.01	A	1.32	A	1.21	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD, Inc.			Duration, h	0.250
Analyst	SS	Analysis Date	Oct 17, 2023	Area Type	Other
Jurisdiction	Polk County	Time Period	Existing PM	PHF	0.95
Urban Street	US 27	Analysis Year	2023	Analysis Period	1> 16:45
Intersection	SR 542	File Name	1 - US 27 & Dundee Rd - Existing PM.xus		
Project Description	5611.1				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	266	330	264	200	296	56	275	1311	192	105	1170	254

Signal Information			
Cycle, s	200.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

	EB			WB			NB			SB		
Green	14.8	12.0		86.1	13.0	6.5	29.9					
Yellow	5.1	5.1		5.1	4.2	0.0	4.2					
Red	3.0	3.0		2.0	2.7	0.0	3.2					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	3.0	1.1	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	26.4	43.8	19.9	37.3	43.1	113.4	22.9	93.2
Change Period, ($Y+R_c$), s	7.4	7.4	6.9	7.4	8.1	7.1	8.1	7.1
Max Allow Headway (*MAH*), s	4.0	4.0	4.0	4.0	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	18.4	32.7	12.4	22.7	34.0		14.6	
Green Extension Time (g_e), s	0.6	3.7	0.7	3.7	1.0	0.0	0.3	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.12	0.01	0.00	0.01	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	280	347	248	211	198	172	289	1380	202	111	1232	267
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1689	1795	1572	1702	1870	1586	1781	1631	1572	1739	1631	1585
Queue Service Time (g_s), s	16.4	17.5	30.7	10.4	20.2	20.7	32.0	36.8	13.8	12.6	38.3	23.1
Cycle Queue Clearance Time (g_c), s	16.4	17.5	30.7	10.4	20.2	20.7	32.0	36.8	13.8	12.6	38.3	23.1
Green Ratio (*g/C*)	0.09	0.18	0.18	0.21	0.15	0.15	0.17	0.53	0.53	0.07	0.43	0.43
Capacity (*c*), veh/h	321	653	286	465	280	237	312	2600	835	129	2107	682
Volume-to-Capacity Ratio (*X*)	0.874	0.532	0.869	0.453	0.709	0.725	0.929	0.531	0.242	0.857	0.585	0.392
Back of Queue (*Q*), ft/ln (95 th percentile)	320.3	322.3	492	207	384.3	349.5	562.3	546.4	233.1	265.5	580.1	362.5
Back of Queue (*Q*), veh/ln (95 th percentile)	12.3	12.8	19.2	8.0	15.1	13.5	22.1	20.7	9.1	10.2	22.0	14.3
Queue Storage Ratio (*RQ*) (95 th percentile)	0.80	0.00	0.00	0.00	0.00	0.00	0.59	0.00	0.00	0.32	0.00	0.00
Uniform Delay (d_1), s/veh	89.3	74.1	79.5	66.2	80.9	81.1	81.3	30.6	25.2	91.5	43.3	39.0
Incremental Delay (d_2), s/veh	14.0	0.7	11.3	0.7	3.3	4.2	12.9	0.8	0.7	14.7	1.2	1.7
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	103.3	74.8	90.8	66.9	84.2	85.3	94.1	31.4	25.9	106.2	44.5	40.7
Level of Service (LOS)	F	E	F	E	F	F	F	C	C	F	D	D
Approach Delay, s/veh / LOS	88.4	F		78.3	E		40.5	D		48.1	D	
Intersection Delay, s/veh / LOS	55.9						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.75	C	2.75	C	2.43	B	2.63	C
Bicycle LOS Score / LOS	1.21	A	0.97	A	1.52	B	1.37	A

APPENDIX K

Turn Lane Analysis

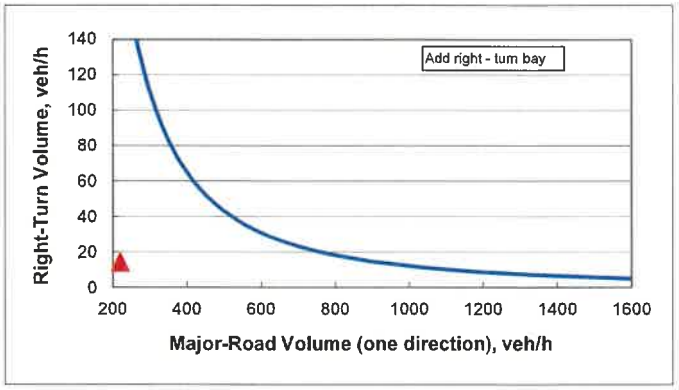
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	219
Right-turn volume, veh/h:	14

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	196
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Source: National Cooperative Highway Research Program (NCHRP) Report 457- Evaluating Intersection Improvements: An Engineering Study Guide

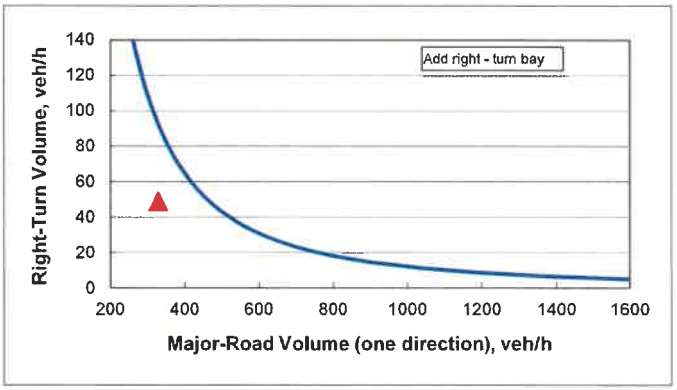
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	329
Right-turn volume, veh/h:	49

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	93
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Source: National Cooperative Highway Research Program (NCHRP) Report 457- Evaluating Intersection Improvements: An Engineering Study Guide

SIGNAL WARRANT ANALYSIS

SR 17 & LAKE TRASK ROAD
POLK COUNTY, FLORIDA
Section 16090000/MP 27.263

Prepared for:

Cornerstone Land Company
1901 Ulmerton Road, Suite 475
Clearwater, Florida 33762

Prepared by:

Traffic Planning and Design, Inc.
535 Versailles Drive
Maitland, Florida 32751
407-628-9955

February 2025
Revised
April 2025

TPD No. 5611.2

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INTRODUCTION

This analysis was performed in order to determine if a signal would become warranted at the intersection of SR 17 and Lake Trask Road due to the construction of the Valencia Ridge residential development in Dundee, Polk County. The Valencia Ridge development is for 576 single-family homes to be completed by the end of 2028. It is located on the east side of SR 17 at Welsh Road, approximately 0.45 miles south of Lake Trask Road. **Figure 1** depicts the intersection location, the site of the Valencia Ridge development, and the area roadways. Access to the development is proposed via two full access driveways, one on SR 17 and the other on Lake Mabel Loop Road. As will be documented subsequently, a significant amount of Valencia Ridge traffic will utilize the intersection approaches of SR 17 and Lake Trask Road.

EXISTING TRAFFIC CONDITIONS

SR 17 is a two-lane undivided urban collector roadway with a posted speed limit of 55 mph. Based on FDOT counts made in 2023, it carries a daily traffic volume of approximately 7,700 vehicles per day adjacent to the intersection. Lake Trask Road is a two-lane undivided local roadway with a posted speed limit of 30 mph. It has a daily traffic volume of approximately 6,389 vehicles.

Intersection Configuration

The existing lane configuration at the intersection of SR 17 and Lake Trask Road is illustrated in **Figure 2.** The intersection is a T-intersection with SR 17 being the major-street and Lake Trask Road being the minor-street. SR 17 runs in the northwest/southeast direction in this area, with Lake Trask Road intersecting it perpendicularly in the southwest direction. In order to simplify the analysis, SR 17 will henceforth be referred to as the northbound/southbound approaches, and Lake Trask Road will be referred to as the westbound approach.

As can be seen from Figure 2, SR 17 has one through-lane in each direction. Additionally, there are auxiliary right and left turn lanes. Lake Trask Road has a two-lane approach, with one right turn lane and one left turn lane.

Hourly Traffic Counts

Turning movement counts at the intersection were obtained for the hours of 6:00 A.M. to 6:00 P.M. for use in the analysis. These counts were made on February 12th, 2025, when the FDOT Seasonal Factor for Polk County was 0.94. Therefore, the counts were not adjusted. To determine the background growth of the existing traffic, the 2% annual growth rate obtained from the Polk TPO was used to grow the counts to the buildout year of the project. The background volumes thus determined at each approach, summarized by the hour, are shown in **Table 1**. These background approach volumes were subsequently combined with the project trips for use in the analysis. The turning movement counts and FDOT Seasonal Factor Report are included in **Appendix A.**

Table 1
Hourly 2028 Background Traffic Volumes

Hour	SR 17					Lake Trask Rd		
	NBT	NBR	SBT	SBL	Total Both Approaches	WBL	WBR	Total
6-7 A.M.	163	50	134	39	386	82	98	180
7-8 A.M.	263	75	191	58	587	178	144	322
8-9 A.M.	182	69	176	116	543	124	147	271
9-10 A.M.	161	57	167	57	442	96	92	188
10-11 A.M.	153	56	174	67	450	84	74	158
11-12 P.M.	148	63	197	55	463	74	59	133
12-1 P.M.	151	90	191	68	500	73	72	145
1-2 P.M.	162	77	172	70	481	83	65	148
2-3 P.M.	218	101	257	82	658	92	78	170
3-4 P.M.	225	152	260	116	753	117	77	194
4-5 P.M.	217	167	271	155	810	126	172	298
5-6 P.M.	218	160	301	140	819	93	113	206

SR 17 & Lake Trask Road SWA
Project № 5611.2
Figure 3

Trip Distribution

Table 4
2028 Total Traffic Volumes

Hour	Major Street - SR 17							Minor Street - Lake Trask Rd				
	Northbound			Southbound			Total Both Approaches	WBL	WBR			Total Both Lanes
	Bkgd	Project	Total	Bkgd	Project	Total		Bkgd	Bkgd	Project	Total	
6-7 A.M.	213	37	250	173	16	189	439	82	98	22	120	202
7-8 A.M.	338	63	401	249	31	280	681	178	144	38	182	360
8-9 A.M.	251	54	305	292	38	330	635	124	147	32	179	303
9-10 A.M.	218	36	254	224	34	258	512	96	92	22	114	210
10-11 A.M.	209	35	244	241	43	284	528	84	74	21	95	179
11-12 P.M.	211	32	243	252	54	306	549	74	59	19	78	152
12-1 P.M.	241	36	277	259	57	316	593	73	72	21	93	166
1-2 P.M.	239	38	277	242	62	304	581	83	65	23	88	171
2-3 P.M.	319	39	358	339	72	411	769	92	78	23	101	193
3-4 P.M.	377	39	416	376	88	464	880	117	77	23	100	217
4-5 P.M.	384	47	431	426	106	532	963	126	172	28	200	326
5-6 P.M.	378	46	424	441	101	542	966	93	113	28	141	234

Table 5
Warrant 1 – Eight-Hour Vehicular Volume

Condition A-Minimum Vehicular Volume									
Number of Lanes for Moving Traffic on Each Approach		Vehicles Per Hour on Major Street (Total of both Approaches) *				Vehicles Per Hour on Higher Volume Minor Street (One Direction Only)*			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1 Lane	1 Lane	500	400	350	280	150	120	105	84
2 + Lanes	1 Lane	600	480	420	336	150	120	105	84
2 + Lanes	2 + Lanes	600	480	420	336	200	160	140	112
1 Lane	2 + Lanes	500	400	350	280	200	160	140	112
Condition B-Interruption of Continuous Traffic									
Number of Lanes for Moving Traffic on Each Approach		Vehicles Per Hour on Major Street (Total of both Approaches) *				Vehicles Per Hour on Higher Volume Minor Street (One Direction Only)*			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1 Lane	1 Lane	750	600	525	420	75	60	53	42
2 + Lanes	1 Lane	900	720	630	504	75	60	53	42
2 + Lanes	2 + Lanes	900	720	630	504	100	80	70	56
1 Lane	2 + Lanes	750	600	525	420	100	80	70	56

* When the 85-percentile speed of Major Street exceeds 40 mph, the 70% minimum volume thresholds values are used.

Source: ***Manual on Uniform Traffic Control Devices***, 11th Edition, U.S. Department of Transportation, Federal Highway Administration.

Warrant Analysis

As described in the Intersection Configuration section of the report, SR 17 has one through lane in each direction at the study intersection. Lake Trask Road has two approach lanes. According to the MUTCD, a minor street approach with exclusive right and left turn lanes where the traffic in the right turn lane enters the major street with minimal conflict may be analyzed as a single-lane approach using only the volumes in the left turn lane. According to the results of the intersection capacity analysis conducted in the TIA, the right turn lane at Lake Trask Road is projected to operate at satisfactory Levels of Service with minimal delay. Therefore, the intersection was analyzed as a single lane for the minor street using only the volumes in the left turn lane.

Summarized in **Table 6** are the hourly traffic volumes along with an assessment of the applicable signal warrants. As can be seen from the tables, the minimum volume requirements are satisfied for Warrant 1 (Condition B only) and for Warrant 2.

The completed FDOT Traffic Signal Warrant Summary forms are included in **Appendix D**.

Table 6
Signal Warrant Analysis

Hour	2028 Approach Volumes		Warrants		
	SR 17 (Total Both Approaches)	Lake Trask Road - WBL	1A	1B	2
6-7 A.M.	439	82			
7-8 A.M.	681	178	X	X	X
8-9 A.M.	635	124	X	X	X
9-10 A.M.	512	96			
10-11 A.M.	528	84		X	
11-12 P.M.	549	74		X	
12-1 P.M.	593	73		X	
1-2 P.M.	581	83		X	
2-3 P.M.	769	92		X	X
3-4 P.M.	880	117	X	X	X
4-5 P.M.	963	126	X	X	X
5-6 P.M.	966	93		X	X
		Hours Required:	**8**	**8**	**4**
		Hours Satisfied:	**4**	**10**	**6**

APPENDICES

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Scenic Hwy/SR 17 & Lake Trask Rd
City: Dundee
Control: 1-Way Stop(WB)

Project ID: 25-130061-001
Date: 2/12/2025

Data - Total

NS/EW Streets: N Scenic Hwy/SR 17 | N Scenic Hwy/SR 17 | Lake Trask Rd | Lake Trask Rd

AM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
6:00 AM	0	22	9	0	7	17	0	0	0	0	0	0	12	0	21	0	88
6:15 AM	0	34	13	0	8	25	0	0	0	0	0	0	18	0	21	0	119
6:30 AM	0	46	15	0	9	43	0	0	0	0	0	0	17	0	30	0	160
6:45 AM	0	52	10	0	13	41	0	0	0	0	0	0	30	0	20	0	166
7:00 AM	0	44	10	0	13	39	0	0	0	0	0	0	48	0	34	0	188
7:15 AM	0	64	25	0	9	49	0	0	0	0	0	0	43	0	29	0	219
7:30 AM	0	72	18	0	19	54	0	0	0	0	0	0	33	0	31	0	227
7:45 AM	0	68	18	0	14	38	0	0	0	0	0	0	44	0	42	0	224
8:00 AM	0	43	14	0	23	52	0	0	0	0	0	0	34	0	31	0	197
8:15 AM	0	44	15	0	25	36	0	0	0	0	0	0	32	0	33	0	185
8:30 AM	0	46	19	0	35	43	0	0	0	0	0	0	22	0	30	0	195
8:45 AM	0	39	17	0	26	35	0	0	0	0	0	0	29	0	45	0	191
9:00 AM	0	51	11	0	22	40	0	0	0	0	0	0	33	0	34	0	191
9:15 AM	0	30	10	0	14	43	0	0	0	0	0	0	18	0	18	0	133
9:30 AM	0	31	18	0	8	36	0	0	0	0	0	0	16	0	21	0	130
9:45 AM	0	40	15	0	10	39	0	0	0	0	0	0	24	0	14	0	142
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	726	237	0	255	630	0	0	0	0	0	0	453	0	454	0	2755
APPROACH %'s :	0.00%	75.39%	24.61%	0.00%	28.81%	71.19%	0.00%	0.00%					49.94%	0.00%	50.06%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	247	75	0	65	193	0	0	0	0	0	0	154	0	133	0	867
PEAK HR FACTOR :	0.000	0.858	0.750	0.000	0.707	0.894	0.000	0.000	0.000	0.000	0.000	0.000	0.875	0.000	0.792	0.000	0.955
		0.894				0.860								0.834			

NOON

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
10:00 AM	0	36	17	0	14	40	0	0	0	0	0	0	21	0	24	0	152
10:15 AM	0	43	15	0	15	45	0	0	0	0	0	0	18	0	15	0	151
10:30 AM	0	41	9	0	13	31	0	0	0	0	0	0	23	0	17	1	135
10:45 AM	0	24	12	0	21	48	0	0	0	0	0	0	17	0	14	0	136
11:00 AM	0	37	11	0	13	49	0	0	0	0	0	0	17	0	10	0	137
11:15 AM	0	31	13	0	10	43	0	0	0	0	0	0	17	0	20	0	134
11:30 AM	0	37	17	0	14	50	0	0	0	0	0	0	20	0	14	0	152
11:45 AM	0	35	18	0	15	44	0	0	0	0	0	0	16	0	12	0	140
12:00 PM	0	35	14	0	18	34	0	0	0	0	0	0	15	0	20	0	136
12:15 PM	0	40	23	0	13	58	0	0	0	0	0	0	17	0	14	0	165
12:30 PM	0	33	25	0	15	39	0	0	0	0	0	0	13	0	11	0	136
12:45 PM	0	34	23	0	18	49	0	0	0	0	0	0	24	0	23	0	171
1:00 PM	0	45	20	0	13	30	0	0	0	0	0	0	14	0	11	0	133
1:15 PM	0	42	12	0	20	46	0	0	0	0	0	0	20	0	12	0	152
1:30 PM	0	26	19	0	11	30	0	0	0	0	0	0	24	0	19	0	129
1:45 PM	0	40	22	0	22	56	0	0	0	0	0	0	20	0	19	0	179
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	579	270	0	245	692	0	0	0	0	0	0	296	0	255	1	2338
APPROACH %'s :	0.00%	68.20%	31.80%	0.00%	26.15%	73.85%	0.00%	0.00%					53.62%	0.00%	46.20%	0.18%	
PEAK HR :	12:00 PM - 01:00 PM																TOTAL
PEAK HR VOL :	0	142	85	0	64	180	0	0	0	0	0	0	69	0	68	0	608
PEAK HR FACTOR :	0.000	0.888	0.850	0.000	0.889	0.776	0.000	0.000	0.000	0.000	0.000	0.000	0.719	0.000	0.739	0.000	0.889
		0.901				0.859								0.729			

PM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
2:00 PM	0	37	17	0	23	54	0	0	0	0	0	0	16	0	16	0	163
2:15 PM	0	64	16	0	17	62	0	0	0	0	0	0	18	0	24	0	201
2:30 PM	0	50	21	0	20	55	0	0	0	0	0	0	32	0	10	0	188
2:45 PM	0	55	41	0	17	71	0	0	0	0	0	0	21	0	24	0	229
3:00 PM	0	45	32	0	22	47	0	0	0	0	0	0	25	0	22	0	193
3:15 PM	0	46	29	0	26	71	0	0	0	0	0	0	24	0	19	0	215
3:30 PM	0	63	42	0	31	55	0	0	0	0	0	0	29	0	15	0	235
3:45 PM	0	58	40	0	30	72	0	0	0	0	0	0	32	0	17	0	249
4:00 PM	0	46	41	0	32	64	0	0	0	0	0	0	32	0	34	0	249
4:15 PM	0	50	28	0	49	65	0	0	0	0	0	0	26	0	71	0	289
4:30 PM	0	62	44	0	30	76	0	0	0	0	0	0	36	0	33	0	281
4:45 PM	0	47	45	0	35	51	0	0	0	0	0	0	25	0	24	0	227
5:00 PM	0	47	31	0	27	81	0	0	0	0	0	0	21	0	38	0	245
5:15 PM	0	59	51	0	38	64	0	0	0	0	0	0	15	0	23	0	250
5:30 PM	0	54	36	0	42	86	0	0	0	0	0	0	30	0	24	0	272
5:45 PM	0	46	33	0	25	53	0	0	0	0	0	0	22	0	22	0	201
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	829	547	0	464	1027	0	0	0	0	0	0	404	0	416	0	3687
APPROACH %'s :	0.00%	60.25%	39.75%	0.00%	31.12%	68.88%	0.00%	0.00%					49.27%	0.00%	50.73%	0.00%	
PEAK HR :	03:45 PM - 04:45 PM																TOTAL
PEAK HR VOL :	0	216	153	0	141	277	0	0	0	0	0	0	126	0	155	0	1068
PEAK HR FACTOR :	0.000	0.871	0.869	0.000	0.719	0.911	0.000	0.000	0.000	0.000	0.000	0.000	0.875	0.000	0.546	0.000	0.924
		0.870				0.917								0.724			

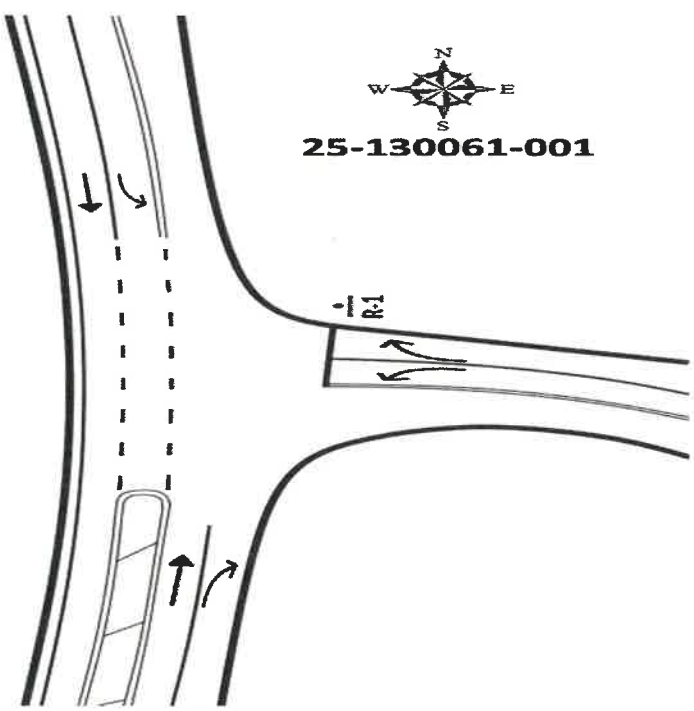
National Data & Surveying Services

Site Code:	**25-130061-001**
Date:	**02/12/2025**
Weather:	**Sunny**
City:	**Dundee**
County:	**Polk**
Count Times:	**06:00 - 10:00**
	10:00 - 14:00
	14:00 - 18:00
Control:	**1-Way Stop(WB)**

N↑

N/S Street: **N Scenic Hwy/SR 17**

Speed: **45/55 MPH**



E/W Street: **Lake Trask Rd**

Speed: **30 MPH**

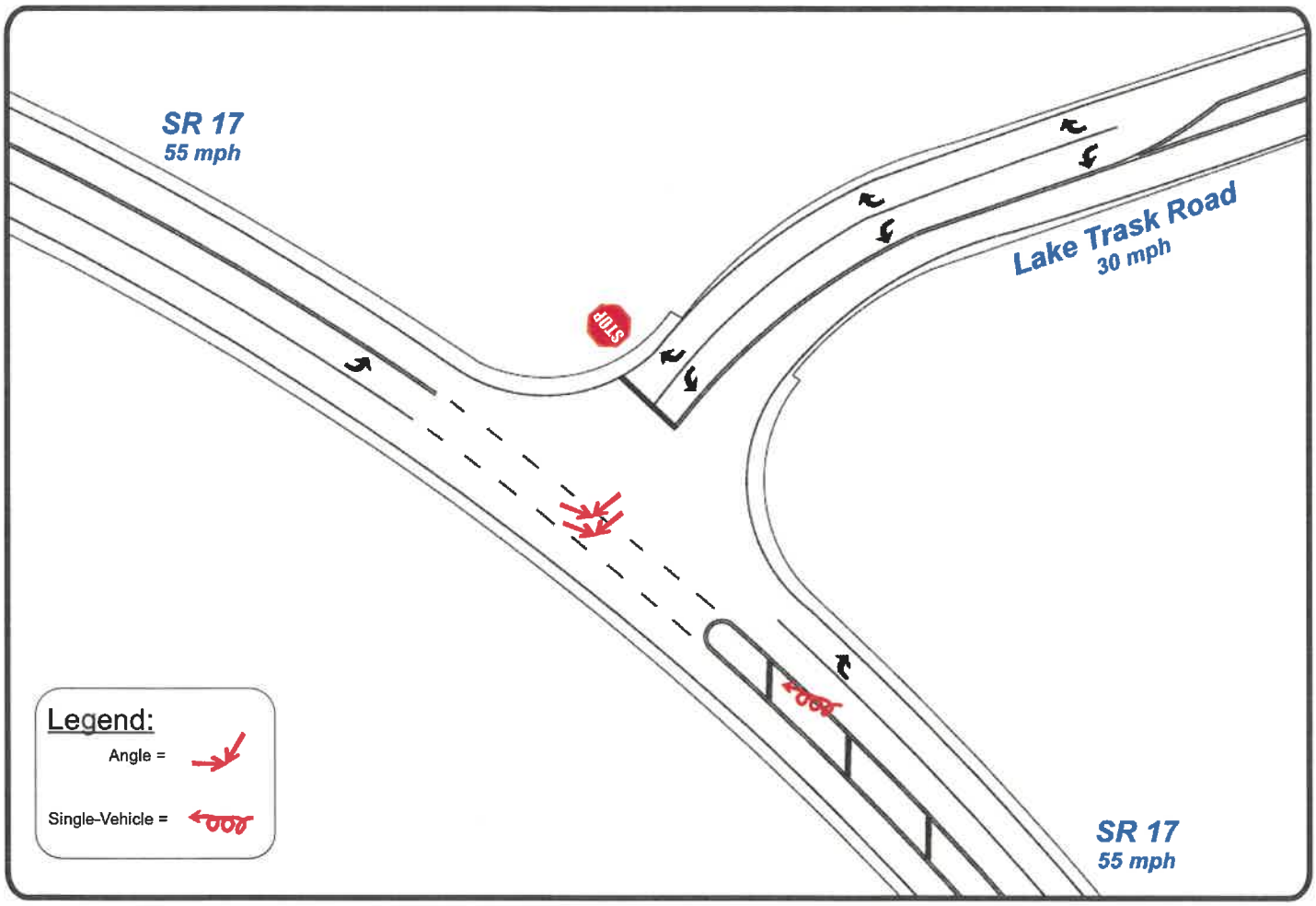
APPENDIX B

ITE Trip Generation Data, ITE Hourly Variation Rates

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual*, 11th Edition

Land Use Code	210			210			210		
Land Use	Single-Family Detached Housing			Single-Family Detached Housing			Single-Family Detached Housing		
Setting	General Urban/Suburban			General Urban/Suburban			General Urban/Suburban		
Time Period	Weekday			Saturday			Sunday		
# Data Sites	7			3			2		
	% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting
12:00 - 1:00 AM	0.3%	0.5%	0.2%	0.8%	0.6%	1.0%	0.6%	0.6%	0.6%
1:00 - 2:00 AM	0.2%	0.2%	0.1%	0.4%	0.6%	0.2%	0.6%	1.2%	0.0%
2:00 - 3:00 AM	0.2%	0.3%	0.1%	0.3%	0.4%	0.2%	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.2%	0.2%	0.2%	0.5%	0.4%	0.6%	0.3%	0.0%	0.6%
4:00 - 5:00 AM	0.6%	0.3%	0.8%	0.5%	0.6%	0.4%	0.0%	0.0%	0.0%
5:00 - 6:00 AM	1.2%	0.5%	2.0%	1.0%	0.8%	1.2%	1.8%	1.8%	1.8%
6:00 - 7:00 AM	3.7%	1.6%	5.8%	1.0%	0.4%	1.5%	1.5%	1.8%	1.2%
7:00 - 8:00 AM	6.5%	3.1%	10.0%	2.0%	0.8%	3.3%	1.8%	0.6%	3.0%
8:00 - 9:00 AM	6.2%	3.8%	8.5%	3.8%	2.5%	5.2%	4.7%	0.6%	9.0%
9:00 - 10:00 AM	4.6%	3.3%	5.8%	5.5%	5.0%	6.0%	4.7%	3.5%	6.0%
10:00 - 11:00 AM	4.9%	4.2%	5.6%	8.2%	6.2%	10.2%	11.5%	8.8%	14.4%
11:00 - 12:00 PM	5.3%	5.4%	5.1%	7.2%	8.7%	5.8%	7.7%	8.2%	7.2%
12:00 - 1:00 PM	5.7%	5.7%	5.7%	7.7%	7.3%	8.1%	9.2%	10.5%	7.8%
1:00 - 2:00 PM	6.1%	6.1%	6.0%	8.1%	7.1%	9.0%	9.8%	10.5%	9.0%
2:00 - 3:00 PM	6.6%	7.1%	6.1%	8.0%	8.7%	7.3%	5.9%	5.8%	6.0%
3:00 - 4:00 PM	7.5%	8.7%	6.2%	9.2%	9.8%	8.7%	4.4%	5.8%	3.0%
4:00 - 5:00 PM	8.9%	10.5%	7.4%	6.2%	6.9%	5.4%	8.3%	8.2%	8.4%
5:00 - 6:00 PM	8.7%	10.0%	7.3%	8.4%	9.6%	7.1%	9.8%	11.1%	8.4%
6:00 - 7:00 PM	7.2%	8.5%	5.9%	6.0%	7.3%	4.6%	6.2%	5.8%	6.6%
7:00 - 8:00 PM	5.1%	6.1%	4.2%	5.1%	4.8%	5.4%	5.3%	7.0%	3.6%
8:00 - 9:00 PM	4.6%	6.1%	3.1%	4.8%	6.0%	3.7%	4.1%	5.8%	2.4%
9:00 - 10:00 PM	3.3%	4.4%	2.3%	2.4%	2.7%	2.1%	0.3%	0.6%	0.0%
10:00 - 11:00 PM	1.6%	2.1%	1.0%	1.7%	1.5%	1.9%	1.5%	1.8%	1.2%
11:00 - 12:00 AM	1.0%	1.3%	0.6%	1.4%	1.5%	1.3%	0.0%	0.0%	0.0%



SR 17 & Lake Trask Road SWA
Project № 5611.2

Crash Diagram

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: Town of Dundee
County: 16 – Polk
District: One

Engineer: SS
Date: February 19, 2025

Major Street: SR 17 — Lanes: 1 — Major Approach Speed: 55
Minor Street: Lake Trask Rd — Lanes: 1 — Minor Approach Speed: 30

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☐ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

*Warrant 1 is satisfied if Condition A **or** Condition B is "100%" satisfied for eight hours.* ☐ Yes ☑ No

*Warrant 1 is also satisfied if both Condition A **and** Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems).* ☐ Yes ☑ No

*Warrant 1 is satisfied if Condition A **or** Condition B is "70%" satisfied for eight hours.* ☑ Yes ☐ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Applicable: ☑ Yes ☐ No
100% Satisfied: ☐ Yes ☑ No
80% Satisfied: ☐ Yes ☑ No
70% Satisfied: ☐ Yes ☑ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	Minor	100%[a]	80%[b]	70%[c]	100%[a]	80%[b]	70%[c]
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

[a] Basic Minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	7-8 A.M.	8-9 A.M.	12-1 P.M.	1-2 P.M.	2-3 P.M.	3-4 P.M.	4-5 P.M.	5-6 P.M.
Major	681	635	594	581	769	880	963	966
Minor	178	124	73	83	92	117	126	93

2028 Volumes

Valencia Ridge

State of Florida Department of Transportation

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

TRAFFIC SIGNAL WARRANT SUMMARY

City: Town of Dundee
County: 16 – Polk
District: One

Engineer: SS
Date: February 19, 2025

Major Street: SR 17 — Lanes: 1 — Major Approach Speed: 55
Minor Street: Lake Trask Rd — Lanes: 1 — Minor Approach Speed: 30

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☐ 100%

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

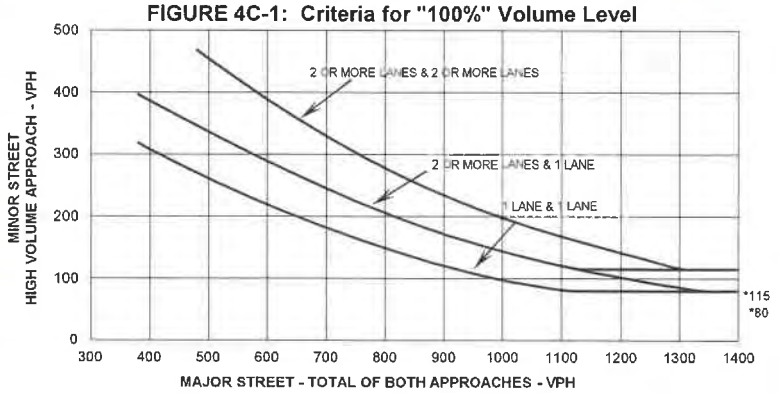
Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street

FIGURE 4C-1: Criteria for "100%" Volume Level



** Note: 115 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 80 mph applies as the lower threshold volume threshold for a minor street approach with one lane.*

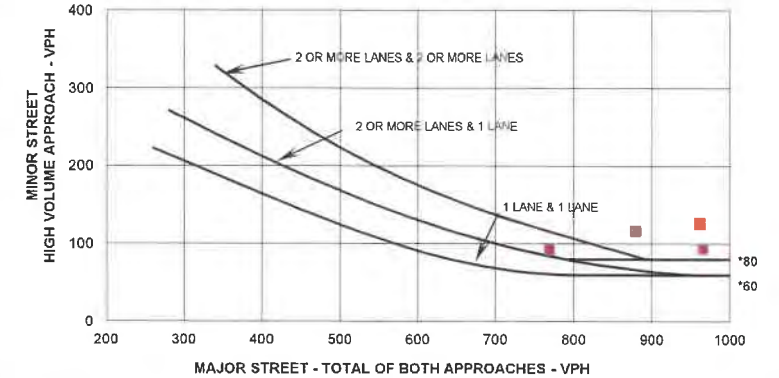
70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
2-3 P.M.	769	92
3-4 P.M.	880	117
4-5 P.M.	963	126
5-6 P.M.	966	93

2028 Volumes
Valencia Ridge

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 80 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 60 ph. applies as the lower threshold volume threshold for a minor street approach with one lane.*

SIGNAL WARRANT ANALYSIS

SR 17 & WELSH ROAD
POLK COUNTY, FLORIDA
Section 16090000/MP 26.815

Prepared for:

Cornerstone Land Company
1901 Ulmerton Road, Suite 475
Clearwater, Florida 33762

Prepared by:

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407-628-9955

February 2025
Revised
April 2025
May 2025

TPD No. 5611.2

TABLE OF CONTENTS

INTRODUCTION

This Signal Warrant Analysis was conducted in order to determine the need of and justification for the installation of a traffic signal at the intersection of SR 17 (Scenic Highway) and Welsh Road in Dundee, Polk County. It is proposed that Valencia Ridge, a 576 unit single family development be developed on a site east of SR 17 and south of Lake Mabel Loop Road. Access to the development is proposed via a full access driveway at the intersection of SR 17 and Welsh Road, as well as a full access driveway on Lake Mabel Loop Road. **Figure 1** depicts the study intersection, the Valencia Ridge site location, and the area roadways. The analysis was performed in order to determine if a signal would become warranted due to the construction of the Valencia Ridge development, anticipated to be completed by the end of 2028.

EXISTING TRAFFIC CONDITIONS

SR 17 is a two-lane undivided urban collector roadway with a posted speed limit of 55 mph adjacent to the study intersection. Based on counts made in 2025 in conjunction with this analysis, it carries a daily traffic volume of approximately 8,700 vehicles per day. Welsh Road is a local unpaved road, east and west of SR 17.

Intersection Configuration

The existing and proposed intersection geometry at the intersection of SR 17 and Welsh Road is illustrated in **Figure 2.** In the existing condition, all intersection legs have single leg approaches. In the proposed condition, Welsh Road will be paved as two lanes with separate right and left turn lanes on approach to SR 17. The SR 17 approaches will be widened to provide separate turn lanes.

Hourly Traffic Counts

24-hour approach volumes were collected on the northbound and southbound approaches of SR 17 for use in the analysis. These counts were made on February 12th, 2025, when the FDOT Seasonal Factor for Polk County was 0.94. Therefore, the counts were not adjusted.

In order to determine the background growth of the existing traffic to the buildout year of 2028, the 2% annual growth rate obtained from the Polk TPO was used to grow the counts. The background volumes thus developed at each approach, summarized by the hour, are shown in **Table 1**. These background approach volumes were subsequently combined with the project trips for use in the analysis. The 24-hour approach counts and FDOT Seasonal Factor Report are included in **Appendix A.**

Table 1
2028 Hourly Background Traffic Volumes

Hour	SR 17		
	NB	SB	Total Both Approaches
12-1 A.M.	18	16	34
1-2 A.M.	7	12	19
2-3 A.M.	16	22	38
3-4 A.M.	22	27	49
4-5 A.M.	60	56	116
5-6 A.M.	130	140	270
6-7 A.M.	215	214	429
7-8 A.M.	338	367	705
8-9 A.M.	252	300	552
9-10 A.M.	220	259	479
10-11 A.M.	214	259	473
11-12 P.M.	209	279	488
12-1 P.M.	245	265	510
1-2 P.M.	239	251	490
2-3 P.M.	317	342	659
3-4 P.M.	377	377	754
4-5 P.M.	377	401	778
5-6 P.M.	377	393	770
6-7 P.M.	281	282	563
7-8 P.M.	180	169	349
8-9 P.M.	129	142	271
9-10 P.M.	87	89	176
10-11 P.M.	86	61	147
11-12 P.M.	40	41	81
Total:	**4,436**	**4,764**	**9,200**

SR 17 & Welsh Road SWA
Project № 5611.2
Figure 3

Trip Distribution

Table 3
Hourly Variation of Project Trips

Hour	Project Trips - Entering				Project Trips - Exiting			
	Entering %	NBR (37%)	SBL (25%)	Total	Exiting %	WBL (37%)	WBR (25%)	Total
12-1 A.M.	0.5%	5	3	8	0.2%	1	1	2
1-2 A.M.	0.2%	2	1	3	0.1%	1	1	2
2-3 A.M.	0.3%	2	2	4	0.1%	1	0	1
3-4 A.M.	0.2%	2	1	3	0.2%	2	1	3
4-5 A.M.	0.3%	3	2	5	0.8%	7	5	12
5-6 A.M.	0.5%	4	3	7	2.0%	19	13	32
6-7 A.M.	1.6%	15	10	25	5.8%	55	37	92
7-8 A.M.	3.1%	29	19	48	10.0%	94	63	157
8-9 A.M.	3.8%	35	24	59	8.5%	80	54	134
9-10 A.M.	3.3%	31	21	52	5.8%	54	36	90
10-11 A.M.	4.2%	39	27	66	5.6%	52	35	87
11-12 P.M.	5.4%	51	34	85	5.1%	48	32	80
12-1 P.M.	5.7%	54	36	90	5.7%	53	36	89
1-2 P.M.	6.1%	57	39	96	6.0%	56	38	94
2-3 P.M.	7.1%	66	45	111	6.1%	57	39	96
3-4 P.M.	8.7%	81	55	136	6.2%	58	39	97
4-5 P.M.	10.5%	98	66	164	7.4%	69	47	116
5-6 P.M.	10.0%	94	63	157	7.3%	68	46	114
6-7 P.M.	8.5%	80	54	134	5.9%	55	37	92
7-8 P.M.	6.1%	57	38	95	4.2%	40	27	67
8-9 P.M.	6.1%	57	39	96	3.1%	29	19	48
9-10 P.M.	4.4%	41	28	69	2.3%	21	15	36
10-11 P.M.	2.1%	20	13	33	1.0%	9	6	15
11-12 P.M.	1.3%	12	8	20	0.6%	6	4	10
Total:	**100.00%**	**935**	**631**	**1,566**	**100.00%**	**935**	**631**	**1,566**

SIGNAL WARRANT ANALYSIS

This signal warrant analysis was conducted in accordance with the procedures of the ***Manual on Uniform Control Devices*** (MUTCD) for streets and highways. According to the MUTCD, traffic signals should not be considered for installation unless one or more of the nine warrants specified therein are met and an engineering study justifies the need.

Applicable Warrants

The warrants applicable to this analysis are Warrant 1 – Eight Hour Vehicular Volume (Conditions A and B) and Warrant 2 – Four Hour Volume.

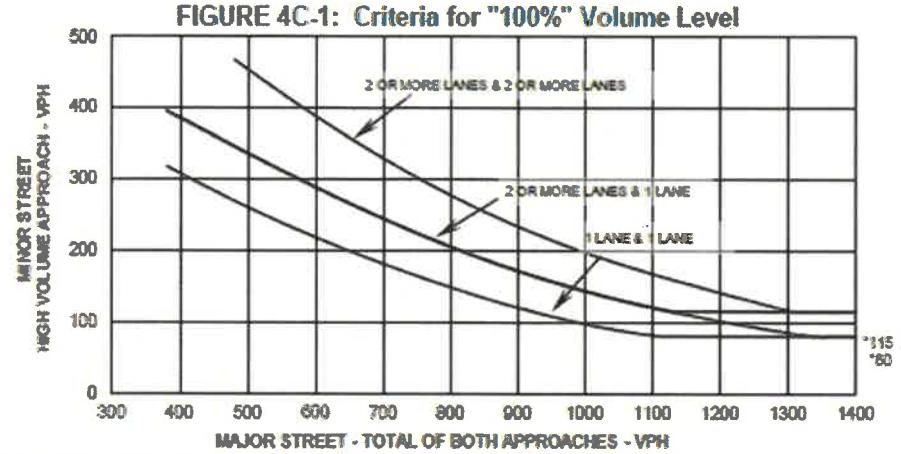
For Warrant 1, the Minimum Vehicular Volume (Condition A) is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal. The Interruption of Continuous Traffic (Condition B) is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delays or conflict in entering/crossing the major street. The MUTCD specifies that the minimum volume warrants are satisfied when for each of any eight hours of an average day the volumes are greater than the threshold values given in **Table 5.** Since the posted speed limit on SR 17 is greater than 40 mph, the 70% threshold values given in the table will be used in the analysis.

For Warrant 2, the Four-Hour Vehicular volume signal warrant, conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal. This warrant is satisfied when for each of any four hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher volume minor street approach (one direction only) all fall above the applicable curve in **Figure 4** of the MUTCD for the existing combination of lanes.

The six warrants determined not to be applicable for the intersection under study are:

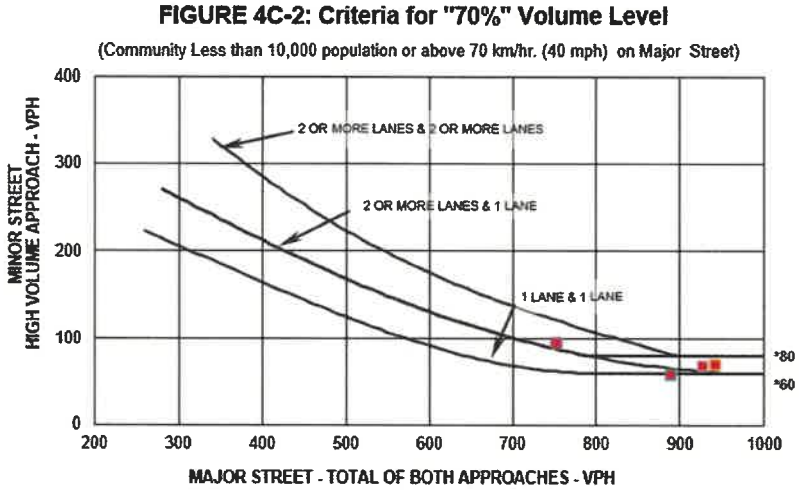
Warrant 3	-	Peak Hour (not applicable)
4	-	Pedestrian Volume (no pedestrian traffic)
5	-	School Crossing (there is no school crossing)
6	-	Coordinated Signal System (not an objective)
7	-	Crash Experience (only 1 crash in the last 5 years) (Not satisfied/Crash Diagram not included)
8	-	Roadway Network (not applicable)
9	-	Intersection Near a Grade Crossing (no grade crossing)

Figure 4
Four-Hour Vehicular Volume Warrant Chart



Note: 115 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 80 mph applies as the lower threshold volume threshold for a minor street approach with one lane.

Figure 4
Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)



Note: 80 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 60 ph. applies as the lower threshold volume threshold for a minor street approach with one lane.

Table 6
Signal Warrant Analysis

Hour	Approach Volumes		Warrants		
	SR 17 (Total Both Approaches)	Welsh Road - WBL Only	1A	1B	2
12-1 A.M.	42	1			
1-2 A.M.	22	1			
2-3 A.M.	42	1			
3-4 A.M.	52	2			
4-5 A.M.	121	7			
5-6 A.M.	277	19			
6-7 A.M.	454	55			
7-8 A.M.	753	94		X	X
8-9 A.M.	611	80		X	
9-10 A.M.	531	54		X	
10-11 A.M.	539	52			
11-12 P.M.	573	48			
12-1 P.M.	600	53		X	
1-2 P.M.	586	56		X	
2-3 P.M.	770	57		X	
3-4 P.M.	890	58		X	
4-5 P.M.	942	69		X	X
5-6 P.M.	927	68		X	X
6-7 P.M.	697	55		X	
7-8 P.M.	444	40			
8-9 P.M.	367	29			
9-10 P.M.	245	21			
10-11 P.M.	180	9			
11-12 P.M.	101	6			
		Hours Required:	**8**	**8**	**4**
		Hours Satisfied:	**0**	**10**	**3**

APPENDICES

Prepared by National Data & Surveying Services

VOLUME

N Scenic Hwy/SR 17 N/O Welsh Rd

Day: Wednesday
Date: 2/12/2025

City: Dundee
Project #: FL25_130062_001

DAILY TOTALS	NB	SB	EB	WB	Total
	4,188	4,494	0	0	8,682

15-Minutes Interval

TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00	5	4			9	12:00	54	49			103
0:15	4	0			4	12:15	60	73			133
0:30	2	7			9	12:30	61	55			116
0:45	6	4			10	12:45	56	73			129
1:00	1	1			2	13:00	64	42			106
1:15	4	4			8	13:15	52	68			120
1:30	1	3			4	13:30	47	52			99
1:45	1	3			4	13:45	62	75			137
2:00	4	5			9	14:00	55	72			127
2:15	2	3			5	14:15	77	76			153
2:30	4	7			11	14:30	73	87			160
2:45	5	6			11	14:45	94	88			182
3:00	3	6			9	15:00	74	72			146
3:15	5	7			12	15:15	78	93			171
3:30	7	6			13	15:30	103	87			190
3:45	6	6			12	15:45	101	104			205
4:00	4	8			12	16:00	88	98			186
4:15	15	10			25	16:15	78	91			169
4:30	15	12			27	16:30	105	111			216
4:45	23	23			46	16:45	85	78			163
5:00	16	21			37	17:00	82	100			182
5:15	21	30			51	17:15	105	80			185
5:30	44	38			82	17:30	90	115			205
5:45	42	43			85	17:45	79	76			155
6:00	29	30			59	18:00	76	89			165
6:15	52	43			95	18:15	60	70			130
6:30	61	58			119	18:30	59	55			114
6:45	61	71			132	18:45	70	52			122
7:00	56	87			143	19:00	42	34			76
7:15	88	89			177	19:15	45	42			87
7:30	90	91			181	19:30	43	39			82
7:45	85	79			164	19:45	40	44			84
8:00	57	88			145	20:00	37	41			78
8:15	61	63			124	20:15	32	36			68
8:30	64	69			133	20:30	20	28			48
8:45	56	63			119	20:45	33	29			62
9:00	61	70			131	21:00	23	21			44
9:15	42	62			104	21:15	26	30			56
9:30	49	53			102	21:30	17	22			39
9:45	56	59			115	21:45	16	11			27
10:00	57	61			118	22:00	25	13			38
10:15	58	64			122	22:15	17	14			31
10:30	48	57			105	22:30	20	13			33
10:45	39	62			101	22:45	19	18			37
11:00	48	66			114	23:00	16	15			31
11:15	44	58			102	23:15	8	10			18
11:30	52	75			127	23:30	6	9			15
11:45	53	64			117	23:45	8	5			13
TOTALS	1607	1839	0	0	3446	TOTALS	2581	2655	0	0	5236
SPLIT %	47%	53%	0%	0%	40%	SPLIT %	49%	51%	0%	0%	60%

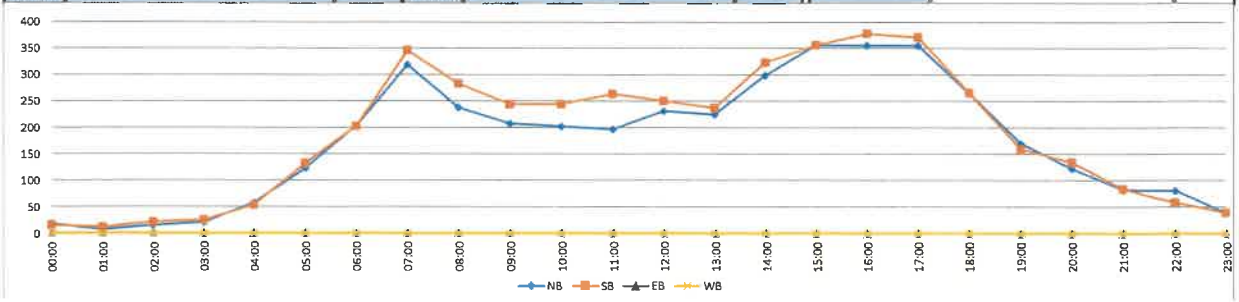
DAILY TOTALS

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	17	15			32
01:00	02:00	7	11			18
02:00	03:00	15	21			36
03:00	04:00	21	25			46
04:00	05:00	57	53			110
05:00	06:00	123	132			255
06:00	07:00	203	202			405
07:00	08:00	319	346			665
08:00	09:00	238	283			521
09:00	10:00	208	244			452
10:00	11:00	202	244			446
11:00	12:00	197	263			460
12:00	13:00	231	250			481
13:00	14:00	225	237			462
14:00	15:00	299	323			622
15:00	16:00	356	356			712
16:00	17:00	356	378			734
17:00	18:00	356	371			727
18:00	19:00	265	266			531
19:00	20:00	170	159			329
20:00	21:00	122	134			256
21:00	22:00	82	84			166
22:00	23:00	81	58			139
23:00	00:00	38	39			77

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	1607	1839			3446
Peak Hour	7:15	7:15			7:15
Peak Volume	320	347			667
Peak Hour Factor	0.889	0.953			0.921
Peak Period	12:00	to	00:00		
Volume	2581	2655			5236
Peak Hour	16:30	15:45			15:45
Peak Volume	377	404			776
Peak Hour Factor	0.898	0.910			0.898
Peak Period	07:00	to	09:00		
Volume	557	629			1186
Peak Hour	7:15	7:15			7:15
Peak Volume	320	347			667
Peak Hour Factor	0.889	0.953			0.921
Peak Period	16:00	to	18:00		
Volume	712	749			1461
Peak Hour	16:30	16:15			16:30
Peak Volume	377	380			746
Peak Hour Factor	0.898	0.856			0.863



APPENDIX B

ITE Trip Generation Data, ITE Hourly Variation Rates

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual*, 11th Edition

Land Use Code	210			210			210		
Land Use	Single-Family Detached Housing			Single-Family Detached Housing			Single-Family Detached Housing		
Setting	General Urban/Suburban			General Urban/Suburban			General Urban/Suburban		
Time Period	Weekday			Saturday			Sunday		
# Data Sites	7			3			2		
	% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting
12:00 - 1:00 AM	0.3%	0.5%	0.2%	0.8%	0.6%	1.0%	0.6%	0.6%	0.6%
1:00 - 2:00 AM	0.2%	0.2%	0.1%	0.4%	0.6%	0.2%	0.6%	1.2%	0.0%
2:00 - 3:00 AM	0.2%	0.3%	0.1%	0.3%	0.4%	0.2%	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.2%	0.2%	0.2%	0.5%	0.4%	0.6%	0.3%	0.0%	0.6%
4:00 - 5:00 AM	0.6%	0.3%	0.8%	0.5%	0.6%	0.4%	0.0%	0.0%	0.0%
5:00 - 6:00 AM	1.2%	0.5%	2.0%	1.0%	0.8%	1.2%	1.8%	1.8%	1.8%
6:00 - 7:00 AM	3.7%	1.6%	5.8%	1.0%	0.4%	1.5%	1.5%	1.8%	1.2%
7:00 - 8:00 AM	6.5%	3.1%	10.0%	2.0%	0.8%	3.3%	1.8%	0.6%	3.0%
8:00 - 9:00 AM	6.2%	3.8%	8.5%	3.8%	2.5%	5.2%	4.7%	0.6%	9.0%
9:00 - 10:00 AM	4.6%	3.3%	5.8%	5.5%	5.0%	6.0%	4.7%	3.5%	6.0%
10:00 - 11:00 AM	4.9%	4.2%	5.6%	8.2%	6.2%	10.2%	11.5%	8.8%	14.4%
11:00 - 12:00 PM	5.3%	5.4%	5.1%	7.2%	8.7%	5.8%	7.7%	8.2%	7.2%
12:00 - 1:00 PM	5.7%	5.7%	5.7%	7.7%	7.3%	8.1%	9.2%	10.5%	7.8%
1:00 - 2:00 PM	6.1%	6.1%	6.0%	8.1%	7.1%	9.0%	9.8%	10.5%	9.0%
2:00 - 3:00 PM	6.6%	7.1%	6.1%	8.0%	8.7%	7.3%	5.9%	5.8%	6.0%
3:00 - 4:00 PM	7.5%	8.7%	6.2%	9.2%	9.8%	8.7%	4.4%	5.8%	3.0%
4:00 - 5:00 PM	8.9%	10.5%	7.4%	6.2%	6.9%	5.4%	8.3%	8.2%	8.4%
5:00 - 6:00 PM	8.7%	10.0%	7.3%	8.4%	9.6%	7.1%	9.8%	11.1%	8.4%
6:00 - 7:00 PM	7.2%	8.5%	5.9%	6.0%	7.3%	4.6%	6.2%	5.8%	6.6%
7:00 - 8:00 PM	5.1%	6.1%	4.2%	5.1%	4.8%	5.4%	5.3%	7.0%	3.6%
8:00 - 9:00 PM	4.6%	6.1%	3.1%	4.8%	6.0%	3.7%	4.1%	5.8%	2.4%
9:00 - 10:00 PM	3.3%	4.4%	2.3%	2.4%	2.7%	2.1%	0.3%	0.6%	0.0%
10:00 - 11:00 PM	1.6%	2.1%	1.0%	1.7%	1.5%	1.9%	1.5%	1.8%	1.2%
11:00 - 12:00 AM	1.0%	1.3%	0.6%	1.4%	1.5%	1.3%	0.0%	0.0%	0.0%

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Town of Dundee	Engineer:	SS
County:	16 – Polk	Date:	May 19, 2025
District:	One		

Major Street:	SR 17	Lanes:	1	Major Approach Speed:	55
Minor Street:	Welsh Road	Lanes:	1	Minor Approach Speed:	25

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☐ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

*Warrant 1 is satisfied if Condition A **or** Condition B is "100%" satisfied for eight hours.* ☐ Yes ☑ No

*Warrant 1 is also satisfied if both Condition A **and** Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems).* ☐ Yes ☑ No

*Warrant 1 is satisfied if Condition A **or** Condition B is "70%" satisfied for eight hours.* ☑ Yes ☐ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Applicable:	☑ Yes	☐ No
100% Satisfied:	☐ Yes	☑ No
80% Satisfied:	☐ Yes	☑ No
70% Satisfied:	☐ Yes	☑ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	Minor	100%[a]	80%[b]	70%[c]	100%[a]	80%[b]	70%[c]
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

[a] Basic Minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	7-8 A.M.	8-9 A.M.	9-10 A.M.	12-1 P.M.	1-2 P.M.	2-3 P.M.	3-4 P.M.	4-5 P.M.
Major	753	611	531	600	586	770	890	942
Minor	94	80	54	53	56	57	58	69

Existing Volumes

Valencia Ridge

State of Florida Department of Transportation

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

TRAFFIC SIGNAL WARRANT SUMMARY

City: Town of Dundee
County: 16 – Polk
District: One

Engineer: SS
Date: May 19, 2025

Major Street: SR 17 Lanes: 1 Major Approach Speed: 55
Minor Street: Welsh Road Lanes: 1 Minor Approach Speed: 25

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☐ 100%

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

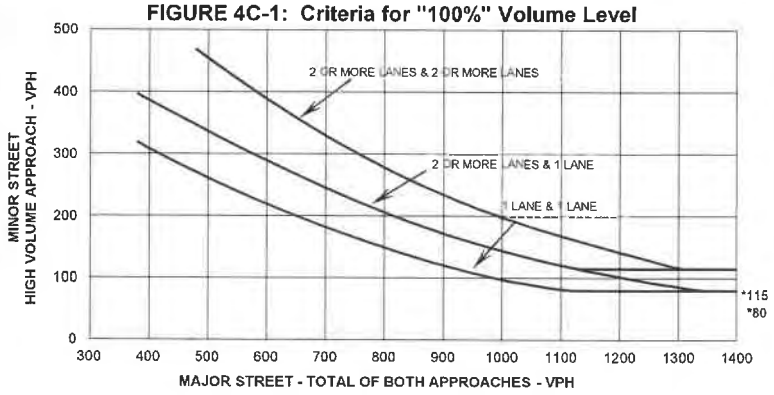
Applicable: ☑ Yes ☐ No
Satisfied: ☐ Yes ☑ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street

FIGURE 4C-1: Criteria for "100%" Volume Level



** Note: 115 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 80 mph applies as the lower threshold volume threshold for a minor street approach with one lane.*

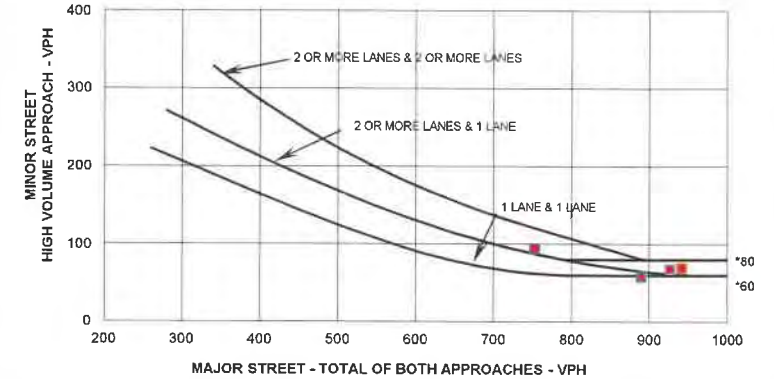
70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
7-8 A.M.	753	94
3-4 P.M.	890	58
4-5 P.M.	942	69
5-6 P.M.	927	68

Valencia Ridge

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 80 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 60 ph. applies as the lower threshold volume threshold for a minor street approach with one lane.*

SIGNAL WARRANT ANALYSIS

SR 17 & WAVERLY ROAD
POLK COUNTY, FLORIDA

Prepared for:

Cornerstone Land Company
1901 Ulmerton Road, Suite 475
Clearwater, Florida 33762

Prepared by:

Traffic Planning and Design, Inc.
535 Versailles Drive
Maitland, Florida 32751
407-628-9955

May 2025

TPD No. 5611.2

TABLE OF CONTENTS

INTRODUCTION

This Signal Warrant Analysis was conducted in order to determine the need of and justification for the installation of a traffic signal at the intersection of SR 17 (Scenic Highway) and Waverly Road in Dundee, Polk County. It is proposed that Valencia Ridge, a 576-unit single family development be developed on a site east of SR 17 approximately 2.0 miles north of Waverly Road. **Figure 1** depicts the study intersection, the Valencia Ridge site location, and the area roadways. The analysis was performed in order to determine if a signal would become warranted due to the construction of the Valencia Ridge development, anticipated to be completed by the end of 2028.

EXISTING TRAFFIC CONDITIONS

SR 17 is a two-lane undivided urban collector roadway with a posted speed limit of 55 mph adjacent to the study intersection. Based on counts made in 2025, it carries a daily traffic volume of approximately 8,700 vehicles per day. Waverly Road is a two-lane urban collector, with a posted speed limit of 45 mph and a daily traffic volume of approximately 6,400 vehicles per day.

Intersection Configuration

The existing geometry at the intersection of SR 17 and Waverly Road is illustrated in **Figure 2.** As can be seen, SR 17 has one through lane in each direction, as well as an auxiliary northbound left turn lane. Waverly Road intersects with SR 17 perpendicularly from the west to form a 'T' intersection and has separate right and left turn lanes.

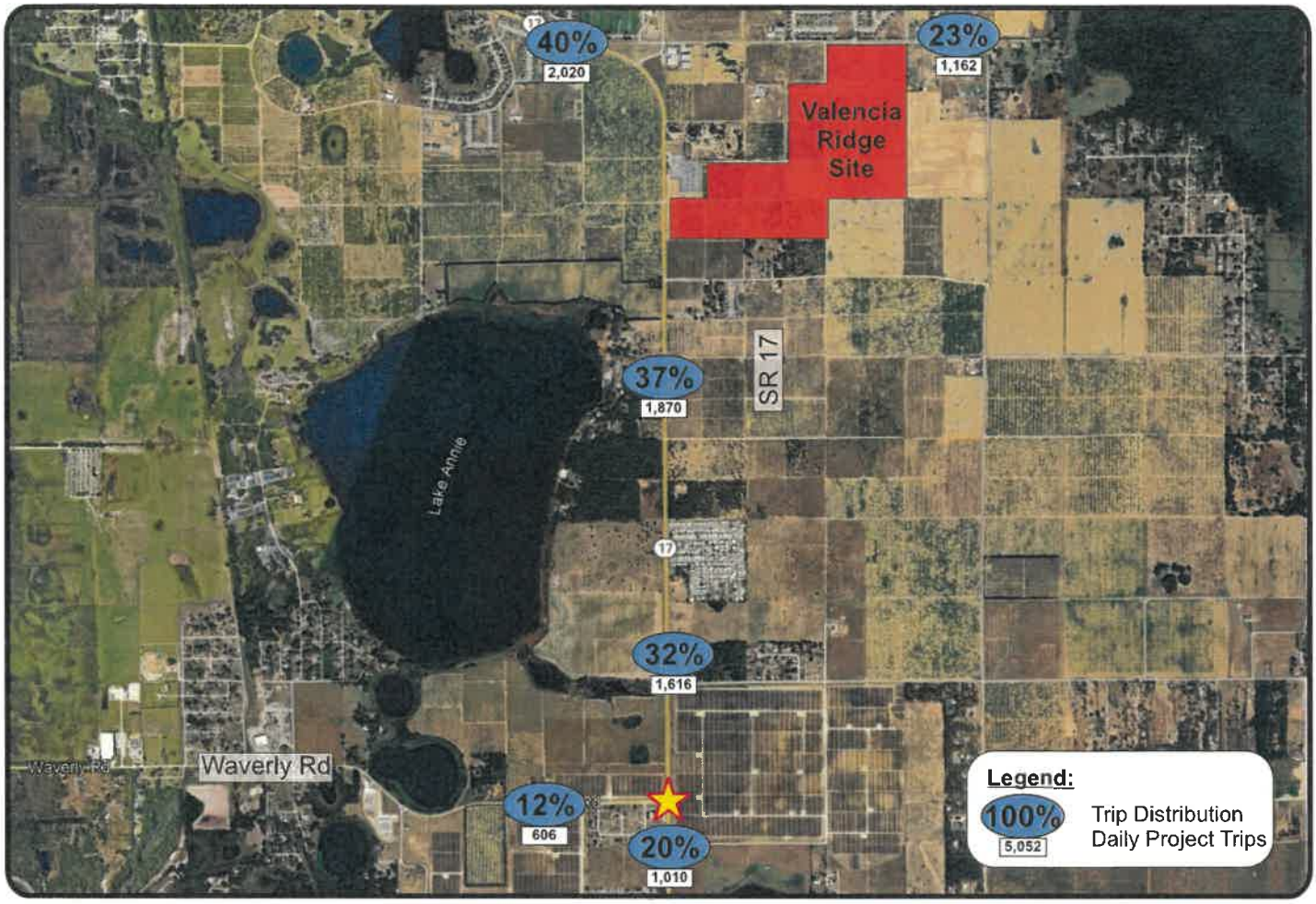
Hourly Traffic Counts

Hourly turning movement counts were collected at the study intersection for the hours of 6:00 A.M. to 9:00 P.M. for use in the analysis. These counts were made on May 13th, 2025, when the FDOT Seasonal Factor for Polk County was 1.00. Therefore, the counts were not adjusted.

In order to determine the background growth of the existing traffic to the buildout year of 2028, the 2% annual growth rate obtained from the Polk TPO was used to grow the counts. The background volumes thus developed at each approach, summarized by the hour, are shown in **Table 1**. These background approach volumes were subsequently combined with the project trips for use in the analysis. The turning movement counts and FDOT Seasonal Factor Report are included in **Appendix A.**

Table 1
2028 Hourly Background Traffic Volumes (6:00 AM – 9:00 PM)

Hour	SR 17				Waverly Road	
	NBL	NBT	SBR	SBT	EBL	EBR
6-7 A.M.	37	210	56	234	17	21
7-8 A.M.	66	269	77	375	32	45
8-9 A.M.	50	264	76	320	43	27
9-10 A.M.	48	187	66	235	37	36
10-11 A.M.	45	213	53	243	58	33
11-12 P.M.	50	217	73	255	60	49
12-1 P.M.	50	207	54	222	82	53
1-2 P.M.	42	222	74	277	68	51
2-3 P.M.	45	339	54	316	75	67
3-4 P.M.	41	341	92	326	96	59
4-5 P.M.	53	351	70	377	110	65
5-6 P.M.	68	389	77	375	90	92
6-7 P.M.	39	301	69	266	109	46
7-8 P.M.	31	214	41	191	69	43
8-9 P.M.	13	191	34	136	67	48



SR 17 & Waverly Road SWA
Project № 5611.2
Figure 3

Trip Distribution

Table 3
Hourly Variation of Project Trips

Hour	Entering Project Trips				Exiting Project Trips			
	Entering %	NBT (20%)	EBL (12%)	Total	Exiting %	SBT (20%)	SBR (12%)	Total
12-1 A.M.	0.5%	2	1	3	0.2%	1	0	1
1-2 A.M.	0.2%	1	1	2	0.1%	1	0	1
2-3 A.M.	0.3%	1	1	2	0.1%	0	0	0
3-4 A.M.	0.2%	1	1	2	0.2%	1	1	2
4-5 A.M.	0.3%	2	1	3	0.8%	4	2	6
5-6 A.M.	0.5%	2	1	3	2.0%	10	6	16
6-7 A.M.	1.6%	8	5	13	5.8%	30	18	48
7-8 A.M.	3.1%	15	9	24	10.0%	50	30	80
8-9 A.M.	3.8%	19	11	30	8.5%	43	26	69
9-10 A.M.	3.3%	17	10	27	5.8%	29	17	46
10-11 A.M.	4.2%	21	13	34	5.6%	28	17	45
11-12 P.M.	5.4%	27	16	43	5.1%	26	15	41
12-1 P.M.	5.7%	29	17	46	5.7%	29	17	46
1-2 P.M.	6.1%	31	19	50	6.0%	30	18	48
2-3 P.M.	7.1%	36	22	58	6.1%	31	19	50
3-4 P.M.	8.7%	44	26	70	6.2%	32	19	51
4-5 P.M.	10.5%	53	32	85	7.4%	37	22	59
5-6 P.M.	10.0%	51	30	81	7.3%	37	22	59
6-7 P.M.	8.5%	43	26	69	5.9%	30	18	48
7-8 P.M.	6.1%	31	18	49	4.2%	21	13	34
8-9 P.M.	6.1%	31	19	50	3.1%	16	9	25
9-10 P.M.	4.4%	22	13	35	2.3%	12	7	19
10-11 P.M.	2.1%	11	6	17	1.0%	5	3	8
11-12 P.M.	1.3%	6	4	10	0.6%	3	2	5
Total:	**100.0%**	**504**	**302**	**806**	**100.0%**	**506**	**301**	**807**

SIGNAL WARRANT ANALYSIS

This signal warrant analysis was conducted in accordance with the procedures of the ***Manual on Uniform Control Devices*** (MUTCD) for Streets and Highways. According to the MUTCD, traffic signals should not be considered for installation unless one or more of the nine warrants specified therein are met and an engineering study justifies the need.

Applicable Warrants

The warrants applicable to this analysis are Warrant 1 – Eight Hour Vehicular Volume (Conditions A and B) and Warrant 2 – Four Hour Volume.

For Warrant 1, the Minimum Vehicular Volume (Condition A) is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal. The Interruption of Continuous Traffic (Condition B) is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delays or conflict in entering/crossing the major street. The MUTCD specifies that the minimum volume warrants are satisfied when for each of any eight hours of an average day the volumes are greater than the threshold values given in **Table 5.** Since the posted speed limit on SR 17 is greater than 40 mph, the 70% threshold values given in the table will be used in the analysis.

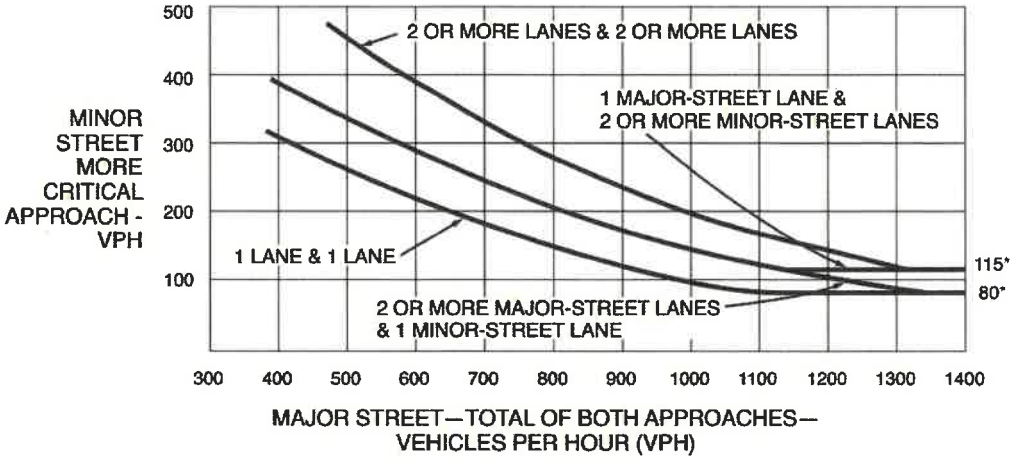
For Warrant 2, the Four-Hour Vehicular volume signal warrant, conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal. This warrant is satisfied when for each of any four hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher volume minor street approach (one direction only) all fall above the applicable curve in **Figure 4** of the MUTCD for the existing combination of lanes.

The six warrants determined not to be applicable for the intersection under study are:

Warrant 3	-	Peak Hour (not applicable)
4	-	Pedestrian Volume (no pedestrian traffic)
5	-	School Crossing (there is no school crossing)
6	-	Coordinated Signal System (not an objective)
7	-	Crash Experience (see Appendix C, Crash Diagram)
8	-	Roadway Network (not applicable)
9	-	Intersection Near a Grade Crossing (no grade crossing)

Figure 4
Four-Hour Vehicular Volume Warrant Chart

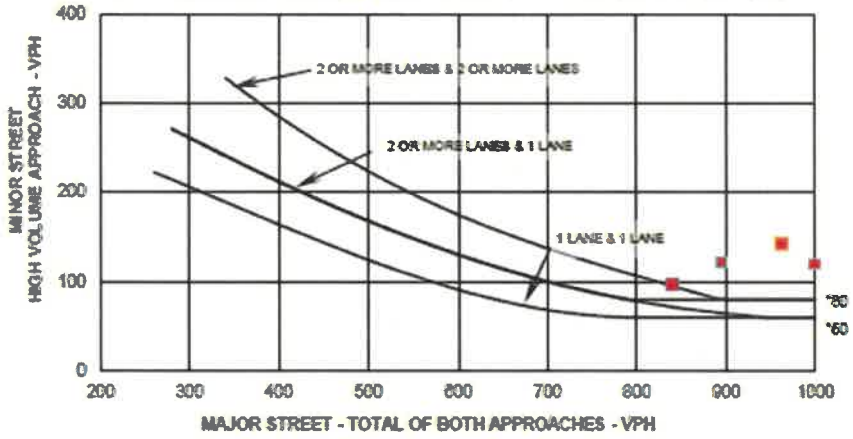
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 80 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 60 ph. applies as the lower threshold volume threshold for a minor street approach with one lane.*

Table 6
Signal Warrant Analysis

Hour	Approach Volumes		Warrants		
	Major Street (Total Both Approaches)	Minor Street	1A	1B	2
6-7 A.M.	593	22			
7-8 A.M.	882	41			
8-9 A.M.	798	54		X	
9-10 A.M.	599	47			
10-11 A.M.	620	71		X	
11-12 P.M.	663	76		X	X
12-1 P.M.	608	99		X	X
1-2 P.M.	694	87		X	X
2-3 P.M.	840	97		X	X
3-4 P.M.	895	122	X	X	X
4-5 P.M.	963	142	X	X	X
5-6 P.M.	1,019	120	X	X	X
6-7 P.M.	766	135	X	X	X
7-8 P.M.	542	87		X	
8-9 P.M.	430	86			
		Hours Required:	**8**	**8**	**4**
		Hours Satisfied:	**4**	**11**	**8**

APPENDICES

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 17/N Scenic Hwy & Waverly Rd
City: Dundee
Control: 1-Way Stop(EB)

Project ID: 25-130164-001
Date: 5/13/2025

Data - Total

NS/EW Streets:	SR 17/N Scenic Hwy				SR 17/N Scenic Hwy				Waverly Rd				Waverly Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	6	32	0	0	0	40	11	0	2	0	2	0	0	0	0	0	93
6:15 AM	13	51	0	0	0	41	12	0	4	0	6	0	0	0	0	0	127
6:30 AM	6	58	0	0	0	61	12	0	1	0	8	0	0	0	0	0	146
6:45 AM	10	57	0	0	0	79	18	0	9	0	4	0	0	0	0	0	177
7:00 AM	14	49	0	0	0	76	11	0	4	0	10	0	0	0	0	0	164
7:15 AM	19	62	0	0	0	96	16	0	8	0	8	0	0	0	0	0	209
7:30 AM	11	79	0	0	0	90	25	0	7	0	9	0	0	0	0	0	221
7:45 AM	18	64	0	0	0	92	21	0	11	0	15	0	0	0	0	0	221
8:00 AM	6	54	0	0	0	86	16	0	13	0	8	0	0	0	0	0	183
8:15 AM	20	63	0	0	0	72	21	0	8	0	6	0	0	0	0	0	190
8:30 AM	7	71	0	0	0	71	19	0	10	0	4	0	0	0	0	0	182
8:45 AM	14	61	0	0	0	73	16	0	10	0	7	0	0	0	0	0	181
9:00 AM	10	42	0	0	0	61	15	0	8	0	11	0	0	0	0	0	147
9:15 AM	14	30	0	0	0	50	17	0	6	0	5	0	0	0	0	0	122
9:30 AM	9	54	0	0	0	60	18	0	15	0	10	0	0	0	0	0	166
9:45 AM	12	50	0	0	0	51	12	0	6	0	8	0	0	0	0	0	139
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	189	877	0	0	0	1099	260	0	122	0	121	0	0	0	0	0	2668
APPROACH %'s :	17.73%	82.27%	0.00%	0.00%	0.00%	80.87%	19.13%	0.00%	50.21%	0.00%	49.79%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	54	259	0	0	0	364	78	0	39	0	40	0	0	0	0	0	834
PEAK HR FACTOR :	0.711	0.820	0.000	0.000	0.000	0.948	0.780	0.000	0.750	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.943
		0.869				0.961				0.760							

NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
10:00 AM	13	47	0	0	0	59	12	0	14	0	6	0	0	0	0	0	151
10:15 AM	11	43	0	0	0	50	12	0	11	0	9	0	0	0	0	0	136
10:30 AM	7	61	0	0	0	54	15	0	15	0	7	0	0	0	0	0	159
10:45 AM	11	50	0	0	0	66	11	0	15	0	9	0	0	0	0	0	162
11:00 AM	11	47	0	0	0	59	25	0	10	0	13	0	0	0	0	0	165
11:15 AM	11	48	0	0	0	51	16	0	18	0	9	0	0	0	0	0	153
11:30 AM	11	56	0	0	0	54	11	0	17	0	14	0	0	0	0	0	163
11:45 AM	14	54	0	0	0	77	17	0	12	0	10	0	0	0	0	0	184
12:00 PM	18	45	0	0	0	58	12	0	19	0	14	0	0	0	0	0	166
12:15 PM	8	51	0	0	0	39	13	0	21	0	10	0	0	0	0	0	142
12:30 PM	13	40	0	0	0	60	11	0	15	0	15	0	0	0	0	0	154
12:45 PM	8	59	0	0	0	52	15	0	22	0	11	0	0	0	0	0	167
1:00 PM	8	62	0	0	0	59	10	0	22	0	12	0	0	0	0	0	173
1:15 PM	15	47	0	0	0	60	19	0	16	0	12	0	0	0	0	0	169
1:30 PM	6	51	0	0	0	77	22	0	17	0	12	0	0	0	0	0	185
1:45 PM	11	49	0	0	0	65	19	0	9	0	12	0	0	0	0	0	165
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	176	810	0	0	0	940	240	0	253	0	175	0	0	0	0	0	2594
APPROACH %'s :	17.85%	82.15%	0.00%	0.00%	0.00%	79.66%	20.34%	0.00%	59.11%	0.00%	40.89%	0.00%					
PEAK HR :	12:45 PM - 01:45 PM																TOTAL
PEAK HR VOL :	37	219	0	0	0	248	66	0	77	0	47	0	0	0	0	0	694
PEAK HR FACTOR :	0.617	0.883	0.000	0.000	0.000	0.805	0.750	0.000	0.875	0.000	0.979	0.000	0.000	0.000	0.000	0.000	0.938
		0.914				0.793				0.912							

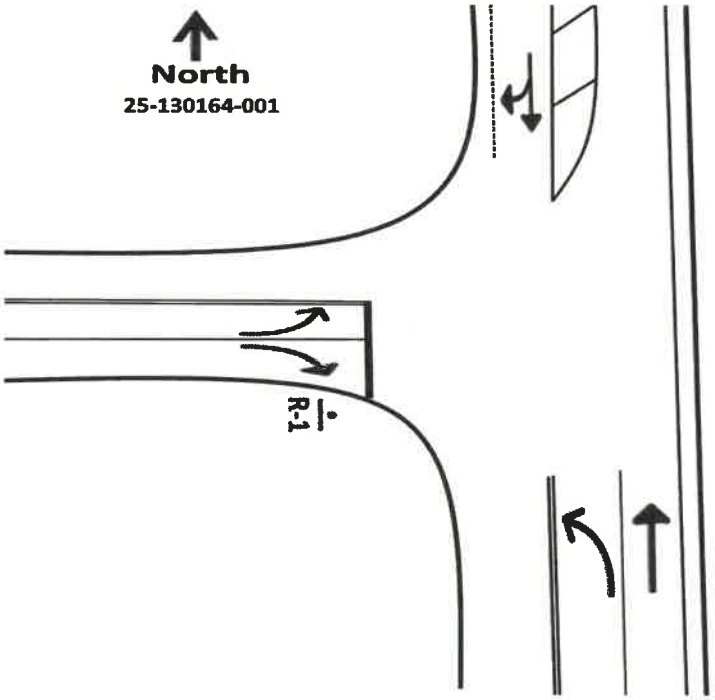
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	14	68	0	0	0	65	12	0	17	0	14	0	0	0	0	0	190
2:15 PM	9	84	0	0	0	68	15	0	20	0	16	0	0	0	0	0	212
2:30 PM	11	86	0	0	0	86	15	0	20	0	18	0	0	0	0	0	236
2:45 PM	8	82	0	0	0	79	9	0	14	0	15	0	0	0	0	0	207
3:00 PM	12	77	0	0	0	66	14	0	17	0	16	0	0	0	0	0	202
3:15 PM	12	66	0	0	0	63	22	0	15	0	12	0	0	0	0	0	190
3:30 PM	11	100	0	0	0	107	26	1	25	0	16	0	0	0	0	0	286
3:45 PM	4	79	0	0	0	72	25	0	34	0	12	0	0	0	0	0	226
4:00 PM	14	82	0	0	0	80	13	0	34	0	18	0	0	0	0	0	241
4:15 PM	13	82	0	0	0	90	15	0	27	0	18	0	0	0	0	0	245
4:30 PM	13	94	0	0	0	104	20	0	23	0	11	0	0	0	0	0	265
4:45 PM	10	73	0	0	0	82	18	0	20	0	14	0	0	0	0	0	217
5:00 PM	18	99	0	0	0	101	14	0	12	0	17	0	0	0	0	0	261
5:15 PM	17	89	0	0	0	102	20	0	23	0	26	0	0	0	0	0	277
5:30 PM	18	96	0	0	0	86	21	0	28	0	25	0	0	0	0	0	274
5:45 PM	11	83	0	0	0	65	18	0	22	0	19	0	0	0	0	0	218
6:00 PM	11	80	0	0	0	68	14	0	27	0	8	0	0	0	0	0	208
6:15 PM	9	65	0	0	0	49	15	0	30	0	17	0	0	0	0	0	185
6:30 PM	10	79	0	0	0	72	15	0	23	0	9	0	0	0	0	0	208
6:45 PM	7	60	0	0	0	62	21	0	23	0	9	0	0	0	0	0	182
7:00 PM	4	45	0	0	0	56	10	0	18	0	10	0	0	0	0	0	143
7:15 PM	6	60	0	0	0	45	9	0	18	0	10	0	0	0	0	0	148
7:30 PM	12	53	0	0	0	43	10	0	12	0	13	0	0	0	0	0	143
7:45 PM	7	44	0	0	0	36	10	0	17	0	8	0	0	0	0	0	122
8:00 PM	1	33	0	0	0	37	10	0	26	0	13	0	0	0	0	0	120
8:15 PM	5	54	0	0	0	32	8	0	12	0	14	0	0	0	0	0	125
8:30 PM	5	41	0	0	0	28	9	0	15	0	11	0	0	0	0	0	109
8:45 PM	1	52	0	0	0	31	5	0	10	0	7	0	0	0	0	0	106
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	273	2006	0	0	0	1875	413	1	582	0	396	0	0	0	0	0	5546
APPROACH %'s :	11.98%	88.02%	0.00%	0.00%	0.00%	81.91%	18.04%	0.04%	59.51%	0.00%	40.49%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	64	367	0	0	0	354	73	0	85	0	87	0	0	0	0	0	1030
PEAK HR FACTOR :	0.889	0.927	0.000	0.000	0.000	0.868	0.869	0.000	0.759	0.000	0.837	0.000	0.000	0.000	0.000	0.000	0.930
		0.921				0.875				0.811							

National Data & Surveying Services

Site Code:	**25-130164-001**
Date:	**05/13/2025**
Weather:	**Sunny**
City:	**Dundee**
County:	**Polk**
Count Times:	**06:00 - 10:00**
	10:00 - 14:00
	14:00 - 21:00
Control:	**1-Way Stop(EB)**

N↑ | N/S Street: **SR 17/N Scenic Hwy** | Speed: **55 MPH**

E/W Street: **Waverly Rd**



Speed: **45 MPH**

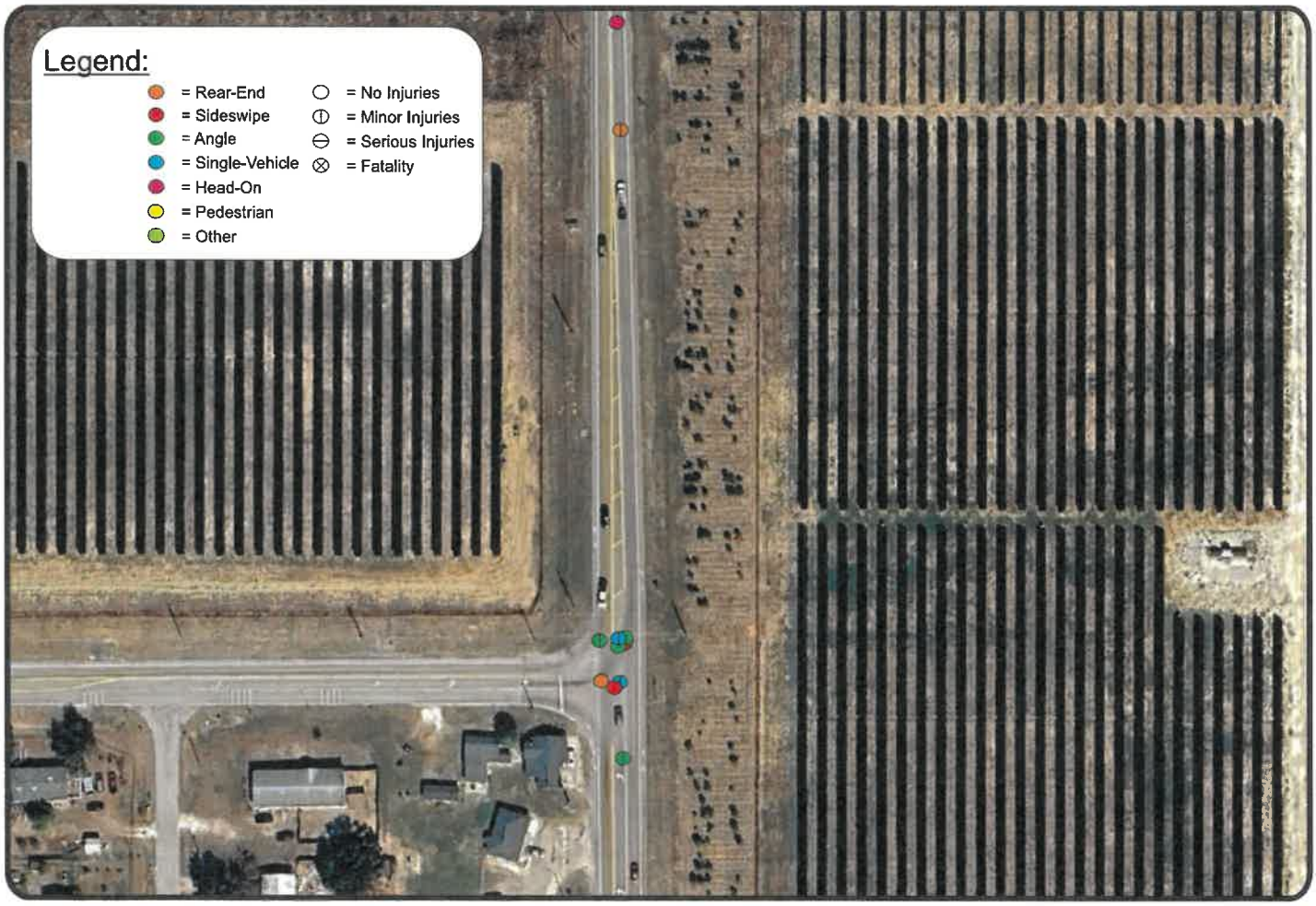
APPENDIX B

ITE Trip Generation Data, ITE Hourly Variation Rates

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual*, 11th Edition

Land Use Code	210			210			210		
Land Use	Single-Family Detached Housing			Single-Family Detached Housing			Single-Family Detached Housing		
Setting	General Urban/Suburban			General Urban/Suburban			General Urban/Suburban		
Time Period	Weekday			Saturday			Sunday		
# Data Sites	7			3			2		
	% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting
12:00 - 1:00 AM	0.3%	0.5%	0.2%	0.8%	0.6%	1.0%	0.6%	0.6%	0.6%
1:00 - 2:00 AM	0.2%	0.2%	0.1%	0.4%	0.6%	0.2%	0.6%	1.2%	0.0%
2:00 - 3:00 AM	0.2%	0.3%	0.1%	0.3%	0.4%	0.2%	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.2%	0.2%	0.2%	0.5%	0.4%	0.6%	0.3%	0.0%	0.6%
4:00 - 5:00 AM	0.6%	0.3%	0.8%	0.5%	0.6%	0.4%	0.0%	0.0%	0.0%
5:00 - 6:00 AM	1.2%	0.5%	2.0%	1.0%	0.8%	1.2%	1.8%	1.8%	1.8%
6:00 - 7:00 AM	3.7%	1.6%	5.8%	1.0%	0.4%	1.5%	1.5%	1.8%	1.2%
7:00 - 8:00 AM	6.5%	3.1%	10.0%	2.0%	0.8%	3.3%	1.8%	0.6%	3.0%
8:00 - 9:00 AM	6.2%	3.8%	8.5%	3.8%	2.5%	5.2%	4.7%	0.6%	9.0%
9:00 - 10:00 AM	4.6%	3.3%	5.8%	5.5%	5.0%	6.0%	4.7%	3.5%	6.0%
10:00 - 11:00 AM	4.9%	4.2%	5.6%	8.2%	6.2%	10.2%	11.5%	8.8%	14.4%
11:00 - 12:00 PM	5.3%	5.4%	5.1%	7.2%	8.7%	5.8%	7.7%	8.2%	7.2%
12:00 - 1:00 PM	5.7%	5.7%	5.7%	7.7%	7.3%	8.1%	9.2%	10.5%	7.8%
1:00 - 2:00 PM	6.1%	6.1%	6.0%	8.1%	7.1%	9.0%	9.8%	10.5%	9.0%
2:00 - 3:00 PM	6.6%	7.1%	6.1%	8.0%	8.7%	7.3%	5.9%	5.8%	6.0%
3:00 - 4:00 PM	7.5%	8.7%	6.2%	9.2%	9.8%	8.7%	4.4%	5.8%	3.0%
4:00 - 5:00 PM	8.9%	10.5%	7.4%	6.2%	6.9%	5.4%	8.3%	8.2%	8.4%
5:00 - 6:00 PM	8.7%	10.0%	7.3%	8.4%	9.6%	7.1%	9.8%	11.1%	8.4%
6:00 - 7:00 PM	7.2%	8.5%	5.9%	6.0%	7.3%	4.6%	6.2%	5.8%	6.6%
7:00 - 8:00 PM	5.1%	6.1%	4.2%	5.1%	4.8%	5.4%	5.3%	7.0%	3.6%
8:00 - 9:00 PM	4.6%	6.1%	3.1%	4.8%	6.0%	3.7%	4.1%	5.8%	2.4%
9:00 - 10:00 PM	3.3%	4.4%	2.3%	2.4%	2.7%	2.1%	0.3%	0.6%	0.0%
10:00 - 11:00 PM	1.6%	2.1%	1.0%	1.7%	1.5%	1.9%	1.5%	1.8%	1.2%
11:00 - 12:00 AM	1.0%	1.3%	0.6%	1.4%	1.5%	1.3%	0.0%	0.0%	0.0%



SR 17 & Waverly Road SWA
Project № 5611.2
Appendix C

Crash Diagram

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Town of Dundee	Engineer:	SS
County:	16 – Polk	Date:	May 19, 2025
District:	One		

Major Street:	SR 17	Lanes:	1	Major Approach Speed:	55
Minor Street:	Waverly Road	Lanes:	1	Minor Approach Speed:	45

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☐ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

*Warrant 1 is satisfied if Condition A **or** Condition B is "100%" satisfied for eight hours.* ☐ Yes ☑ No

*Warrant 1 is also satisfied if both Condition A **and** Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems).* ☐ Yes ☑ No

*Warrant 1 is satisfied if Condition A **or** Condition B is "70%" satisfied for eight hours.* ☑ Yes ☐ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Applicable: ☑ Yes ☐ No
100% Satisfied: ☐ Yes ☑ No
80% Satisfied: ☐ Yes ☑ No
70% Satisfied: ☐ Yes ☑ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	Minor	100%[a]	80%[b]	70%[c]	100%[a]	80%[b]	70%[c]
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

[a] Basic Minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	10-11 A.M.	11-12 P.M.	12-1 P.M.	1-2 P.M.	2-3 P.M.	3-4 P.M.	4-5 P.M.	5-6 P.M.
Major	620	663	608	694	840	895	963	1,019
Minor	71	76	99	87	97	122	142	120

Existing Volumes

Valencia Ridge

State of Florida Department of Transportation

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

TRAFFIC SIGNAL WARRANT SUMMARY

City: Town of Dundee
County: 16 – Polk
District: One

Engineer: SS
Date: May 19, 2025

Major Street: SR 17 — Lanes: 1 — Major Approach Speed: 55
Minor Street: Waverly Road — Lanes: 1 — Minor Approach Speed: 45

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☐ 100%

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

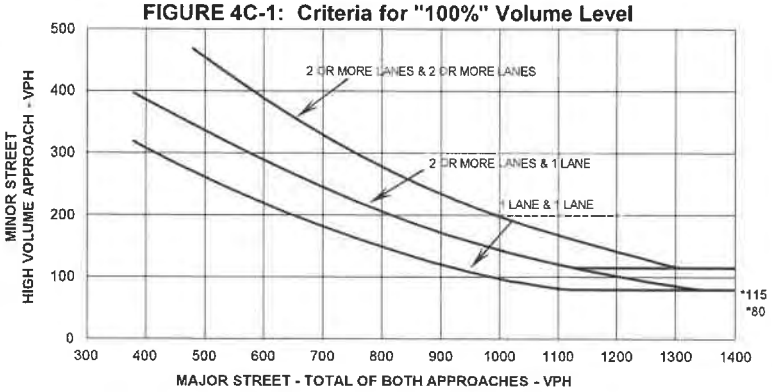
Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street

FIGURE 4C-1: Criteria for "100%" Volume Level



** Note: 115 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 80 mph applies as the lower threshold volume threshold for a minor street approach with one lane.*

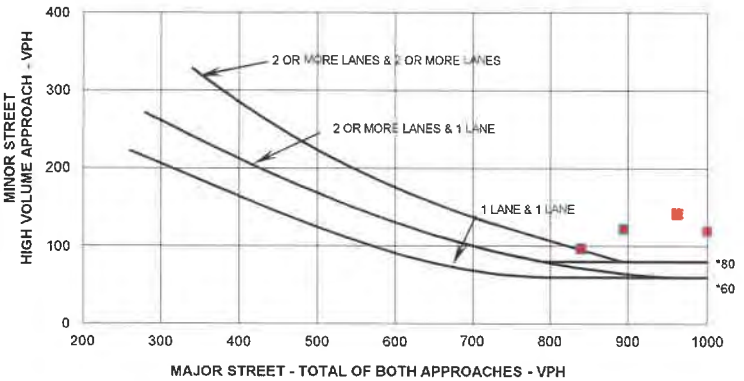
70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
2-3 P.M.	840	97
3-4 P.M.	895	122
4-5 P.M.	963	142
5-6 P.M.	1019	120

Valencia Ridge

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 80 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 60 ph. applies as the lower threshold volume threshold for a minor street approach with one lane.*

STAGE 1 ICE REPORT

SR 17 & WELSH ROAD
VALENCIA RIDGE
POLK COUNTY, FLORIDA

Prepared for:

Cornerstone Land Company
1901 Ulmerton Road, Suite 475
Clearwater, Florida 33762

Prepared by:

Traffic Planning and Design, Inc.
535 Versailles Drive
Maitland, Florida 32751
407-628-9955

February 2025
REVISED
April 2025
June 2025
August 2025

TPD № 5611.2

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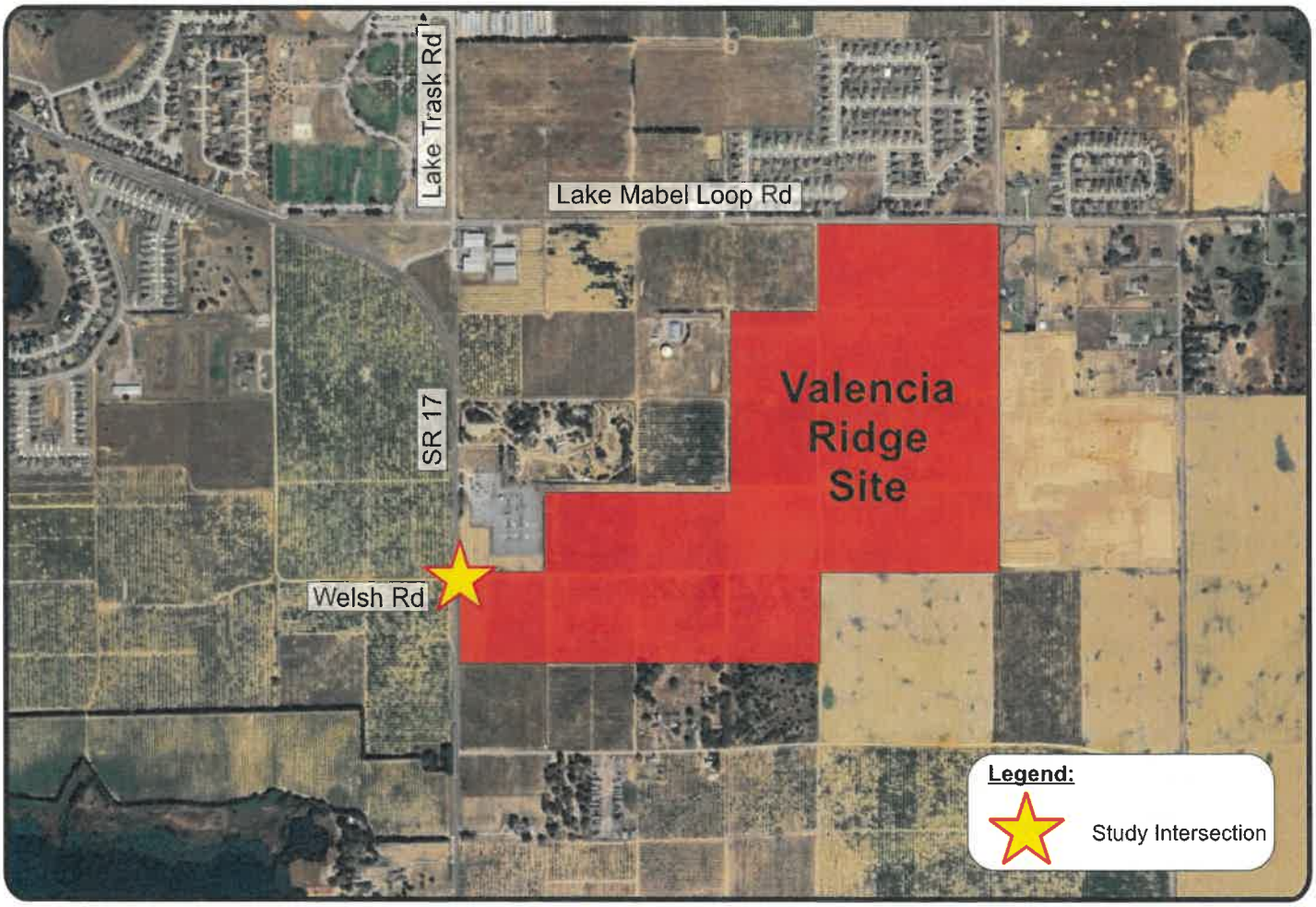
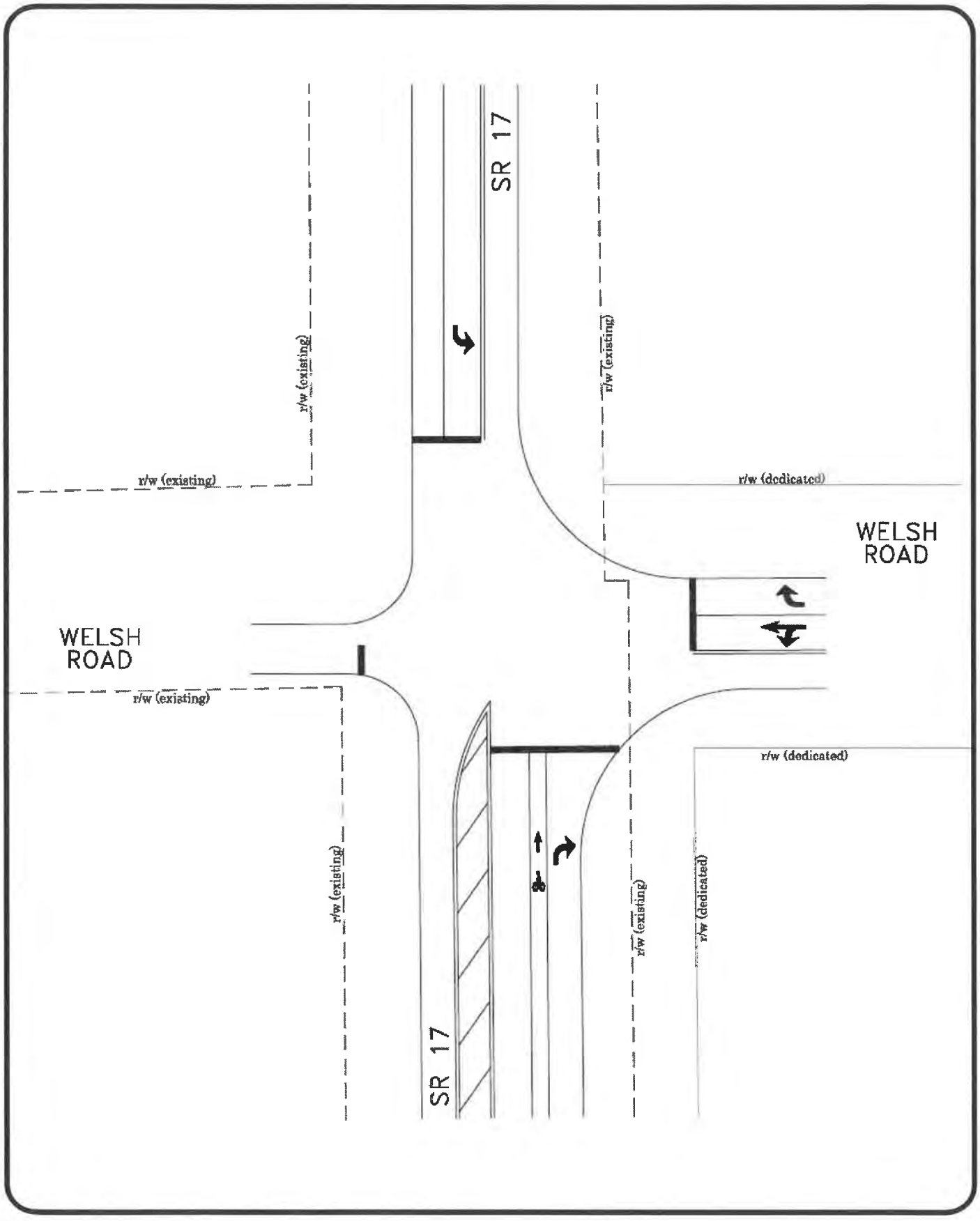


SR 17 & Welsh Road - Stage 1 ICE
Project № 5611.2
Figure 1

Intersection Location

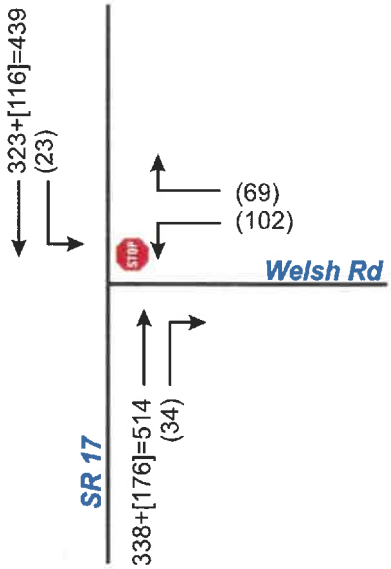


SR 17 & Welsh Road - Stage 1 ICE
Project № 5611.2
Figure 2

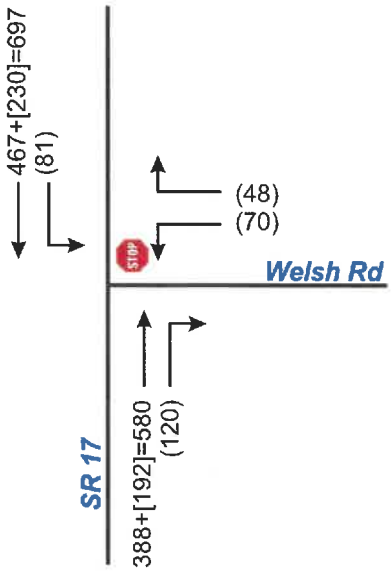
Proposed Lane Configuration

N
NTS

2028

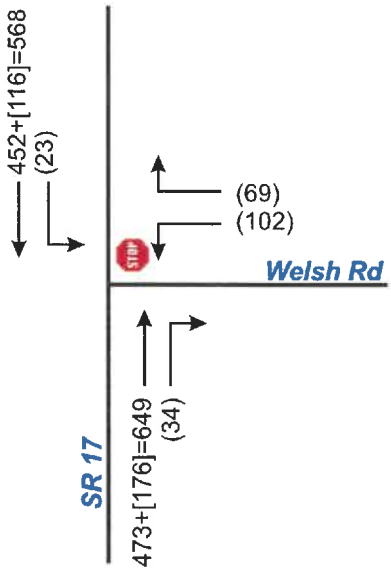


A.M. Peak Hour

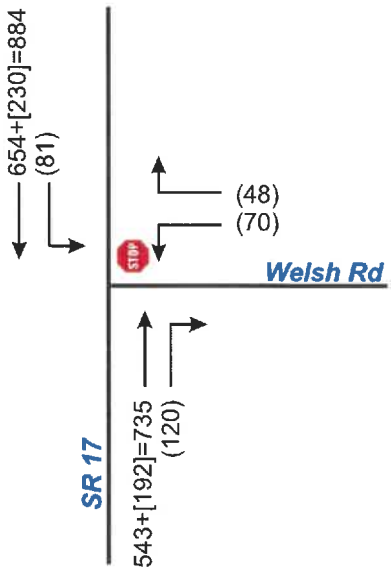


P.M. Peak Hour

2048



A.M. Peak Hour



P.M. Peak Hour

SR 17 & Welsh Road - Stage 1 ICE
Project № 5611.2
Figure 3

Projected A.M./P.M. Peak Hour Volumes

N
NTS

Table 1
2048 Design Year CAP-X Results

Type of Intersection	Time Period	Overall v/c Ratio	v/c Ranking	Pedestrian Accommodation Score	Bicycle Accommodation Score
Traffic Signal	A.M.	0.42	1	4.27	4.58
	P.M.	0.54	1	4.27	4.54
1 x 1 Roundabout	A.M.	0.53	2	5.39	4.58
	P.M.	0.79	2	5.39	4.50

Preliminary Safety Analysis

FDOT's SPICE (Safety Performance for Intersection Control Evaluation) is a planning level tool used to provide a comparison of intersection safety characteristics. Daily volumes are used in these calculations, as described in the Applicable Volumes section of the report. The results of the analysis are summarized below in **Table 2**. The SPICE Summary Report is included in **Appendix E.**

Table 2
SPICE Results Summary

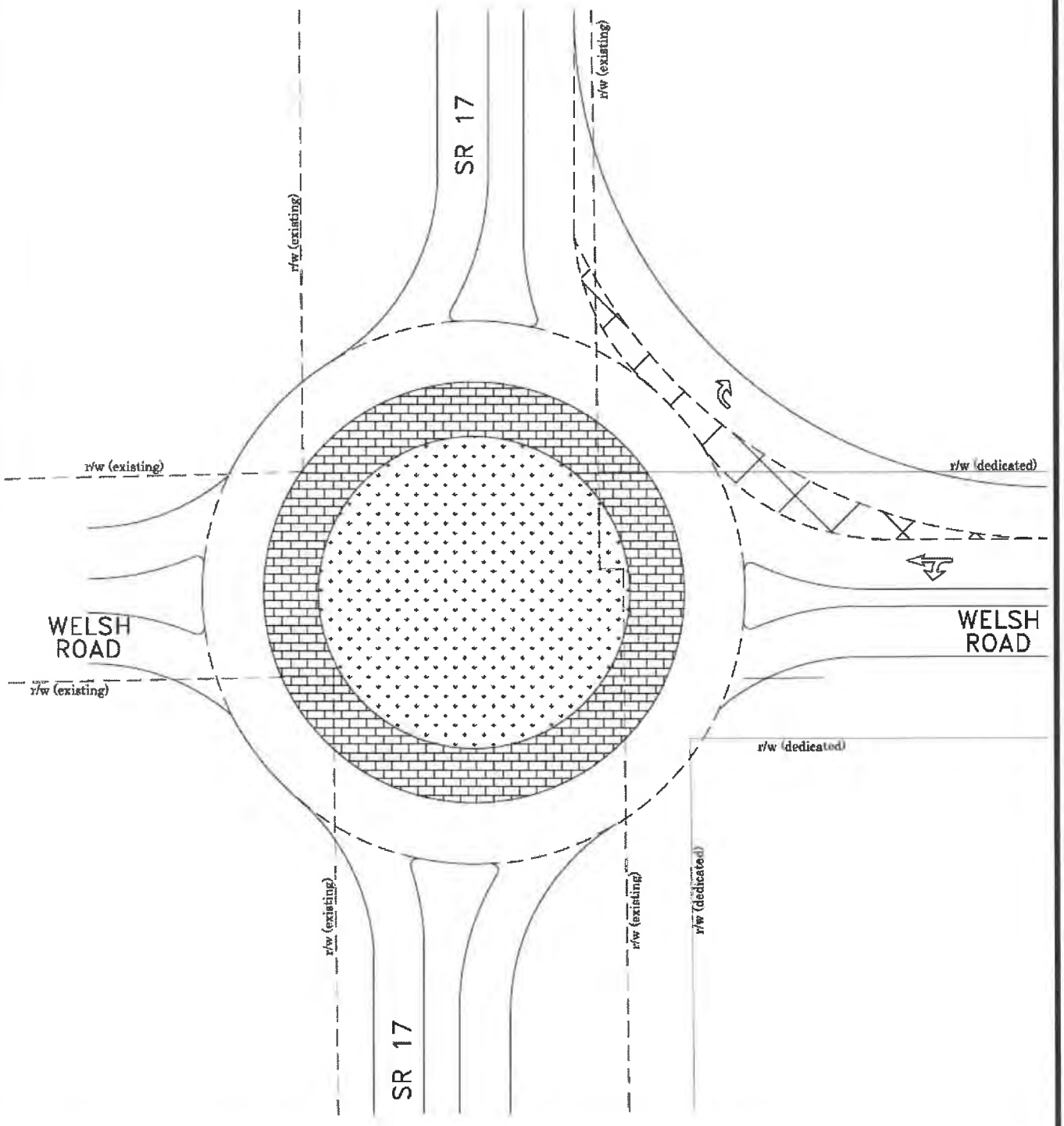
Type of Intersection	Type of Crash	Number of Crashes			SSI Score	
		Opening Year	Design Year	Total Project Life Cycle	Opening Year	Design Year
Traffic Signal	Total	4.11	4.79	93.55	94	92
	Fatal & Injury	1.40	1.63	31.81		
1-Lane Roundabout	Total	2.22	2.59	50.59	100	99
	Fatal & Injury	0.43	0.52	10.06		

Design Concepts and Right of Way

Preliminary design concepts for both the Signal and Roundabout control types are shown in **Figures 4a** and **4b**.

When cross-referenced with known right-of-way information (Shown in Figures 4a, 4b, and Appendix C), it is revealed that the area required for Roundabout placement far exceeds right of way limitations. Right of way in this corridor is limited, with 85' total width and developer ownership adjacent to the intersection in the southeast corner only.

The Signal option can operate within existing and sidestreet dedicated right of way.

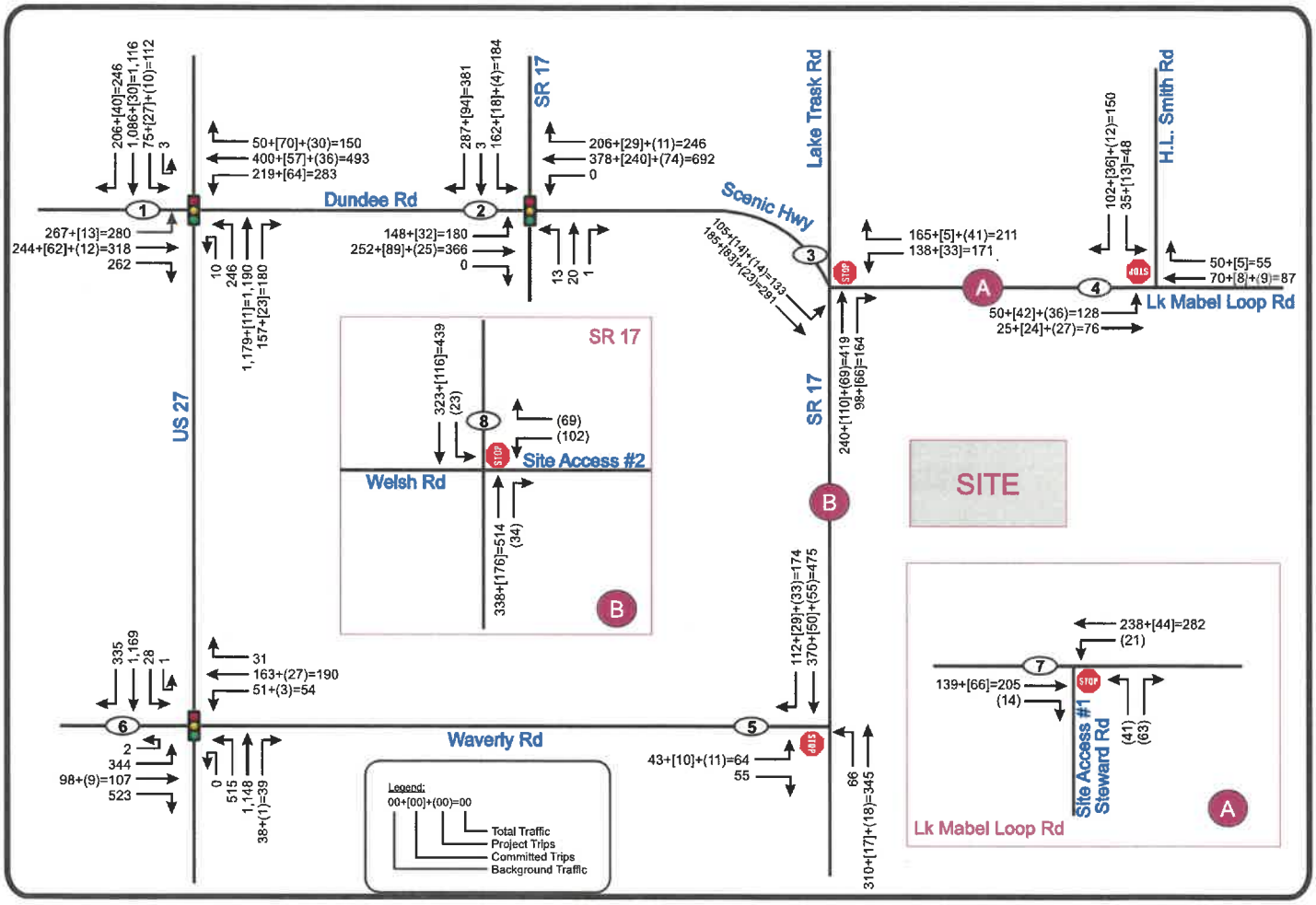


SR 17 & Welsh Road - Stage 1 ICE
Project № 5611.2
Figure 4b

Design Concept: Roundabout

N
NTS

APPENDICES



Valencia Ridge
Project № 5611.1
Figure 5a
Page 17

Projected 2028 A.M. Peak Hour Volumes

APPENDIX B

FDOT Count Station Data, pertinent pages from TIA

PROPOSED DEVELOPMENT AND TRIP GENERATION

The proposed development will consist of 576 single family dwelling units to be completed by 2028. To determine the impact of this development in the area, an analysis of its traffic characteristics was made. This included the determination of the trips generated and the distribution/assignment of these trips to the surrounding roadways.

Trip Generation

The trip generation of the proposed development was calculated with the use of equations obtained from the 11th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual.* **Table 3** provides a summary of the trip generation calculation, and the ITE trip generation sheets are included in **Appendix E**. As can be seen from the table, the development is expected to generate 5,052 daily trips, of which 367 will occur in the A.M. peak hour and 515 in the P.M. peak hour.

Table 3
Trip Generation Summary

ITE Code	Land Use	Size	Daily		A.M. Peak Hour				P.M. Peak Hour			
			Rate*	Trips	Rate*	Enter	Exit	Total	Rate*	Enter	Exit	Total
210	Single-Family Detached Housing	576 DU**	8.77	5,052	0.64	92	275	367	0.89	325	190	515

* $R^2 > 0.75$, therefore Equations used
** DU = Dwelling Unit

Trip Distribution/Trip Assignment

The project's trip distribution was determined with the use of the FDOT Model (D1RMP V.2) which was slightly modified to add a traffic zone representing the project. Subsequently, the model was run with a Select Zone Analysis which produced a distribution pattern for the project trips as shown in **Figure 4.** Utilizing this distribution pattern, the project's trips were assigned to the study roadway segments. The model distribution plots are included in **Appendix F**.

APPENDIX C

ROW Documentation


Measure
Measurement result
Unit
Feet (US)
Distance
84.90 ft
New measurement
84.90 ft
SCENIC HWY N
272835
Dundee
Dundee
EXAMPLE: SMITH JER...

Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name	Valencia Ridge
Project Number	5611
Location	SR 17 & Welsh Road (Polk Co, FL)
Date	4-21-25 (2028 AM Peak Analysis)
Number of Intersection Legs	4
Major Street Direction	North-South
Analysis Type	At-Grade Intersections Only

Estimated Volume-to-Capacity Ratio			
Number of Configurations			
<= 0.750	0.750 - 0.875	0.875 - 1.00	> 1.00
2	0	0	0

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	1	1	1	4.00%	0.00%
Westbound	0	102	1	69	4.00%	0.00%
Southbound	0	23	439	1	4.00%	0.00%
Northbound	0	1	514	34	4.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.60**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		0	1	1		1	1	0		0	1	0		0	1	1

Number of Lanes for Ramp Terminal Intersections

TYPE OF RAMP TERMINAL INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			
Traffic Signal	FULL									566	0.33	0.33	4.27	4.58

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North) (V/C)			Zone 3 (East) (V/C)			Zone 2 (South) (V/C)			Zone 4 (West) (V/C)			Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3			
1 X 1	0.39			0.00			0.42			0.22			0.42	5.39	4.58

Results for Ramp Terminal Intersections

TYPE OF RAMP TERMINAL INTERSECTION	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			

Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name	Valencia Ridge
Project Number	5611
Location	SR 17 & Welsh Road (Polk Co, FL)
Date	4-21-25 (2048 AM Peak Analysis)
Number of Intersection Legs	4
Major Street Direction	North-South
Analysis Type	At-Grade Intersections Only

Estimated Volume-to-Capacity Ratio			
Number of Configurations			
< 0.750	0.750 - 0.875	0.875 - 1.00	> 1.00
2	0	0	0

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	1	1	1	4.00%	0.00%
Westbound	0	102	1	69	4.00%	0.00%
Southbound	0	23	568	1	4.00%	0.00%
Northbound	0	1	649	34	4.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.60**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		0	1	1		1	1	0		0	1	0		0	1	1

Number of Lanes for Ramp Terminal Intersections

TYPE OF RAMP TERMINAL INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			
Traffic Signal	FULL									706	0.42	0.42	4.27	4.58

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North) (V/C)			Zone 3 (East) (V/C)			Zone 2 (South) (V/C)			Zone 4 (West) (V/C)			Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3			
1 X 1	0.50			0.00			0.53			0.26			0.53	5.39	4.58

Results for Ramp Terminal Intersections

TYPE OF RAMP TERMINAL INTERSECTION	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			

APPENDIX E

SPICE Summary Report

APPENDIX F

ICE Summary Form

Minor Street Information										
Roadway ID		Route Name(s)	Welsh Road					Milepoint (if app.)		
Existing Control Type	Two-way Stop-Control			Existing AADT	0			Design Year AADT		3,132
Design Vehicle	Single Unit Truck (SU)			Control Vehicle	Single Unit Truck (SU)					
Primary Functional Classification			Rural Local					Design Speed (mph)		30
Secondary Functional Classification (if app.)								Target Speed (mph) [if app.]		

Approach #1	Direction	Eastbound	Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:	Neither side of the approach	Left-Turn						
	Crosswalk on Approach?	No	Left-Through		Weekday AM Peak		Weekday PM Peak		
	On-Street Bike Facilities?	No	Through		Left	0	Left	0	
	Multi-Use Path?	No	Left-Through-Right	1	Through	0	Through	0	
	Scheduled Bus Service?	No	Through-Right		Right	0	Right	0	
	Bus Stop on Approach?	No	Right-Turn		Daily Truck %		0.0%		
Approach #2	Direction	Westbound	Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:	One side of the approach	Left-Turn						
	Crosswalk on Approach?	Yes	Left-Through	1	Weekday AM Peak		Weekday PM Peak		
	On-Street Bike Facilities?	No	Through		Left	102	Left	70	
	Multi-Use Path?	No	Left-Through-Right		Through	0	Through	0	
	Scheduled Bus Service?	No	Through-Right		Right	69	Right	48	
	Bus Stop on Approach?	No	Right-Turn	1	Daily Truck %		4.0%		
Approach #3	Direction		Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:		Left-Turn						
	Crosswalk on Approach?		Left-Through		Weekday AM Peak		Weekday PM Peak		
	On-Street Bike Facilities?		Through		Left		Left		
	Multi-Use Path?		Left-Through-Right		Through		Through		
	Scheduled Bus Service?		Through-Right		Right		Right		
	Bus Stop on Approach?		Right-Turn		Daily Truck %				

Crash History (Existing Intersections Only)
Append the most recent five-years of crash data for the intersection from the CAR System. If the crash data evidences any issues relating to safety performance, discuss briefly here:
There were no crashes that occurred within this intersection area for the 7-year period which was analyzed.

Resolution					
To be filled out by FDOT District Traffic Operations Engineer and District Design Engineer					
Accept Recommendation ☐			Reject Recommendation ☐		
DTOE Name		Signature		Date	
DTOE Comments					
DDE Name		Signature		Date	
DDE Comments					

SIGNAL WARRANT ANALYSIS

SR 17 & WELSH ROAD
POLK COUNTY, FLORIDA
Section 16090000/MP 26.815

Prepared for:

Cornerstone Land Company
1901 Ulmerton Road, Suite 475
Clearwater, Florida 33762

Prepared by:

Traffic Planning and Design, Inc.
535 Versailles Drive
Maitland, Florida 32751
407-628-9955

February 2025
Revised
April 2025
May 2025

TPD No. 5611.2

TABLE OF CONTENTS

INTRODUCTION

This Signal Warrant Analysis was conducted in order to determine the need of and justification for the installation of a traffic signal at the intersection of SR 17 (Scenic Highway) and Welsh Road in Dundee, Polk County. It is proposed that Valencia Ridge, a 576 unit single family development be developed on a site east of SR 17 and south of Lake Mabel Loop Road. Access to the development is proposed via a full access driveway at the intersection of SR 17 and Welsh Road, as well as a full access driveway on Lake Mabel Loop Road. **Figure 1** depicts the study intersection, the Valencia Ridge site location, and the area roadways. The analysis was performed in order to determine if a signal would become warranted due to the construction of the Valencia Ridge development, anticipated to be completed by the end of 2028.

EXISTING TRAFFIC CONDITIONS

SR 17 is a two-lane undivided urban collector roadway with a posted speed limit of 55 mph adjacent to the study intersection. Based on counts made in 2025 in conjunction with this analysis, it carries a daily traffic volume of approximately 8,700 vehicles per day. Welsh Road is a local unpaved road, east and west of SR 17.

Intersection Configuration

The existing and proposed intersection geometry at the intersection of SR 17 and Welsh Road is illustrated in **Figure 2.** In the existing condition, all intersection legs have single leg approaches. In the proposed condition, Welsh Road will be paved as two lanes with separate right and left turn lanes on approach to SR 17. The SR 17 approaches will be widened to provide separate turn lanes.

Hourly Traffic Counts

24-hour approach volumes were collected on the northbound and southbound approaches of SR 17 for use in the analysis. These counts were made on February 12th, 2025, when the FDOT Seasonal Factor for Polk County was 0.94. Therefore, the counts were not adjusted.

In order to determine the background growth of the existing traffic to the buildout year of 2028, the 2% annual growth rate obtained from the Polk TPO was used to grow the counts. The background volumes thus developed at each approach, summarized by the hour, are shown in **Table 1**. These background approach volumes were subsequently combined with the project trips for use in the analysis. The 24-hour approach counts and FDOT Seasonal Factor Report are included in **Appendix A.**

Table 1
2028 Hourly Background Traffic Volumes

Hour	SR 17		
	NB	SB	Total Both Approaches
12-1 A.M.	18	16	34
1-2 A.M.	7	12	19
2-3 A.M.	16	22	38
3-4 A.M.	22	27	49
4-5 A.M.	60	56	116
5-6 A.M.	130	140	270
6-7 A.M.	215	214	429
7-8 A.M.	338	367	705
8-9 A.M.	252	300	552
9-10 A.M.	220	259	479
10-11 A.M.	214	259	473
11-12 P.M.	209	279	488
12-1 P.M.	245	265	510
1-2 P.M.	239	251	490
2-3 P.M.	317	342	659
3-4 P.M.	377	377	754
4-5 P.M.	377	401	778
5-6 P.M.	377	393	770
6-7 P.M.	281	282	563
7-8 P.M.	180	169	349
8-9 P.M.	129	142	271
9-10 P.M.	87	89	176
10-11 P.M.	86	61	147
11-12 P.M.	40	41	81
Total:	**4,436**	**4,764**	**9,200**

SR 17 & Welsh Road SWA
Project № 5611.2
Figure 3

Trip Distribution

Table 3
Hourly Variation of Project Trips

Hour	Project Trips - Entering				Project Trips - Exiting			
	Entering %	NBR (37%)	SBL (25%)	Total	Exiting %	WBL (37%)	WBR (25%)	Total
12-1 A.M.	0.5%	5	3	8	0.2%	1	1	2
1-2 A.M.	0.2%	2	1	3	0.1%	1	1	2
2-3 A.M.	0.3%	2	2	4	0.1%	1	0	1
3-4 A.M.	0.2%	2	1	3	0.2%	2	1	3
4-5 A.M.	0.3%	3	2	5	0.8%	7	5	12
5-6 A.M.	0.5%	4	3	7	2.0%	19	13	32
6-7 A.M.	1.6%	15	10	25	5.8%	55	37	92
7-8 A.M.	3.1%	29	19	48	10.0%	94	63	157
8-9 A.M.	3.8%	35	24	59	8.5%	80	54	134
9-10 A.M.	3.3%	31	21	52	5.8%	54	36	90
10-11 A.M.	4.2%	39	27	66	5.6%	52	35	87
11-12 P.M.	5.4%	51	34	85	5.1%	48	32	80
12-1 P.M.	5.7%	54	36	90	5.7%	53	36	89
1-2 P.M.	6.1%	57	39	96	6.0%	56	38	94
2-3 P.M.	7.1%	66	45	111	6.1%	57	39	96
3-4 P.M.	8.7%	81	55	136	6.2%	58	39	97
4-5 P.M.	10.5%	98	66	164	7.4%	69	47	116
5-6 P.M.	10.0%	94	63	157	7.3%	68	46	114
6-7 P.M.	8.5%	80	54	134	5.9%	55	37	92
7-8 P.M.	6.1%	57	38	95	4.2%	40	27	67
8-9 P.M.	6.1%	57	39	96	3.1%	29	19	48
9-10 P.M.	4.4%	41	28	69	2.3%	21	15	36
10-11 P.M.	2.1%	20	13	33	1.0%	9	6	15
11-12 P.M.	1.3%	12	8	20	0.6%	6	4	10
Total:	**100.00%**	**935**	**631**	**1,566**	**100.00%**	**935**	**631**	**1,566**

SIGNAL WARRANT ANALYSIS

This signal warrant analysis was conducted in accordance with the procedures of the ***Manual on Uniform Control Devices*** (MUTCD) for streets and highways. According to the MUTCD, traffic signals should not be considered for installation unless one or more of the nine warrants specified therein are met and an engineering study justifies the need.

Applicable Warrants

The warrants applicable to this analysis are Warrant 1 – Eight Hour Vehicular Volume (Conditions A and B) and Warrant 2 – Four Hour Volume.

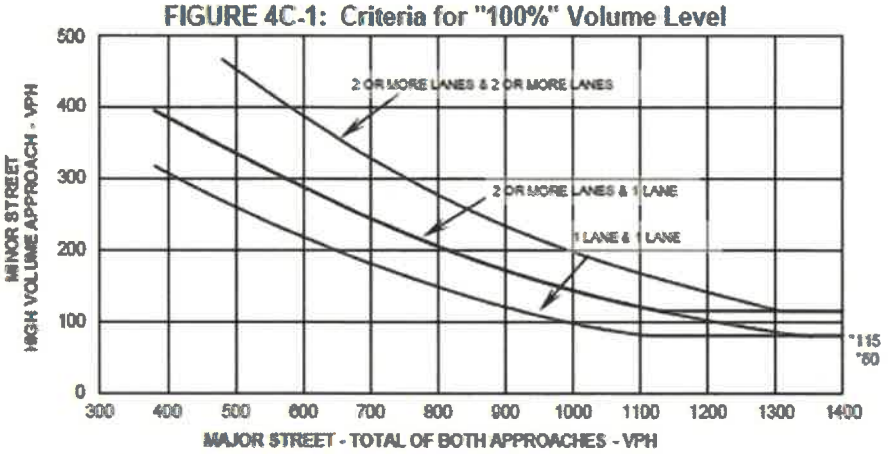
For Warrant 1, the Minimum Vehicular Volume (Condition A) is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal. The Interruption of Continuous Traffic (Condition B) is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delays or conflict in entering/crossing the major street. The MUTCD specifies that the minimum volume warrants are satisfied when for each of any eight hours of an average day the volumes are greater than the threshold values given in **Table 5.** Since the posted speed limit on SR 17 is greater than 40 mph, the 70% threshold values given in the table will be used in the analysis.

For Warrant 2, the Four-Hour Vehicular volume signal warrant, conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal. This warrant is satisfied when for each of any four hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher volume minor street approach (one direction only) all fall above the applicable curve in **Figure 4** of the MUTCD for the existing combination of lanes.

The six warrants determined not to be applicable for the intersection under study are:

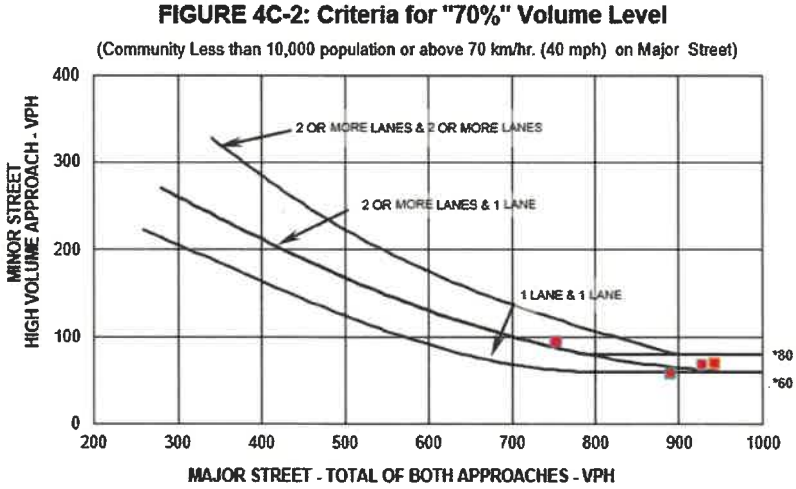
Warrant 3	-	Peak Hour (not applicable)
4	-	Pedestrian Volume (no pedestrian traffic)
5	-	School Crossing (there is no school crossing)
6	-	Coordinated Signal System (not an objective)
7	-	Crash Experience (only 1 crash in the last 5 years) (Not satisfied/Crash Diagram not included)
8	-	Roadway Network (not applicable)
9	-	Intersection Near a Grade Crossing (no grade crossing)

Figure 4
Four-Hour Vehicular Volume Warrant Chart



Note: 115 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 80 mph applies as the lower threshold volume threshold for a minor street approach with one lane.

Figure 4
Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)



Note: 60 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 60 ph. applies as the lower threshold volume threshold for a minor street approach with one lane.

Table 6
Signal Warrant Analysis

Hour	Approach Volumes		Warrants		
	SR 17 (Total Both Approaches)	Welsh Road - WBL Only	1A	1B	2
12-1 A.M.	42	1			
1-2 A.M.	22	1			
2-3 A.M.	42	1			
3-4 A.M.	52	2			
4-5 A.M.	121	7			
5-6 A.M.	277	19			
6-7 A.M.	454	55			
7-8 A.M.	753	94		X	X
8-9 A.M.	611	80		X	
9-10 A.M.	531	54		X	
10-11 A.M.	539	52			
11-12 P.M.	573	48			
12-1 P.M.	600	53		X	
1-2 P.M.	586	56		X	
2-3 P.M.	770	57		X	
3-4 P.M.	890	58		X	
4-5 P.M.	942	69		X	X
5-6 P.M.	927	68		X	X
6-7 P.M.	697	55		X	
7-8 P.M.	444	40			
8-9 P.M.	367	29			
9-10 P.M.	245	21			
10-11 P.M.	180	9			
11-12 P.M.	101	6			
		Hours Required:	**8**	**8**	**4**
		Hours Satisfied:	**0**	**10**	**3**

APPENDICES

Prepared by National Data & Surveying Services

VOLUME

N Scenic Hwy/SR 17 N/O Welsh Rd

Day: Wednesday
Date: 2/12/2025

City: Dundee
Project #: FL25_130062_001

DAILY TOTALS	NB	SB	EB	WB	Total
	4,188	4,494	0	0	8,682

15-Minutes Interval

TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00	5	4			9	12:00	54	49			103
0:15	4	0			4	12:15	60	73			133
0:30	2	7			9	12:30	61	55			116
0:45	6	4			10	12:45	56	73			129
1:00	1	1			2	13:00	64	42			106
1:15	4	4			8	13:15	52	68			120
1:30	1	3			4	13:30	47	52			99
1:45	1	3			4	13:45	62	75			137
2:00	4	5			9	14:00	55	72			127
2:15	2	3			5	14:15	77	76			153
2:30	4	7			11	14:30	73	87			160
2:45	5	6			11	14:45	94	88			182
3:00	3	6			9	15:00	74	72			146
3:15	5	7			12	15:15	78	93			171
3:30	7	6			13	15:30	103	87			190
3:45	6	6			12	15:45	101	104			205
4:00	4	8			12	16:00	88	98			186
4:15	15	10			25	16:15	78	91			169
4:30	15	12			27	16:30	105	111			216
4:45	23	23			46	16:45	85	78			163
5:00	16	21			37	17:00	82	100			182
5:15	21	30			51	17:15	105	80			185
5:30	44	38			82	17:30	90	115			205
5:45	42	43			85	17:45	79	76			155
6:00	29	30			59	18:00	76	89			165
6:15	52	43			95	18:15	60	70			130
6:30	61	58			119	18:30	59	55			114
6:45	61	71			132	18:45	70	52			122
7:00	56	87			143	19:00	42	34			76
7:15	88	89			177	19:15	45	42			87
7:30	90	91			181	19:30	43	39			82
7:45	85	79			164	19:45	40	44			84
8:00	57	88			145	20:00	37	41			78
8:15	61	63			124	20:15	32	36			68
8:30	64	69			133	20:30	20	28			48
8:45	56	63			119	20:45	33	29			62
9:00	61	70			131	21:00	23	21			44
9:15	42	62			104	21:15	26	30			56
9:30	49	53			102	21:30	17	22			39
9:45	56	59			115	21:45	16	11			27
10:00	57	61			118	22:00	25	13			38
10:15	58	64			122	22:15	17	14			31
10:30	48	57			105	22:30	20	13			33
10:45	39	62			101	22:45	19	18			37
11:00	48	66			114	23:00	16	15			31
11:15	44	58			102	23:15	8	10			18
11:30	52	75			127	23:30	6	9			15
11:45	53	64			117	23:45	8	5			13
TOTALS	1607	1839	0	0	3446	TOTALS	2581	2655	0	0	5236
SPLIT %	47%	53%	0%	0%	40%	SPLIT %	49%	51%	0%	0%	60%

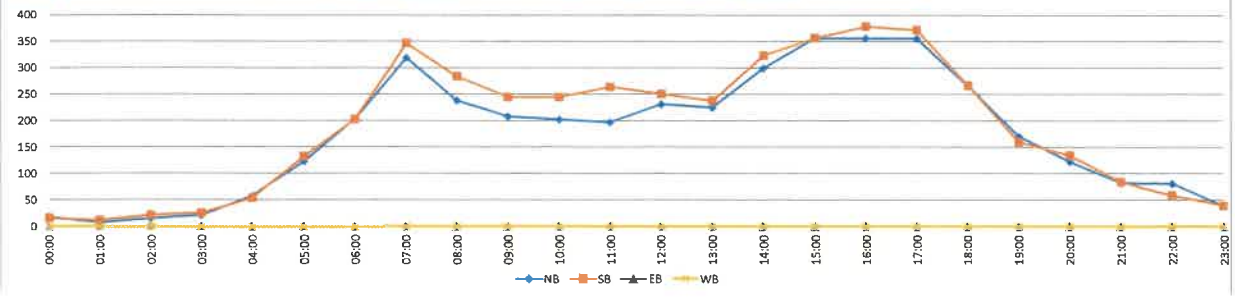
DAILY TOTALS

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	17	15			32
01:00	02:00	7	11			18
02:00	03:00	15	21			36
03:00	04:00	21	25			46
04:00	05:00	57	53			110
05:00	06:00	123	132			255
06:00	07:00	203	202			405
07:00	08:00	319	346			665
08:00	09:00	238	283			521
09:00	10:00	208	244			452
10:00	11:00	202	244			446
11:00	12:00	197	263			460
12:00	13:00	231	250			481
13:00	14:00	225	237			462
14:00	15:00	299	323			622
15:00	16:00	356	356			712
16:00	17:00	356	378			734
17:00	18:00	356	371			727
18:00	19:00	265	266			531
19:00	20:00	170	159			329
20:00	21:00	122	134			256
21:00	22:00	82	84			166
22:00	23:00	81	58			139
23:00	00:00	38	39			77

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	1607	1839			3446
Peak Hour	7:15	7:15			7:15
Peak Volume	320	347			667
Peak Hour Factor	0.889	0.953			0.921
Peak Period	12:00	to	00:00		
Volume	2581	2655			5236
Peak Hour	16:30	15:45			15:45
Peak Volume	377	404			776
Peak Hour Factor	0.898	0.910			0.898
Peak Period	07:00	to	09:00		
Volume	557	629			1186
Peak Hour	7:15	7:15			7:15
Peak Volume	320	347			667
Peak Hour Factor	0.889	0.953			0.921
Peak Period	16:00	to	18:00		
Volume	712	749			1461
Peak Hour	16:30	16:15			16:30
Peak Volume	377	380			746
Peak Hour Factor	0.898	0.856			0.863



APPENDIX B

ITE Trip Generation Data, ITE Hourly Variation Rates

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual*, 11th Edition

Land Use Code	210			210			210		
Land Use	Single-Family Detached Housing			Single-Family Detached Housing			Single-Family Detached Housing		
Setting	General Urban/Suburban			General Urban/Suburban			General Urban/Suburban		
Time Period	Weekday			Saturday			Sunday		
# Data Sites	7			3			2		
	% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting
12:00 - 1:00 AM	0.3%	0.5%	0.2%	0.8%	0.6%	1.0%	0.6%	0.6%	0.6%
1:00 - 2:00 AM	0.2%	0.2%	0.1%	0.4%	0.6%	0.2%	0.6%	1.2%	0.0%
2:00 - 3:00 AM	0.2%	0.3%	0.1%	0.3%	0.4%	0.2%	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.2%	0.2%	0.2%	0.5%	0.4%	0.6%	0.3%	0.0%	0.6%
4:00 - 5:00 AM	0.6%	0.3%	0.8%	0.5%	0.6%	0.4%	0.0%	0.0%	0.0%
5:00 - 6:00 AM	1.2%	0.5%	2.0%	1.0%	0.8%	1.2%	1.8%	1.8%	1.8%
6:00 - 7:00 AM	3.7%	1.6%	5.8%	1.0%	0.4%	1.5%	1.5%	1.8%	1.2%
7:00 - 8:00 AM	6.5%	3.1%	10.0%	2.0%	0.8%	3.3%	1.8%	0.6%	3.0%
8:00 - 9:00 AM	6.2%	3.8%	8.5%	3.8%	2.5%	5.2%	4.7%	0.6%	9.0%
9:00 - 10:00 AM	4.6%	3.3%	5.8%	5.5%	5.0%	6.0%	4.7%	3.5%	6.0%
10:00 - 11:00 AM	4.9%	4.2%	5.6%	8.2%	6.2%	10.2%	11.5%	8.8%	14.4%
11:00 - 12:00 PM	5.3%	5.4%	5.1%	7.2%	8.7%	5.8%	7.7%	8.2%	7.2%
12:00 - 1:00 PM	5.7%	5.7%	5.7%	7.7%	7.3%	8.1%	9.2%	10.5%	7.8%
1:00 - 2:00 PM	6.1%	6.1%	6.0%	8.1%	7.1%	9.0%	9.8%	10.5%	9.0%
2:00 - 3:00 PM	6.6%	7.1%	6.1%	8.0%	8.7%	7.3%	5.9%	5.8%	6.0%
3:00 - 4:00 PM	7.5%	8.7%	6.2%	9.2%	9.8%	8.7%	4.4%	5.8%	3.0%
4:00 - 5:00 PM	8.9%	10.5%	7.4%	6.2%	6.9%	5.4%	8.3%	8.2%	8.4%
5:00 - 6:00 PM	8.7%	10.0%	7.3%	8.4%	9.6%	7.1%	9.8%	11.1%	8.4%
6:00 - 7:00 PM	7.2%	8.5%	5.9%	6.0%	7.3%	4.6%	6.2%	5.8%	6.6%
7:00 - 8:00 PM	5.1%	6.1%	4.2%	5.1%	4.8%	5.4%	5.3%	7.0%	3.6%
8:00 - 9:00 PM	4.6%	6.1%	3.1%	4.8%	6.0%	3.7%	4.1%	5.8%	2.4%
9:00 - 10:00 PM	3.3%	4.4%	2.3%	2.4%	2.7%	2.1%	0.3%	0.6%	0.0%
10:00 - 11:00 PM	1.6%	2.1%	1.0%	1.7%	1.5%	1.9%	1.5%	1.8%	1.2%
11:00 - 12:00 AM	1.0%	1.3%	0.6%	1.4%	1.5%	1.3%	0.0%	0.0%	0.0%

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:
County: 16 – Polk
District: One

Engineer: SS
Date: May 19, 2025

Major Street: SR 17 Lanes: 1 Major Approach Speed: 55
Minor Street: Welsh Road Lanes: 1 Minor Approach Speed: 25

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☐ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

*Warrant 1 is satisfied if Condition A **or** Condition B is "100%" satisfied for eight hours.* ☐ Yes ☑ No

*Warrant 1 is also satisfied if both Condition A **and** Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems).* ☐ Yes ☑ No

*Warrant 1 is satisfied if Condition A **or** Condition B is "70%" satisfied for eight hours.* ☑ Yes ☐ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Applicable: ☑ Yes ☐ No
100% Satisfied: ☐ Yes ☑ No
80% Satisfied: ☐ Yes ☑ No
70% Satisfied: ☐ Yes ☑ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	Minor	100%[a]	80%[b]	70%[c]	100%[a]	80%[b]	70%[c]
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

[a] Basic Minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	7-8 A.M.	8-9 A.M.	9-10 A.M.	12-1 P.M.	1-2 P.M.	2-3 P.M.	3-4 P.M.	4-5 P.M.
Major	753	611	531	600	586	770	890	942
Minor	94	80	54	53	56	57	58	69

Existing Volumes

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:
County: **16 – Polk**
District: **One**

Engineer: **SS**
Date: **May 19, 2025**

Major Street: **SR 17** Lanes: **1** Major Approach Speed: **55**
Minor Street: **Welsh Road** Lanes: **1** Minor Approach Speed: **25**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☐ 100%

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

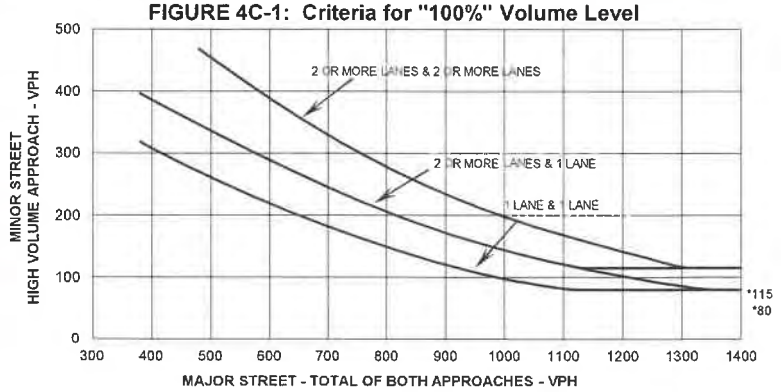
Applicable: ☑ Yes ☐ No
Satisfied: ☐ Yes ☑ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street

FIGURE 4C-1: Criteria for "100%" Volume Level



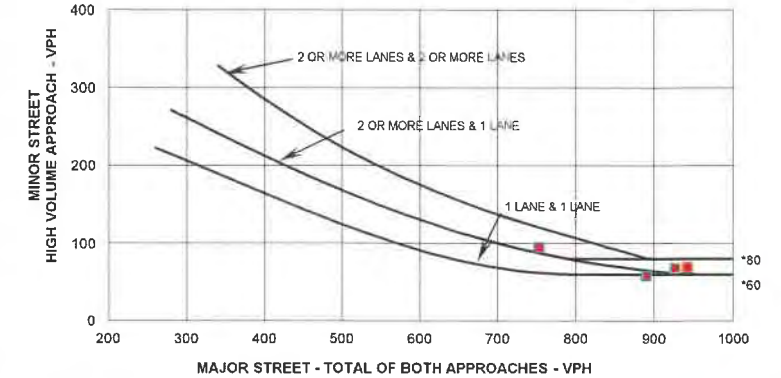
** Note: 115 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 80 mph applies as the lower threshold volume threshold for a minor street approach with one lane.*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
7-8 A.M.	753	94
3-4 P.M.	890	58
4-5 P.M.	942	69
5-6 P.M.	927	68

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 80 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 60 ph. applies as the lower threshold volume threshold for a minor street approach with one lane.*

STAGE 1 ICE REPORT

SR 17 & WAVERLY ROAD
VALENCIA RIDGE
POLK COUNTY, FLORIDA

Prepared for:

Cornerstone Land Company
1901 Ulmerton Road, Suite 475
Clearwater, Florida 33762

Prepared by:

Traffic Planning and Design, Inc.
535 Versailles Drive
Maitland, Florida 32751
407-628-9955

June 2025
REVISED
August 2025

TPD № 5611.2

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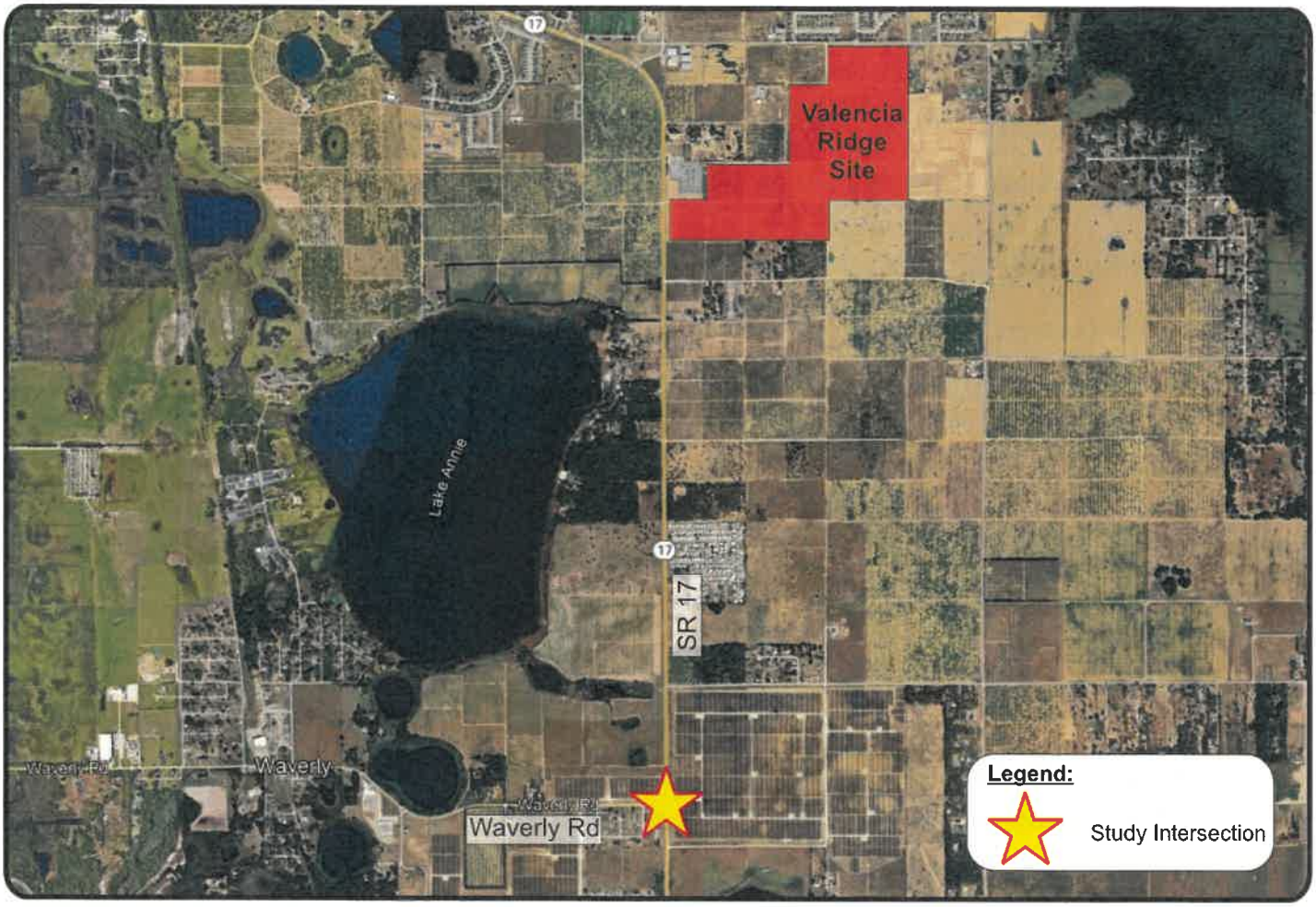
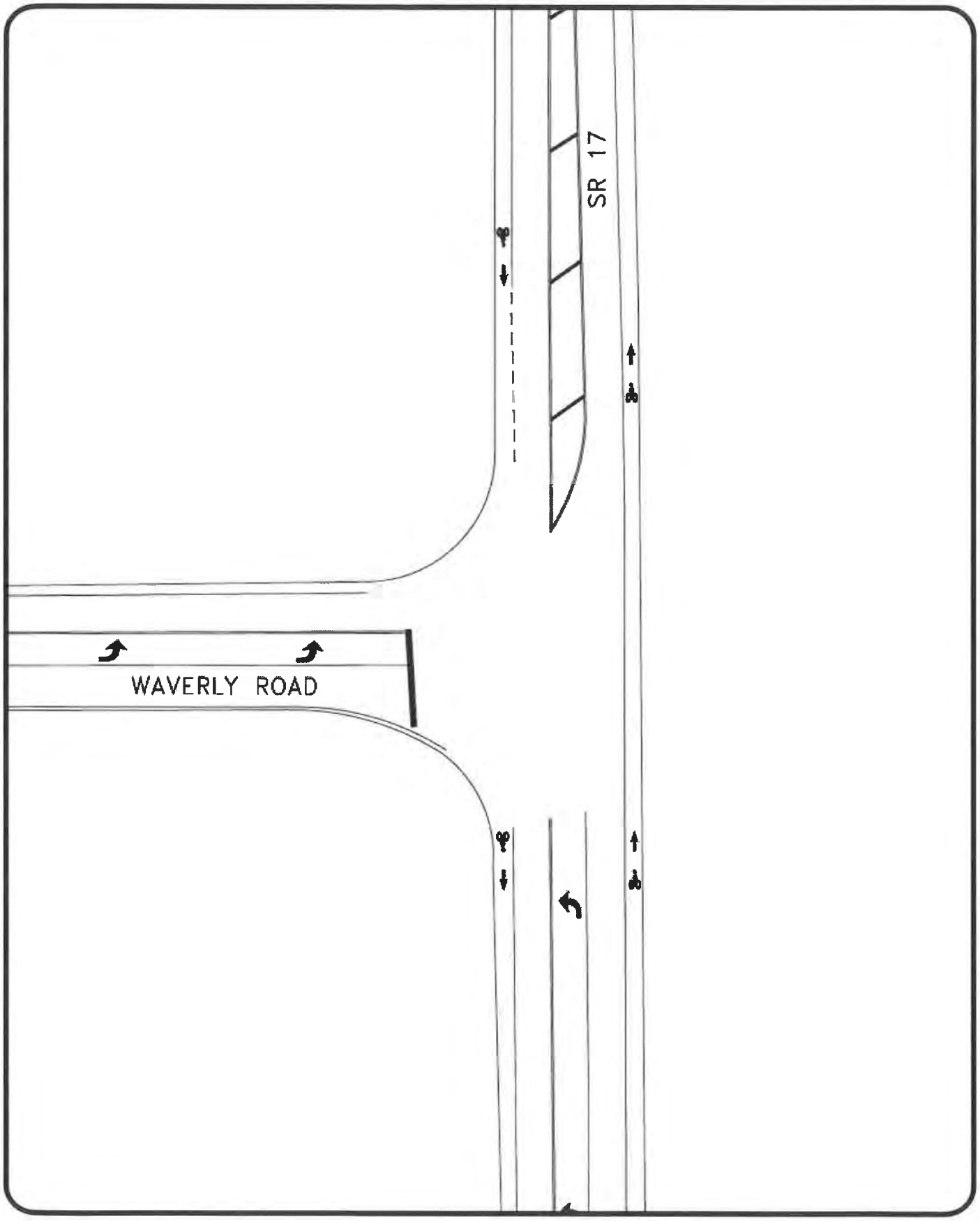


SR 17 & Waverly Road - Stage 1 ICE
Project № 5611.2
Figure 1

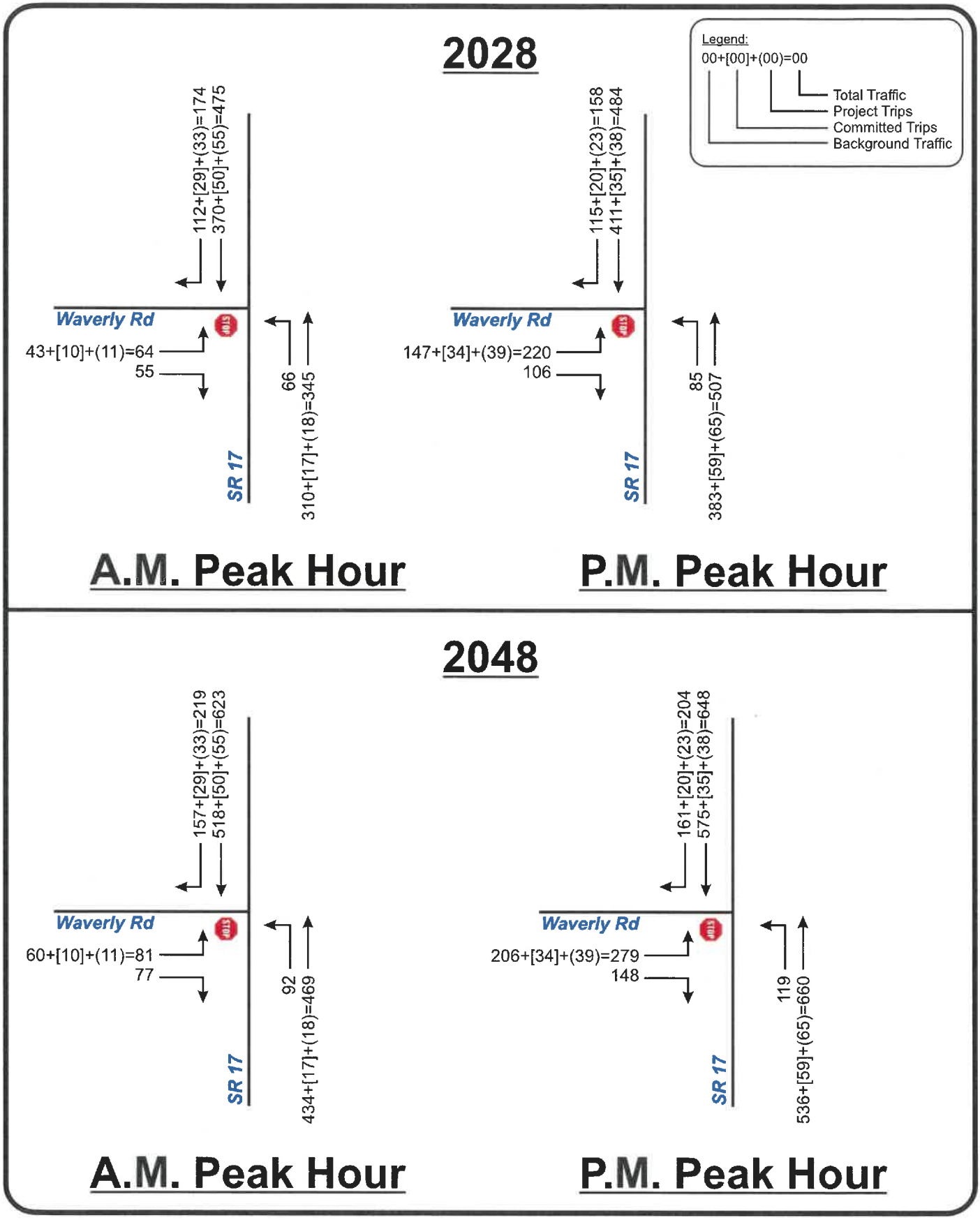
Intersection Location



SR 17 & Waverly Road - Stage 1 ICE
Project № 5611.2
Figure 2

Proposed Lane Configuration

N
NTS



SR 17 & Waverly Road - Stage 1 ICE
Project № 5611.2
Figure 3

Projected A.M./P.M. Peak Hour Volumes

Table 1
2048 Design Year CAP-X Results

Type of Intersection	Time Period	Overall v/c Ratio	v/c Ranking	Pedestrian Accommodation Score	Bicycle Accommodation Score
Traffic Signal	A.M.	0.56	2	4.80	4.33
	P.M.	0.61	2	4.80	4.33
2NS x 1EW Roundabout	A.M.	0.36	1	5.04	4.28
	P.M.	0.54	1	5.01	4.17
1 x 1 Roundabout	A.M.	0.70	3	5.24	4.50
	P.M.	0.78	3	5.19	4.44

Preliminary Safety Analysis

FDOT's SPICE (Safety Performance for Intersection Control Evaluation) is a planning level tool used to provide a comparison of intersection safety characteristics. Daily volumes are used in these calculations, as described in the Applicable Volumes section of the report. The results of the analysis are summarized below in **Table 2**. The detailed SPICE Summary Report is included in **Appendix E.**

Table 2
SPICE Results Summary

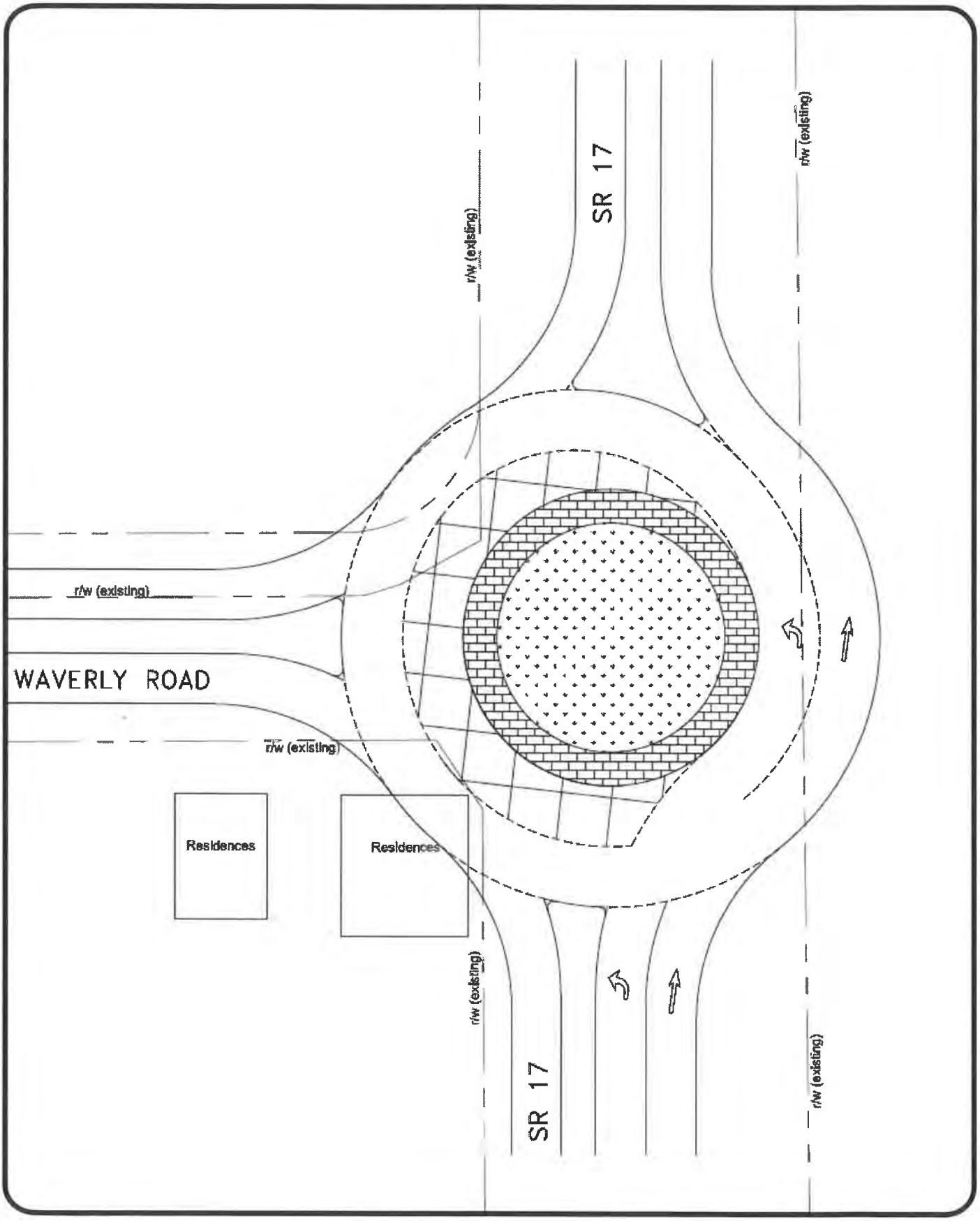
Type of Intersection	Type of Crash	Number of Crashes			SSI Score	
		Opening Year	Design Year	Total Project Life Cycle	Opening Year	Design Year
Traffic Signal	Total	2.70	3.41	64.19	95	91
	Fatal & Injury	1.01	1.27	23.94		
1-Lane Roundabout	Total	1.11	1.57	29.92	99	99
	Fatal & Injury	0.30	0.53	9.49		
2-Lane Roundabout	Total	7.31	12.83	231.32	99	98
	Fatal & Injury	0.97	1.91	33.42		

Design Concepts and Right of Way

Preliminary design concepts for a Traffic Signal and for a Roundabout are shown in **Figures 4a** and **4b**, respectively.

When cross-referenced with known right-of-way information (included in Appendix C), it is revealed that the area required for Roundabout placement far exceeds right of way limitations. Right of way in this corridor is limited, with 95' total width and no developer ownership adjacent to the intersection.

The Signal option can operate within existing and sidestreet dedicated right of way.



SR 17 & Waverly Road - Stage 1 ICE
Project № 5611.2
Figure 4b

Design Concept:
Multi-Lane Roundabout

N
NTS

SUMMARY OF FINDINGS

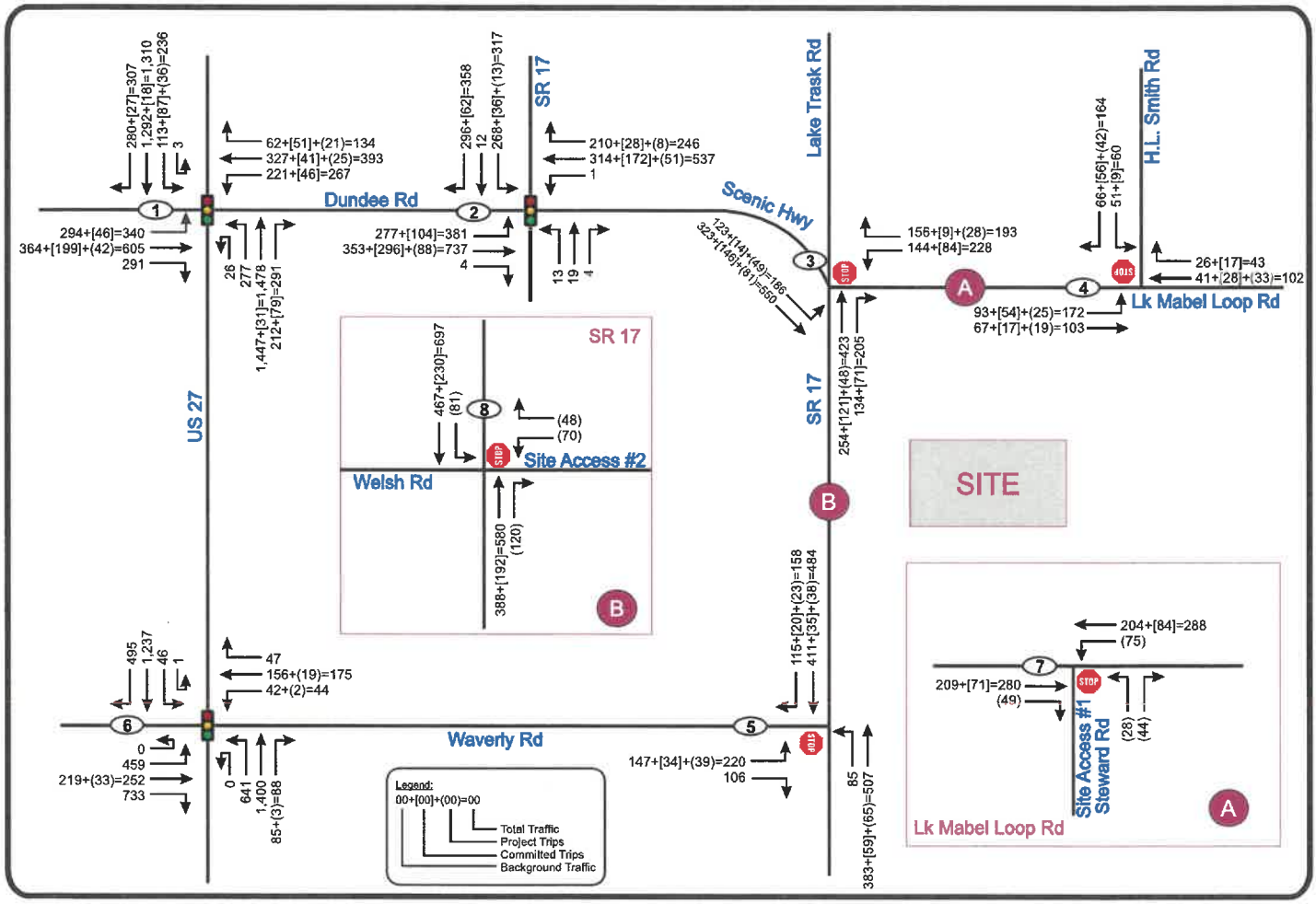
This memorandum was prepared in order to document the Stage 1 ICE findings for the intersection of SR 17 and Waverly Road for the Valencia Ridge development, located in Polk County, Florida.

Use of FDOT's Stage 1 ICE tools indicates that the Signal and Roundabout control types are viable intersection control alternatives. However, review of the available right-of-way at the study intersection indicates that there is insufficient right-of-way to construct a Roundabout.

Therefore, a Traffic Signal is considered the optimal control strategy for the intersection of SR 17 and Waverly Road. All findings are summarized in the Stage 1 ICE Summary, included in **Appendix F**.

APPENDIX A

Projected A.M./P.M. Peak Hour Volumes (from TIA)



Valencia Ridge
Project № 5611.1
Figure 5b
Page 18

Projected 2028 P.M. Peak Hour Volumes

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2024 HISTORICAL AADT REPORT

COUNTY: 16 - POLK

SITE: 0048 - SR 17, SOUTH OF CR 540/WAVERLY ROAD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2024	9700 F	N 4600	S 5100	9.00	56.00	10.00
2023	9500 C	N 4500	S 5000	9.00	55.00	10.00
2022	9000 F	N 4500	S 4500	9.00	55.20	8.70
2021	8800 C	N 4400	S 4400	9.00	55.30	8.70
2020	6900 C	N 3300	S 3600	9.00	53.40	6.50
2019	7900 C	N 4000	S 3900	9.00	56.00	5.50
2018	6900 C	N 3300	S 3600	9.00	54.50	5.30
2017	7200 C	N 3500	S 3700	9.00	54.50	7.70
2016	6200 F	N 3000	S 3200	9.00	53.30	7.70
2015	5800 C	N 2800	S 3000	9.00	55.70	7.70
2014	5600 C	N 2700	S 2900	9.00	55.60	9.60
2013	5500 C	N 2700	S 2800	9.00	55.90	8.90
2012	5200 C	N 2600	S 2600	9.00	55.80	10.20
2011	5800 F	N 2800	S 3000	9.00	55.70	10.30
2010	5800 C	N 2800	S 3000	9.55	56.07	10.30
2009	6000 C	N 2900	S 3100	9.36	56.35	8.70

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

PROPOSED DEVELOPMENT AND TRIP GENERATION

The proposed development will consist of 576 single family dwelling units to be completed by 2028. To determine the impact of this development in the area, an analysis of its traffic characteristics was made. This included the determination of the trips generated and the distribution/assignment of these trips to the surrounding roadways.

Trip Generation

The trip generation of the proposed development was calculated with the use of equations obtained from the 11th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual.* **Table 3** provides a summary of the trip generation calculation, and the ITE trip generation sheets are included in **Appendix E**. As can be seen from the table, the development is expected to generate 5,052 daily trips, of which 367 will occur in the A.M. peak hour and 515 in the P.M. peak hour.

Table 3
Trip Generation Summary

ITE Code	Land Use	Size	Daily		A.M. Peak Hour				P.M. Peak Hour			
			Rate*	Trips	Rate*	Enter	Exit	Total	Rate*	Enter	Exit	Total
210	Single-Family Detached Housing	576 DU**	8.77	5,052	0.64	92	275	367	0.89	325	190	515

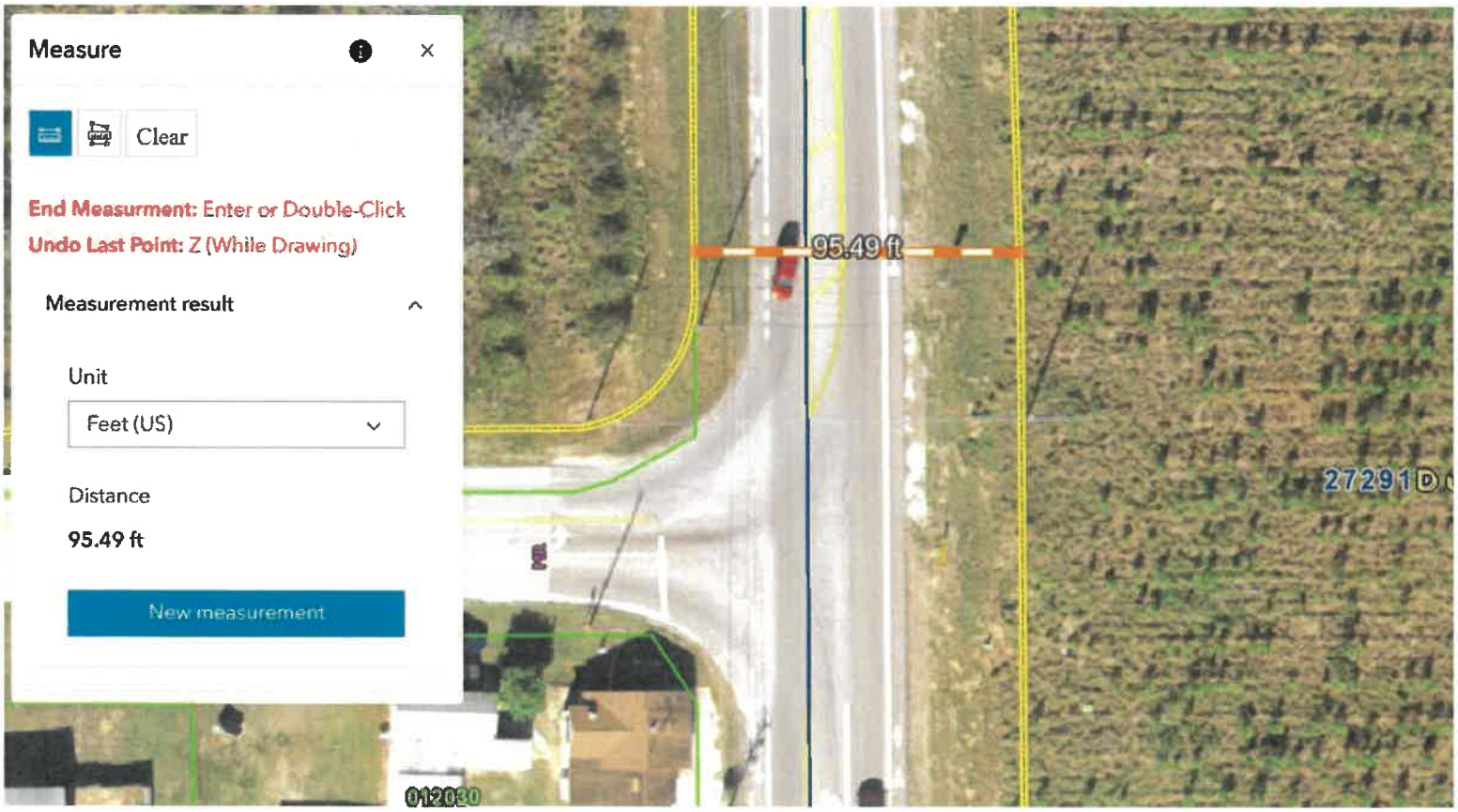
* $R^2 > 0.75$, therefore Equations used
** DU = Dwelling Unit

Trip Distribution/Trip Assignment

The project's trip distribution was determined with the use of the FDOT Model (D1RMP V.2) which was slightly modified to add a traffic zone representing the project. Subsequently, the model was run with a Select Zone Analysis which produced a distribution pattern for the project trips as shown in **Figure 4.** Utilizing this distribution pattern, the project's trips were assigned to the study roadway segments. The model distribution plots are included in **Appendix F**.

APPENDIX C

ROW Documentation


Measure
Clear
End Measurment: Enter or Double-Click
Undo Last Point: Z (While Drawing)
Measurement result
Unit
Feet (US)
Distance
95.49 ft
New measurement
95.49 ft
27291
012030

Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name	Valencia Ridge	*Estimated Volume-to-Capacity Ratio*			
Project Number	5611	Number of Configurations			
Location	SR 17 & Waverly Rd (Polk County)	< 0.750	0.750 - 0.875	0.875 - 1.00	> 1.00
Date	5-9-2025 (2028 A.M. Peak Hour)	3	0	0	0
Number of Intersection Legs	3				
hich leg is the minor stree	W				
Analysis Type	At-Grade Intersections Only				

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	64	0	55	14.00%	0.00%
Westbound						
Southbound	0	0	475	174	4.00%	0.00%
Northbound	0	66	345	0	6.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.60**	**0.95**		**0.85**		

Truck to PCE Factor	**Suggested = 2.00**	2.00
FDOT Context Zone	**C2-Rural**	
Critical Lane Volume Threshold — 2-phase signal	**Suggested = 1800**	**1800**
Critical Lane Volume Threshold — 3-phase signal	**Suggested = 1750**	**1750**
Critical Lane Volume Threshold — 4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		1	1	0		0	1	0		1	0	1				

Number of Lanes for Ramp Terminal Intersections

TYPE OF RAMP TERMINAL INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			
Traffic Signal	FULL									753	0.43	0.43	4.80	4.33

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North) (V/C)			Zone 3 (East) (V/C)			Zone 2 (South) (V/C)			Zone 4 (West) (V/C)			Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3			
1 X 1	0.53			0.16			0.34			0.00			0.53	5.34	4.50
2NS X 1EW	0.25	0.27		0.15			0.16	0.17		0.00			0.27	5.12	4.28

Results for Ramp Terminal Intersections

TYPE OF RAMP TERMINAL INTERSECTION	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			

Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name	Valencia Ridge
Project Number	5611
Location	SR 17 & Waverly Rd (Polk County)
Date	5-9-2025 (2048 A.M. Peak Hour)
Number of Intersection Legs	3
Which leg is the minor stree	W
Analysis Type	At-Grade Intersections Only

Estimated Volume-to-Capacity Ratio			
Number of Configurations			
< 0.750	0.750 - 0.875	0.875 - 1.00	> 1.00
3	0	0	0

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	81	0	77	14.00%	0.00%
Westbound						
Southbound	0	0	623	219	4.00%	0.00%
Northbound	0	92	469	0	6.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.60**	**0.95**		**0.85**		

Truck to PCE Factor	**Suggested = 2.00**	2.00
FDOT Context Zone	**C2-Rural**	
Critical Lane Volume Threshold: 2-phase signal	**Suggested = 1800**	**1800**
Critical Lane Volume Threshold: 3-phase signal	**Suggested = 1750**	**1750**
Critical Lane Volume Threshold: 4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		1	1	0		0	1	0		1	0	1				

Number of Lanes for Ramp Terminal Intersections

TYPE OF RAMP TERMINAL INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			
Traffic Signal	FULL									985	0.56	0.56	4.80	4.33

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North) (V/C)			Zone 3 (East) (V/C)			Zone 2 (South) (V/C)			Zone 4 (West) (V/C)			Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3			
1 X 1	0.70			0.25			0.47			0.00			0.70	5.24	4.50
2NS X 1EW	0.33	0.36		0.22			0.23	0.24		0.00			0.36	5.04	4.28

Results for Ramp Terminal Intersections

TYPE OF RAMP TERMINAL INTERSECTION	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			

APPENDIX E

SPICE Summary Report

APPENDIX F

ICE Summary Form

Minor Street Information											
Roadway ID		Route Name(s)	Waverly Road					Milepoint (if app.)			
Existing Control Type	Two-way Stop-Control			Existing AADT	6,400			Design Year AADT	10,283		
Design Vehicle	Single Unit Truck (SU)			Control Vehicle	Single Unit Truck (SU)						
Primary Functional Classification	Rural Local							Design Speed (mph)	45		
Secondary Functional Classification (if app.)								Target Speed (mph) [if app.]			

Approach #1	Direction	Eastbound	Number of Lanes		Study Period #1 Traffic Volumes			Study Period #2 Traffic Volumes			
	Sidewalks along:	Neither side of the approach	Left-Turn	1							
	Crosswalk on Approach?	No	Left-Through		Weekday AM Peak			Weekday PM Peak			
	On-Street Bike Facilities?	No	Through		Left	81		Left	279		
	Multi-Use Path?	No	Left-Through-Right	0	Through	0		Through	0		
	Scheduled Bus Service?	No	Through-Right		Right	77		Right	148		
	Bus Stop on Approach?	No	Right-Turn	1	Daily Truck %			0.0%			
Approach #2	Direction		Number of Lanes		Study Period #1 Traffic Volumes			Study Period #2 Traffic Volumes			
	Sidewalks along:	One side of the approach	Left-Turn								
	Crosswalk on Approach?	Yes	Left-Through		Weekday AM Peak			Weekday PM Peak			
	On-Street Bike Facilities?	No	Through		Left	0		Left	0		
	Multi-Use Path?	No	Left-Through-Right	1	Through	0		Through	0		
	Scheduled Bus Service?	No	Through-Right		Right	0		Right	0		
	Bus Stop on Approach?	No	Right-Turn		Daily Truck %			4.0%			
Approach #3	Direction		Number of Lanes		Study Period #1 Traffic Volumes			Study Period #2 Traffic Volumes			
	Sidewalks along:		Left-Turn								
	Crosswalk on Approach?		Left-Through		Weekday AM Peak			Weekday PM Peak			
	On-Street Bike Facilities?		Through		Left			Left			
	Multi-Use Path?		Left-Through-Right		Through			Through			
	Scheduled Bus Service?		Through-Right		Right			Right			
	Bus Stop on Approach?		Right-Turn		Daily Truck %						

Crash History (Existing Intersections Only)
Append the most recent five-years of crash data for the intersection from the CAR System. If the crash data evidences any issues relating to safety performance, discuss briefly here:
Only 13 crashes have occurred at the intersection in the last eight years according to data obtained from FDOT.

Resolution					
To be filled out by FDOT District Traffic Operations Engineer and District Design Engineer					
Accept Recommendation ☐			Reject Recommendation ☐		
DTOE Name		Signature		Date	
DTOE Comments					
DDE Name		Signature		Date	
DDE Comments					

SIGNAL WARRANT ANALYSIS

SR 17 & WAVERLY ROAD
POLK COUNTY, FLORIDA

Prepared for:

Cornerstone Land Company
1901 Ulmerton Road, Suite 475
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407-628-9955

May 2025

TPD No. 5611.2

TABLE OF CONTENTS

INTRODUCTION

This Signal Warrant Analysis was conducted in order to determine the need of and justification for the installation of a traffic signal at the intersection of SR 17 (Scenic Highway) and Waverly Road in Dundee, Polk County. It is proposed that Valencia Ridge, a 576-unit single family development be developed on a site east of SR 17 approximately 2.0 miles north of Waverly Road. **Figure 1** depicts the study intersection, the Valencia Ridge site location, and the area roadways. The analysis was performed in order to determine if a signal would become warranted due to the construction of the Valencia Ridge development, anticipated to be completed by the end of 2028.

EXISTING TRAFFIC CONDITIONS

SR 17 is a two-lane undivided urban collector roadway with a posted speed limit of 55 mph adjacent to the study intersection. Based on counts made in 2025, it carries a daily traffic volume of approximately 8,700 vehicles per day. Waverly Road is a two-lane urban collector, with a posted speed limit of 45 mph and a daily traffic volume of approximately 6,400 vehicles per day.

Intersection Configuration

The existing geometry at the intersection of SR 17 and Waverly Road is illustrated in **Figure 2.** As can be seen, SR 17 has one through lane in each direction, as well as an auxiliary northbound left turn lane. Waverly Road intersects with SR 17 perpendicularly from the west to form a 'T' intersection and has separate right and left turn lanes.

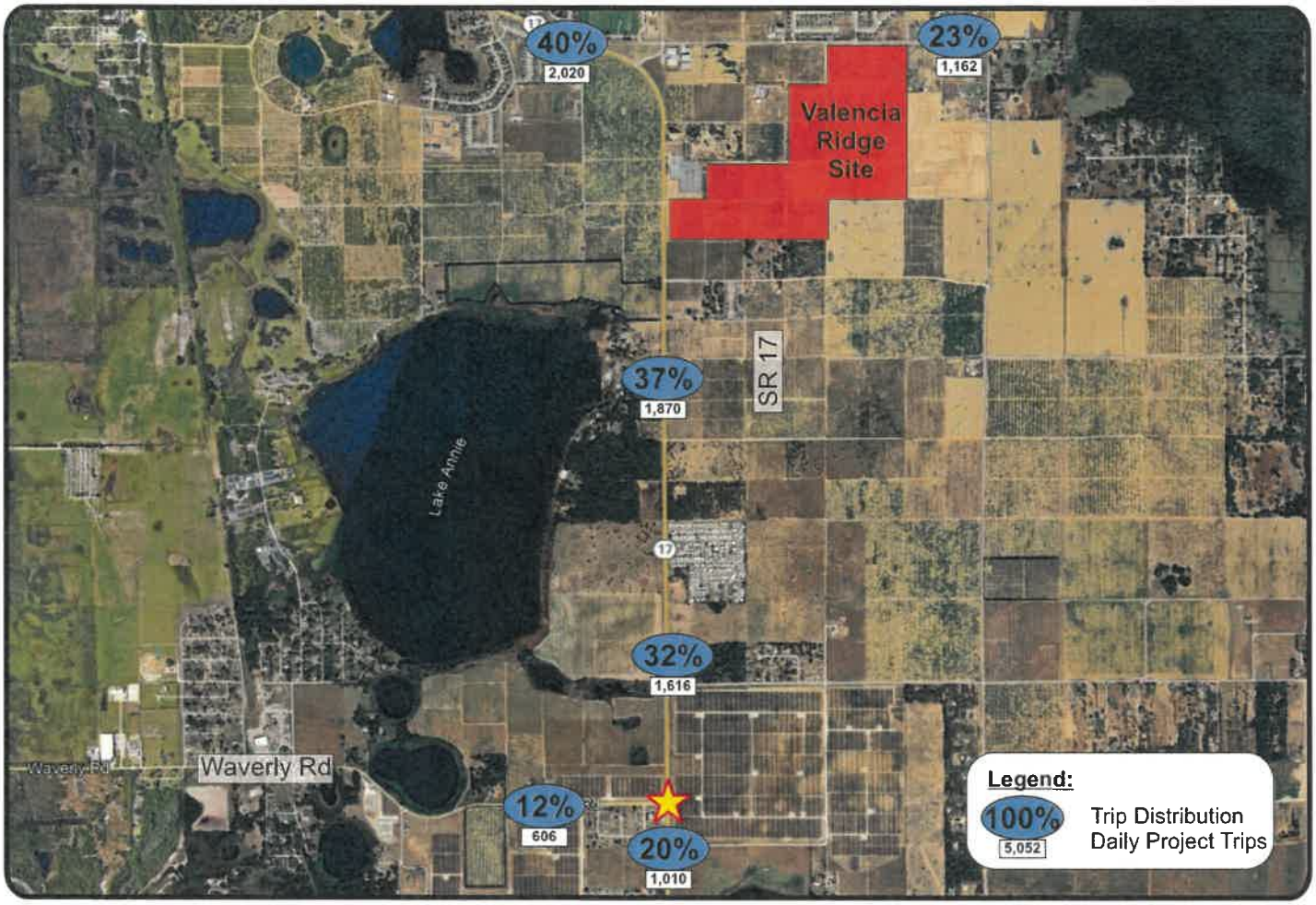
Hourly Traffic Counts

Hourly turning movement counts were collected at the study intersection for the hours of 6:00 A.M. to 9:00 P.M. for use in the analysis. These counts were made on May 13th, 2025, when the FDOT Seasonal Factor for Polk County was 1.00. Therefore, the counts were not adjusted.

In order to determine the background growth of the existing traffic to the buildout year of 2028, the 2% annual growth rate obtained from the Polk TPO was used to grow the counts. The background volumes thus developed at each approach, summarized by the hour, are shown in **Table 1**. These background approach volumes were subsequently combined with the project trips for use in the analysis. The turning movement counts and FDOT Seasonal Factor Report are included in **Appendix A.**

Table 1
2028 Hourly Background Traffic Volumes (6:00 AM – 9:00 PM)

Hour	SR 17				Waverly Road	
	NBL	NBT	SBR	SBT	EBL	EBR
6-7 A.M.	37	210	56	234	17	21
7-8 A.M.	66	269	77	375	32	45
8-9 A.M.	50	264	76	320	43	27
9-10 A.M.	48	187	66	235	37	36
10-11 A.M.	45	213	53	243	58	33
11-12 P.M.	50	217	73	255	60	49
12-1 P.M.	50	207	54	222	82	53
1-2 P.M.	42	222	74	277	68	51
2-3 P.M.	45	339	54	316	75	67
3-4 P.M.	41	341	92	326	96	59
4-5 P.M.	53	351	70	377	110	65
5-6 P.M.	68	389	77	375	90	92
6-7 P.M.	39	301	69	266	109	46
7-8 P.M.	31	214	41	191	69	43
8-9 P.M.	13	191	34	136	67	48



SR 17 & Waverly Road SWA
Project № 5611.2
Figure 3

Trip Distribution

Table 3
Hourly Variation of Project Trips

Hour	Entering Project Trips				Exiting Project Trips			
	Entering %	NBT (20%)	EBL (12%)	Total	Exiting %	SBT (20%)	SBR (12%)	Total
12-1 A.M.	0.5%	2	1	3	0.2%	1	0	1
1-2 A.M.	0.2%	1	1	2	0.1%	1	0	1
2-3 A.M.	0.3%	1	1	2	0.1%	0	0	0
3-4 A.M.	0.2%	1	1	2	0.2%	1	1	2
4-5 A.M.	0.3%	2	1	3	0.8%	4	2	6
5-6 A.M.	0.5%	2	1	3	2.0%	10	6	16
6-7 A.M.	1.6%	8	5	13	5.8%	30	18	48
7-8 A.M.	3.1%	15	9	24	10.0%	50	30	80
8-9 A.M.	3.8%	19	11	30	8.5%	43	26	69
9-10 A.M.	3.3%	17	10	27	5.8%	29	17	46
10-11 A.M.	4.2%	21	13	34	5.6%	28	17	45
11-12 P.M.	5.4%	27	16	43	5.1%	26	15	41
12-1 P.M.	5.7%	29	17	46	5.7%	29	17	46
1-2 P.M.	6.1%	31	19	50	6.0%	30	18	48
2-3 P.M.	7.1%	36	22	58	6.1%	31	19	50
3-4 P.M.	8.7%	44	26	70	6.2%	32	19	51
4-5 P.M.	10.5%	53	32	85	7.4%	37	22	59
5-6 P.M.	10.0%	51	30	81	7.3%	37	22	59
6-7 P.M.	8.5%	43	26	69	5.9%	30	18	48
7-8 P.M.	6.1%	31	18	49	4.2%	21	13	34
8-9 P.M.	6.1%	31	19	50	3.1%	16	9	25
9-10 P.M.	4.4%	22	13	35	2.3%	12	7	19
10-11 P.M.	2.1%	11	6	17	1.0%	5	3	8
11-12 P.M.	1.3%	6	4	10	0.6%	3	2	5
Total:	**100.0%**	**504**	**302**	**806**	**100.0%**	**506**	**301**	**807**

SIGNAL WARRANT ANALYSIS

This signal warrant analysis was conducted in accordance with the procedures of the ***Manual on Uniform Control Devices*** (MUTCD) for Streets and Highways. According to the MUTCD, traffic signals should not be considered for installation unless one or more of the nine warrants specified therein are met and an engineering study justifies the need.

Applicable Warrants

The warrants applicable to this analysis are Warrant 1 – Eight Hour Vehicular Volume (Conditions A and B) and Warrant 2 – Four Hour Volume.

For Warrant 1, the Minimum Vehicular Volume (Condition A) is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal. The Interruption of Continuous Traffic (Condition B) is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delays or conflict in entering/crossing the major street. The MUTCD specifies that the minimum volume warrants are satisfied when for each of any eight hours of an average day the volumes are greater than the threshold values given in **Table 5.** Since the posted speed limit on SR 17 is greater than 40 mph, the 70% threshold values given in the table will be used in the analysis.

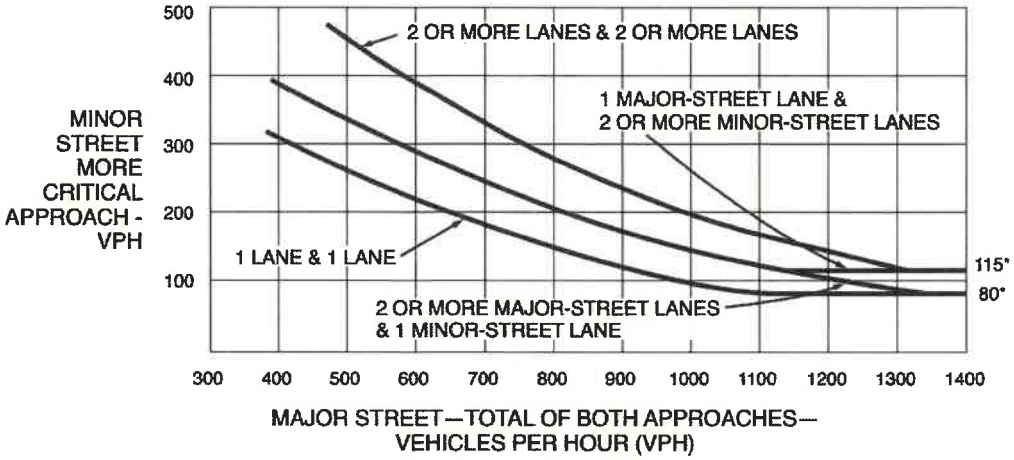
For Warrant 2, the Four-Hour Vehicular volume signal warrant, conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal. This warrant is satisfied when for each of any four hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher volume minor street approach (one direction only) all fall above the applicable curve in **Figure 4** of the MUTCD for the existing combination of lanes.

The six warrants determined not to be applicable for the intersection under study are:

Warrant 3	-	Peak Hour (not applicable)
4	-	Pedestrian Volume (no pedestrian traffic)
5	-	School Crossing (there is no school crossing)
6	-	Coordinated Signal System (not an objective)
7	-	Crash Experience (see Appendix C, Crash Diagram)
8	-	Roadway Network (not applicable)
9	-	Intersection Near a Grade Crossing (no grade crossing)

Figure 4
Four-Hour Vehicular Volume Warrant Chart

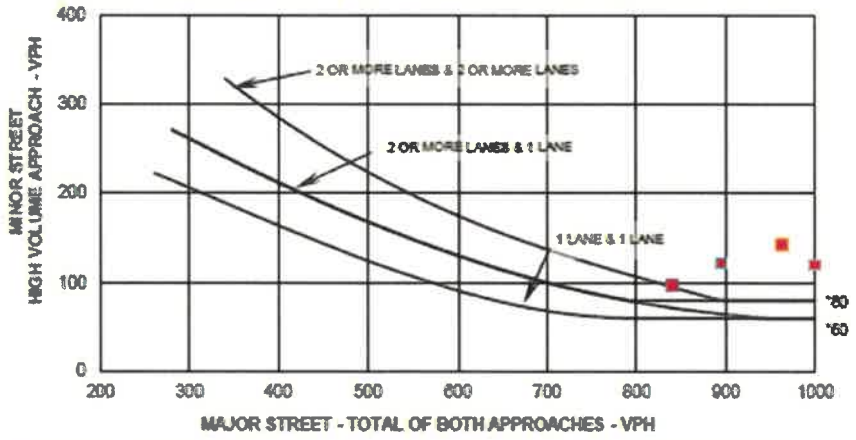
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 80 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 60 ph. applies as the lower threshold volume threshold for a minor street approach with one lane.*

Table 6
Signal Warrant Analysis

Hour	Approach Volumes		Warrants		
	Major Street (Total Both Approaches)	Minor Street	1A	1B	2
6-7 A.M.	593	22			
7-8 A.M.	882	41			
8-9 A.M.	798	54		X	
9-10 A.M.	599	47			
10-11 A.M.	620	71		X	
11-12 P.M.	663	76		X	X
12-1 P.M.	608	99		X	X
1-2 P.M.	694	87		X	X
2-3 P.M.	840	97		X	X
3-4 P.M.	895	122	X	X	X
4-5 P.M.	963	142	X	X	X
5-6 P.M.	1,019	120	X	X	X
6-7 P.M.	766	135	X	X	X
7-8 P.M.	542	87		X	
8-9 P.M.	430	86			
		Hours Required:	**8**	**8**	**4**
		Hours Satisfied:	**4**	**11**	**8**

APPENDICES

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 17/N Scenic Hwy & Waverly Rd
City: Dundee
Control: 1-Way Stop(EB)

Project ID: 25-130164-001
Date: 5/13/2025

Data - Total

NS/EW Streets:	SR 17/N Scenic Hwy				SR 17/N Scenic Hwy				Waverly Rd				Waverly Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
6:00 AM	6	32	0	0	0	40	11	0	2	0	2	0	0	0	0	0	93
6:15 AM	13	51	0	0	0	41	12	0	4	0	6	0	0	0	0	0	127
6:30 AM	6	58	0	0	0	61	12	0	1	0	8	0	0	0	0	0	146
6:45 AM	10	57	0	0	0	79	18	0	9	0	4	0	0	0	0	0	177
7:00 AM	14	49	0	0	0	76	11	0	4	0	10	0	0	0	0	0	164
7:15 AM	19	62	0	0	0	96	16	0	8	0	8	0	0	0	0	0	209
7:30 AM	11	79	0	0	0	90	25	0	7	0	9	0	0	0	0	0	221
7:45 AM	18	64	0	0	0	92	21	0	11	0	15	0	0	0	0	0	221
8:00 AM	6	54	0	0	0	86	16	0	13	0	8	0	0	0	0	0	183
8:15 AM	20	63	0	0	0	72	21	0	8	0	6	0	0	0	0	0	190
8:30 AM	7	71	0	0	0	71	19	0	10	0	4	0	0	0	0	0	182
8:45 AM	14	61	0	0	0	73	16	0	10	0	7	0	0	0	0	0	181
9:00 AM	10	42	0	0	0	61	15	0	8	0	11	0	0	0	0	0	147
9:15 AM	14	30	0	0	0	50	17	0	6	0	5	0	0	0	0	0	122
9:30 AM	9	54	0	0	0	60	18	0	15	0	10	0	0	0	0	0	166
9:45 AM	12	50	0	0	0	51	12	0	6	0	8	0	0	0	0	0	139
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	189	877	0	0	0	1099	260	0	122	0	121	0	0	0	0	0	2668
APPROACH %'s :	17.73%	82.27%	0.00%	0.00%	0.00%	80.87%	19.13%	0.00%	50.21%	0.00%	49.79%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	54	259	0	0	0	364	78	0	39	0	40	0	0	0	0	0	834
PEAK HR FACTOR :	0.711	0.820	0.000	0.000	0.000	0.948	0.780	0.000	0.750	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.943
		0.869				0.951				0.760							

NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
10:00 AM	13	47	0	0	0	59	12	0	14	0	6	0	0	0	0	0	151
10:15 AM	11	43	0	0	0	50	12	0	11	0	9	0	0	0	0	0	136
10:30 AM	7	61	0	0	0	54	15	0	15	0	7	0	0	0	0	0	159
10:45 AM	11	50	0	0	0	66	11	0	15	0	9	0	0	0	0	0	162
11:00 AM	11	47	0	0	0	59	25	0	10	0	13	0	0	0	0	0	165
11:15 AM	11	48	0	0	0	51	16	0	18	0	9	0	0	0	0	0	153
11:30 AM	11	56	0	0	0	54	11	0	17	0	14	0	0	0	0	0	163
11:45 AM	14	54	0	0	0	77	17	0	12	0	10	0	0	0	0	0	184
12:00 PM	18	45	0	0	0	58	12	0	19	0	14	0	0	0	0	0	166
12:15 PM	8	51	0	0	0	39	13	0	21	0	10	0	0	0	0	0	142
12:30 PM	13	40	0	0	0	60	11	0	15	0	15	0	0	0	0	0	154
12:45 PM	8	59	0	0	0	52	15	0	22	0	11	0	0	0	0	0	167
1:00 PM	8	62	0	0	0	59	10	0	22	0	12	0	0	0	0	0	173
1:15 PM	15	47	0	0	0	60	19	0	16	0	12	0	0	0	0	0	169
1:30 PM	6	51	0	0	0	77	22	0	17	0	12	0	0	0	0	0	185
1:45 PM	11	49	0	0	0	65	19	0	9	0	12	0	0	0	0	0	165
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	176	810	0	0	0	940	240	0	253	0	175	0	0	0	0	0	2594
APPROACH %'s :	17.85%	82.15%	0.00%	0.00%	0.00%	79.66%	20.34%	0.00%	59.11%	0.00%	40.89%	0.00%					
PEAK HR :	12:45 PM - 01:45 PM																TOTAL
PEAK HR VOL :	37	219	0	0	0	248	66	0	77	0	47	0	0	0	0	0	694
PEAK HR FACTOR :	0.617	0.883	0.000	0.000	0.000	0.805	0.750	0.000	0.875	0.000	0.979	0.000	0.000	0.000	0.000	0.000	0.938
		0.914				0.793				0.912							

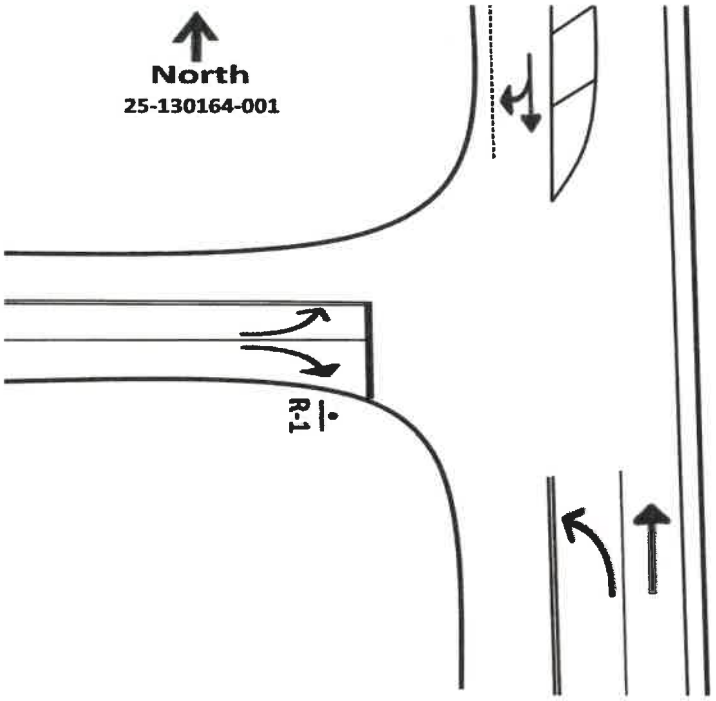
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
2:00 PM	14	68	0	0	0	65	12	0	17	0	14	0	0	0	0	0	190
2:15 PM	9	84	0	0	0	68	15	0	20	0	16	0	0	0	0	0	212
2:30 PM	11	86	0	0	0	86	15	0	20	0	18	0	0	0	0	0	236
2:45 PM	8	82	0	0	0	79	9	0	14	0	15	0	0	0	0	0	207
3:00 PM	12	77	0	0	0	66	14	0	17	0	16	0	0	0	0	0	202
3:15 PM	12	66	0	0	0	63	22	0	15	0	12	0	0	0	0	0	190
3:30 PM	11	100	0	0	0	107	26	1	25	0	16	0	0	0	0	0	286
3:45 PM	4	79	0	0	0	72	25	0	34	0	12	0	0	0	0	0	226
4:00 PM	14	82	0	0	0	80	13	0	34	0	18	0	0	0	0	0	241
4:15 PM	13	82	0	0	0	90	15	0	27	0	18	0	0	0	0	0	245
4:30 PM	13	94	0	0	0	104	20	0	23	0	11	0	0	0	0	0	265
4:45 PM	10	73	0	0	0	82	18	0	20	0	14	0	0	0	0	0	217
5:00 PM	18	99	0	0	0	101	14	0	12	0	17	0	0	0	0	0	261
5:15 PM	17	89	0	0	0	102	20	0	23	0	26	0	0	0	0	0	277
5:30 PM	18	96	0	0	0	86	21	0	28	0	25	0	0	0	0	0	274
5:45 PM	11	83	0	0	0	65	18	0	22	0	19	0	0	0	0	0	218
6:00 PM	11	80	0	0	0	68	14	0	27	0	8	0	0	0	0	0	208
6:15 PM	9	65	0	0	0	49	15	0	30	0	17	0	0	0	0	0	185
6:30 PM	10	79	0	0	0	72	15	0	23	0	9	0	0	0	0	0	208
6:45 PM	7	60	0	0	0	62	21	0	23	0	9	0	0	0	0	0	182
7:00 PM	4	45	0	0	0	56	10	0	18	0	10	0	0	0	0	0	143
7:15 PM	6	60	0	0	0	45	9	0	18	0	10	0	0	0	0	0	148
7:30 PM	12	53	0	0	0	43	10	0	12	0	13	0	0	0	0	0	143
7:45 PM	7	44	0	0	0	36	10	0	17	0	8	0	0	0	0	0	122
8:00 PM	1	33	0	0	0	37	10	0	26	0	13	0	0	0	0	0	120
8:15 PM	5	54	0	0	0	32	8	0	12	0	14	0	0	0	0	0	125
8:30 PM	5	41	0	0	0	28	9	0	15	0	11	0	0	0	0	0	109
8:45 PM	1	52	0	0	0	31	5	0	10	0	7	0	0	0	0	0	106
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	273	2006	0	0	0	1875	413	1	582	0	396	0	0	0	0	0	5546
APPROACH %'s :	11.98%	88.02%	0.00%	0.00%	0.00%	81.91%	18.04%	0.04%	59.51%	0.00%	40.49%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	64	367	0	0	0	354	73	0	85	0	87	0	0	0	0	0	1030
PEAK HR FACTOR :	0.889	0.927	0.000	0.000	0.000	0.868	0.869	0.000	0.759	0.000	0.837	0.000	0.000	0.000	0.000	0.000	0.930
		0.921				0.875				0.811							

National Data & Surveying Services

Site Code:	**25-130164-001**
Date:	**05/13/2025**
Weather:	**Sunny**
City:	**Dundee**
County:	**Polk**
Count Times:	**06:00 - 10:00**
	10:00 - 14:00
	14:00 - 21:00
Control:	**1-Way Stop(EB)**

N↑ | N/S Street: **SR 17/N Scenic Hwy** | Speed: **55 MPH**

E/W Street: **Waverly Rd** | Speed: **45 MPH**



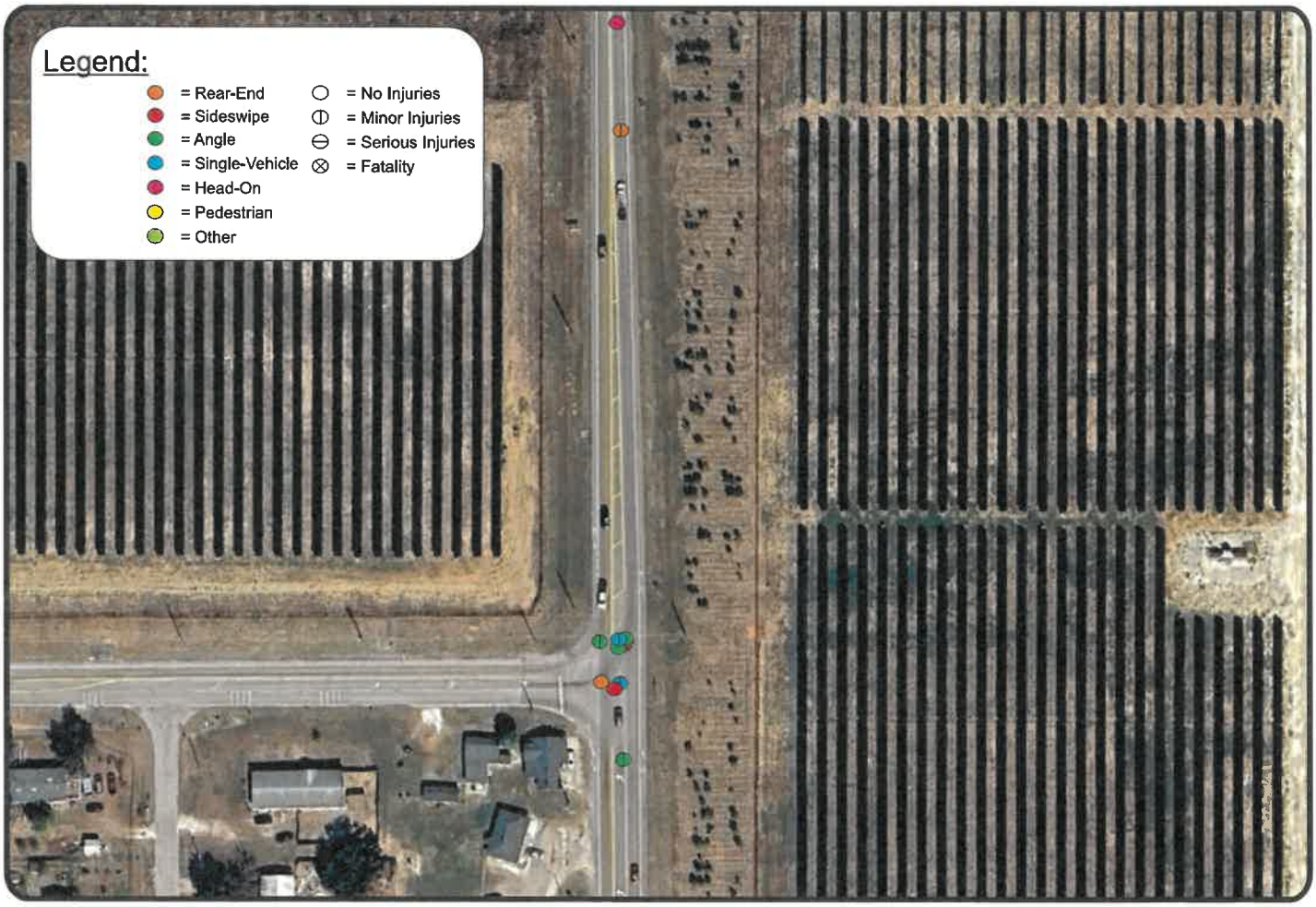
APPENDIX B

ITE Trip Generation Data, ITE Hourly Variation Rates

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual*, 11th Edition

Land Use Code	210			210			210		
Land Use	Single-Family Detached Housing			Single-Family Detached Housing			Single-Family Detached Housing		
Setting	General Urban/Suburban			General Urban/Suburban			General Urban/Suburban		
Time Period	Weekday			Saturday			Sunday		
# Data Sites	7			3			2		
	% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting
12:00 - 1:00 AM	0.3%	0.5%	0.2%	0.8%	0.6%	1.0%	0.6%	0.6%	0.6%
1:00 - 2:00 AM	0.2%	0.2%	0.1%	0.4%	0.6%	0.2%	0.6%	1.2%	0.0%
2:00 - 3:00 AM	0.2%	0.3%	0.1%	0.3%	0.4%	0.2%	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.2%	0.2%	0.2%	0.5%	0.4%	0.6%	0.3%	0.0%	0.6%
4:00 - 5:00 AM	0.6%	0.3%	0.8%	0.5%	0.6%	0.4%	0.0%	0.0%	0.0%
5:00 - 6:00 AM	1.2%	0.5%	2.0%	1.0%	0.8%	1.2%	1.8%	1.8%	1.8%
6:00 - 7:00 AM	3.7%	1.6%	5.8%	1.0%	0.4%	1.5%	1.5%	1.8%	1.2%
7:00 - 8:00 AM	6.5%	3.1%	10.0%	2.0%	0.8%	3.3%	1.8%	0.6%	3.0%
8:00 - 9:00 AM	6.2%	3.8%	8.5%	3.8%	2.5%	5.2%	4.7%	0.6%	9.0%
9:00 - 10:00 AM	4.6%	3.3%	5.8%	5.5%	5.0%	6.0%	4.7%	3.5%	6.0%
10:00 - 11:00 AM	4.9%	4.2%	5.6%	8.2%	6.2%	10.2%	11.5%	8.8%	14.4%
11:00 - 12:00 PM	5.3%	5.4%	5.1%	7.2%	8.7%	5.8%	7.7%	8.2%	7.2%
12:00 - 1:00 PM	5.7%	5.7%	5.7%	7.7%	7.3%	8.1%	9.2%	10.5%	7.8%
1:00 - 2:00 PM	6.1%	6.1%	6.0%	8.1%	7.1%	9.0%	9.8%	10.5%	9.0%
2:00 - 3:00 PM	6.6%	7.1%	6.1%	8.0%	8.7%	7.3%	5.9%	5.8%	6.0%
3:00 - 4:00 PM	7.5%	8.7%	6.2%	9.2%	9.8%	8.7%	4.4%	5.8%	3.0%
4:00 - 5:00 PM	8.9%	10.5%	7.4%	6.2%	6.9%	5.4%	8.3%	8.2%	8.4%
5:00 - 6:00 PM	8.7%	10.0%	7.3%	8.4%	9.6%	7.1%	9.8%	11.1%	8.4%
6:00 - 7:00 PM	7.2%	8.5%	5.9%	6.0%	7.3%	4.6%	6.2%	5.8%	6.6%
7:00 - 8:00 PM	5.1%	6.1%	4.2%	5.1%	4.8%	5.4%	5.3%	7.0%	3.6%
8:00 - 9:00 PM	4.6%	6.1%	3.1%	4.8%	6.0%	3.7%	4.1%	5.8%	2.4%
9:00 - 10:00 PM	3.3%	4.4%	2.3%	2.4%	2.7%	2.1%	0.3%	0.6%	0.0%
10:00 - 11:00 PM	1.6%	2.1%	1.0%	1.7%	1.5%	1.9%	1.5%	1.8%	1.2%
11:00 - 12:00 AM	1.0%	1.3%	0.6%	1.4%	1.5%	1.3%	0.0%	0.0%	0.0%



SR 17 & Waverly Road SWA
Project № 5611.2
Appendix C

Crash Diagram

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: Town of Dundee
County: 16 – Polk
District: One

Engineer: SS
Date: May 19, 2025

Major Street: SR 17 — Lanes: 1 — Major Approach Speed: 55
Minor Street: Waverly Road — Lanes: 1 — Minor Approach Speed: 45

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY — ☑ 70% ☐ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

*Warrant 1 is satisfied if Condition A **or** Condition B is "100%" satisfied for eight hours.* ☐ Yes ☑ No

*Warrant 1 is also satisfied if both Condition A **and** Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems).* ☐ Yes ☑ No

*Warrant 1 is satisfied if Condition A **or** Condition B is "70%" satisfied for eight hours.* ☑ Yes ☐ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Applicable: ☑ Yes ☐ No
100% Satisfied: ☐ Yes ☑ No
80% Satisfied: ☐ Yes ☑ No
70% Satisfied: ☐ Yes ☑ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	Minor	100%[a]	80%[b]	70%[c]	100%[a]	80%[b]	70%[c]
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

[a] Basic Minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	10-11 A.M.	11-12 P.M.	12-1 P.M.	1-2 P.M.	2-3 P.M.	3-4 P.M.	4-5 P.M.	5-6 P.M.
Major	620	663	608	694	840	895	963	1,019
Minor	71	76	99	87	97	122	142	120

Existing Volumes

Valencia Ridge

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: Town of Dundee
County: 16 – Polk
District: One

Engineer: SS
Date: May 19, 2025

Major Street: SR 17 — Lanes: 1 — Major Approach Speed: 55
Minor Street: Waverly Road — Lanes: 1 — Minor Approach Speed: 45

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☐ 100%

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

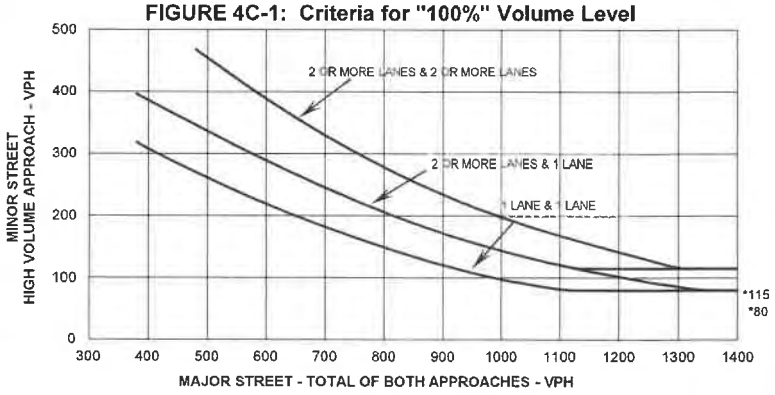
Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street

FIGURE 4C-1: Criteria for "100%" Volume Level



** Note: 115 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 80 mph applies as the lower threshold volume threshold for a minor street approach with one lane.*

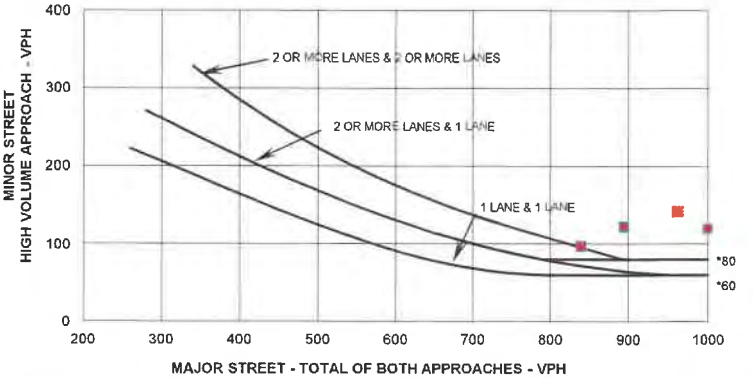
70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
2-3 P.M.	840	97
3-4 P.M.	895	122
4-5 P.M.	963	142
5-6 P.M.	1019	120

Valencia Ridge

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 80 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 60 ph. applies as the lower threshold volume threshold for a minor street approach with one lane.*

STAGE 1 ICE REPORT

SR 17 & LAKE TRASK ROAD
VALENCIA RIDGE
POLK COUNTY, FLORIDA

Prepared for:

Cornerstone Land Company
1901 Ulmerton Road, Suite 475
Clearwater, Florida 33762

Prepared by:

Traffic Planning and Design, Inc.
535 Versailles Drive
Maitland, Florida 32751
407-628-9955

February 2025
REVISED
April 2025
June 2025
August 2025

TPD № 5611.2

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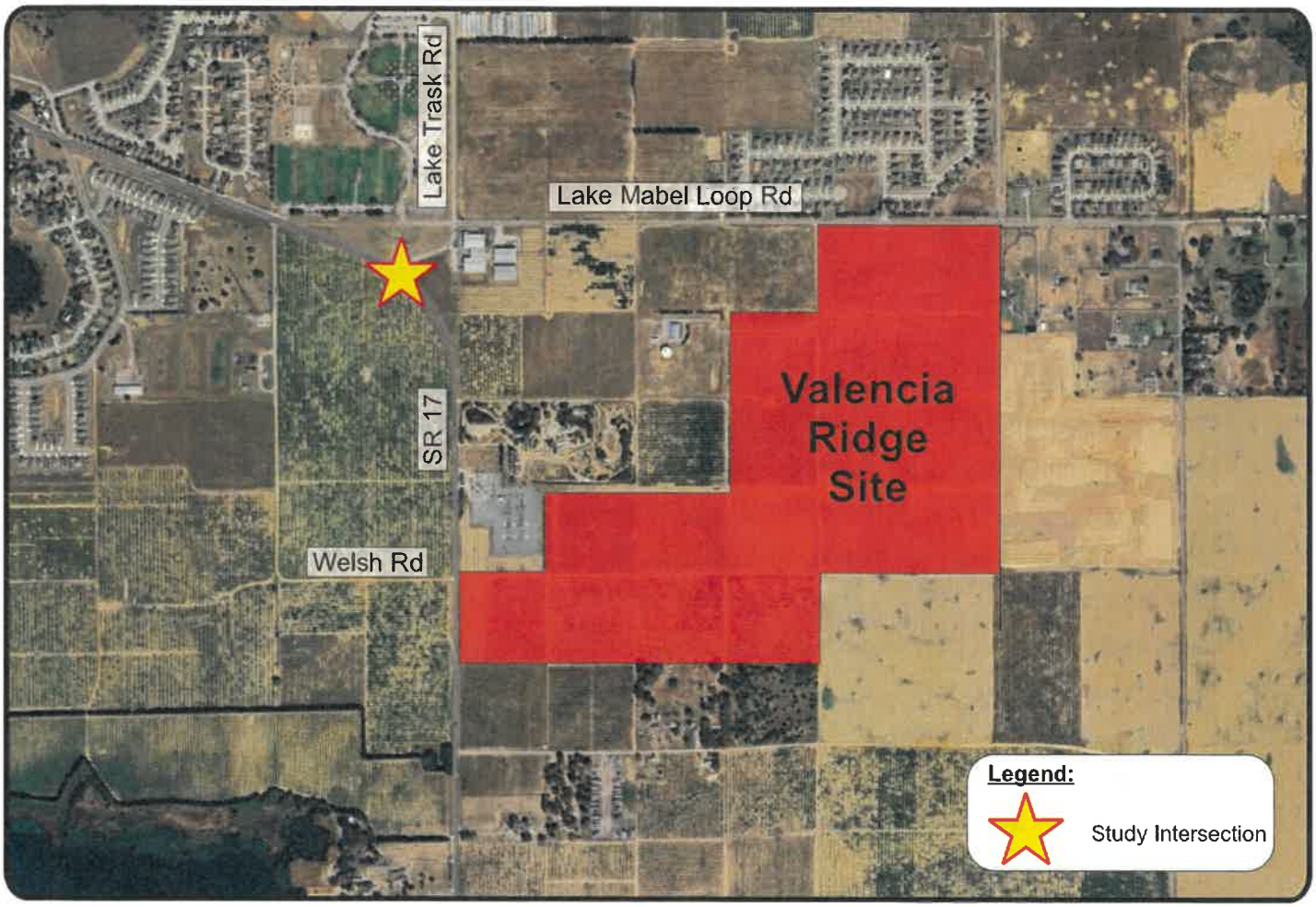
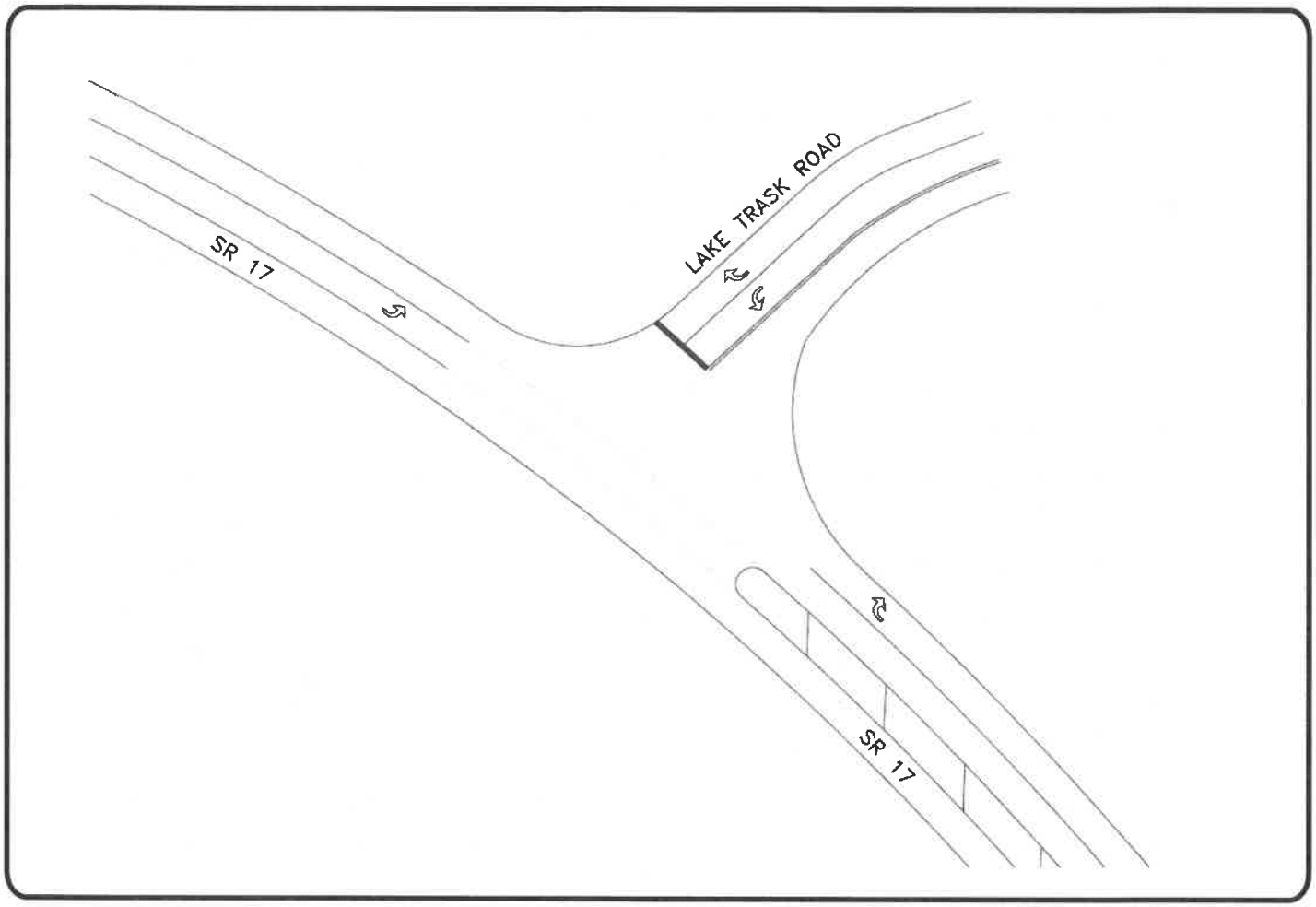


SR 17 & Lake Trask Road - Stage 1 ICE
Project № 5611.2
Figure 1

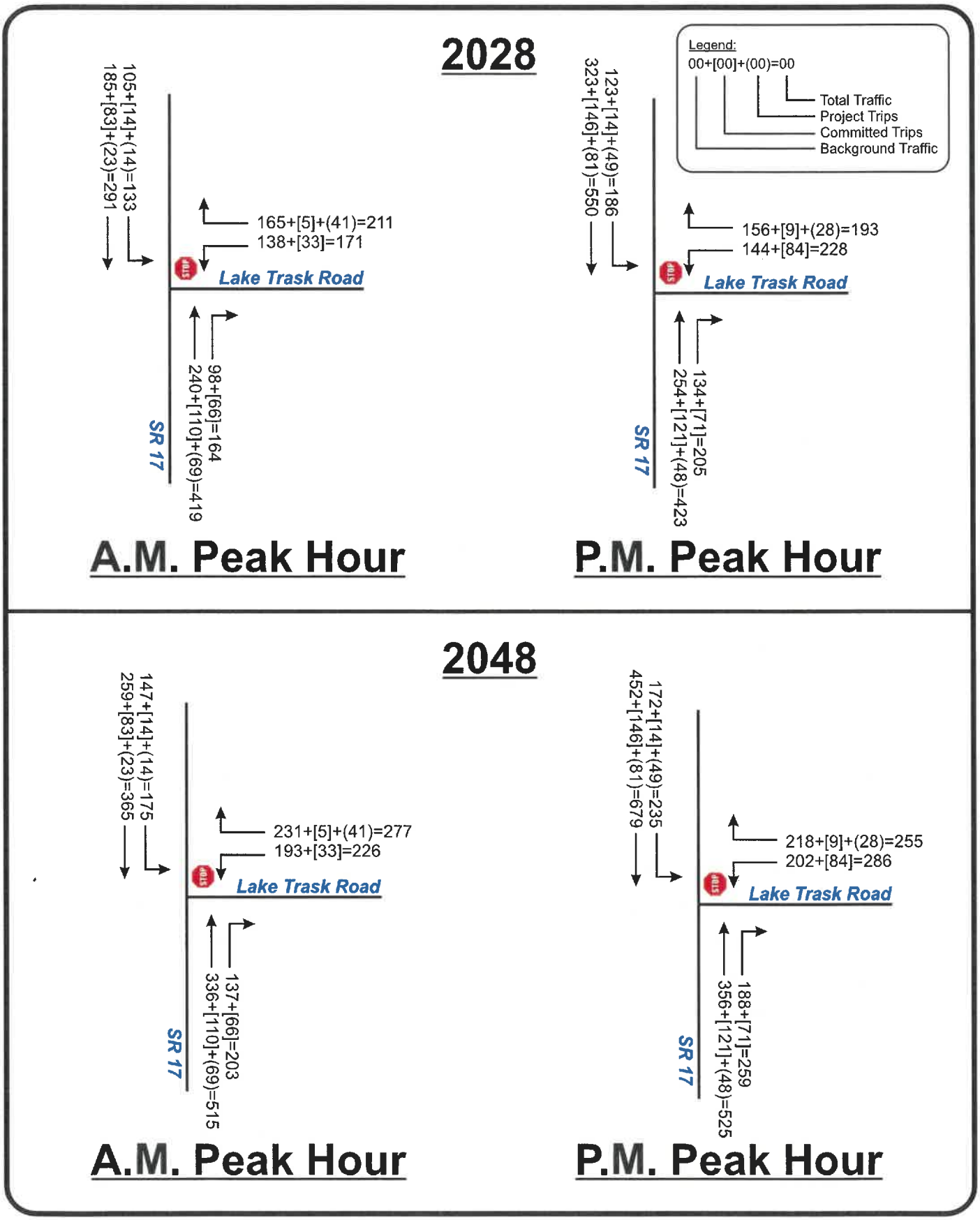
Intersection Location

N
NTS



SR 17 & Lake Trask Road - Stage 1 ICE
Project № 5611.2
Figure 2

Existing Lane Configuration



SR 17 & Lake Trask Road - Stage 1 ICE
Project № 5611.2
Figure 3

Projected A.M./P.M. Peak Hour Volumes

N
NTS

Table 1
2048 Design Year CAP-X Results

Type of Intersection	Time Period	Overall v/c Ratio	v/c Ranking	Pedestrian Accommodation Score	Bicycle Accommodation Score
Traffic Signal	A.M.	0.58	1	4.37	4.33
	P.M.	0.65	1	4.37	4.33
2NS x 1EW Roundabout	A.M.	0.61	2	4.74	4.06
	P.M.	0.66	2	4.69	4.06
1 x 1 Roundabout	A.M.	0.68	3	5.15	4.33
	P.M.	0.95	3	5.10	4.33

Preliminary Safety Analysis

FDOT's SPICE (Safety Performance for Intersection Control Evaluation) is a planning level tool used to provide a comparison of intersection safety characteristics. Daily volumes are used in these calculations. The results of the analysis are summarized below in **Table 2**. The detailed SPICE Summary Report is included in **Appendix E.**

Table 2
SPICE Results Summary

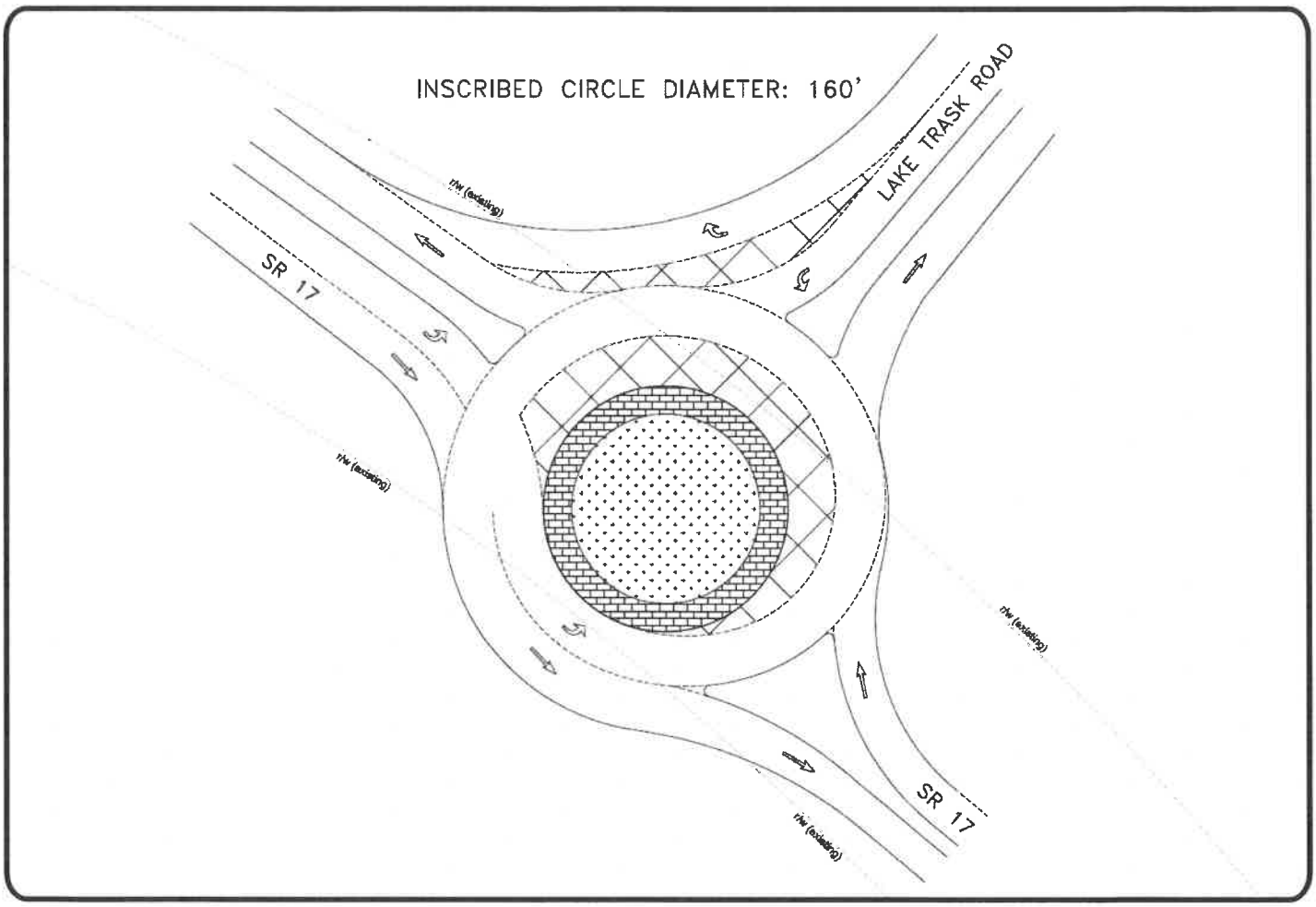
Type of Intersection	Type of Crash	Number of Crashes			SSI Score	
		Opening Year	Design Year	Total Project Life Cycle	Opening Year	Design Year
Traffic Signal	Total	1.87	2.36	44.49	96	93
	Fatal & Injury	0.70	0.88	16.59		
2-Lane Roundabout	Total	3.21	5.84	105.32	99	99
	Fatal & Injury	0.44	0.90	15.70		
1-Lane Roundabout	Total	0.90	1.24	23.95	99	99
	Fatal & Injury	0.15	0.26	4.75		

Design Concepts and Right of Way

Preliminary design concepts for both the Signal and Roundabout control types are shown in **Figures 4a** and **4b**.

When cross-referenced with known right-of-way information (Shown in Figures 4a, 4b, and Appendix C), it is revealed that the area required for Roundabout placement far exceeds right of way limitations. Right of way in this corridor is limited, with 100' total width and no developer ownership of lands adjacent to the intersection. Although ICE typically includes ROW acquisitions as part of the alternatives analysis process, ROW would not be a requirement as part of a permit.

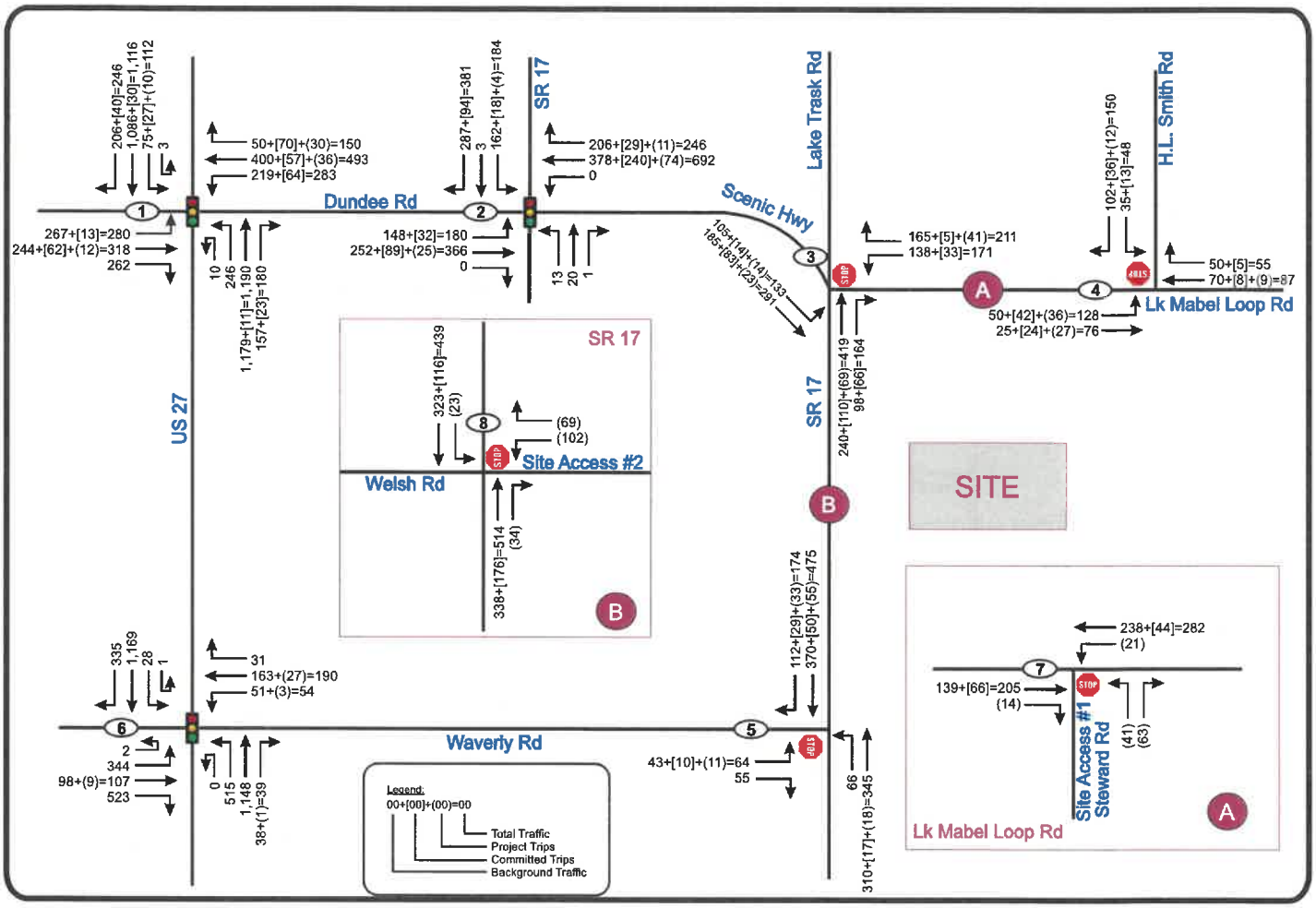
The Signal option can operate within existing right of way.



SR 17 & Lake Trask Road - Stage 1 ICE
Project № 5611.2
Figure 4b

Design Concept: Roundabout

APPENDICES



Valencia Ridge
Project № 5611.1
Figure 5a
Page 17

Projected 2028 A.M. Peak Hour Volumes

APPENDIX B

Turning Movement Counts, FDOT Count Station Data, pertinent pages from TIA

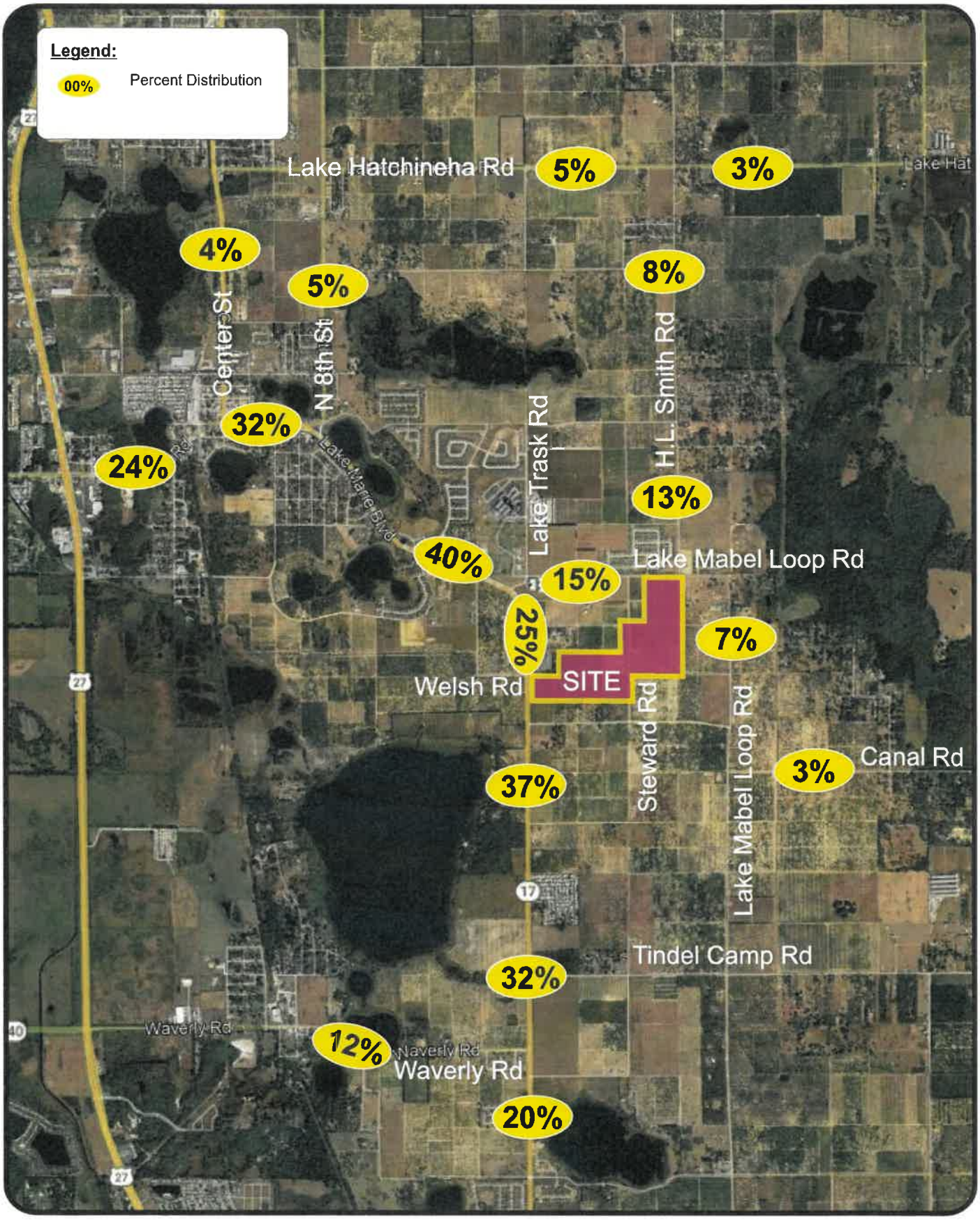
FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2023 HISTORICAL AADT REPORT

COUNTY: 16 - POLK

SITE: 0092 - SR 17, NORTHWEST OF MABLE LOOP ROAD, DUNDEE

YEAR	AADT	DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
2023	7700 S	N	3900	S	3800	9.00	55.00	9.70
2022	7300 F	N	3700	S	3600	9.00	55.20	9.70
2021	7100 C	N	3600	S	3500	9.00	55.30	9.70
2020	5700 C	N	2800	S	2900	9.00	53.40	10.80
2019	6600 C	N	3300	S	3300	9.00	56.00	9.40
2018	6600 C	N	3200	S	3400	9.00	54.50	9.30
2017	6100 C	N	3000	S	3100	9.00	54.50	10.80
2016	5900 F	N	2900	S	3000	9.00	53.30	10.80
2015	5500 C	N	2700	S	2800	9.00	55.70	10.80
2014	5300 C	N	2600	S	2700	9.00	55.60	10.30
2013	4900 C	N	2400	S	2500	9.00	55.90	10.00
2012	5000 C	N	2500	S	2500	9.00	55.80	10.50
2011	4700 F	N	2300	S	2400	9.00	55.70	7.70
2010	4700 C	N	2300	S	2400	9.55	56.07	7.70
2009	5600 C	N	2800	S	2800	9.36	56.35	9.40
2008	5400 C	N	2700	S	2700	9.78	55.29	10.70

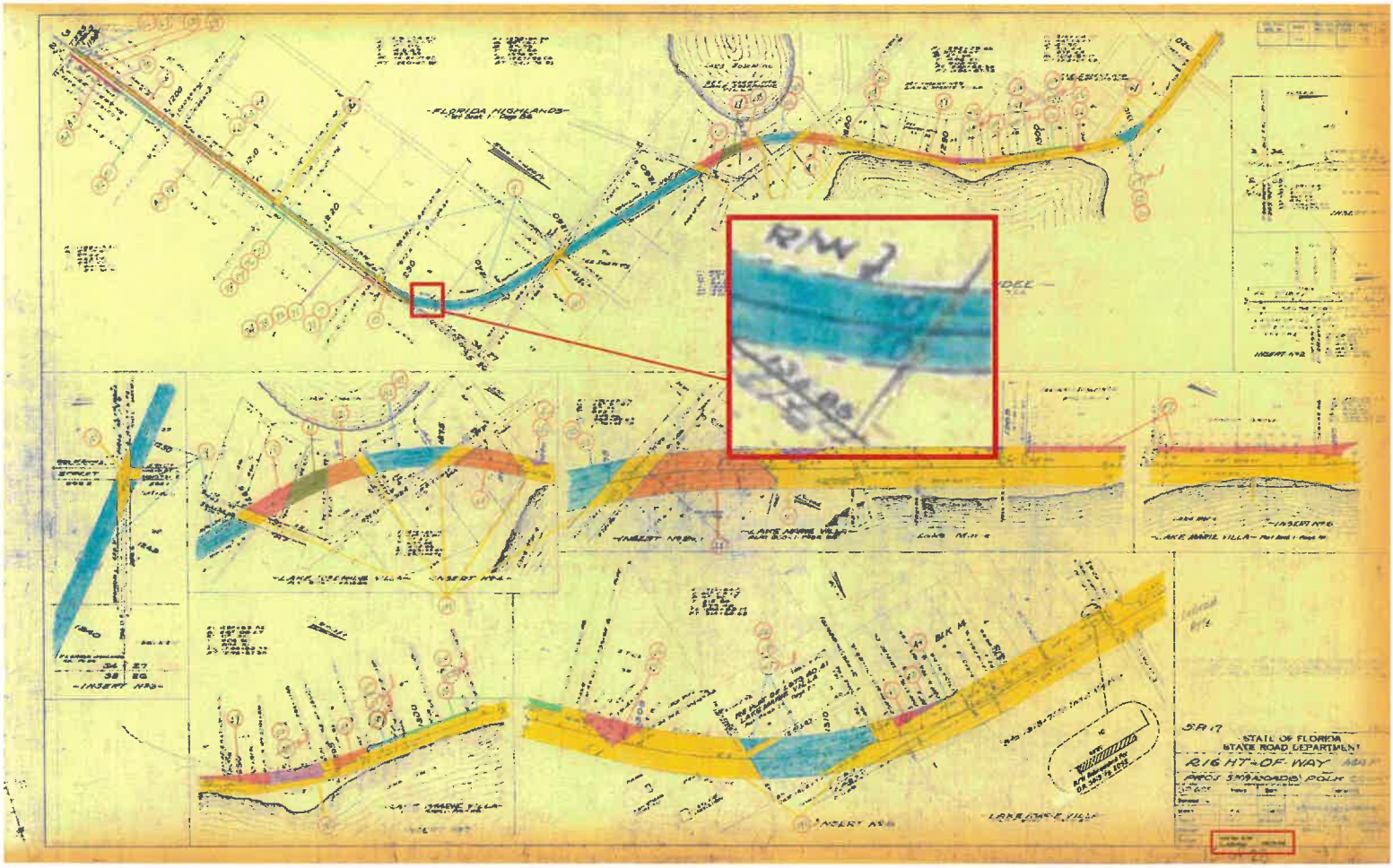
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES



Valencia Ridge
Project № 5611.1
Figure 4
Page 10

Trip Distribution

N
NTS


FLORIDA HIGHLANDS
RW 1
STATE OF FLORIDA
STATE ROAD DEPARTMENT
R/W HT. OF WAY

Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name	Valencia Ridge
Project Number	5611
Location	SR 17 & Lake Trask Road (Polk Co, FL)
Date	4-21-25 (2028 AM Peak Analysis)
Number of Intersection Legs	3
Which leg is the minor stree	E
Analysis Type	At-Grade Intersections Only

Estimated Volume-to-Capacity Ratio			
Number of Configurations			
< 0.750	0.750 - 0.875	0.875 - 1.00	> 1.00
3	0	0	0

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound						
Westbound	0	171	0	211	5.00%	0.00%
Southbound	0	133	291	0	8.00%	0.00%
Northbound	0	0	419	164	7.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.60**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C3C-Suburban Commercial**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		0	1	1		1	1	0						1	0	1

Number of Lanes for Ramp Terminal Intersections

TYPE OF RAMP TERMINAL INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			
Traffic Signal	FULL									797	0.46	0.46	4.37	4.33

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North) (V/C)			Zone 3 (East) (V/C)			Zone 2 (South) (V/C)			Zone 4 (West) (V/C)			Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3			
1 X 1	0.40			0.00			0.53			0.46			0.53	5.19	4.33
2NS X 1EW	0.19	0.21		0.00			0.26	0.27		0.43			0.43	4.79	4.06

Results for Ramp Terminal Intersections

TYPE OF RAMP TERMINAL INTERSECTION	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			

Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name	Valencia Ridge
Project Number	5611
Location	SR 17 & Lake Trask Road (Polk Co, FL)
Date	4-21-25 (2048 AM Peak Analysis)
Number of Intersection Legs	3
Which leg is the minor stree	E
Analysis Type	At-Grade Intersections Only

Estimated Volume-to-Capacity Ratio			
Number of Configurations			
< 0.750	0.750 - 0.875	0.875 - 1.00	> 1.00
3	0	0	0

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound						
Westbound	0	226	0	277	5.00%	0.00%
Southbound	0	175	365	0	8.00%	0.00%
Northbound	0	0	515	203	7.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.60**	**0.95**		**0.85**		

Truck to PCE Factor	**Suggested = 2.00**	2.00
FDOT Context Zone	**C3C-Suburban Commercial**	
Critical Lane Volume Threshold: 2-phase signal	**Suggested = 1800**	**1800**
Critical Lane Volume Threshold: 3-phase signal	**Suggested = 1750**	**1750**
Critical Lane Volume Threshold: 4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		0	1	1		1	1	0						1	0	1

Number of Lanes for Ramp Terminal Intersections

TYPE OF RAMP TERMINAL INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			
Traffic Signal	FULL									1010	0.58	0.58	4.37	4.33

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North) (V/C)			Zone 3 (East) (V/C)			Zone 2 (South) (V/C)			Zone 4 (West) (V/C)			Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3			
1 X 1	0.54			0.00			0.68			0.68			0.68	5.15	4.33
2NS X 1EW	0.26	0.27		0.00			0.33	0.35		0.61			0.61	4.74	4.06

Results for Ramp Terminal Intersections

TYPE OF RAMP TERMINAL INTERSECTION	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall V/C Ratio	Ped Accom. Score	Bicycle Accom. Score
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			

APPENDIX E

SPICE Summary Report

APPENDIX F

ICE Summary Form

Minor Street Information											
Roadway ID		Route Name(s)	Lake Trask Road					Milepoint (if app.)			
Existing Control Type	Two-way Stop-Control			Existing AADT	6,389			Design Year AADT	10,239		
Design Vehicle	Interstate Semitrailer (WB-62)			Control Vehicle	Interstate Semitrailer (WB-62)						
Primary Functional Classification	Rural Minor Arterial							Design Speed (mph)	30		
Secondary Functional Classification (if app.)								Target Speed (mph) [if app.]			

Approach #1	Direction	Westbound	Number of Lanes		Study Period #1 Traffic Volumes			Study Period #2 Traffic Volumes			
	Sidewalks along:	Neither side of the approach	Left-Turn	1							
	Crosswalk on Approach?	No	Left-Through		Weekday AM Peak			Weekday PM Peak			
	On-Street Bike Facilities?	No	Through		Left	226		Left	286		
	Multi-Use Path?	No	Left-Through-Right		Through			Through			
	Scheduled Bus Service?	No	Through-Right		Right	277		Right	255		
	Bus Stop on Approach?	No	Right-Turn	1	Daily Truck %			5.0%			
Approach #2	Direction		Number of Lanes		Study Period #1 Traffic Volumes			Study Period #2 Traffic Volumes			
	Sidewalks along:		Left-Turn								
	Crosswalk on Approach?		Left-Through		Weekday AM Peak			Weekday PM Peak			
	On-Street Bike Facilities?		Through		Left			Left			
	Multi-Use Path?		Left-Through-Right		Through			Through			
	Scheduled Bus Service?		Through-Right		Right			Right			
	Bus Stop on Approach?		Right-Turn		Daily Truck %						
Approach #3	Direction		Number of Lanes		Study Period #1 Traffic Volumes			Study Period #2 Traffic Volumes			
	Sidewalks along:		Left-Turn								
	Crosswalk on Approach?		Left-Through		Weekday AM Peak			Weekday PM Peak			
	On-Street Bike Facilities?		Through		Left			Left			
	Multi-Use Path?		Left-Through-Right		Through			Through			
	Scheduled Bus Service?		Through-Right		Right			Right			
	Bus Stop on Approach?		Right-Turn		Daily Truck %						

Crash History (Existing Intersections Only)
Append the most recent five-years of crash data for the intersection from the CAR System. If the crash data evidences any issues relating to safety performance, discuss briefly here:
2 crashes occurred at the intersection during the 7-year period (2018-2024) for which historical data was available. Both were angle crashes, 1 with injury and 1 without.

Resolution					
To be filled out by FDOT District Traffic Operations Engineer and District Design Engineer					
Accept Recommendation ☐			Reject Recommendation ☐		
DTOE Name		Signature		Date	
DTOE Comments					
DDE Name		Signature		Date	
DDE Comments					

SIGNAL WARRANT ANALYSIS

SR 17 & LAKE TRASK ROAD
POLK COUNTY, FLORIDA
Section 16090000/MP 27.263

Prepared for:

Cornerstone Land Company
1901 Ulmerton Road, Suite 475
Clearwater, Florida 33762

Prepared by:

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535 Versailles Drive
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407-628-9955

February 2025
Revised
April 2025

TPD No. 5611.2

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INTRODUCTION

This analysis was performed in order to determine if a signal would become warranted at the intersection of SR 17 and Lake Trask Road due to the construction of the Valencia Ridge residential development in Dundee, Polk County. The Valencia Ridge development is for 576 single-family homes to be completed by the end of 2028. It is located on the east side of SR 17 at Welsh Road, approximately 0.45 miles south of Lake Trask Road. **Figure 1** depicts the intersection location, the site of the Valencia Ridge development, and the area roadways. Access to the development is proposed via two full access driveways, one on SR 17 and the other on Lake Mabel Loop Road. As will be documented subsequently, a significant amount of Valencia Ridge traffic will utilize the intersection approaches of SR 17 and Lake Trask Road.

EXISTING TRAFFIC CONDITIONS

SR 17 is a two-lane undivided urban collector roadway with a posted speed limit of 55 mph. Based on FDOT counts made in 2023, it carries a daily traffic volume of approximately 7,700 vehicles per day adjacent to the intersection. Lake Trask Road is a two-lane undivided local roadway with a posted speed limit of 30 mph. It has a daily traffic volume of approximately 6,389 vehicles.

Intersection Configuration

The existing lane configuration at the intersection of SR 17 and Lake Trask Road is illustrated in **Figure 2.** The intersection is a T-intersection with SR 17 being the major-street and Lake Trask Road being the minor-street. SR 17 runs in the northwest/southeast direction in this area, with Lake Trask Road intersecting it perpendicularly in the southwest direction. In order to simplify the analysis, SR 17 will henceforth be referred to as the northbound/southbound approaches, and Lake Trask Road will be referred to as the westbound approach.

As can be seen from Figure 2, SR 17 has one through-lane in each direction. Additionally, there are auxiliary right and left turn lanes. Lake Trask Road has a two-lane approach, with one right turn lane and one left turn lane.

Hourly Traffic Counts

Turning movement counts at the intersection were obtained for the hours of 6:00 A.M. to 6:00 P.M. for use in the analysis. These counts were made on February 12th, 2025, when the FDOT Seasonal Factor for Polk County was 0.94. Therefore, the counts were not adjusted. To determine the background growth of the existing traffic, the 2% annual growth rate obtained from the Polk TPO was used to grow the counts to the buildout year of the project. The background volumes thus determined at each approach, summarized by the hour, are shown in **Table 1**. These background approach volumes were subsequently combined with the project trips for use in the analysis. The turning movement counts and FDOT Seasonal Factor Report are included in **Appendix A.**

Table 1
Hourly 2028 Background Traffic Volumes

Hour	SR 17					Lake Trask Rd		
	NBT	NBR	SBT	SBL	Total Both Approaches	WBL	WBR	Total
6-7 A.M.	163	50	134	39	386	82	98	180
7-8 A.M.	263	75	191	58	587	178	144	322
8-9 A.M.	182	69	176	116	543	124	147	271
9-10 A.M.	161	57	167	57	442	96	92	188
10-11 A.M.	153	56	174	67	450	84	74	158
11-12 P.M.	148	63	197	55	463	74	59	133
12-1 P.M.	151	90	191	68	500	73	72	145
1-2 P.M.	162	77	172	70	481	83	65	148
2-3 P.M.	218	101	257	82	658	92	78	170
3-4 P.M.	225	152	260	116	753	117	77	194
4-5 P.M.	217	167	271	155	810	126	172	298
5-6 P.M.	218	160	301	140	819	93	113	206

SR 17 & Lake Trask Road SWA
Project № 5611.2
Figure 3

Trip Distribution

Table 4
2028 Total Traffic Volumes

Hour	Major Street - SR 17							Minor Street - Lake Trask Rd				
	Northbound			Southbound			Total Both Approaches	WBL	WBR			Total Both Lanes
	Bkgd	Project	Total	Bkgd	Project	Total		Bkgd	Bkgd	Project	Total	
6-7 A.M.	213	37	250	173	16	189	439	82	98	22	120	202
7-8 A.M.	338	63	401	249	31	280	681	178	144	38	182	360
8-9 A.M.	251	54	305	292	38	330	635	124	147	32	179	303
9-10 A.M.	218	36	254	224	34	258	512	96	92	22	114	210
10-11 A.M.	209	35	244	241	43	284	528	84	74	21	95	179
11-12 P.M.	211	32	243	252	54	306	549	74	59	19	78	152
12-1 P.M.	241	36	277	259	57	316	593	73	72	21	93	166
1-2 P.M.	239	38	277	242	62	304	581	83	65	23	88	171
2-3 P.M.	319	39	358	339	72	411	769	92	78	23	101	193
3-4 P.M.	377	39	416	376	88	464	880	117	77	23	100	217
4-5 P.M.	384	47	431	426	106	532	963	126	172	28	200	326
5-6 P.M.	378	46	424	441	101	542	966	93	113	28	141	234

Table 5
Warrant 1 – Eight-Hour Vehicular Volume

Condition A-Minimum Vehicular Volume									
Number of Lanes for Moving Traffic on Each Approach		Vehicles Per Hour on Major Street (Total of both Approaches) *				Vehicles Per Hour on Higher Volume Minor Street (One Direction Only)*			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1 Lane	1 Lane	500	400	350	280	150	120	105	84
2 + Lanes	1 Lane	600	480	420	336	150	120	105	84
2 + Lanes	2 + Lanes	600	480	420	336	200	160	140	112
1 Lane	2 + Lanes	500	400	350	280	200	160	140	112
Condition B-Interruption of Continuous Traffic									
Number of Lanes for Moving Traffic on Each Approach		Vehicles Per Hour on Major Street (Total of both Approaches) *				Vehicles Per Hour on Higher Volume Minor Street (One Direction Only)*			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1 Lane	1 Lane	750	600	525	420	75	60	53	42
2 + Lanes	1 Lane	900	720	630	504	75	60	53	42
2 + Lanes	2 + Lanes	900	720	630	504	100	80	70	56
1 Lane	2 + Lanes	750	600	525	420	100	80	70	56

* When the 85-percentile speed of Major Street exceeds 40 mph, the 70% minimum volume thresholds values are used.

Source: ***Manual on Uniform Traffic Control Devices***, 11th Edition, U.S. Department of Transportation, Federal Highway Administration.

Warrant Analysis

As described in the Intersection Configuration section of the report, SR 17 has one through lane in each direction at the study intersection. Lake Trask Road has two approach lanes. According to the MUTCD, a minor street approach with exclusive right and left turn lanes where the traffic in the right turn lane enters the major street with minimal conflict may be analyzed as a single-lane approach using only the volumes in the left turn lane. According to the results of the intersection capacity analysis conducted in the TIA, the right turn lane at Lake Trask Road is projected to operate at satisfactory Levels of Service with minimal delay. Therefore, the intersection was analyzed as a single lane for the minor street using only the volumes in the left turn lane.

Summarized in **Table 6** are the hourly traffic volumes along with an assessment of the applicable signal warrants. As can be seen from the tables, the minimum volume requirements are satisfied for Warrant 1 (Condition B only) and for Warrant 2.

The completed FDOT Traffic Signal Warrant Summary forms are included in **Appendix D**.

Table 6
Signal Warrant Analysis

Hour	2028 Approach Volumes		Warrants		
	SR 17 (Total Both Approaches)	Lake Trask Road - WBL	1A	1B	2
6-7 A.M.	439	82			
7-8 A.M.	681	178	X	X	X
8-9 A.M.	635	124	X	X	X
9-10 A.M.	512	96			
10-11 A.M.	528	84		X	
11-12 P.M.	549	74		X	
12-1 P.M.	593	73		X	
1-2 P.M.	581	83		X	
2-3 P.M.	769	92		X	X
3-4 P.M.	880	117	X	X	X
4-5 P.M.	963	126	X	X	X
5-6 P.M.	966	93		X	X
		Hours Required:	**8**	**8**	**4**
		Hours Satisfied:	**4**	**10**	**6**

APPENDICES

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Scenic Hwy/SR 17 & Lake Trask Rd
City: Dundee
Control: 1-Way Stop(WB)

Project ID: 25-130061-001
Date: 2/12/2025

Data - Total

NS/EW Streets:	N Scenic Hwy/SR 17				N Scenic Hwy/SR 17				Lake Trask Rd				Lake Trask Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	0	22	9	0	7	17	0	0	0	0	0	0	12	0	21	0	88
6:15 AM	0	34	13	0	8	25	0	0	0	0	0	0	18	0	21	0	119
6:30 AM	0	46	15	0	9	43	0	0	0	0	0	0	17	0	30	0	160
6:45 AM	0	52	10	0	13	41	0	0	0	0	0	0	30	0	20	0	166
7:00 AM	0	44	10	0	13	39	0	0	0	0	0	0	48	0	34	0	188
7:15 AM	0	64	25	0	9	49	0	0	0	0	0	0	43	0	29	0	219
7:30 AM	0	72	18	0	19	54	0	0	0	0	0	0	33	0	31	0	227
7:45 AM	0	68	18	0	14	38	0	0	0	0	0	0	44	0	42	0	224
8:00 AM	0	43	14	0	23	52	0	0	0	0	0	0	34	0	31	0	197
8:15 AM	0	44	15	0	25	36	0	0	0	0	0	0	32	0	33	0	185
8:30 AM	0	46	19	0	35	43	0	0	0	0	0	0	22	0	30	0	195
8:45 AM	0	39	17	0	26	35	0	0	0	0	0	0	29	0	45	0	191
9:00 AM	0	51	11	0	22	40	0	0	0	0	0	0	33	0	34	0	191
9:15 AM	0	30	10	0	14	43	0	0	0	0	0	0	18	0	18	0	133
9:30 AM	0	31	18	0	8	36	0	0	0	0	0	0	16	0	21	0	130
9:45 AM	0	40	15	0	10	39	0	0	0	0	0	0	24	0	14	0	142
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	726	237	0	255	630	0	0	0	0	0	0	453	0	454	0	2755
APPROACH %'s :	0.00%	75.39%	24.61%	0.00%	28.81%	71.19%	0.00%	0.00%					49.94%	0.00%	50.06%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	247	75	0	65	193	0	0	0	0	0	0	154	0	133	0	867
PEAK HR FACTOR :	0.000	0.858	0.750	0.000	0.707	0.894	0.000	0.000	0.000	0.000	0.000	0.000	0.875	0.000	0.792	0.000	0.955
		0.894				0.860								0.834			

NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
10:00 AM	0	36	17	0	14	40	0	0	0	0	0	0	21	0	24	0	152
10:15 AM	0	43	15	0	15	45	0	0	0	0	0	0	18	0	15	0	151
10:30 AM	0	41	9	0	13	31	0	0	0	0	0	0	23	0	17	1	135
10:45 AM	0	24	12	0	21	48	0	0	0	0	0	0	17	0	14	0	136
11:00 AM	0	37	11	0	13	49	0	0	0	0	0	0	17	0	10	0	137
11:15 AM	0	31	13	0	10	43	0	0	0	0	0	0	17	0	20	0	134
11:30 AM	0	37	17	0	14	50	0	0	0	0	0	0	20	0	14	0	152
11:45 AM	0	35	18	0	15	44	0	0	0	0	0	0	16	0	12	0	140
12:00 PM	0	35	14	0	18	34	0	0	0	0	0	0	15	0	20	0	136
12:15 PM	0	40	23	0	13	58	0	0	0	0	0	0	17	0	14	0	165
12:30 PM	0	33	25	0	15	39	0	0	0	0	0	0	13	0	11	0	136
12:45 PM	0	34	23	0	18	49	0	0	0	0	0	0	24	0	23	0	171
1:00 PM	0	45	20	0	13	30	0	0	0	0	0	0	14	0	11	0	133
1:15 PM	0	42	12	0	20	46	0	0	0	0	0	0	20	0	12	0	152
1:30 PM	0	26	19	0	11	30	0	0	0	0	0	0	24	0	19	0	129
1:45 PM	0	40	22	0	22	56	0	0	0	0	0	0	20	0	19	0	179
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	579	270	0	245	692	0	0	0	0	0	0	296	0	255	1	2338
APPROACH %'s :	0.00%	68.20%	31.80%	0.00%	26.15%	73.85%	0.00%	0.00%					53.62%	0.00%	46.20%	0.18%	
PEAK HR :	12:00 PM - 01:00 PM																TOTAL
PEAK HR VOL :	0	142	85	0	64	180	0	0	0	0	0	0	69	0	68	0	608
PEAK HR FACTOR :	0.000	0.888	0.850	0.000	0.889	0.776	0.000	0.000	0.000	0.000	0.000	0.000	0.719	0.000	0.739	0.000	0.889
		0.901				0.859								0.729			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	37	17	0	23	54	0	0	0	0	0	0	16	0	16	0	163
2:15 PM	0	64	16	0	17	62	0	0	0	0	0	0	18	0	24	0	201
2:30 PM	0	50	21	0	20	55	0	0	0	0	0	0	32	0	10	0	188
2:45 PM	0	55	41	0	17	71	0	0	0	0	0	0	21	0	24	0	229
3:00 PM	0	45	32	0	22	47	0	0	0	0	0	0	25	0	22	0	193
3:15 PM	0	46	29	0	26	71	0	0	0	0	0	0	24	0	19	0	215
3:30 PM	0	63	42	0	31	55	0	0	0	0	0	0	29	0	15	0	235
3:45 PM	0	58	40	0	30	72	0	0	0	0	0	0	32	0	17	0	249
4:00 PM	0	46	41	0	32	64	0	0	0	0	0	0	32	0	34	0	249
4:15 PM	0	50	28	0	49	65	0	0	0	0	0	0	26	0	71	0	289
4:30 PM	0	62	44	0	30	76	0	0	0	0	0	0	36	0	33	0	281
4:45 PM	0	47	45	0	35	51	0	0	0	0	0	0	25	0	24	0	227
5:00 PM	0	47	31	0	27	81	0	0	0	0	0	0	21	0	38	0	245
5:15 PM	0	59	51	0	38	64	0	0	0	0	0	0	15	0	23	0	250
5:30 PM	0	54	36	0	42	86	0	0	0	0	0	0	30	0	24	0	272
5:45 PM	0	46	33	0	25	53	0	0	0	0	0	0	22	0	22	0	201
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	829	547	0	464	1027	0	0	0	0	0	0	404	0	416	0	3687
APPROACH %'s :	0.00%	60.25%	39.75%	0.00%	31.12%	68.88%	0.00%	0.00%					49.27%	0.00%	50.73%	0.00%	
PEAK HR :	03:45 PM - 04:45 PM																TOTAL
PEAK HR VOL :	0	216	153	0	141	277	0	0	0	0	0	0	126	0	155	0	1068
PEAK HR FACTOR :	0.000	0.871	0.869	0.000	0.719	0.911	0.000	0.000	0.000	0.000	0.000	0.000	0.875	0.000	0.546	0.000	0.924
		0.870				0.917								0.724			

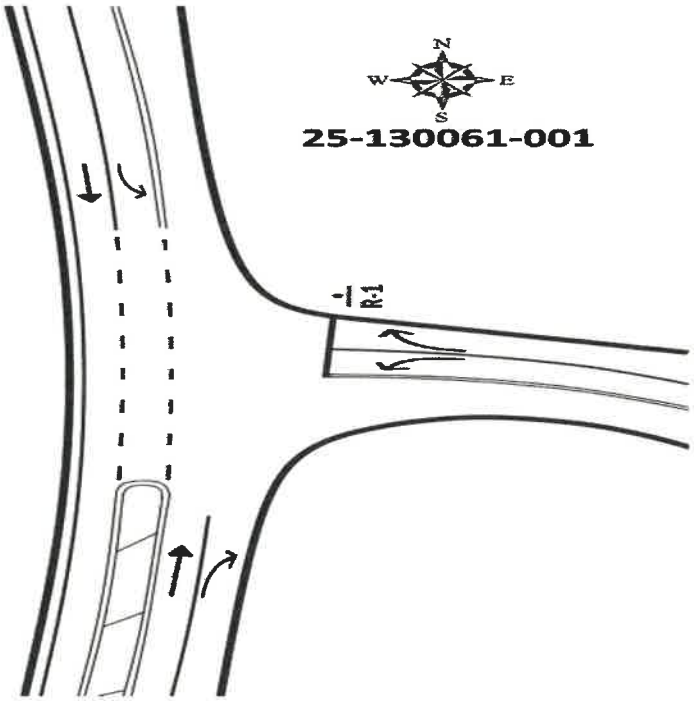
National Data & Surveying Services

Site Code:	**25-130061-001**
Date:	**02/12/2025**
Weather:	**Sunny**
City:	**Dundee**
County:	**Polk**
Count Times:	**06:00 - 10:00**
	10:00 - 14:00
	14:00 - 18:00
Control:	**1-Way Stop(WB)**

N↑

N/S Street: **N Scenic Hwy/SR 17**

Speed: **45/55 MPH**



E/W Street: **Lake Trask Rd**

Speed: **30 MPH**

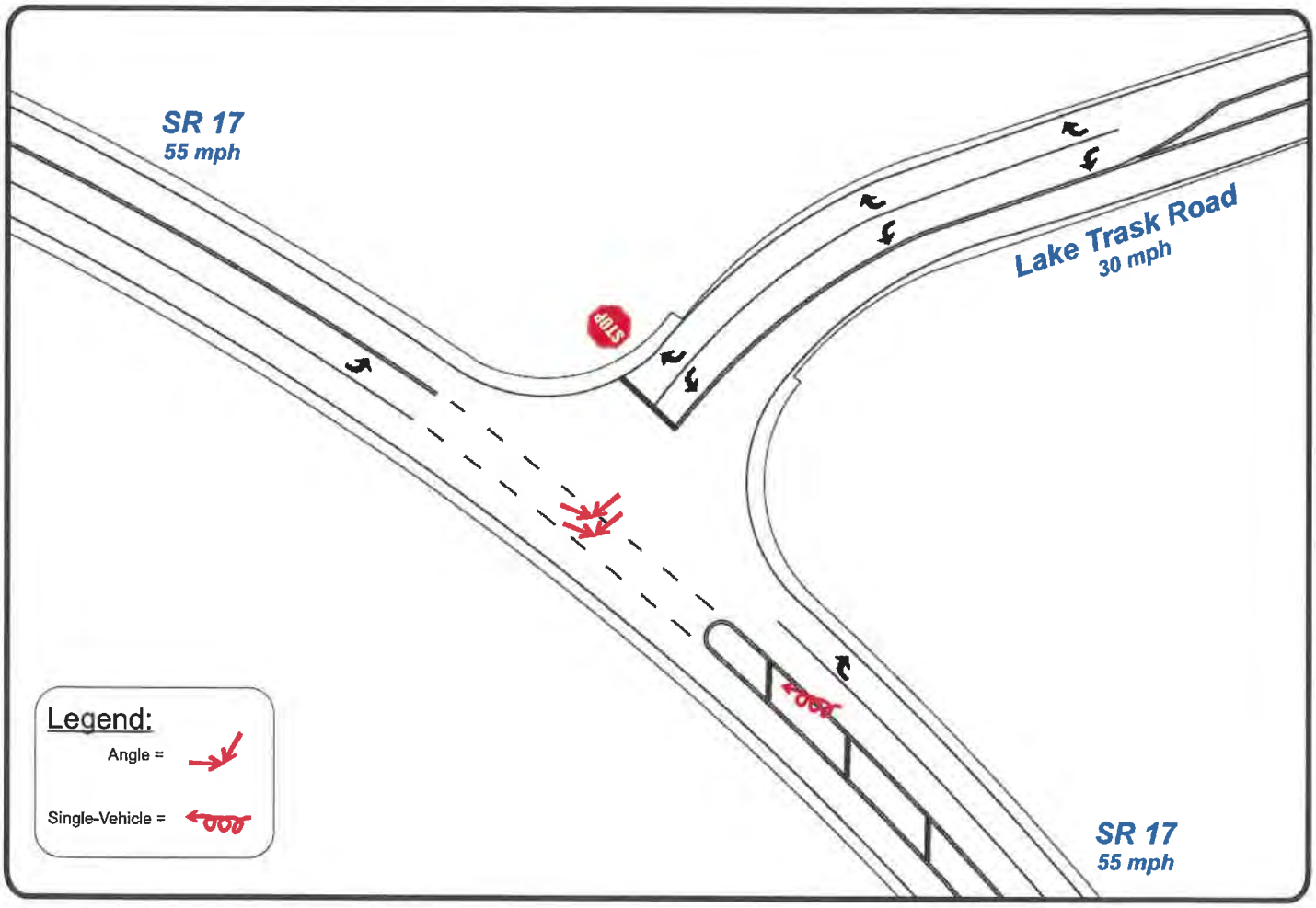
APPENDIX B

ITE Trip Generation Data, ITE Hourly Variation Rates

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual*, 11th Edition

Land Use Code	210			210			210		
Land Use	Single-Family Detached Housing			Single-Family Detached Housing			Single-Family Detached Housing		
Setting	General Urban/Suburban			General Urban/Suburban			General Urban/Suburban		
Time Period	Weekday			Saturday			Sunday		
# Data Sites	7			3			2		
	% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting
12:00 - 1:00 AM	0.3%	0.5%	0.2%	0.8%	0.6%	1.0%	0.6%	0.6%	0.6%
1:00 - 2:00 AM	0.2%	0.2%	0.1%	0.4%	0.6%	0.2%	0.6%	1.2%	0.0%
2:00 - 3:00 AM	0.2%	0.3%	0.1%	0.3%	0.4%	0.2%	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.2%	0.2%	0.2%	0.5%	0.4%	0.6%	0.3%	0.0%	0.6%
4:00 - 5:00 AM	0.6%	0.3%	0.8%	0.5%	0.6%	0.4%	0.0%	0.0%	0.0%
5:00 - 6:00 AM	1.2%	0.5%	2.0%	1.0%	0.8%	1.2%	1.8%	1.8%	1.8%
6:00 - 7:00 AM	3.7%	1.6%	5.8%	1.0%	0.4%	1.5%	1.5%	1.8%	1.2%
7:00 - 8:00 AM	6.5%	3.1%	10.0%	2.0%	0.8%	3.3%	1.8%	0.6%	3.0%
8:00 - 9:00 AM	6.2%	3.8%	8.5%	3.8%	2.5%	5.2%	4.7%	0.6%	9.0%
9:00 - 10:00 AM	4.6%	3.3%	5.8%	5.5%	5.0%	6.0%	4.7%	3.5%	6.0%
10:00 - 11:00 AM	4.9%	4.2%	5.6%	8.2%	6.2%	10.2%	11.5%	8.8%	14.4%
11:00 - 12:00 PM	5.3%	5.4%	5.1%	7.2%	8.7%	5.8%	7.7%	8.2%	7.2%
12:00 - 1:00 PM	5.7%	5.7%	5.7%	7.7%	7.3%	8.1%	9.2%	10.5%	7.8%
1:00 - 2:00 PM	6.1%	6.1%	6.0%	8.1%	7.1%	9.0%	9.8%	10.5%	9.0%
2:00 - 3:00 PM	6.6%	7.1%	6.1%	8.0%	8.7%	7.3%	5.9%	5.8%	6.0%
3:00 - 4:00 PM	7.5%	8.7%	6.2%	9.2%	9.8%	8.7%	4.4%	5.8%	3.0%
4:00 - 5:00 PM	8.9%	10.5%	7.4%	6.2%	6.9%	5.4%	8.3%	8.2%	8.4%
5:00 - 6:00 PM	8.7%	10.0%	7.3%	8.4%	9.6%	7.1%	9.8%	11.1%	8.4%
6:00 - 7:00 PM	7.2%	8.5%	5.9%	6.0%	7.3%	4.6%	6.2%	5.8%	6.6%
7:00 - 8:00 PM	5.1%	6.1%	4.2%	5.1%	4.8%	5.4%	5.3%	7.0%	3.6%
8:00 - 9:00 PM	4.6%	6.1%	3.1%	4.8%	6.0%	3.7%	4.1%	5.8%	2.4%
9:00 - 10:00 PM	3.3%	4.4%	2.3%	2.4%	2.7%	2.1%	0.3%	0.6%	0.0%
10:00 - 11:00 PM	1.6%	2.1%	1.0%	1.7%	1.5%	1.9%	1.5%	1.8%	1.2%
11:00 - 12:00 AM	1.0%	1.3%	0.6%	1.4%	1.5%	1.3%	0.0%	0.0%	0.0%



SR 17 & Lake Trask Road SWA
Project № 5611.2

Crash Diagram

State of Florida Department of Transportation

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

TRAFFIC SIGNAL WARRANT SUMMARY

City: Town of Dundee
County: 16 – Polk
District: One

Engineer: SS
Date: February 19, 2025

Major Street: SR 17 — Lanes: 1 — Major Approach Speed: 55
Minor Street: Lake Trask Rd — Lanes: 1 — Minor Approach Speed: 30

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY — ☑ 70% ☐ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

*Warrant 1 is satisfied if Condition A **or** Condition B is "100%" satisfied for eight hours.* ☐ Yes ☑ No

*Warrant 1 is also satisfied if both Condition A **and** Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems).* ☐ Yes ☑ No

*Warrant 1 is satisfied if Condition A **or** Condition B is "70%" satisfied for eight hours.* ☑ Yes ☐ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Applicable: ☑ Yes ☐ No
100% Satisfied: ☐ Yes ☑ No
80% Satisfied: ☐ Yes ☑ No
70% Satisfied: ☐ Yes ☑ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	Minor	100%[a]	80%[b]	70%[c]	100%[a]	80%[b]	70%[c]
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

[a] Basic Minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	7-8 A.M.	8-9 A.M.	12-1 P.M.	1-2 P.M.	2-3 P.M.	3-4 P.M.	4-5 P.M.	5-6 P.M.
Major	681	635	594	581	769	880	963	966
Minor	178	124	73	83	92	117	126	93

2028 Volumes

Valencia Ridge

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: Town of Dundee
County: 16 – Polk
District: One

Engineer: SS
Date: February 19, 2025

Major Street: SR 17 — Lanes: 1 — Major Approach Speed: 55
Minor Street: Lake Trask Rd — Lanes: 1 — Minor Approach Speed: 30

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☐ 100%

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

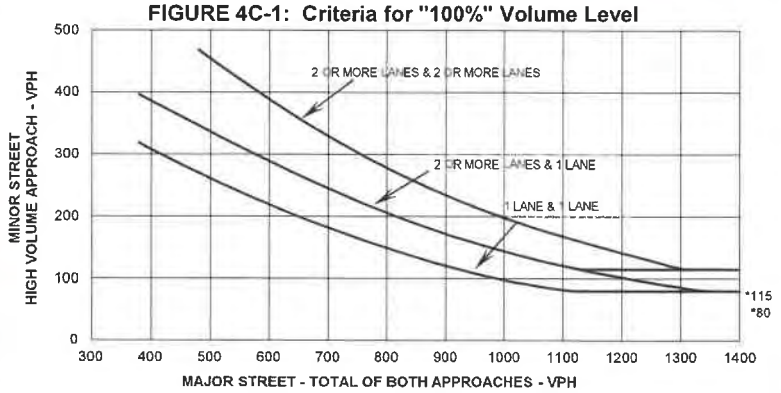
Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street

FIGURE 4C-1: Criteria for "100%" Volume Level



** Note: 115 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 80 mph applies as the lower threshold volume threshold for a minor street approach with one lane.*

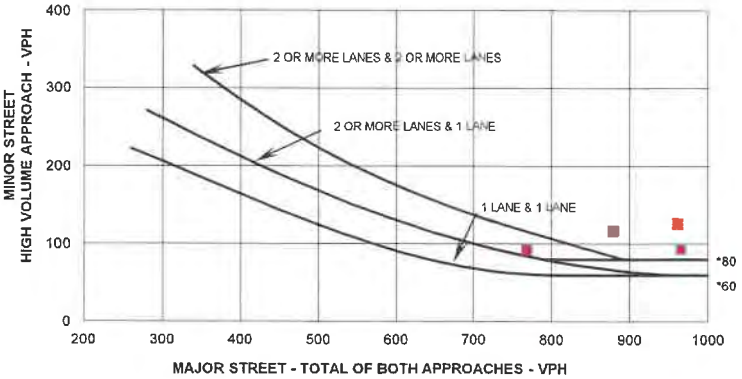
70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
2-3 P.M.	769	92
3-4 P.M.	880	117
4-5 P.M.	963	126
5-6 P.M.	966	93

2028 Volumes
Valencia Ridge

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 80 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 60 ph. applies as the lower threshold volume threshold for a minor street approach with one lane.*

ADDENDUM TO VALENCIA RIDGE TIS

(Welsh Road & Steward Road Improvement)

The purpose of this addendum is to document the existing conditions of Welsh Road and Steward Road in the vicinity of the proposed Valencia Ridge development in the Town of Dundee. Welsh Road is a two-lane east-west roadway extending on both sides of SR 17. Steward Road is a north-south roadway extending from Lake Mabel Loop Road on the north to Welsh Road and beyond on the south.

Valencia Ridge, a residential development, is proposed to be developed in an area east of SR 17 and south of Lake Mabel Loop Road. This development is proposed to be served by an improved Welsh Road from SR 17 and by an improved Steward Road from Lake Mabel Loop Road.

Welsh Road and Steward Road are currently clay roads with insufficient widths and inadequate or no rights-of-way. Both of these roads will be improved as two lanes to serve Valencia Ridge as well as areas to be developed to the east and south of Valencia Ridge. These roadways will no longer be deficient in width or right-of-way through Valencia Ridge. They will be significantly improved with standard paved lanes and adequate rights of-way.

TPD No. 5611.1
05/02/2025

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VALENCIA RIDGE

PROPORTIONATE COST SHARE CALCUALTION

Valencia Ridge is a proposed 576-unit single family residential project located at SR 17 opposite Welsh Road approximately one-half mile south of Lake Trask in the Town of Dundee. In a recent traffic study prepared as per Town of Dundee and FDOT requirements, it was determined that the following improvements would be needed due to existing traffic, committed trips from other development and project trips.

1- SR 17 and Lake Trask Road

This is a T intersection controlled by a Stop sign on Lake Trask Road (the minor street). The stop-controlled approach of the intersection would be operating at LOS F due to delay caused by the stop control. Separate right and left turn lanes exist on all these approaches of the intersection. To provide satisfactorily traffic operating conditions for both SR 17 and Lake Trask Road approaches, a traffic signal would need to be installed at this location when warranted. A signal Warrant analysis conducted at this intersection indicated that it would be warranted with the addition of committed trips and project trips.

The Developer will participate in the cost of improving the deficient intersection to secure concurrency. While proportionate share calculations are typically based upon the increase in capacity due to an improvement, the signalization of a stop-controlled intersection decreases its total capacity. Therefore, for the signalization of the intersection of SR 17 and Lake Trask Road. The MUTCD Warrant 3- peak hour minor street approach threshold for signalization was used. The minor street approach threshold is 100 peak hour trips, and the project is adding 28 peak hour trips representing 28% of the warrant threshold. In the traffic study a total cost of $450,000 was estimated, making the Developer's proportionate share of $126,000.00.

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2- Welsh Road & Access Improvements

Welsh Road east of SR 17 where the project is located does not exist. The Developer will construct a two-lane road to the Town of Dundee standards/specifications from SR 17 to Steward Road for a distance of one-half mile. As development occurs in the area, Welsh Road will be extended further east to HL Smith and beyond forming a parallel corridor to Lake Mable Loop Road. As a local collector in a transitioning area, this new roadway will create a two-way PM peak hour capacity of 790 vehicles. The project will consume 228 two-way PM peak hour trips representing a proportionate share of 29%. The cost of this roadway is estimated to be $4,660,000 per centerline mile, based upon 2024 Long Rage Estimate (LRE) Costing Tool by FDOT District one. This results in a proportionate share of $675,700 for the Developer.

The Developer will construct separate right and left turn lanes on SR 17 as per FDOT criteria. Additionally, at the request of FDOT, a separate left turn lane will be provided on Welsh Road.

The signalization of Welsh Road will occur if and when warranted as development occurs, The first phase of the development will be 150 units, and this will not warrant a signal. The signal at this access location may become warranted toward the end of project buildout.

3- SR 17 and Waverly Road

FDOT requested a separate southbound right turn lane at this location. As confirmed by FDOT, this improvement is not feasible due to lack of right of way on SR 17.

The above improvements have been discussed and agreed upon by both the Developer and FDOT.