SIGNAL WARRANT STUDY

FINAL

U.S. 17 at Crystal Beach Road
Section 16030 – M.P. 24.953
Polk County

Prepared for:

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 1 TRAFFIC OPERATIONS
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Continuing Services Contract for Traffic Operations
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April 2019

This item has been digitally signed and sealed by

COLLEEN T. JARRELL LICENSE No. 60128 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

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EXECUTIVE SUMMARY

A Traffic Signal Warrant Study was conducted for the intersection of U.S. 17 and Crystal Beach Road located in Eagle Lake (Polk County), Florida to determine if a traffic signal should be installed at the intersection. Based on the signal warrant analysis it is recommended that a traffic signal **not be** installed at the intersection of U.S. 17 and Crystal Beach Road.

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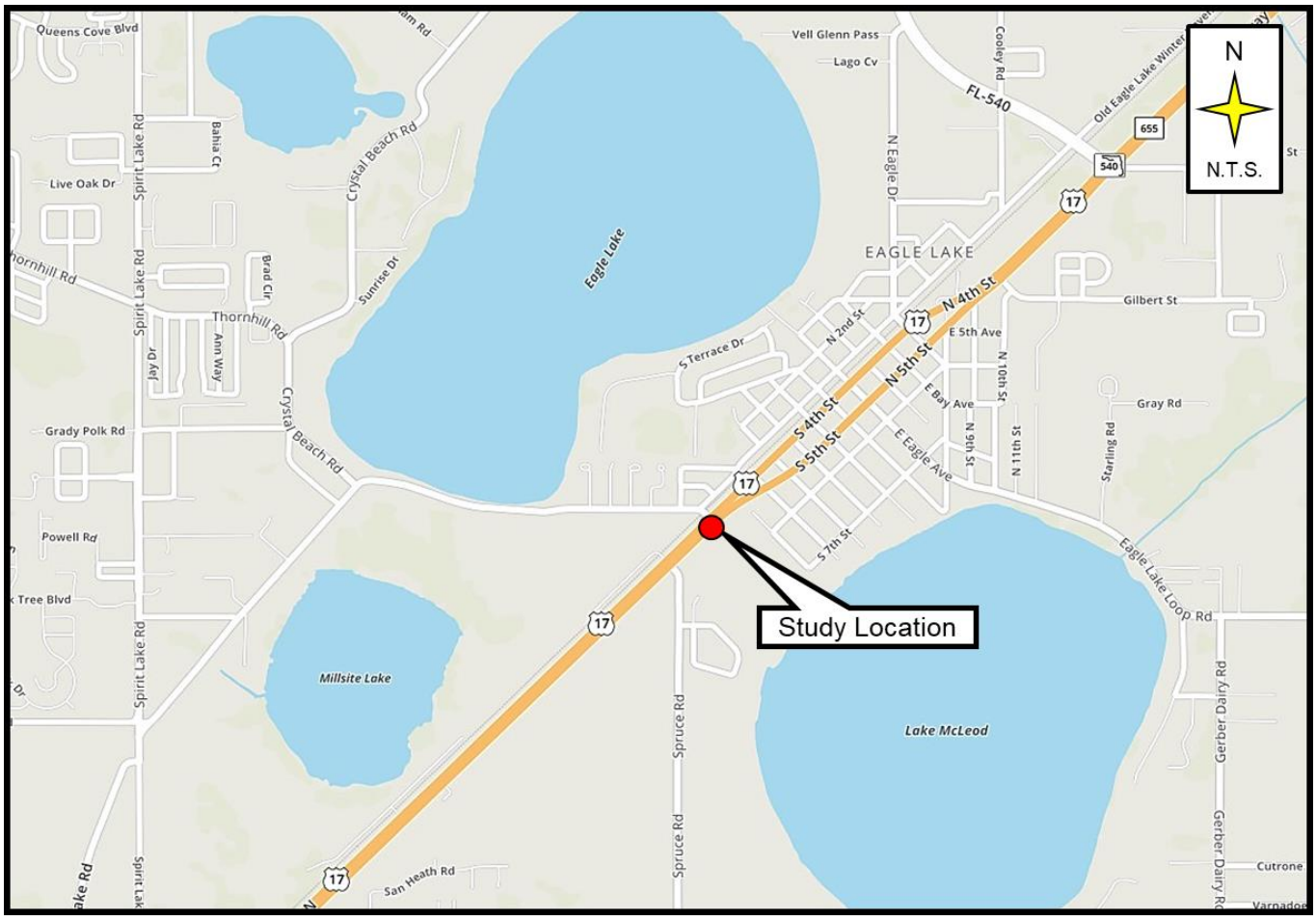
INTRODUCTION

Traffic Engineering Data Solutions, Inc. (TEDS) was retained on behalf of the Florida Department of Transportation (FDOT) to conduct a Traffic Signal Warrant Study at the intersection of U.S. 17 and Crystal Beach Road. The study intersection is located in Eagle Lake (Polk County), Florida as shown in ***Figure 1***.

The analysis methods used in completing this study are consistent with the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), FDOT Manual on Uniform Traffic Studies (MUTS), and FDOT Traffic Engineering Manual (TEM). This report documents existing conditions, vehicle counts, crash analysis, qualitative assessment and signal warrant analysis.

Figure 1
General Location Map
U.S. 17 at Crystal Beach Road



Source: MapQuest

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EXISTING CONDITIONS

U.S. 17 is a north/south arterial roadway that extends from the Hardee/Polk county line north through the study intersection to the Polk/Osceola county line. As shown in ***Figure 2***, U.S. 17 is a divided roadway with no curb and gutters, two lanes in each direction south of the intersection and three lanes in each direction north of the intersection. Crystal Beach Road is a residential road extending 3.11 miles from U.S 17, ending at S.R. 540 in Polk County. At the study intersection, Crystal Beach Road is a two-lane undivided roadway with no curb and gutter and no shoulder. A railroad extends along the west side and parallel to U.S. 17 with a crossing located less than 100 feet west of the study intersection.

Figure 2
General Location Aerial
U.S. 17 at Crystal Beach Road

Source: Google Earth

Table 1 on the following page summarizes the existing conditions for the study intersection. An existing condition diagram and photographs of the study intersection follow ***Table 1***. A straight-line diagram is also included in the ***Appendix***.

Table 1
Summary of Existing Conditions
U.S. 17 at Crystal Beach Road

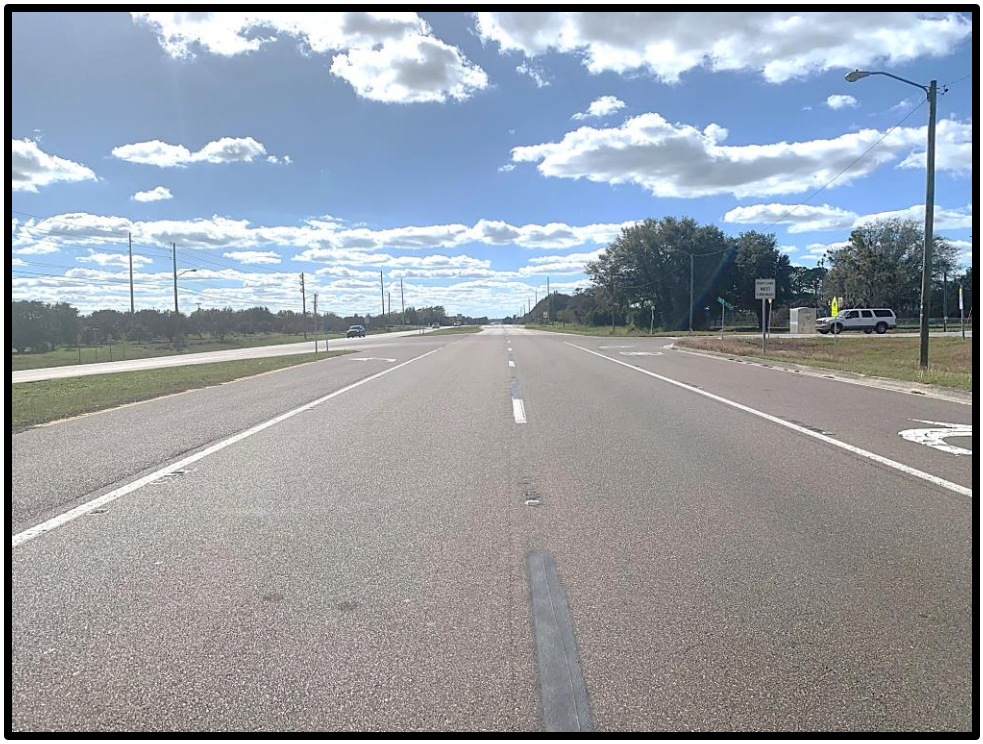
Feature	Description
Main Street	• U.S. 17
Area Location	• Eagle Lake (Polk County), Florida
Adjacent Land Uses	• Southwest: Railroad • Southeast: Citrus Grove • Northwest: Railroad • Northeast: Citrus Grove
Traffic Control	• One-way STOP-sign controlled with U.S. 17 having the right-of-way
Adjacent Signalized Intersections	• South: Bomber Road – 1.58 miles • North: Eagle Avenue – 0.46 miles • West: None
U.S. 17	• Cross Section: South of the intersection: Four-lane roadway with a 4-foot paved outside shoulder and no curb and gutter North of the intersection: Six-lane one-way pair with a 4-foot paved outside shoulder and no curb and gutter (curb and gutter provided along the southbound outside right-turn "drop" lane) • Posted Speed Limit: 45 mph • AADT: 25,500 vehicles per day (2017) • Roadway Alignment: Straight with a northbound horizontal curve departing the intersection • Northbound Approach Lanes: One (1) left-turn lane and two (2) through lanes. • Southbound Approach Lanes: One (1) left-turn lane, two (2) through lanes, and one (1) right-turn "drop" lane • Pedestrian Crossings: None • Sidewalks: None • Utilities: Overhead power poles on the both sides of the roadway • Street Lighting: Lighting on both sides of the roadway
Crystal Beach Road	• Cross Section: Two-Lane undivided roadway with no paved shoulders and no curbs and gutter • Eastbound Approach Lanes: One (1) left-turn lane and one (1) undesignated right-turn lane. • Pedestrian Crossings: None • Sidewalks: None • Utilities: Overhead power poles on the south side of the roadway • Street Lighting: None • Railroad Crossing: Crossing # 623049F located approximately 100 feet west of U.S. 17. Equipped with gates and warning signals for both directions.

Northbound Approach Photographs
U.S. 17 at Crystal Beach Road

Looking North Towards Intersection

Looking South Away From Intersection

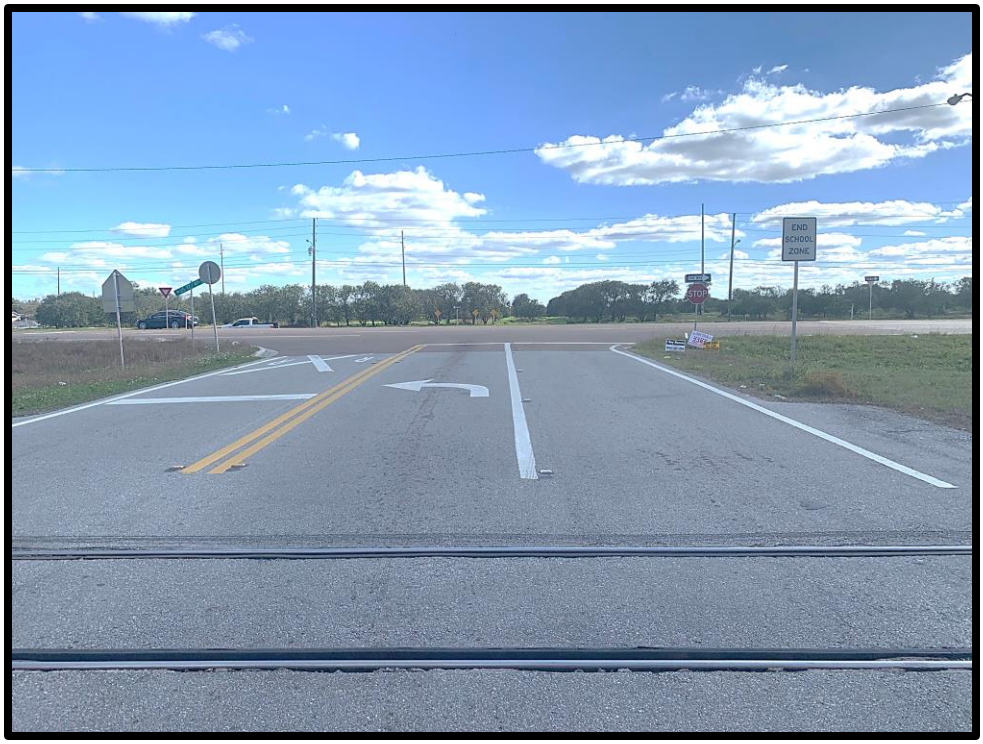
Southbound Approach Photographs
U.S. 17 at Crystal Beach Road



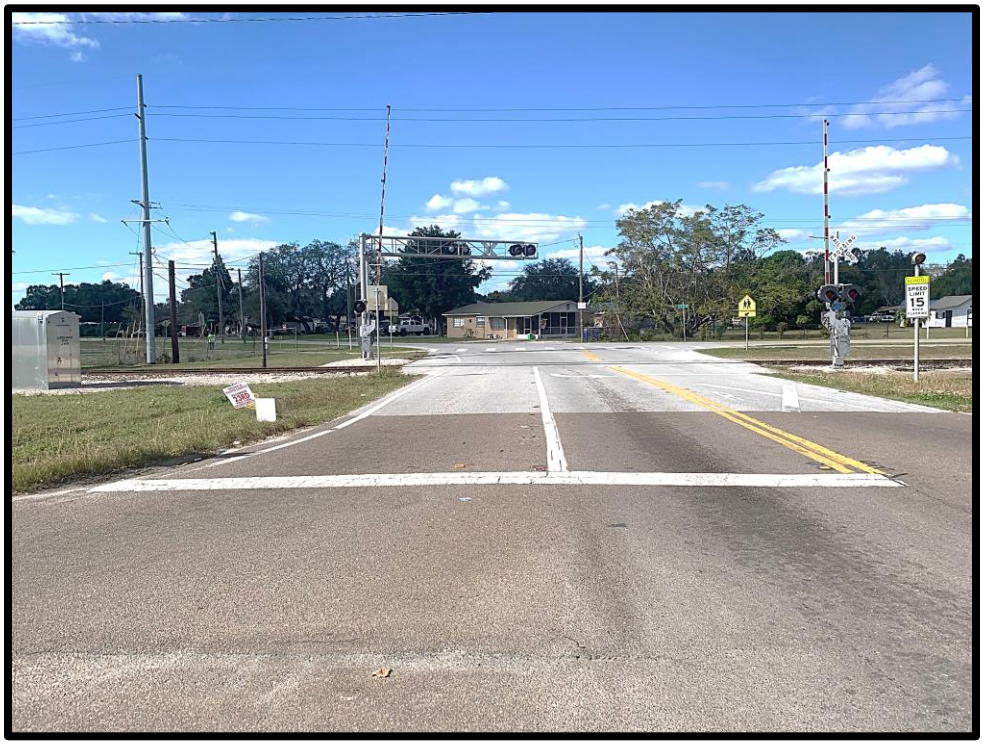
Looking South Towards Intersection

Looking North Away From Intersection

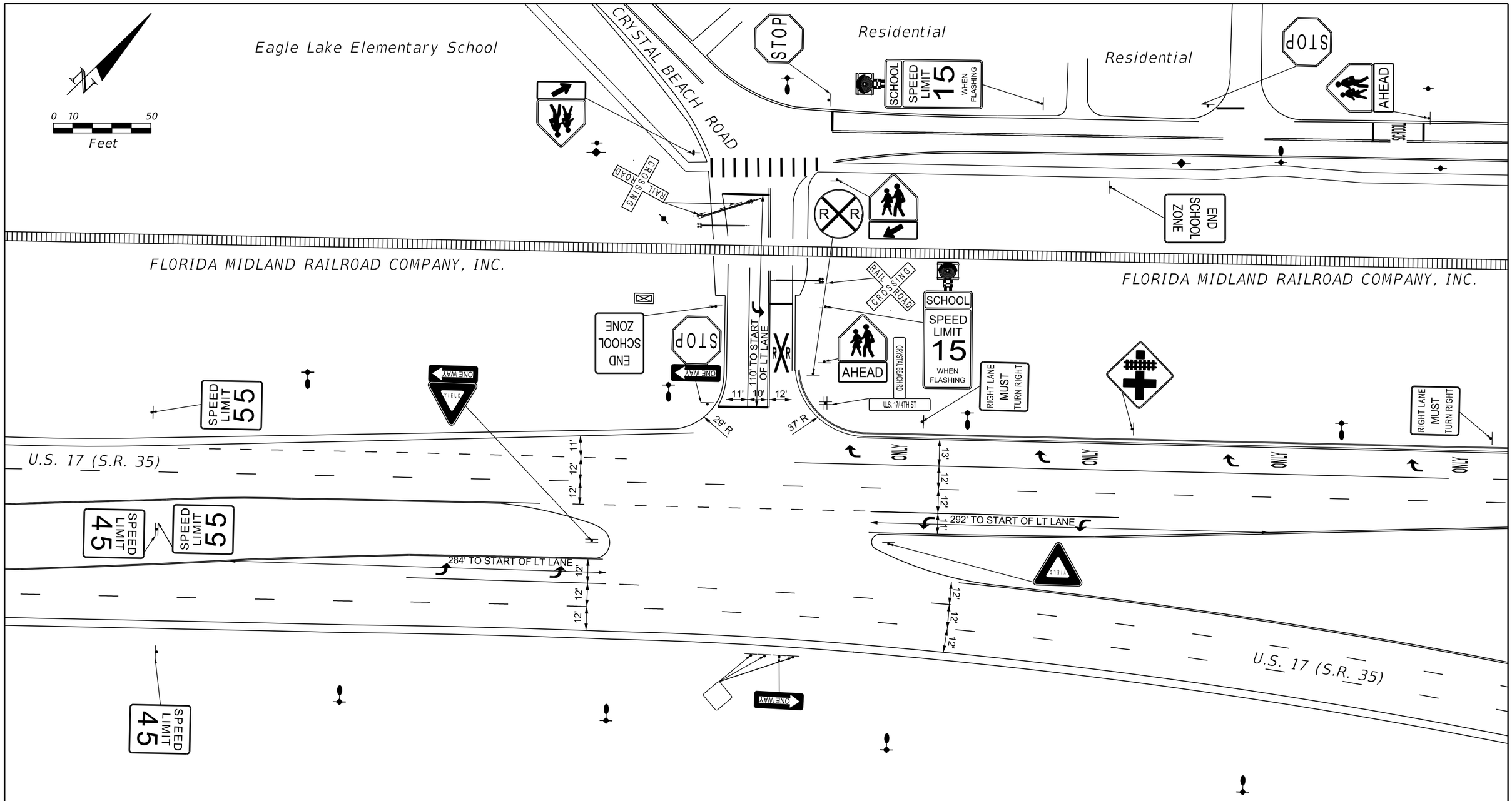
Eastbound Approach Photographs
U.S. 17 at Crystal Beach Road



Looking East Towards Intersection



Looking West Away From Intersection



SECTION 16030 -- MP 24.953
U.S. 17 (S.R. 35)
AT CRYSTAL BEACH ROAD
POLK COUNTY - FLORIDA

Utility Pole
Traffic Sign
Luminaire

Symbols:

Traffic Controller Cabinet
Ditch Bottom Inlet
Signal Pole
Pedestrian Signal Pole
Mitered End Section

Traffic Engineering Data Solutions, Inc.
80 Spring Vista Drive Phone: 386.753.0558
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CERTIFICATION OF AUTHORIZATION # 27392

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

FIGURE 3
EXISTING CONDITION DIAGRAM

Traffic Volumes

- Twenty-four-hour approach counts were conducted on all three (3) approaches at the study intersection as summarized below in ***Table 2***. According to these counts, the intersection had a daily traffic volume of 23,739 vehicles that entered the intersection consisting of 10,105 northbound vehicles, 10,890 southbound vehicles, and 2,744 eastbound vehicles.

Table 2
Summary of 24-Hour Approach Counts
U.S. 17 at Crystal Beach Road

TIME	North	South	N/S TOTAL	East	E/W TOTAL	GRAND TOTAL
24 - 1	57	88	**145**	8	**8**	**153**
1 - 2	32	40	**72**	21	**21**	**93**
2 - 3	31	71	**102**	6	**6**	**108**
3 - 4	44	71	**115**	17	**17**	**132**
4 - 5	103	173	**276**	42	**42**	**318**
5 - 6	249	401	**650**	82	**82**	**732**
6 - 7	621	759	**1,380**	234	**234**	**1,614**
7 - 8	881	893	**1,774**	325	**325**	**2,099**
8 - 9	700	608	**1,308**	161	**161**	**1,469**
9 - 10	523	465	**988**	116	**116**	**1,104**
10 - 11	505	477	**982**	162	**162**	**1,144**
11 - 12	567	580	**1,147**	112	**112**	**1,259**
12 - 13	588	640	**1,228**	134	**134**	**1,362**
13 - 14	680	621	**1,301**	133	**133**	**1,434**
14 - 15	664	673	**1,337**	250	**250**	**1,587**
15 - 16	751	788	**1,539**	177	**177**	**1,716**
16 - 17	819	832	**1,651**	229	**229**	**1,880**
17 - 18	849	877	**1,726**	173	**173**	**1,899**
18 - 19	472	542	**1,014**	129	**129**	**1,143**
19 - 20	319	449	**768**	97	**97**	**865**
20 - 21	220	317	**537**	52	**52**	**589**
21 - 22	209	251	**460**	50	**50**	**510**
22 - 23	135	157	**292**	19	**19**	**311**
23 - 24	86	117	**203**	15	**15**	**218**
	10,105	**10,890**	**20,995**	**2,744**	**2,744**	**23,739**

Based on a review of the twenty-four-hour count data, eight (8) hours of manual turning movement counts were collected from 6:00 to 9:00 a.m., 10:00 to 11:00 a.m., and 2:00 to 6:00 p.m. on a weekday. The vehicular movements are summarized in ***Table 3***. Vehicular, pedestrian, and bicycle movement summaries are provided in the ***Appendix***.

- The intersection morning peak hour occurred from 7:00 a.m. to 8:00 a.m., while the afternoon peak hour occurred from 4:45 p.m. to 5:45 p.m. For the morning and afternoon peak hours, 2,111 and 2,157 vehicles were counted entering the intersection, respectively.

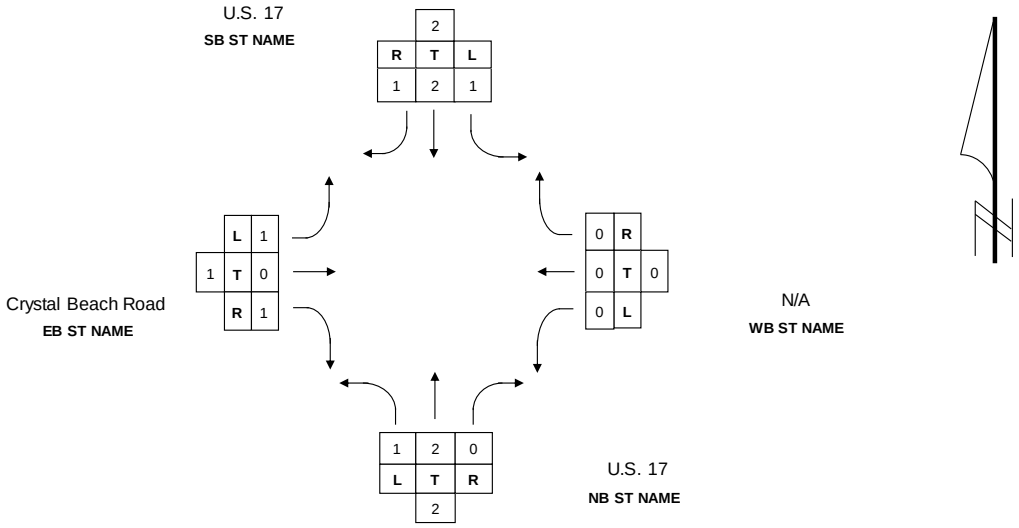
Table 3
Summary of 8-Hour Vehicular Turning Movements
U.S. 17 at Crystal Beach Road

FLORIDA DEPARTMENT OF TRANSPORTATION

SUMMARY OF VEHICLE MOVEMENTS

SECTION	16030	**CITY**	Eagle Lake	**COUNTY**	Polk
STATE ROUTE	U.S. 17	**INTERSECTING ROUTE**	Crystal Beach Road		
OBSERVER	TEDS	**DATE**	1/8/2019	**MILEPOST**	24.953
WEATHER	Sunny	**ROAD CONDITION**	Good		
REMARKS					

FORM COMPLETED BY TSH **DATE** 01/17/19



TIME	NORTHBOUND					SOUTHBOUND					TOTAL	EASTBOUND					WESTBOUND					TOTAL
BEGIN/END	L	T	R	U	TOT	L	T	R	U	TOT	N/S	L	T	R	U	TOT	L	T	R	U	TOT	E/W
6:00 - 7:00	21	541	0	0	562	0	694	45	0	739	1,301	106	0	13	0	119	0	0	0	0	0	119
7:00 - 8:00	68	862	0	0	930	0	870	98	0	968	1,898	143	0	70	0	213	0	0	0	0	0	213
8:00 - 9:00	26	733	0	0	759	0	640	66	0	706	1,465	94	0	21	0	115	0	0	0	0	0	115
10:00 - 11:00	15	532	0	0	547	0	469	72	3	544	1,091	58	0	18	0	76	0	0	0	0	0	76
2:00 - 3:00	46	615	0	0	661	0	575	161	1	737	1,398	81	0	30	0	111	0	0	0	0	0	111
3:00 - 4:00	42	702	0	2	746	0	718	137	1	856	1,602	98	0	45	0	143	0	0	0	0	0	143
4:00 - 5:00	44	837	0	0	881	0	775	135	1	911	1,792	98	0	43	0	141	0	0	0	0	0	141
5:00 - 6:00	41	956	0	1	998	0	878	164	0	1,042	2,040	88	0	29	0	117	0	0	0	0	0	117
TOTAL	303	5,778	0	3	6,084	0	5,619	878	6	6,503	12,587	766	0	269	0	1,035	0	0	0	0	0	1,035

- During the eight (8) hours of manually collected turning movement counts, heavy trucks, which include single unit trucks such as delivery trucks (Class 5 to 7) and tractor-trailer trucks (Class 8 to 15), accounted for approximately 3.6% of the traffic passing through the intersection.
- Two (2) pedestrians and three (3) bicyclists were observed traversing the intersection during the count period. One (1) pedestrian traveled northbound while the other pedestrian travelled southbound. All pedestrian/bicycle activity was along U.S. 17.

Collision Data

Crash data for the 36-month period between January 1, 2015 and December 31, 2017 was obtained from FDOT's *CARS* database and University of Florida's *Signal Four Analytics*. A total of 16 crashes were reported at the intersection as summarized in ***Table 4*** below:

Table 4
Crash Type Summary
U.S. 17 at Crystal Beach Road

CRASH TYPE	2015	2016	2017	TOTAL	AVERAGE PER YEAR
Angle	3	5	3	11	3.7
Rear-End	0	0	2	2	0.7
Right-Turn	0	1	0	1	0.3
Side-Swipe	0	1	1	2	0.7
Total	**3**	**7**	**6**	**16**	**5.3**

Source: Florida Department of Transportation and University of Florida's Signal Four Analytics

- The crashes resulted in zero (0) fatalities, six (6) injuries, and $78,350 in estimated property damage.
- 14 crashes occurred during the day and the remaining two (2) crashes occurred at night.
- 15 crashes occurred on dry pavement conditions and one (1) crash occurred on wet pavement conditions.
- The angle crashes are summarized as follows:
    - Ten (10) involved eastbound left-turning drivers who failed to yield to southbound through vehicles. The crash reports for three (3) of these crashes indicated there was a vehicle in the southbound right-turn lane at the time the eastbound left-turning drivers were attempting to complete the turn.
    - One (1) involved an eastbound left-turning driver who failed to yield to a northbound left-turning vehicle. The crash report noted the at-fault driver stated her vision was obscured by the sun in her eyes.
- One (1) side-swipe crash occurred when an eastbound left-turning driver struck another eastbound left-turning driver who was staged in the median opening.

Additionally, crash data for the period from January 1, 2018 to December 31, 2018 was obtained from the University of Florida's *Signal Four Analytics*. Over this period, three (3) angle crashes were reported at the study intersection and all were the result of an eastbound left-turning driver failing to yield to a southbound through vehicle. Two (2) of the three crashes resulted in possible injuries. Two (2) of these crashes indicated there was a vehicle in the southbound right-turn lane at the time the eastbound left-turning drivers were attempting to complete the turn.

Detailed collision summaries and collision diagrams are also provided in the ***Appendix***.

Intersection Delay

An intersection delay study was performed for both the eastbound left-turn and right-turn movements. Procedures from the MUTS were applied to determine the summarized results presented in ***Table 5***.

Table 5
Summary of Delay Studies
U.S. 17 at Crystal Beach Road

Movement	Time	Maximum Queue (Veh)	Average Delay per Vehicle (Sec)	Maximum Delay per Vehicle (Sec)	Volume (Veh/Hr)	Total Delay (Veh-Sec)	Total Delay (Veh-Hr)
Eastbound Left-turn Movement	7:00 AM - 8:00 AM	9	30	137	162	4,784	1.37
	4:15 PM - 5:15 PM	7	27	136	98	2,685	0.76
Eastbound Right-turn Movement	7:00 AM - 8:00 AM	5	16	50	65	1,046	0.32
	4:15 PM - 5:15 PM	3	17	50	35	600	0.17

Generally, an average delay in excess of 60 seconds is considered excessive at an unsignalized intersection and what could typically be expected if the intersection were signalized. As shown in ***Table 5***, the average delay for the eastbound left-turn movement ranged from 27.4 seconds per vehicle to 29.5 seconds per vehicle. The maximum delay that was recorded for the eastbound left-turn movement was 137 seconds and 136 seconds during the morning and afternoon peak periods, respectively. A total of 55 eastbound left-turn vehicles experienced delay in excess of 60 seconds over the two-hour period. The average delay for the eastbound right-turn movement ranged from 16.1 seconds per vehicle to 17.1 seconds per vehicle. The maximum delay that was recorded for the eastbound right-turn movement was 50 seconds during both peak periods.

The intersection of Crystal Beach Road and 3rd Street is located approximately 140 feet west of the study intersection. Queues were observed extending from U.S. 17 and through the 3rd Street intersection. Because of this queue, it was unknown if drivers who were queued past 3rd Street were going to turn onto 3rd Street or continue to U.S. 17. For the purposes of this delay study calculation, drivers who ultimately turned onto 3rd Street were released from the queue when they turned.

3

QUALITATIVE ASSESSMENT

The intersection of U.S. 17 at Crystal Beach Road was observed by a registered professional engineer during the peak hours to assess existing operating conditions and to determine if installing a traffic signal would be potentially beneficial.

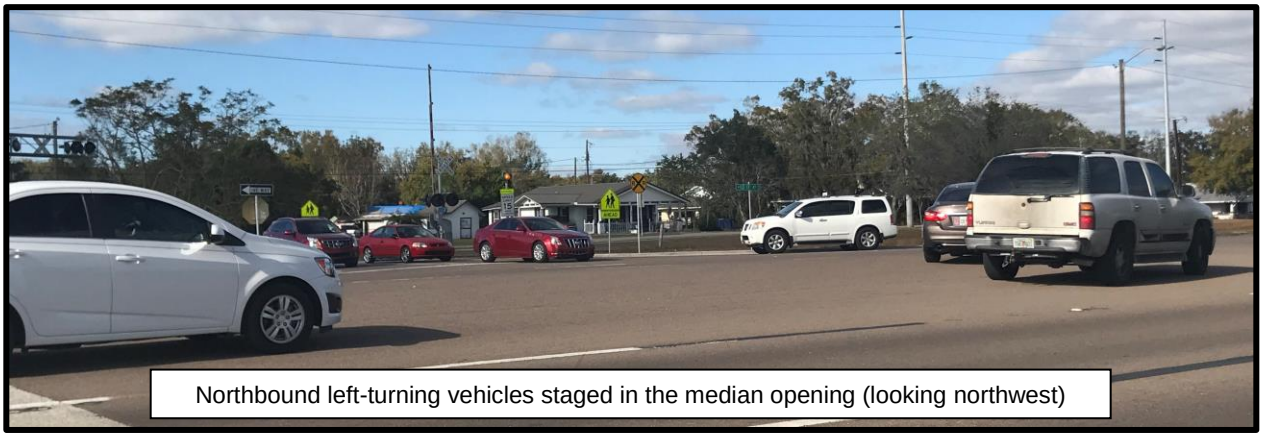
Operations

Operations include the efficiency of operation and interaction of motor vehicles, pedestrians, and bicyclists at the intersection. The following observations were made with respect to the roadway and roadside characteristics of the study location.

- The posted speed limit at the intersection is 45 mph, however increases to 55 mph just south of the intersection. Northbound and southbound vehicles on U.S. 17 appeared to be travelling at or above 55 mph. Most northbound drivers did not appear to have slowed as they travelled through the intersection.
- U.S. 17 is a four-lane divided roadway south of the study intersection and transitions into a one-way pair facility to the north with three through lanes in each direction. While travelling southbound the outermost through lane becomes a right-turn "drop" lane at Crystal Beach Road. While traveling northbound, the third through lane is developed out of the median opening. Many drivers in the middle northbound through lane were observed changing into the inside through lane while driving past the median opening.
- No pedestrians or bicyclists were observed at the intersection during the field observations.
- There is adequate sight distance for all approaches, with the exception of when there are right-turning vehicles in the southbound right-turn lane. Several crash reports noted that eastbound left-turning drivers were unable to see approaching southbound through vehicles due to a southbound right-turning vehicle within the turn lane.
- Florida Midland Railroad Company tracks extend along the west side of U.S. 17 with a crossing (Crossing # 623049F) on Crystal Beach Road, approximately 100 feet west of the intersection. There is sufficient space for two (2) eastbound vehicles to queue at the stop bar while waiting to enter U.S. 17. The maximum observed eastbound queue was 10 vehicles with a few instances of eastbound vehicles stopping on the tracks. The USDOT crossing inventory form indicates there are no daily trains at this crossing, however there are two switching trains daily. A rail yard was noted south of the study intersection. There was one slow-moving train crossing during the field observation. The train travelled northbound and then came back southbound within 10 minutes. Vehicles arrived at the intersection during the train crossings. All motorists appropriately observed the train. No conflicts were observed with vehicles waiting to cross the tracks and the delay to motorists was short.
- 3rd Street is located approximately 150 feet west of the study intersection and intersects with Crystal Beach Road. Southbound 3rd Street is under STOP control with eastbound and westbound Crystal Beach Road having the right-of-way. No conflicts were observed with southbound drivers on 3rd Street accessing Crystal Beach Road.
- Eagle Lake Elementary School is located on Crystal Beach Road, approximately 750 feet west of U.S. 17. School hours are 8:00 a.m. to 3:00 p.m. A reduced speed school zone begins immediately west of U.S. 17 and extends through 3rd Street. A school crossing

guard is posted at the intersection of Crystal Beach Road and 3rd Street, crossing students on the east side of this intersection (just west of the railroad crossing). The crossing guard stated that he is there from 7:10 to 8:10 a.m. and 2:55 to 3:25 p.m. on school days. Westbound drivers who queued while waiting for the crossing were observed avoiding stopping on the railroad tracks. There was one occasion during the afternoon peak period when a queue of two (2) vehicles had developed in the southbound right-turn lane due to westbound traffic being stopped for the school crossing. No conflicts were observed with the crossing of students at the school crossing and the crossing guard did not indicate any concerns.

- The northbound left-turn volumes were generally low, with an average of 38 vph and a maximum of 68 vph from 7:00 to 8:00 a.m. A maximum queue of four (4) northbound left-turning vehicles was observed. The median opening is wide enough for drivers to stack next to each other (rather than behind) while waiting for a gap in southbound traffic (see photo below). One instance was observed when the leading driver was not taking advantage of available gaps in southbound traffic and the following driver attempted to travel along the right side of that vehicle in order to complete a turn. The leading vehicle started to move and nearly struck the following vehicle.



Northbound left-turning vehicles staged in the median opening (looking northwest)

- Southbound right-turn volumes were moderate, averaging 110 vph throughout the count period. A maximum of 164 vph occurred from 5:00 to 6:00 p.m. No conflicts were observed with southbound right-turning vehicles.
- The peak movement from Crystal Beach Road is the eastbound left-turn movement, averaging nearly 75% of the total approach volume. Volumes ranged from 58 to 143 vph throughout the day. Eastbound right-turn volumes were low, averaging 34 vph throughout the day. Eastbound right-turn movements were generally completed without conflict; however, challenges were noted when an eastbound left-turning driver would pull past the stop bar and block the sight line for the right-turning driver. Eastbound left-turning drivers were observed using two-stage maneuvers, crossing the southbound lanes of U.S. 17 and staging in the median opening to wait for a gap in northbound traffic. Numerous conflicts were noted with the eastbound left-turn movement:
    - Up to three (3) left-turning vehicles were staged within the opening at one time, including eastbound and northbound left-turning vehicles. When multiple vehicles are staged, each one blocks the view of the other, resulting in drivers not knowing who will go first and who should yield. Although all related vehicles were able to successfully maneuver through the median, there were sight distance issues created by the staging vehicles.

  - Due to the third northbound through lane developing from the median opening, many drivers were observed immediately accessing the inside northbound through lane without stopping/yielding for approaching northbound vehicles. This resulted in conflicts with the approaching northbound through drivers who were attempting to change lanes from the middle to the inside lane (using the median opening to access the lane).
  - Those leading drivers who stopped in the median opening occasionally caused following drivers to take evasive action to avoid a rear-end collision with the leading vehicle.
  - Some eastbound left-turning drivers did not yield to northbound left-turning drivers, causing the northbound driver to abruptly brake.
- A maximum queue of 10 and six (6) eastbound left-turning vehicles was observed during the morning and afternoon peak periods, respectively. While the average delay for the eastbound approach was low, there were maximum delays of over 2 minutes. Delays were observed to be higher during the morning peak hour.

Safety

In addition to the collision data evaluation, the following observations were made with respect to the safety of the study location:

- No significant signs of skid marks, plastic, or other indication of a crash were observed at this intersection.
- During the time period of January 1, 2015 through December 31, 2018, a total of 15 crashes have been reported that would be potentially correctable with the installation of a traffic signal.
  - 13 angle crashes that involved eastbound left-turning drivers who failed to yield to southbound through vehicles. The crash reports for five (5) of these crashes indicated there was a vehicle in the southbound right-turn lane at the time the eastbound left-turning drivers were attempting to complete the turn.
  - One (1) angle crash that involved an eastbound left-turning driver who failed to yield to a northbound left-turning vehicle. The crash report noted the at-fault driver stated her vision was obscured by the sun in her eyes.
  - One (1) side-swipe crash occurred when an eastbound left-turning driver struck another eastbound left-turning driver who was staged in the median opening.

Maintenance

During the various field reviews, the condition of the study location's pavement, pavement markings, and signing were observed. The following are observations related to maintenance of the intersection:

- The signs, pavement and pavement markings at the intersection were observed to be in good condition, with the exception of the following:
  - The yellow skip pavement markings that divide the southbound inside lane from the median opening are faded.

4

TRAFFIC SIGNAL WARRANT ANALYSIS AND RECOMMENDATIONS

The traffic volumes, geometric conditions, and crash data at the intersection were analyzed, summarized, and then compared with the warrants for the installation of a traffic signal contained within the MUTCD and MUTS.

Upon conducting the Signal Warrant Analysis, the northbound and southbound approaches on U.S. 17 were used as the major street and the eastbound left-turn movement on Crystal Beach Road was used as the minor street. For the purposes of the warrant analysis, the major street was treated as a two-lane approach and the minor-street was treated as a one-lane approach (left-turn lane only). Finally, based on the critical speed of 45 mph on U.S. 17, the 70% volume criterion was applied to the analysis. When considering crash history for the signal warrant analysis, the worst-case time period was used, which was during the 12-month period from June 1, 2016 to May 31, 2017. During this time period, there were nine (9) crashes reported at the study intersection susceptible to correction by the installation of a traffic signal. ***Table 6*** below summarizes the results of the warrant analysis.

Table 6
Signal Warrant Analysis Summary
U.S. 17 at Crystal Beach Road

Warrant		Applicable	Satisfied	Comments
1A	**Minimum Vehicular Volume**	**Yes**	**No**	This warrant is not met as the minor street traffic volumesmet the threshold for six (6) hours (must be met for eight (8) hours of an average day).
1B	**Interruption of Continuous Traffic**	**No**	**N/A**	This warrant is not applicable.
2	**Four Hour Vehicular Volume**	**Yes**	**Yes**	This warrant is satisfied as the traffic volumes met the 70% threshold of this warrant for four (4) hours (must be met for any four (4) hours of an average day).
3A	**Peak Hour Delay**	**No**	**N/A**	This warrant is not applicable as there is no unusual traffic generator at the intersection.
3B	**Peak Hour Volume**	**No**	**N/A**	This warrant is not applicable.
4	**Pedestrian Volume**	**Yes**	**No**	The pedestrian volumes do not satisfy this warrant.
5	**School Crossing**	**No**	**N/A**	This warrant is not applicable as no school crossing exists at the intersection.
6	**Coordinated Signal System**	**No**	**N/A**	This warrant is not applicable as the intersection is not within a coordinated network.
7	**Crash Experience**	**Yes**	**No**	This warrant is not satisfied as no remedial measures have been implemented reduce the crashes and Warrants 1A, 1B or 4 are not met. There were nine (9) crashes potentially correctable by a traffic signal that occurred within the 12-month study period. (a total of five (5) crashes within a 12-month period are required to satisfy this warrant).
8	**Roadway Network**	**No**	**N/A**	This warrant is not applicable as the minor street does not meet the criteria.
9	**Railroad Crossing**	**No**	**N/A**	This warrant is not applicable, as other warrants are met for signalization and other alternatives were not considered to alleviate concerns with the crossing.

Based on the signal warrant analysis, Warrant #2 (Four-Hour Vehicular Volume) is met for the consideration of the installation of a traffic signal at the intersection of U.S. 17 and Crystal Beach Road. Based on the field observations, data and crash history it is recommended a traffic signal not be installed at the intersection of U.S. 17 and Crystal Beach Road until other remedial measures have been considered.

APPENDIX

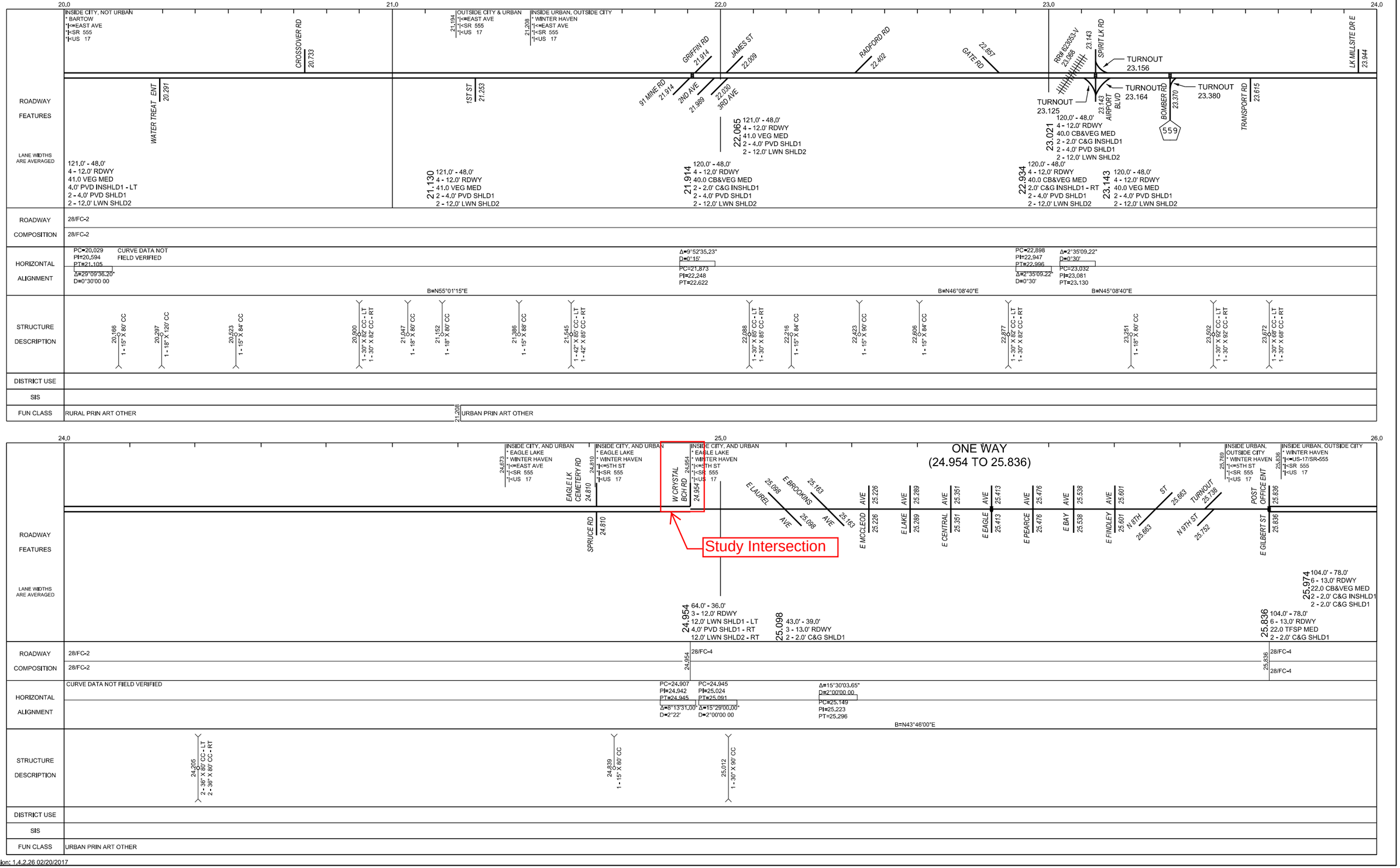
STRAIGHT LINE DIAGRAM

	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	02/14/2017	03/17/2017	24.810	24.810		04/18/2018
BY	FTE	FTE				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO.
12	US 17/US 98	SR 35/SR 700/SR 555	POLK	01	16030000	5 OF 7



Version: 1.4.2.26 02/20/2017

SIGNAL WARRANT ANALYSIS WORKSHEETS

TRAFFIC SIGNAL WARRANT SUMMARY

City: **Eagle Lake** Engineer: **SAN**
County: **Polk** Date: **January 22, 2019**

Major Street: **US 17** Lanes: **2** Critical Approach Speed: **45**
Minor Street: **Crystal Beach Road** Lanes: **1**

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (40 mph) ? ■ Yes ☐ No
2. Is the intersection in a built-up area of isolated community of <10,000 population? ■ Yes ☐ No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level ■ 70% ☐ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Applicable: ■ Yes ☐ No
Satisfied: ■ Yes ☐ No

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied.
Warrant is also satisfied if both Condition A and Condition B are "80%" satisfied.

Condition A - Minimum Vehicular Volume

100% Satisfied: ☐ Yes ■ No
80% / 56% Satisfied: ☐ Yes ■ No

(volumes in veh/hr)	Minimum Requirements (80% Shown in Brackets)				Eight Highest Hours							
Approach Lanes	1		2 or more		600	700	800	1000	1400	1500	1600	1700
Volume Level	100%	70%	100%	70%								
Both Approaches on Major Street	500 (400)	350 (280)*	600 (480)	420 (336)*	1,301	1,898	1,465	1,091	1,398	1,602	1,792	2,040
Highest Approach on Minor Street	150 (120)	105 (84)*	200 (160)	140 (112)*	106	143	94	58	81	98	98	88

Record 8 highest hours and the corresponding volumes in boxes provided. Condition is 100% satisfied if the minimum volumes are met for eight hours . Condition is (80%) / (56%) satisfied if parenthetical volumes are met for eight hours.*

Condition B - Interruption of Continuous Traffic

Applicable: ☐ Yes ■ No
Excessive Delay/Conflict: ☐ Yes ■ No
100% Satisfied: ■ Yes ☐ No
80% / 56% Satisfied: ■ Yes ☐ No

Condition B is intended for application where the traffic volume is so heavy that traffic on the minor street suffers excessive delay or conflict.

(volumes in veh/hr)	Minimum Requirements (80% Shown in Brackets) {56% Shown in Brackets}				Eight Highest Hours							
Approach Lanes	1		2 or more		600	700	800	1000	1400	1500	1600	1700
Volume Level	100%	70%	100%	70%								
Both Approaches on Major Street	750 (600)	525 (420)*	900 (720)	630 (504)*	1,301	1,898	1,465	1,091	1,398	1,602	1,792	2,040
Highest Approach on Minor Street	75 (60)	53 (42)*	100 (80)	70 (56)*	106	143	94	58	81	98	98	88

Record 8 highest hours and the corresponding volumes in boxes provided. Condition is 100% satisfied if the minimum volumes are met for eight hours . Condition is (80%) / (56%) satisfied if parenthetical volumes are met for eight hours.*

Source: Revised from NCHRP Report 457

TRAFFIC SIGNAL WARRANT SUMMARY

City: **Eagle Lake** Engineer: **SAN**
County: **Polk** Date: **January 22, 2019**

Major Street: **US 17** Lanes: **2** Critical Approach Speed: **45**
Minor Street: **Crystal Beach Road** Lanes: **1**

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (40 mph) ? ■ Yes ☐ No
2. Is the intersection in a built-up area of isolated community of <10,000 population? ■ Yes ☐ No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level ■ 70% ☐ 100%

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

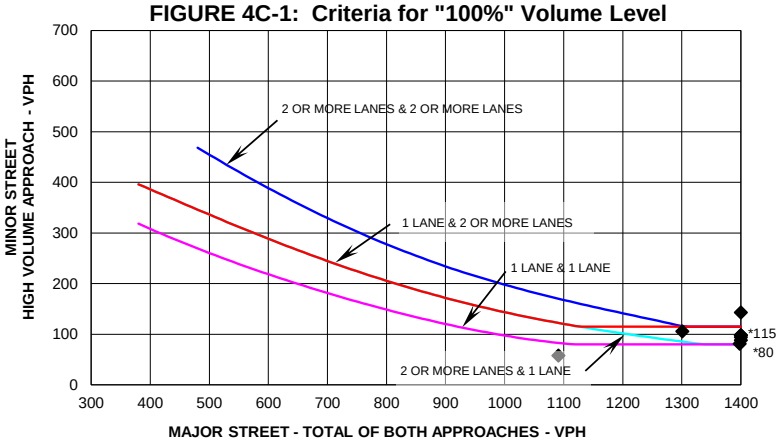
Applicable: ■ Yes ☐ No
Satisfied: ■ Yes ☐ No

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

Plot four volume combinations on the applicable figure below.

Warranting Volumes			Met	
Hour	Major Street	Minor Street	100%	70%
600	1,301	106	■	■
700	1,898	143	■	■
800	1,465	94	■	■
1000	1,091	58		
1400	1,398	81	■	■
1500	1,602	98	■	■
1600	1,792	98	■	■
1700	2,040	88	■	■

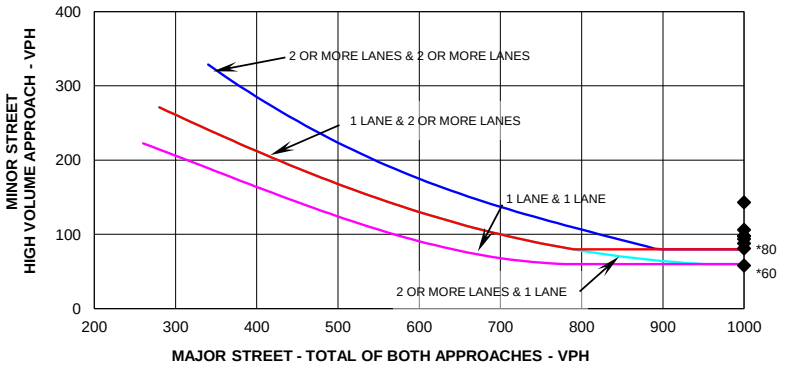
FIGURE 4C-1: Criteria for "100%" Volume Level



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

Source: Revised from NCHRP Report 457

TRAFFIC SIGNAL WARRANT SUMMARY

City: **Eagle Lake** Engineer: **SAN**
County: **Polk** Date: **January 22, 2019**

Major Street: **US 17** Lanes: **2** Critical Approach Speed: **45**
Minor Street: **Crystal Beach Road** Lanes: **1**

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (40 mph) ? ■ Yes ☐ No
2. Is the intersection in a built-up area of isolated community of <10,000 population? ■ Yes ☐ No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level ■ 70% ☐ 100%

WARRANT 3 - PEAK HOUR

Applicable: ☐ Yes ■ No
Satisfied: ■ Yes ☐ No

If all three criteria are fullfilled or any of the plotted points lie above the appropriate line, then the warrant is satisfed.

Unusual condition justifying use of warrant:

School

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

Warranting Volumes			100%	70%
600	1,301	106		■
700	1,898	143	■	■
800	1,465	94		■
1000	1,091	58		
1400	1,398	81		■
1500	1,602	98		■
1600	1,792	98		■
1700	2,040	88		■

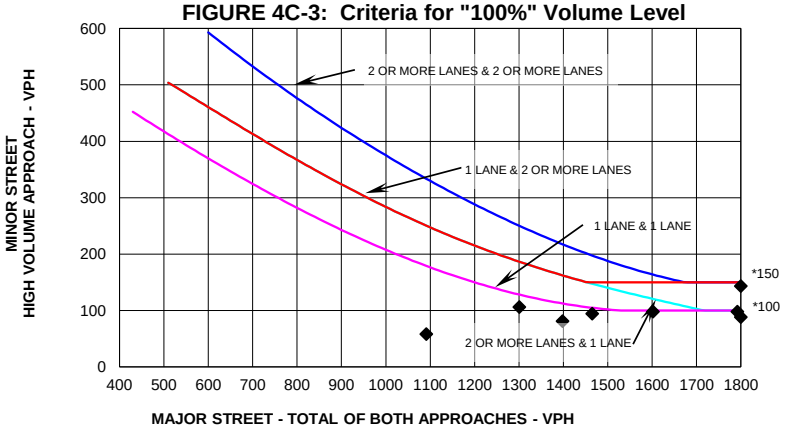
1. Delay on Minor Approach *(vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*	0.0	0.0
Fulfilled?: ☐ Yes	■ No	

2. Volume on Minor Approach *(vehicles per hour)		
Approach Lanes	1	2
Volume Criteria*	100	150
Volume*	0	0
Fulfilled?: ☐ Yes	■ No	

3. Total Entering Volume *(vehicles per hour)		
No. of Approaches	3	4
Volume Criteria*	650	800
Volume*	0	0
Fulfilled?: ☐ Yes	■ No	

Plot volume combination on the applicable figure below.

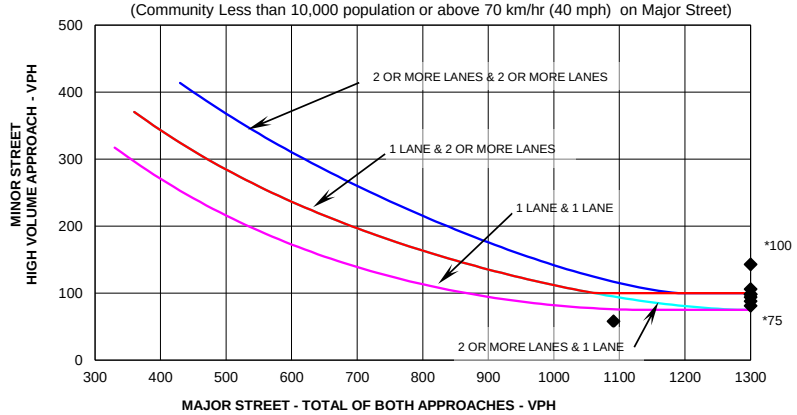
FIGURE 4C-3: Criteria for "100%" Volume Level



** 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 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 75 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

Source: Revised from NCHRP Report 457

TRAFFIC SIGNAL WARRANT SUMMARY

City: **Eagle Lake** Engineer: **SAN**
County: **Polk** Date: **January 22, 2019**

Major Street: **US 17** Lanes: **2** Critical Approach Speed: **45**
Minor Street: **Crystal Beach Road** Lanes: **1**

WARRANT 4 - PEDESTRIAN VOLUME

Applicable: ■ Yes ☐ No
Satisfied: ☐ Yes ■ No

Record hours where criteria are fulfilled and the corresponding volume or gap frequency in the boxes provided. The warrant is satisfied if condition 1 or 2 is fulfilled and condition 3 is fulfilled.

Criteria	Hour	Pedestrian Volume	Pedestrian Gaps	Fulfilled? Yes	Fulfilled? No
1. Pedestrian volume crossing the major street is 100 ped/hr or more for each of any four hours and there are less than 60 gaps per hour in the major street traffic stream of adequate length.	1300	0	0		■
	1400	0	0		
	1500	1	0		
	1600	1	0		
2. Pedestrian volume crossing the major street is 190 ped/hr or more for any one hour and there are less than 60 gaps per hour in the major street traffic stream of adequate length.	1500	1	0		■
3. The nearest traffic signal along the major street is located more than 90 m (300 ft) away, or the nearest signal is within 90 m (300 ft) but the proposed traffic signal will not restrict the progressive movement of traffic.				■	

WARRANT 5 - SCHOOL CROSSING

Applicable: ☐ Yes ■ No
Satisfied: ☐ Yes ■ No

Record hours where criteria are fulfilled and the corresponding volume or gap frequency in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Criteria				Fulfilled? Yes	Fulfilled? No
1. There are a minimum of 20 students crossing the major street during the highest crossing hour.	Students: 0	Hour: 0			■
2. There are fewer adequate gaps in the major street traffic stream during the period when the children are using the crossing than the number of minutes in the same period		Minutes: 0	Gaps: 0		■
3. The nearest traffic signal along the major street is located more than 90 m (300 ft) away, or the nearest signal is within 90 m (300 ft) but the proposed traffic signal will not restrict the progressive movement of traffic.				■	

WARRANT 6 - COORDINATED SIGNAL SYSTEM

Applicable: ☐ Yes ■ No
Satisfied: ☐ Yes ■ No

Indicate if the criteria are fulfilled in the boxes provided. The warrant is satisfied if either criterion is fulfilled. This warrant should not be applied when the resulting signal spacing would be less than 300 m (1,000 ft).

Criteria	Fulfilled? Yes	Fulfilled? No
1. On a one-way street or a street that has traffic predominately in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.		■
2. On a two-way street, adjacent signals do not provide the necessary degree of platooning, and the proposed and adjacent signals will collectively provide a progressive operation.	■	

Source: Revised from NCHRP Report 457

TRAFFIC SIGNAL WARRANT SUMMARY

City: **Eagle Lake** Engineer: **SAN**
County: **Polk** Date: **January 22, 2019**

Major Street: **US 17** Lanes: **2** Critical Approach Speed: **45**
Minor Street: **Crystal Beach Road** Lanes: **1**

WARRANT 7 - CRASH EXPERIENCE

Applicable: ■ Yes ☐ No
Satisfied: ☐ Yes ■ No

Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Criteria		Hour	Volume	Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. One of the warrants to the right is met.	Warrant 1, Condition A (80% satisfied)				■		
	Warrant 1, Condition B (80% satisfied)			■			
	Warrant 4, Pedestrian Volume at 80% of volume requirements: 80 ped/hr for four (4) hours or 152 ped/hr for one (1) hour	1300	0			■	
		1400	0		■		
		1500	1				
		1600	1				
2. Adequate trial of other remedial measure has failed to reduce crash frequency.		Measure tried:	None				■
3. Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-mo. period.		Number of crashes per 12 months:	9			■	

WARRANT 8 - ROADWAY NETWORK

Applicable: ☐ Yes ■ No
Satisfied: ☐ Yes ■ No

Record hours where criteria are fulfilled, and the corresponding volume or other information in the boxes provided. The warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the characteristics listed.

Criteria							Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. Both of the criteria to the right are met.	a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour.			Entering Volume: 0				■		■
	b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.	Warrant:		1	2	3	■			
		Satisfied?:		NO	YES	NO				
2. Total entering volume at least 1,000 veh/hr for each of any 5 hrs of a non-normal business day (Sat. or Sun.)	N/A	N/A	N/A	N/A	N/A	← Hour				■
	N/A	N/A	N/A	N/A	N/A	← Volume				

Characteristics of Major Routes		Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. Part of the street or highway system that serves as the principal roadway network for through traffic flow.	Major Street:	■			
	Minor Street:		■		
2. Rural or suburban highway outside of, entering, or traversing a city.	Major Street:	■		■	
	Minor Street:		■		
3. Appears as a major route on an official plan.	Major Street:	■			
	Minor Street:		■		

CONCLUSIONS

Warrants Satisfied: **1** **2**

Remarks:

Source: Revised from NCHRP Report 457

TRAFFIC SIGNAL WARRANT SUMMARY

City: **Eagle Lake**
County: **Polk**

Engineer: **SAN**
Date: **January 22, 2019**

Major Street: **US 17**
Minor Street: **Crystal Beach Road**

Number of Minor Street Approach Lanes: **2**
Crossing RXR Tracks:
Clear Storage Distance (D) feet: **80**

Applicability Criteria

Is there a railroad grade crossing in the proximity of the intersection? ■ Yes ☐ No

None of the conditions described in the other eight traffic signal warrants are met. ■ Yes ☐ No

Adequate consideration has been given to other alternatives or a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing. Among the alternatives that were considered or tried are: ☐ Yes ■ No

A. Providing additional pavement that would enable vehicles to clear the track or that would provide space for an evasive maneuver, or

B. Reassigning the stop controls at the intersection to make the approach across the track a non-stopping approach.

Warrant Applicable: ☐ Yes ■ No

WARRANT 9 - INTERSECTION NEAR A GRADE CROSSING

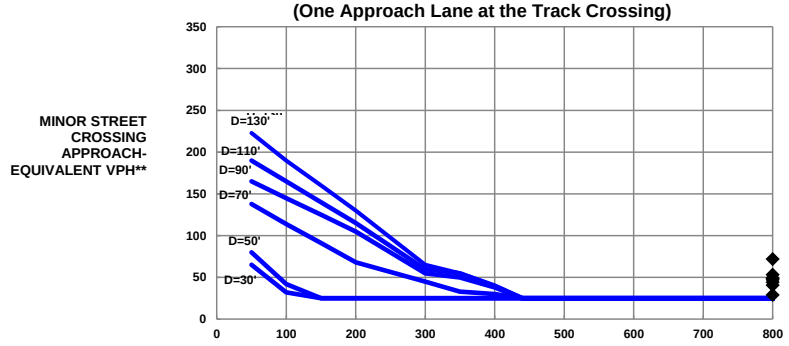
If there is a railroad grade crossing on an approach controlled by a STOP or YIELD sign and the center of the track nearest the intersection is within 140 feet of the stop line or yield line on the approach, and any point lies above the appropriate line, then the warrant is satisfied.

Warrant Satisfied: ■ Yes ☐ No

Warranting Volumes			Met	
Hour	Major Street	Minor St. Equiv.	1 LN	2 LN
700	1,301	53		■
800	1,898	72		■
900	1,465	47		■
1100	1,091	29		■
1400	1,398	41		■
1500	1,602	49		■
1600	1,792	49		■
1700	2,040	44		■
		Satisfied		■

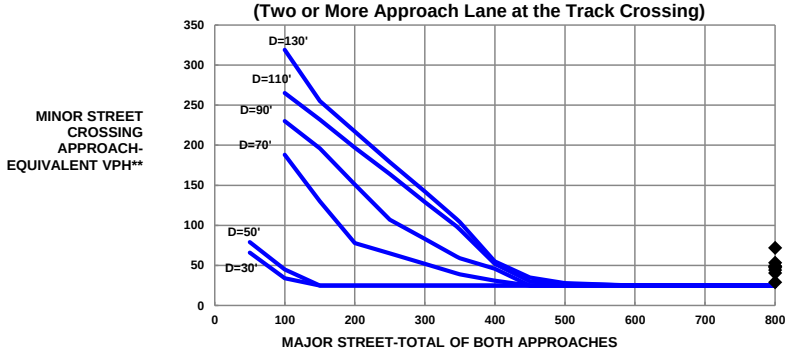
Adjustment Factor for Daily Frequency of Rail Traffic	0.67
Adjustment Factor for Percentage of High Occupancy Buses	1.00
Adjustment Factor for Percentage of Tractor-Trailer Trucks	0.75

Figure 4C-9. Warrant 9 Intersection Near a Grade Crossing (One Approach Lane at the Track Crossing)



*Note: 25 vph applies as the lower threshold volume
**VPH After applying adjustment factors

Figure 4C-10. Warrant 9 Intersection Near a Grade Crossing (Two or More Approach Lane at the Track Crossing)



*Note: 25 vph applies as the lower threshold volume
**VPH After applying adjustment factors

TRAFFIC VOLUMES

File Name : Not Named 1
Site Code : 00000000
Start Date : 1/8/2019
Page No : 1

Groups Printed- All Vehicles

	US 17 Northbound					US 17 Southbound					CRYSTAL BEACH ROAD Eastbound					N/A Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	4	90	0	0	94	0	141	1	0	142	14	0	1	0	15	0	0	0	0	0	251
06:15 AM	6	108	0	0	114	0	155	6	0	161	22	0	2	0	24	0	0	0	0	0	299
06:30 AM	6	169	0	0	175	0	222	10	0	232	34	0	1	0	35	0	0	0	0	0	442
06:45 AM	5	174	0	0	179	0	176	28	0	204	36	0	9	0	45	0	0	0	0	0	428
Total	21	541	0	0	562	0	694	45	0	739	106	0	13	0	119	0	0	0	0	0	1420
07:00 AM	6	199	0	0	205	0	196	15	0	211	25	0	10	0	35	0	0	0	0	0	451
07:15 AM	14	248	0	0	262	0	208	28	0	236	38	0	11	0	49	0	0	0	0	0	547
07:30 AM	31	245	0	0	276	0	250	24	0	274	38	0	27	0	65	0	0	0	0	0	615
07:45 AM	17	170	0	0	187	0	216	31	0	247	42	0	22	0	64	0	0	0	0	0	498
Total	68	862	0	0	930	0	870	98	0	968	143	0	70	0	213	0	0	0	0	0	2111
08:00 AM	5	188	0	0	193	0	187	15	0	202	24	0	10	0	34	0	0	0	0	0	429
08:15 AM	7	232	0	0	239	0	173	21	0	194	23	0	2	0	25	0	0	0	0	0	458
08:30 AM	7	175	0	0	182	0	147	11	0	158	28	0	4	0	32	0	0	0	0	0	372
08:45 AM	7	138	0	0	145	0	133	19	0	152	19	0	5	0	24	0	0	0	0	0	321
Total	26	733	0	0	759	0	640	66	0	706	94	0	21	0	115	0	0	0	0	0	1580
*** BREAK ***																					
10:00 AM	5	149	0	0	154	2	117	16	0	135	9	0	1	0	10	0	0	0	0	0	299
10:15 AM	1	124	0	0	125	1	104	18	0	123	23	0	3	0	26	0	0	0	0	0	274
10:30 AM	4	125	0	0	129	0	151	22	0	173	17	0	0	0	17	0	0	0	0	0	319
10:45 AM	5	134	0	0	139	0	97	16	0	113	9	0	14	0	23	0	0	0	0	0	275
Total	15	532	0	0	547	3	469	72	0	544	58	0	18	0	76	0	0	0	0	0	1167
*** BREAK ***																					
02:00 PM	8	138	0	0	146	0	153	54	0	207	15	0	5	0	20	0	0	0	0	0	373
02:15 PM	8	168	0	0	176	1	146	34	0	181	19	0	5	0	24	0	0	0	0	0	381
02:30 PM	13	160	0	0	173	0	119	45	1	165	26	0	13	0	39	0	0	0	0	0	377
02:45 PM	17	149	0	0	166	0	157	28	0	185	21	0	7	0	28	0	0	0	0	0	379
Total	46	615	0	0	661	1	575	161	1	738	81	0	30	0	111	0	0	0	0	0	1510
03:00 PM	16	163	0	0	179	1	162	36	0	199	39	0	17	0	56	0	0	0	0	0	434
03:15 PM	14	147	0	0	161	0	181	38	0	219	24	0	12	0	36	0	0	0	0	0	416
03:30 PM	8	194	0	0	202	0	181	39	0	220	10	0	6	0	16	0	0	0	0	0	438
03:45 PM	6	198	0	1	205	0	194	24	0	218	25	0	10	0	35	0	0	0	0	0	458
Total	44	702	0	1	747	1	718	137	0	856	98	0	45	0	143	0	0	0	0	0	1746
04:00 PM	9	212	0	0	221	0	194	26	0	220	23	0	7	0	30	0	0	0	0	0	471
04:15 PM	14	207	0	0	221	0	198	31	0	229	24	0	8	0	32	0	0	0	0	0	482
04:30 PM	11	218	0	0	229	1	187	36	0	224	27	0	14	0	41	0	0	0	0	0	494
04:45 PM	10	200	0	0	210	0	196	42	0	238	24	0	14	0	38	0	0	0	0	0	486
Total	44	837	0	0	881	1	775	135	0	911	98	0	43	0	141	0	0	0	0	0	1933
05:00 PM	6	261	0	0	267	0	205	43	0	248	27	0	8	0	35	0	0	0	0	0	550
05:15 PM	12	289	0	0	301	0	282	41	0	323	22	0	9	0	31	0	0	0	0	0	655
05:30 PM	11	195	0	0	206	0	188	48	0	236	18	0	6	0	24	0	0	0	0	0	466
05:45 PM	13	211	0	0	224	0	203	32	0	235	21	0	6	0	27	0	0	0	0	0	486
Total	42	956	0	0	998	0	878	164	0	1042	88	0	29	0	117	0	0	0	0	0	2157
Grand Total	306	5778	0	1	6085	6	5619	878	1	6504	766	0	269	0	1035	0	0	0	0	0	13624
Apprch %	5	95	0	0		0.1	86.4	13.5	0		74	0	26	0		0	0	0	0		
Total %	2.2	42.4	0	0	44.7	0	41.2	6.4	0	47.7	5.6	0	2	0	7.6	0	0	0	0	0	

File Name : Not Named 1
Site Code : 00000000
Start Date : 1/8/2019
Page No : 2

	US 17 Northbound					US 17 Southbound					CRYSTAL BEACH ROAD Eastbound					N/A Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	6	199	0	0	205	0	196	15	0	211	25	0	10	0	35	0	0	0	0	0	451
07:15 AM	14	**248**	0	0	262	0	208	28	0	236	38	0	11	0	49	0	0	0	0	0	547
07:30 AM	**31**	245	0	0	**276**	0	**250**	24	0	**274**	38	0	**27**	0	**65**	0	0	0	0	0	**615**
07:45 AM	17	170	0	0	187	0	216	**31**	0	247	**42**	0	22	0	64	0	0	0	0	0	498
Total Volume	68	862	0	0	930	0	870	98	0	968	143	0	70	0	213	0	0	0	0	0	2111
% App. Total	7.3	92.7	0	0		0	89.9	10.1	0		67.1	0	32.9	0		0	0	0	0		
PHF	.548	.869	.000	.000	.842	.000	.870	.790	.000	.883	.851	.000	.648	.000	.819	.000	.000	.000	.000	.000	.858

Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM					07:00 AM					07:00 AM					06:00 AM				
+0 mins.	6	199	0	0	205	0	196	15	0	211	25	0	10	0	35	0	0	0	0	0
+15 mins.	14	**248**	0	0	262	0	208	28	0	236	38	0	11	0	49	0	0	0	0	0
+30 mins.	**31**	245	0	0	**276**	0	**250**	24	0	**274**	38	0	**27**	0	**65**	0	0	0	0	0
+45 mins.	17	170	0	0	187	0	216	**31**	0	247	**42**	0	22	0	64	0	0	0	0	0
Total Volume	68	862	0	0	930	0	870	98	0	968	143	0	70	0	213	0	0	0	0	0
% App. Total	7.3	92.7	0	0		0	89.9	10.1	0		67.1	0	32.9	0		0	0	0	0	
PHF	.548	.869	.000	.000	.842	.000	.870	.790	.000	.883	.851	.000	.648	.000	.819	.000	.000	.000	.000	.000

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 10:00 AM

10:00 AM	**5**	**149**	0	0	**154**	**2**	117	16	0	135	9	0	1	0	10	0	0	0	0	0	299
10:15 AM	1	124	0	0	125	1	104	18	0	123	**23**	0	3	0	**26**	0	0	0	0	0	274
10:30 AM	4	125	0	0	129	0	**151**	**22**	0	**173**	17	0	0	0	17	0	0	0	0	0	**319**
10:45 AM	5	134	0	0	139	0	97	16	0	113	9	0	**14**	0	23	0	0	0	0	0	275
Total Volume	15	532	0	0	547	3	469	72	0	544	58	0	18	0	76	0	0	0	0	0	1167
% App. Total	2.7	97.3	0	0		0.6	86.2	13.2	0		76.3	0	23.7	0		0	0	0	0		
PHF	.750	.893	.000	.000	.888	.375	.776	.818	.000	.786	.630	.000	.321	.000	.731	.000	.000	.000	.000	.000	.915

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	10:00 AM					10:00 AM					10:00 AM					10:00 AM				
+0 mins.	**5**	**149**	0	0	**154**	**2**	117	16	0	135	9	0	1	0	10	0	0	0	0	0
+15 mins.	1	124	0	0	125	1	104	18	0	123	**23**	0	3	0	**26**	0	0	0	0	0
+30 mins.	4	125	0	0	129	0	**151**	**22**	0	**173**	17	0	0	0	17	0	0	0	0	0
+45 mins.	5	134	0	0	139	0	97	16	0	113	9	0	**14**	0	23	0	0	0	0	0
Total Volume	15	532	0	0	547	3	469	72	0	544	58	0	18	0	76	0	0	0	0	0
% App. Total	2.7	97.3	0	0		0.6	86.2	13.2	0		76.3	0	23.7	0		0	0	0	0	
PHF	.750	.893	.000	.000	.888	.375	.776	.818	.000	.786	.630	.000	.321	.000	.731	.000	.000	.000	.000	.000

Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM	11	218	0	0	229	**1**	187	36	0	224	**27**	0	**14**	0	**41**	0	0	0	0	0	494
04:45 PM	10	200	0	0	210	0	196	42	0	238	24	0	14	0	38	0	0	0	0	0	486
05:00 PM	6	261	0	0	267	0	205	**43**	0	248	27	0	8	0	35	0	0	0	0	0	550
05:15 PM	**12**	**289**	0	0	**301**	0	**282**	41	0	**323**	22	0	9	0	31	0	0	0	0	0	**655**
Total Volume	39	968	0	0	1007	1	870	162	0	1033	100	0	45	0	145	0	0	0	0	0	2185
% App. Total	3.9	96.1	0	0		0.1	84.2	15.7	0		69	0	31	0		0	0	0	0		
PHF	.813	.837	.000	.000	.836	.250	.771	.942	.000	.800	.926	.000	.804	.000	.884	.000	.000	.000	.000	.000	.834

Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM					04:45 PM					02:30 PM					02:00 PM				
+0 mins.	11	218	0	0	229	0	196	42	0	238	26	0	13	0	39	0	0	0	0	0
+15 mins.	10	200	0	0	210	0	205	43	0	248	21	0	7	0	28	0	0	0	0	0
+30 mins.	6	261	0	0	267	0	**282**	41	0	**323**	**39**	0	**17**	0	**56**	0	0	0	0	0
+45 mins.	**12**	**289**	0	0	**301**	0	188	**48**	0	236	24	0	12	0	36	0	0	0	0	0
Total Volume	39	968	0	0	1007	0	871	174	0	1045	110	0	49	0	159	0	0	0	0	0
% App. Total	3.9	96.1	0	0		0	83.3	16.7	0		69.2	0	30.8	0		0	0	0	0	
PHF	.813	.837	.000	.000	.836	.000	.772	.906	.000	.809	.705	.000	.721	.000	.710	.000	.000	.000	.000	.000

File Name : US 17 at Crystal Beach Road
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Groups Printed- Heavy Trucks

	US 17 Northbound					US 17 Southbound					CRYSTAL BEACH ROAD Eastbound					N/A Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	0	8	0	0	8	0	9	0	0	9	1	0	1	0	2	0	0	0	0	0	19
06:15 AM	0	5	0	0	5	0	4	0	0	4	3	0	1	0	4	0	0	0	0	0	13
06:30 AM	1	4	0	0	5	0	15	1	0	16	0	0	0	0	0	0	0	0	0	0	21
06:45 AM	0	8	0	0	8	0	11	1	0	12	0	0	0	0	0	0	0	0	0	0	20
Total	1	25	0	0	26	0	39	2	0	41	4	0	2	0	6	0	0	0	0	0	73
07:00 AM	1	10	0	0	11	0	9	1	0	10	1	0	0	0	1	0	0	0	0	0	22
07:15 AM	0	7	0	0	7	0	11	1	0	12	2	0	0	0	2	0	0	0	0	0	21
07:30 AM	1	10	0	0	11	0	10	0	0	10	0	0	2	0	2	0	0	0	0	0	23
07:45 AM	1	7	0	0	8	0	4	2	0	6	0	0	0	0	0	0	0	0	0	0	14
Total	3	34	0	0	37	0	34	4	0	38	3	0	2	0	5	0	0	0	0	0	80
08:00 AM	0	4	0	0	4	0	6	2	0	8	0	0	0	0	0	0	0	0	0	0	12
08:15 AM	0	8	0	0	8	0	8	3	0	11	0	0	1	0	1	0	0	0	0	0	20
08:30 AM	0	4	0	0	4	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	11
08:45 AM	2	7	0	0	9	0	5	1	0	6	1	0	0	0	1	0	0	0	0	0	16
Total	2	23	0	0	25	0	26	6	0	32	1	0	1	0	2	0	0	0	0	0	59
*** BREAK ***																					
10:00 AM	0	6	0	0	6	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	13
10:15 AM	0	8	0	0	8	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	11
10:30 AM	0	6	0	0	6	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	15
10:45 AM	0	9	0	0	9	0	3	2	0	5	0	0	1	0	1	0	0	0	0	0	15
Total	0	29	0	0	29	0	22	2	0	24	0	0	1	0	1	0	0	0	0	0	54
*** BREAK ***																					
02:00 PM	0	9	0	0	9	0	10	3	0	13	1	0	0	0	1	0	0	0	0	0	23
02:15 PM	1	12	0	0	13	0	6	0	0	6	1	0	0	0	1	0	0	0	0	0	20
02:30 PM	1	6	0	0	7	0	7	1	1	9	1	0	0	0	1	0	0	0	0	0	17
02:45 PM	1	6	0	0	7	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	11
Total	3	33	0	0	36	0	26	5	1	32	3	0	0	0	3	0	0	0	0	0	71
03:00 PM	1	6	0	0	7	0	9	1	0	10	2	0	1	0	3	0	0	0	0	0	20
03:15 PM	1	4	0	0	5	0	4	1	0	5	0	0	1	0	1	0	0	0	0	0	11
03:30 PM	0	5	0	0	5	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	8
03:45 PM	1	9	0	1	11	0	11	1	0	12	0	0	0	0	0	0	0	0	0	0	23
Total	3	24	0	1	28	0	27	3	0	30	2	0	2	0	4	0	0	0	0	0	62
04:00 PM	1	7	0	0	8	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	12
04:15 PM	0	3	0	0	3	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	8
04:30 PM	1	2	0	0	3	0	1	1	0	2	0	0	1	0	1	0	0	0	0	0	6
04:45 PM	0	4	0	0	4	0	6	0	0	6	1	0	0	0	1	0	0	0	0	0	11
Total	2	16	0	0	18	0	16	1	0	17	1	0	1	0	2	0	0	0	0	0	37
05:00 PM	0	9	0	0	9	0	9	1	0	10	1	0	0	0	1	0	0	0	0	0	20
05:15 PM	0	6	0	0	6	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	9
05:30 PM	0	2	0	0	2	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	7
05:45 PM	0	4	0	0	4	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	9
Total	0	21	0	0	21	0	21	2	0	23	1	0	0	0	1	0	0	0	0	0	45
Grand Total	14	205	0	1	220	0	211	25	1	237	15	0	9	0	24	0	0	0	0	0	481
Apprch %	6.4	93.2	0	0.5		0	89	10.5	0.4		62.5	0	37.5	0		0	0	0	0		
Total %	2.9	42.6	0	0.2	45.7	0	43.9	5.2	0.2	49.3	3.1	0	1.9	0	5	0	0	0	0	0	

File Name : US 17 at Crystal Beach Road
Site Code : 00000000
Start Date : 1/8/2019
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	US 17 Northbound					US 17 Southbound					CRYSTAL BEACH ROAD Eastbound					N/A Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:45 AM																					
06:45 AM	0	8	0	0	8	0	**11**	**1**	0	**12**	0	0	0	0	0	0	0	0	0	0	20
07:00 AM	**1**	**10**	0	0	**11**	0	9	1	0	10	1	0	0	0	1	0	0	0	0	0	22
07:15 AM	0	7	0	0	7	0	11	1	0	12	**2**	0	0	0	**2**	0	0	0	0	0	21
07:30 AM	1	10	0	0	11	0	10	0	0	10	0	0	**2**	0	2	0	0	0	0	0	**23**
Total Volume	2	35	0	0	37	0	41	3	0	44	3	0	2	0	5	0	0	0	0	0	86
% App. Total	5.4	94.6	0	0		0	93.2	6.8	0		60	0	40	0		0	0	0	0		
PHF	.500	.875	.000	.000	.841	.000	.932	.750	.000	.917	.375	.000	.250	.000	.625	.000	.000	.000	.000	.000	.935

Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:45 AM					06:30 AM					06:00 AM					06:00 AM				
+0 mins.	0	8	0	0	8	0	**15**	**1**	0	**16**	1	0	**1**	0	2	0	0	0	0	0
+15 mins.	**1**	**10**	0	0	**11**	0	11	1	0	12	**3**	0	1	0	**4**	0	0	0	0	0
+30 mins.	0	7	0	0	7	0	9	1	0	10	0	0	0	0	0	0	0	0	0	0
+45 mins.	1	10	0	0	11	0	11	1	0	12	0	0	0	0	0	0	0	0	0	0
Total Volume	2	35	0	0	37	0	46	4	0	50	4	0	2	0	6	0	0	0	0	0
% App. Total	5.4	94.6	0	0		0	92	8	0		66.7	0	33.3	0		0	0	0	0	
PHF	.500	.875	.000	.000	.841	.000	.767	1.000	.000	.781	.333	.000	.500	.000	.375	.000	.000	.000	.000	.000

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 10:00 AM

10:00 AM	0	6	0	0	6	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	13
10:15 AM	0	8	0	0	8	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	11
10:30 AM	0	6	0	0	6	0	**9**	0	0	**9**	0	0	0	0	0	0	0	0	0	0	**15**
10:45 AM	0	**9**	0	0	**9**	0	3	**2**	0	5	0	0	**1**	0	**1**	0	0	0	0	0	15
Total Volume	0	29	0	0	29	0	22	2	0	24	0	0	1	0	1	0	0	0	0	0	54
% App. Total	0	100	0	0		0	91.7	8.3	0		0	0	100	0		0	0	0	0		
PHF	.000	.806	.000	.000	.806	.000	.611	.250	.000	.667	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.900

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	10:00 AM					10:00 AM					10:00 AM					10:00 AM				
+0 mins.	0	6	0	0	6	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	8	0	0	8	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	6	0	0	6	0	**9**	0	0	**9**	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	**9**	0	0	**9**	0	3	**2**	0	5	0	0	**1**	0	**1**	0	0	0	0	0
Total Volume	0	29	0	0	29	0	22	2	0	24	0	0	1	0	1	0	0	0	0	0
% App. Total	0	100	0	0		0	91.7	8.3	0		0	0	100	0		0	0	0	0	
PHF	.000	.806	.000	.000	.806	.000	.611	.250	.000	.667	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000

Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 02:00 PM

02:00 PM	0	9	0	0	9	0	**10**	**3**	0	**13**	**1**	0	0	0	**1**	0	0	0	0	0	**23**
02:15 PM	**1**	**12**	0	0	**13**	0	6	0	0	6	1	0	0	0	1	0	0	0	0	0	20
02:30 PM	1	6	0	0	7	0	7	1	**1**	9	1	0	0	0	1	0	0	0	0	0	17
02:45 PM	1	6	0	0	7	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	11
Total Volume	3	33	0	0	36	0	26	5	1	32	3	0	0	0	3	0	0	0	0	0	71
% App. Total	8.3	91.7	0	0		0	81.2	15.6	3.1		100	0	0	0		0	0	0	0		
PHF	.750	.688	.000	.000	.692	.000	.650	.417	.250	.615	.750	.000	.000	.000	.750	.000	.000	.000	.000	.000	.772

Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:00 PM					02:00 PM					02:15 PM					02:00 PM				
+0 mins.	0	9	0	0	9	0	**10**	**3**	0	**13**	1	0	0	0	1	0	0	0	0	0
+15 mins.	**1**	**12**	0	0	**13**	0	6	0	0	6	1	0	0	0	1	0	0	0	0	0
+30 mins.	1	6	0	0	7	0	7	1	**1**	9	0	0	0	0	0	0	0	0	0	0
+45 mins.	1	6	0	0	7	0	3	1	0	4	**2**	0	**1**	0	**3**	0	0	0	0	0
Total Volume	3	33	0	0	36	0	26	5	1	32	4	0	1	0	5	0	0	0	0	0
% App. Total	8.3	91.7	0	0		0	81.2	15.6	3.1		80	0	20	0		0	0	0	0	
PHF	.750	.688	.000	.000	.692	.000	.650	.417	.250	.615	.500	.000	.250	.000	.417	.000	.000	.000	.000	.000

File Name : US 17 at Crystal Beach Road
Site Code : 00000000
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Groups Printed- UTurns

	US 17 Northbound					US 17 Southbound					CRYSTAL BEACH ROAD Eastbound					N/A Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
*** BREAK ***																					
10:00 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
10:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Total	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
*** BREAK ***																					
02:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:00 PM	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
*** BREAK ***																					
Total	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
*** BREAK ***																					
04:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
05:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	3	0	0	0	3	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	9
Apprch %	100	0	0	0		100	0	0	0		0	0	0	0		0	0	0	0		
Total %	33.3	0	0	0	33.3	66.7	0	0	0	66.7	0	0	0	0	0	0	0	0	0	0	

	US 17 Northbound					US 17 Southbound					CRYSTAL BEACH ROAD Eastbound					N/A Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:00 AM																					
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	06:00 AM					06:00 AM					06:00 AM					06:00 AM					
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 10:00 AM																					
10:00 AM	0	0	0	0	0	**2**	0	0	0	**2**	0	0	0	0	0	0	0	0	0	0	**2**
10:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
% App. Total	0	0	0	0		100	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.375	.000	.000	.000	.375	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.375

File Name : US 17 at Crystal Beach Road
Site Code : 00000000
Start Date : 1/8/2019
Page No : 2

	US 17 Northbound					US 17 Southbound					CRYSTAL BEACH ROAD Eastbound					N/A Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	10:00 AM					10:00 AM					10:00 AM					10:00 AM					
+0 mins.	0	0	0	0	0	**2**	0	0	0	**2**	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	
% App. Total	0	0	0	0		100	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.375	.000	.000	.000	.375	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:15 PM																					
02:15 PM	0	0	0	0	0	**1**	0	0	0	**1**	0	0	0	0	0	0	0	0	0	0	1
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	**2**	0	0	0	**2**	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**3**
Total Volume	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
% App. Total	100	0	0	0		100	0	0	0		0	0	0	0		0	0	0	0		
PHF	.250	.000	.000	.000	.250	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.333

Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:15 PM					02:15 PM					02:00 PM					02:00 PM				
+0 mins.	0	0	0	0	0	**1**	0	0	0	**1**	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	**2**	0	0	0	**2**	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0
% App. Total	100	0	0	0		100	0	0	0		0	0	0	0		0	0	0	0	
PHF	.250	.000	.000	.000	.250	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

COLLISION SUMMARIES AND DIAGRAMS

FLORIDA DEPARTMENT OF TRANSPORTATION

COLLISION SUMMARY

Section: 16030 **State Road:** U.S. 17 **County:** Polk

Intersecting route: Crystal Beach Road **Milepost:** 24.953 **Data by:** HSB

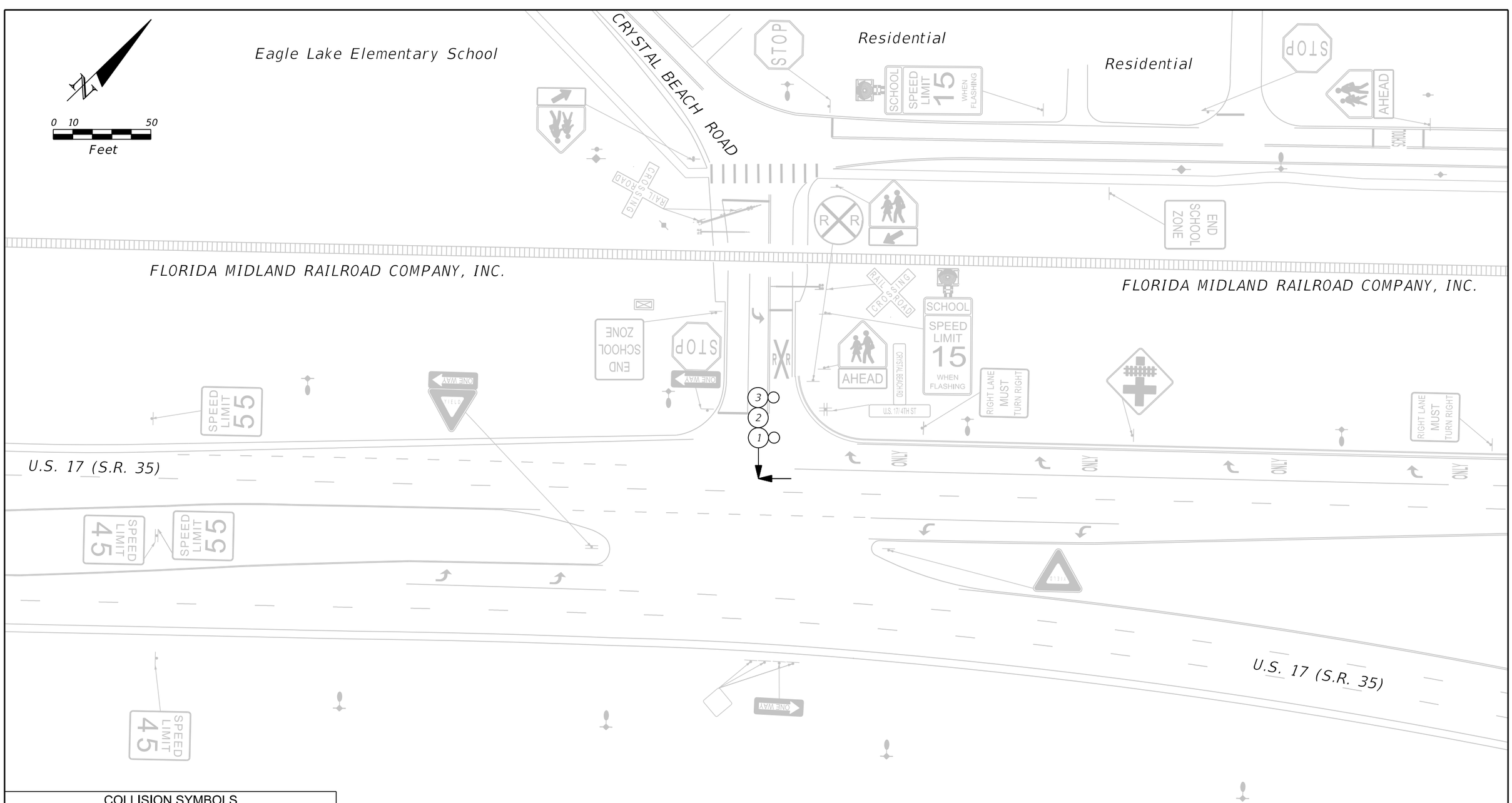
Study period: 1/1/2015 to 12/31/2015 **Date:** 1/25/2019

NO.	DATE	DAY	TIME	FATAL	INJURY	INJURY SEVERITY	PROPERTY DAMAGE	HARMFUL EVENT	DUI	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE
1	05/14/15	Thursday	21:42	0	1	3-Non-Incapacitating	$0	Angle	No	Night	Dry	FTYROW
2	07/09/15	Thursday	9:37	0	0	1-None	$1,100	Angle	No	Day	Dry	FTYROW
3	11/20/15	Friday	15:30	0	1	3-Non-Incapacitating	$10,000	Angle	No	Day	Dry	FTYROW
TOTAL				**0**	**2**		**$11,100**					

TOTAL NO.	Fatal	Injury	Property Damage Only	Other	Bicycle	Side-Swipe	Rollover	Fixed-Object	Rear-End	Head-On	Right-Turn	Angle
3	0	2	1	0	0	0	0	0	0	0	0	3
Percent	0%	67%	33%	0%	0%	0%	0%	0%	0%	0%	0%	100%

CONTRIB-CAUSE	Day	Night	Pavement Condition					Mechanical				FTYROW	DUI
			Wet	Dry	?								
Total	2	1	0	3	0	0	0	0	0	0	0	3	0
Percent	67%	33%	0%	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%

Source: Florida Department of Transportation CAR Database and University of Florida's Signal Four Analytics



COLLISION SYMBOLS

FIXED OBJECT	REAR END COLLISION
PEDESTRIAN COLLISION	HEAD-ON COLLISION
BICYCLE COLLISION	SIDE SWIPE COLLISION
PERSONAL INJURY	OVERTURNED VEHICLE
FATALITY	LEFT TURN COLLISION
ANGLE COLLISION	ALL OTHER COLLISIONS
	RIGHT TURN COLLISION

SECTION 16030 -- MP 24.953
U.S. 17 (S.R. 35)
AT CRYSTAL BEACH ROAD
POLK COUNTY - FLORIDA

Symbols:

- Utility Pole
- Traffic Sign
- Luminaire
- Traffic Controller Cabinet
- Ditch Bottom Inlet
- Signal Pole
- Pedestrian Signal Pole
- Mitered End Section

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CERTIFICATION OF AUTHORIZATION # 27392

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

FIGURE 5
COLLISION DIAGRAM
(1/1/2015-12/31/2015)

PAGE NO.

FLORIDA DEPARTMENT OF TRANSPORTATION

COLLISION SUMMARY

Section: 16030 **State Road:** U.S. 17 **County:** Polk

Intersecting route: Crystal Beach Road **Milepost:** 24.953 **Data by:** HSB

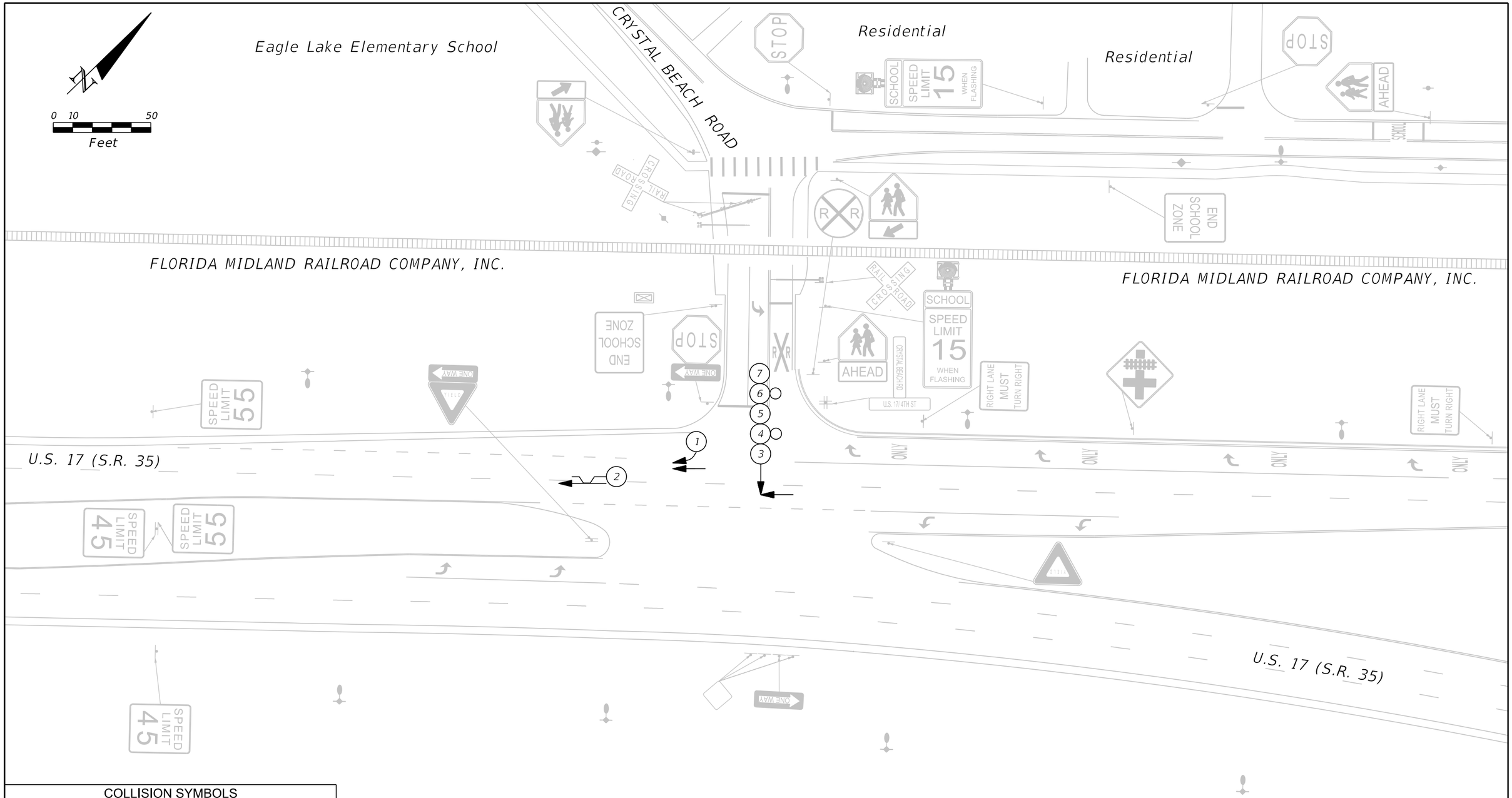
Study period: 1/1/2016 to 12/31/2016 **Date:** 1/25/2019

NO.	DATE	DAY	TIME	FATAL	INJURY	INJURY SEVERITY	PROPERTY DAMAGE	HARMFUL EVENT	DUI	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE
1	04/12/16	Tuesday	13:41	0	0	1-None	$2,500	Right-Turn	No	Day	Dry	FTYROW
2	05/01/16	Sunday	14:30	0	0	1-None	$5,000	Side-Swipe	No	Day	Dry	Improper Turn
3	06/23/16	Thursday	20:53	0	0	1-None	$6,000	Angle	No	Night	Dry	FTYROW
4	08/09/16	Tuesday	15:50	0	2	3-Non-Incapacitating	$13,000	Angle	No	Day	Wet	FTYROW
5	08/29/16	Monday	7:47	0	0	1-None	$4,000	Angle	No	Day	Dry	FTYROW
6	11/27/16	Sunday	16:10	0	2	2-Possible	$8,000	Angle	No	Day	Dry	FTYROW
7	12/14/16	Wednesday	8:38	0	0	1-None	$6,000	Angle	No	Day	Dry	FTYROW
TOTAL				**0**	**4**		**$44,500**					

TOTAL NO.	Fatal	Injury	Property Damage Only	Other	Bicycle	Side-Swipe	Rollover	Fixed-Object	Rear-End	Head-On	Right-Turn	Angle
7	0	2	5	0	0	1	0	0	0	0	1	5
Percent	0%	29%	71%	0%	0%	14%	0%	0%	0%	0%	14%	71%

CONTRIB-CAUSE	Day	Night	Pavement Condition									
			Wet	Dry	?			Improper Turn				FTYROW	DUI
Total	6	1	1	6	0	0	0	1	0	0	0	6	0
Percent	86%	14%	14%	86%	0%	0%	0%	14%	0%	0%	0%	86%	0%

Source: Florida Department of Transportation CAR Database and University of Florida's Signal Four Analytics



COLLISION SYMBOLS

FIXED OBJECT	REAR END COLLISION
PEDESTRIAN COLLISION	HEAD-ON COLLISION
BICYCLE COLLISION	SIDE SWIPE COLLISION
PERSONAL INJURY	OVERTURNED VEHICLE
FATALITY	LEFT TURN COLLISION
ANGLE COLLISION	ALL OTHER COLLISIONS
	RIGHT TURN COLLISION

Citrus Grove

SECTION 16030 -- MP 24.953
U.S. 17 (S.R. 35)
AT CRYSTAL BEACH ROAD
POLK COUNTY - FLORIDA

Symbols:
Utility Pole
Traffic Sign
Luminaire
Traffic Controller Cabinet
Ditch Bottom Inlet
Signal Pole
Pedestrian Signal Pole
Mitered End Section

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

FIGURE 5
COLLISION DIAGRAM
(1/1/2016-12/31/2016)

PAGE NO.

FLORIDA DEPARTMENT OF TRANSPORTATION

COLLISION SUMMARY

Section: 16030 **State Road:** U.S. 17 **County:** Polk

Intersecting route: Crystal Beach Road **Milepost:** 24.953 **Data by:** HSB

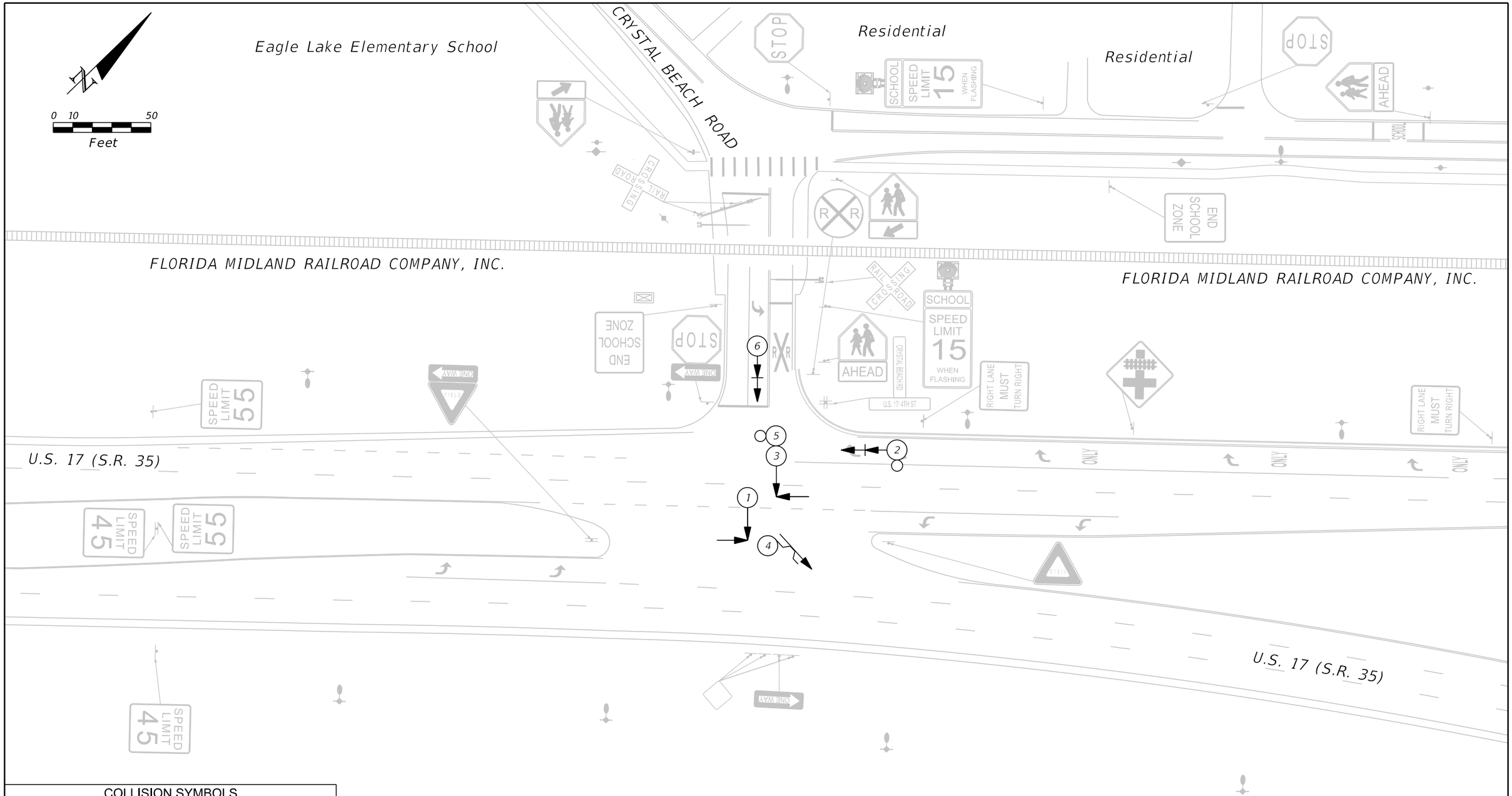
Study period: 1/1/2017 to 12/31/2017 **Date:** 1/25/2019

NO.	DATE	DAY	TIME	FATAL	INJURY	INJURY SEVERITY	PROPERTY DAMAGE	HARMFUL EVENT	DUI	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE
1	01/24/17	Tuesday	7:50	0	0	1-None	$4,000	Angle	No	Day	Dry	Careless Driving
2	02/07/17	Tuesday	7:35	0	2	2-Possible	$7,000	Rear-End	No	Day	Dry	Careless Driving
3	02/12/17	Sunday	18:50	0	0	1-None	$1,000	Angle	No	Day	Dry	FTYROW
4	04/19/17	Wednesday	6:50	0	0	1-None	$1,200	Side-Swipe	No	Day	Dry	Careless Driving
5	05/01/17	Monday	14:55	0	1	2-Possible	$6,500	Angle	No	Day	Dry	FTYROW
6	12/15/17	Friday	17:00	0	0	1-None	$3,050	Rear-End	No	Day	Dry	Careless Driving
TOTAL				**0**	**3**		**$22,750**					

TOTAL NO.	Fatal	Injury	Property Damage Only	Other	Bicycle	Side-Swipe	Rollover	Fixed-Object	Rear-End	Head-On	Right-Turn	Angle
6	0	2	4	0	0	1	0	0	2	0	0	3
Percent	0%	33%	67%	0%	0%	17%	0%	0%	33%	0%	0%	50%

CONTRIB-CAUSE	Day	Night	Pavement Condition									
			Wet	Dry	?		Careless Driving				FTYROW	DUI
Total	6	0	0	6	0	0	4	0	0	0	0	2	0
Percent	100%	0%	0%	100%	0%	0%	67%	0%	0%	0%	0%	33%	0%

Source: Florida Department of Transportation CAR Database and University of Florida's Signal Four Analytics



COLLISION SYMBOLS

- FIXED OBJECT
- PEDESTRIAN COLLISION
- BICYCLE COLLISION
- PERSONAL INJURY
- FATALITY
- ANGLE COLLISION
- REAR END COLLISION
- HEAD-ON COLLISION
- SIDE SWIPE COLLISION
- OVERTURNED VEHICLE
- LEFT TURN COLLISION
- ALL OTHER COLLISIONS
- RIGHT TURN COLLISION

Citrus Grove

SECTION 16030 -- MP 24.953
U.S. 17 (S.R. 35)
AT CRYSTAL BEACH ROAD
POLK COUNTY - FLORIDA

Symbols:

- Utility Pole
- Traffic Sign
- Luminaire
- Traffic Controller Cabinet
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

FIGURE 5
COLLISION DIAGRAM
(1/1/2017-12/31/2017)

PAGE NO.

DELAY STUDY

File Name : DELAY 7-8AM (EBL & EBR)
Site Code : 00000000
Start Date : 1/8/2019
Page No : 1

Ln.	No.	Joined Queue	Released From Queue	Delay
1	1	7:03:15 AM	7:03:28 AM	13
1	2	7:05:39 AM	7:05:47 AM	8
1	3	7:11:39 AM	7:11:43 AM	4
1	4	7:14:12 AM	7:14:22 AM	10
1	5	7:14:47 AM	7:15:00 AM	13
1	6	7:15:08 AM	7:15:17 AM	9
1	7	7:16:46 AM	7:17:15 AM	29
1	8	7:16:52 AM	7:17:21 AM	29
1	9	7:19:37 AM	7:19:40 AM	3
1	10	7:23:24 AM	7:23:30 AM	6
1	11	7:24:44 AM	7:25:04 AM	20
1	12	7:24:48 AM	7:25:34 AM	46
1	13	7:27:28 AM	7:27:32 AM	4
1	14	7:28:19 AM	7:28:21 AM	2
1	15	7:29:10 AM	7:29:17 AM	7
1	16	7:30:05 AM	7:30:15 AM	10
1	17	7:31:39 AM	7:31:58 AM	19
1	18	7:31:41 AM	7:32:01 AM	20
1	19	7:32:47 AM	7:32:54 AM	7
1	20	7:32:55 AM	7:32:57 AM	2
1	21	7:33:39 AM	7:33:41 AM	2
1	22	7:33:51 AM	7:33:57 AM	6
1	23	7:33:54 AM	7:34:02 AM	8
1	24	7:34:04 AM	7:34:10 AM	6
1	25	7:34:23 AM	7:35:13 AM	50
1	26	7:34:35 AM	7:35:17 AM	42
1	27	7:34:38 AM	7:35:26 AM	48
1	28	7:34:58 AM	7:35:37 AM	39
1	29	7:35:05 AM	7:35:43 AM	38
1	30	7:35:50 AM	7:35:51 AM	1
1	31	7:35:59 AM	7:36:06 AM	7
1	32	7:36:18 AM	7:37:03 AM	45
1	33	7:38:01 AM	7:38:07 AM	6
1	34	7:38:56 AM	7:39:17 AM	21
1	35	7:39:04 AM	7:39:25 AM	21
1	36	7:39:13 AM	7:39:29 AM	16
1	37	7:39:59 AM	7:40:04 AM	5
1	38	7:42:15 AM	7:42:36 AM	21
1	39	7:42:58 AM	7:43:43 AM	45
1	40	7:43:03 AM	7:43:47 AM	44
1	41	7:43:22 AM	7:43:52 AM	30
1	42	7:43:29 AM	7:43:56 AM	27
1	43	7:44:20 AM	7:44:27 AM	7
1	44	7:44:33 AM	7:44:38 AM	5
1	45	7:44:49 AM	7:44:54 AM	5
1	46	7:45:14 AM	7:45:22 AM	8
1	47	7:45:18 AM	7:45:27 AM	9
1	48	7:45:19 AM	7:45:40 AM	21
1	49	7:45:32 AM	7:45:43 AM	11
1	50	7:45:34 AM	7:45:48 AM	14
1	51	7:46:16 AM	7:46:26 AM	10
1	52	7:46:31 AM	7:46:59 AM	28
1	53	7:47:05 AM	7:47:07 AM	2
1	54	7:47:44 AM	7:47:49 AM	5
1	55	7:47:50 AM	7:47:55 AM	5
1	56	7:47:59 AM	7:48:01 AM	2
1	57	7:48:03 AM	7:48:04 AM	1
1	58	7:48:36 AM	7:48:57 AM	21
1	59	7:49:15 AM	7:49:18 AM	3
1	60	7:53:49 AM	7:53:55 AM	6
1	61	7:55:06 AM	7:55:56 AM	50
1	62	7:56:13 AM	7:56:15 AM	2
1	63	7:56:51 AM	7:56:57 AM	6
1	64	7:57:17 AM	7:57:43 AM	26
1	65	7:57:37 AM	7:57:47 AM	10
2	1	7:01:00 AM	7:01:14 AM	14
2	2	7:01:39 AM	7:02:14 AM	35
2	3	7:02:08 AM	7:02:18 AM	10
2	4	7:02:43 AM	7:02:47 AM	4
2	5	7:02:59 AM	7:03:09 AM	10

File Name : DELAY 7-8AM (EBL & EBR)
Site Code : 00000000
Start Date : 1/8/2019

Ln.	No.	Joined Queue	Released From Queue	Delay
2	6	7:03:33 AM	7:03:49 AM	16
2	7	7:04:15 AM	7:04:17 AM	2
2	8	7:04:20 AM	7:04:22 AM	2
2	9	7:04:28 AM	7:04:29 AM	1
2	10	7:04:31 AM	7:04:33 AM	2
2	11	7:05:17 AM	7:05:25 AM	8
2	12	7:05:36 AM	7:05:45 AM	9
2	13	7:05:43 AM	7:05:46 AM	3
2	14	7:06:09 AM	7:06:14 AM	5
2	15	7:06:38 AM	7:06:49 AM	11
2	16	7:07:45 AM	7:07:53 AM	8
2	17	7:07:54 AM	7:07:57 AM	3
2	18	7:08:26 AM	7:08:50 AM	24
2	19	7:08:53 AM	7:08:56 AM	3
2	20	7:09:03 AM	7:09:14 AM	11
2	21	7:09:57 AM	7:09:57 AM	0
2	22	7:10:58 AM	7:11:01 AM	3
2	23	7:11:47 AM	7:11:50 AM	3
2	24	7:11:57 AM	7:12:03 AM	6
2	25	7:13:05 AM	7:13:06 AM	1
2	26	7:14:06 AM	7:14:19 AM	13
2	27	7:14:14 AM	7:14:36 AM	22
2	28	7:14:44 AM	7:14:59 AM	15
2	29	7:15:22 AM	7:15:24 AM	2
2	30	7:15:29 AM	7:15:31 AM	2
2	31	7:15:35 AM	7:15:37 AM	2
2	32	7:16:04 AM	7:16:50 AM	46
2	33	7:17:07 AM	7:17:22 AM	15
2	34	7:17:13 AM	7:17:27 AM	14
2	35	7:17:21 AM	7:17:29 AM	8
2	36	7:17:34 AM	7:17:38 AM	4
2	37	7:17:54 AM	7:18:05 AM	11
2	38	7:18:09 AM	7:18:14 AM	5
2	39	7:18:20 AM	7:18:23 AM	3
2	40	7:19:02 AM	7:19:10 AM	8
2	41	7:19:04 AM	7:19:13 AM	9
2	42	7:19:21 AM	7:19:26 AM	5
2	43	7:19:36 AM	7:19:38 AM	2
2	44	7:19:40 AM	7:19:42 AM	2
2	45	7:20:26 AM	7:20:52 AM	26
2	46	7:20:36 AM	7:20:57 AM	21
2	47	7:20:47 AM	7:21:03 AM	16
2	48	7:21:14 AM	7:21:16 AM	2
2	49	7:21:29 AM	7:21:30 AM	1
2	50	7:22:12 AM	7:22:16 AM	4
2	51	7:22:29 AM	7:22:41 AM	12
2	52	7:23:44 AM	7:24:15 AM	31
2	53	7:24:34 AM	7:25:11 AM	37
2	54	7:24:34 AM	7:25:39 AM	65
2	55	7:24:58 AM	7:25:44 AM	46
2	56	7:25:20 AM	7:25:48 AM	28
2	57	7:25:41 AM	7:26:25 AM	44
2	58	7:25:53 AM	7:26:29 AM	36
2	59	7:26:17 AM	7:26:39 AM	22
2	60	7:26:23 AM	7:26:48 AM	25
2	61	7:26:24 AM	7:27:04 AM	40
2	62	7:26:25 AM	7:27:10 AM	45
2	63	7:27:20 AM	7:27:27 AM	7
2	64	7:27:25 AM	7:27:31 AM	6
2	65	7:28:28 AM	7:28:30 AM	2
2	66	7:28:34 AM	7:28:38 AM	4
2	67	7:28:44 AM	7:29:13 AM	29
2	68	7:28:50 AM	7:29:27 AM	37
2	69	7:28:52 AM	7:29:45 AM	53
2	70	7:29:12 AM	7:29:53 AM	41
2	71	7:29:55 AM	7:30:13 AM	18
2	72	7:30:35 AM	7:30:42 AM	7
2	73	7:30:47 AM	7:30:56 AM	9
2	74	7:32:21 AM	7:32:52 AM	31
2	75	7:32:23 AM	7:33:02 AM	39

File Name : DELAY 7-8AM (EBL & EBR)
Site Code : 00000000
Start Date : 1/8/2019

Ln.	No.	Joined Queue	Released From Queue	Delay
2	76	7:32:33 AM	7:33:08 AM	35
2	77	7:32:35 AM	7:33:16 AM	41
2	78	7:33:04 AM	7:33:31 AM	27
2	79	7:33:09 AM	7:33:40 AM	31
2	80	7:33:09 AM	7:33:54 AM	45
2	81	7:33:12 AM	7:33:55 AM	43
2	82	7:33:13 AM	7:34:03 AM	50
2	83	7:33:13 AM	7:34:06 AM	53
2	84	7:33:15 AM	7:34:11 AM	56
2	85	7:34:53 AM	7:35:48 AM	55
2	86	7:35:30 AM	7:35:52 AM	22
2	87	7:35:43 AM	7:35:58 AM	15
2	88	7:35:55 AM	7:36:03 AM	8
2	89	7:36:02 AM	7:37:03 AM	61
2	90	7:36:14 AM	7:37:06 AM	52
2	91	7:36:29 AM	7:37:12 AM	43
2	92	7:36:32 AM	7:37:18 AM	46
2	93	7:36:34 AM	7:37:24 AM	50
2	94	7:36:47 AM	7:37:43 AM	56
2	95	7:36:48 AM	7:37:48 AM	60
2	96	7:36:49 AM	7:37:52 AM	63
2	97	7:36:57 AM	7:38:04 AM	67
2	98	7:37:44 AM	7:38:08 AM	24
2	99	7:37:45 AM	7:38:25 AM	40
2	100	7:38:14 AM	7:38:33 AM	19
2	101	7:38:20 AM	7:38:45 AM	25
2	102	7:38:20 AM	7:39:25 AM	65
2	103	7:38:41 AM	7:40:15 AM	94
2	104	7:38:43 AM	7:40:26 AM	103
2	105	7:38:49 AM	7:41:06 AM	137
2	106	7:40:05 AM	7:41:09 AM	64
2	107	7:40:17 AM	7:41:51 AM	94
2	108	7:40:18 AM	7:42:03 AM	105
2	109	7:40:20 AM	7:42:12 AM	112
2	110	7:40:44 AM	7:42:13 AM	89
2	111	7:40:45 AM	7:42:18 AM	93
2	112	7:40:49 AM	7:42:19 AM	90
2	113	7:41:49 AM	7:42:37 AM	48
2	114	7:41:49 AM	7:43:40 AM	111
2	115	7:42:18 AM	7:43:46 AM	88
2	116	7:43:01 AM	7:43:54 AM	53
2	117	7:43:40 AM	7:44:05 AM	25
2	118	7:44:01 AM	7:44:10 AM	9
2	119	7:44:15 AM	7:44:46 AM	31
2	120	7:44:17 AM	7:44:54 AM	37
2	121	7:44:24 AM	7:44:59 AM	35
2	122	7:45:28 AM	7:45:39 AM	11
2	123	7:45:44 AM	7:45:47 AM	3
2	124	7:46:00 AM	7:46:03 AM	3
2	125	7:46:13 AM	7:46:27 AM	14
2	126	7:46:25 AM	7:46:30 AM	5
2	127	7:46:35 AM	7:47:03 AM	28
2	128	7:47:01 AM	7:47:03 AM	2
2	129	7:47:23 AM	7:47:32 AM	9
2	130	7:47:42 AM	7:47:48 AM	6
2	131	7:47:54 AM	7:47:57 AM	3
2	132	7:49:13 AM	7:49:16 AM	3
2	133	7:49:29 AM	7:49:41 AM	12
2	134	7:49:30 AM	7:49:44 AM	14
2	135	7:49:32 AM	7:50:23 AM	51
2	136	7:50:12 AM	7:51:33 AM	81
2	137	7:50:18 AM	7:51:44 AM	86
2	138	7:50:39 AM	7:51:48 AM	69
2	139	7:50:43 AM	7:51:50 AM	67
2	140	7:50:53 AM	7:51:53 AM	60
2	141	7:50:54 AM	7:51:57 AM	63
2	142	7:51:09 AM	7:52:01 AM	52
2	143	7:51:35 AM	7:52:05 AM	30
2	144	7:51:39 AM	7:52:08 AM	29
2	145	7:52:18 AM	7:52:27 AM	9

Ln.	No.	Joined Queue	Released From Queue	Delay
2	146	7:52:28 AM	7:52:30 AM	2
2	147	7:53:42 AM	7:54:08 AM	26
2	148	7:53:44 AM	7:54:12 AM	28
2	149	7:53:50 AM	7:54:21 AM	31
2	150	7:54:16 AM	7:54:26 AM	10
2	151	7:55:03 AM	7:55:55 AM	52
2	152	7:55:33 AM	7:56:00 AM	27
2	153	7:55:36 AM	7:56:04 AM	28
2	154	7:56:04 AM	7:56:07 AM	3
2	155	7:57:04 AM	7:57:05 AM	1
2	156	7:57:09 AM	7:57:46 AM	37
2	157	7:57:12 AM	7:57:52 AM	40
2	158	7:57:27 AM	7:57:56 AM	29
2	159	7:58:07 AM	7:58:12 AM	5
2	160	7:58:28 AM	7:58:35 AM	7
2	161	7:58:58 AM	7:59:04 AM	6
2	162	7:59:01 AM	7:59:07 AM	6

Summary Information:

7:01:00 AM - 8:00:00 AM	EB RIGHTS	EB LEFTS
Total Vehicle Count:	65	162
Delayed Vehicle Count:	65	162
Through Vehicle Count:	0	0
Average Stopped Time:	16.09	29.531
Maximum Stopped Time:	50	137
Min. Secs. for Delay:	0	0
Average Queue:	0.32	1.372
Queue Density:	1.49	2.584
Maximum Queue:	5	9
Delay in Vehicle Hour:	0.32	1.37
Total Delay:	1046	4784

File Name : DELAY 1615-1715 (EBL & EBR)
Site Code : 00000000
Start Date : 1/8/2019

Ln.	No.	Joined Queue	Released From Queue	Delay
1	1	4:16:07 PM	4:16:44 PM	37
1	2	4:21:32 PM	4:21:50 PM	18
1	3	4:23:41 PM	4:24:16 PM	35
1	4	4:23:56 PM	4:24:46 PM	50
1	5	4:25:39 PM	4:25:47 PM	8
1	6	4:26:23 PM	4:26:40 PM	17
1	7	4:27:21 PM	4:27:42 PM	21
1	8	4:29:56 PM	4:30:04 PM	8
1	9	4:31:28 PM	4:31:33 PM	5
1	10	4:31:51 PM	4:32:00 PM	9
1	11	4:31:53 PM	4:32:00 PM	7
1	12	4:33:19 PM	4:33:43 PM	24
1	13	4:37:02 PM	4:37:18 PM	16
1	14	4:37:11 PM	4:37:22 PM	11
1	15	4:37:12 PM	4:37:27 PM	15
1	16	4:38:46 PM	4:38:50 PM	4
1	17	4:44:55 PM	4:45:19 PM	24
1	18	4:46:26 PM	4:46:48 PM	22
1	19	4:47:00 PM	4:47:25 PM	25
1	20	4:47:00 PM	4:47:31 PM	31
1	21	4:47:13 PM	4:47:34 PM	21
1	22	4:47:47 PM	4:47:55 PM	8
1	23	4:49:57 PM	4:50:04 PM	7
1	24	4:51:06 PM	4:51:11 PM	5
1	25	4:51:08 PM	4:51:21 PM	13
1	26	4:51:59 PM	4:52:03 PM	4
1	27	4:53:10 PM	4:53:41 PM	31
1	28	4:56:11 PM	4:56:15 PM	4
1	29	5:02:23 PM	5:02:28 PM	5
1	30	5:03:06 PM	5:03:09 PM	3
1	31	5:03:25 PM	5:03:41 PM	16
1	32	5:05:34 PM	5:06:24 PM	50
1	33	5:11:17 PM	5:11:39 PM	22
1	34	5:13:13 PM	5:13:30 PM	17
1	35	5:13:27 PM	5:13:34 PM	7
2	1	4:16:00 PM	4:16:51 PM	51
2	2	4:16:28 PM	4:16:56 PM	28
2	3	4:16:53 PM	4:17:01 PM	8
2	4	4:17:24 PM	4:17:31 PM	7
2	5	4:20:07 PM	4:20:15 PM	8
2	6	4:20:17 PM	4:20:31 PM	14
2	7	4:20:19 PM	4:20:44 PM	25
2	8	4:20:25 PM	4:20:48 PM	23
2	9	4:20:33 PM	4:20:53 PM	20
2	10	4:21:15 PM	4:21:18 PM	3
2	11	4:21:56 PM	4:22:09 PM	13
2	12	4:22:35 PM	4:23:37 PM	62
2	13	4:22:38 PM	4:24:16 PM	98
2	14	4:24:53 PM	4:25:01 PM	8
2	15	4:25:03 PM	4:25:09 PM	6
2	16	4:25:04 PM	4:25:17 PM	13
2	17	4:25:35 PM	4:25:45 PM	10
2	18	4:25:55 PM	4:26:03 PM	8
2	19	4:26:03 PM	4:26:10 PM	7
2	20	4:26:40 PM	4:26:53 PM	13
2	21	4:28:40 PM	4:29:25 PM	45
2	22	4:29:02 PM	4:30:03 PM	61
2	23	4:29:30 PM	4:30:09 PM	39
2	24	4:29:31 PM	4:30:20 PM	49
2	25	4:29:33 PM	4:31:09 PM	96
2	26	4:29:59 PM	4:31:38 PM	99
2	27	4:30:18 PM	4:31:46 PM	88
2	28	4:30:19 PM	4:32:01 PM	102
2	29	4:30:19 PM	4:32:03 PM	104
2	30	4:30:20 PM	4:32:36 PM	136
2	31	4:30:36 PM	4:32:40 PM	124
2	32	4:31:56 PM	4:32:44 PM	48
2	33	4:32:17 PM	4:32:45 PM	28
2	34	4:34:13 PM	4:34:17 PM	4
2	35	4:35:20 PM	4:36:12 PM	52

File Name : DELAY 1615-1715 (EBL & EBR)
Site Code : 00000000
Start Date : 1/8/2019

Ln.	No.	Joined Queue	Released From Queue	Delay
2	36	4:35:59 PM	4:36:17 PM	18
2	37	4:36:04 PM	4:36:21 PM	17
2	38	4:36:06 PM	4:36:42 PM	36
2	39	4:36:45 PM	4:36:57 PM	12
2	40	4:37:28 PM	4:37:33 PM	5
2	41	4:38:25 PM	4:38:43 PM	18
2	42	4:38:31 PM	4:38:48 PM	17
2	43	4:38:51 PM	4:38:56 PM	5
2	44	4:39:08 PM	4:39:14 PM	6
2	45	4:39:49 PM	4:40:50 PM	61
2	46	4:40:47 PM	4:40:51 PM	4
2	47	4:41:19 PM	4:41:27 PM	8
2	48	4:42:00 PM	4:42:04 PM	4
2	49	4:42:44 PM	4:43:21 PM	37
2	50	4:44:13 PM	4:44:34 PM	21
2	51	4:44:53 PM	4:45:23 PM	30
2	52	4:45:19 PM	4:45:30 PM	11
2	53	4:45:58 PM	4:46:15 PM	17
2	54	4:49:10 PM	4:49:23 PM	13
2	55	4:49:13 PM	4:49:27 PM	14
2	56	4:49:17 PM	4:49:30 PM	13
2	57	4:52:25 PM	4:52:30 PM	5
2	58	4:52:34 PM	4:52:39 PM	5
2	59	4:53:04 PM	4:53:44 PM	40
2	60	4:53:35 PM	4:53:45 PM	10
2	61	4:53:35 PM	4:53:50 PM	15
2	62	4:53:43 PM	4:54:02 PM	19
2	63	4:55:19 PM	4:56:00 PM	41
2	64	4:55:24 PM	4:56:06 PM	42
2	65	4:55:27 PM	4:56:10 PM	43
2	66	4:55:33 PM	4:56:12 PM	39
2	67	4:56:20 PM	4:56:37 PM	17
2	68	4:56:52 PM	4:57:02 PM	10
2	69	4:57:08 PM	4:57:30 PM	22
2	70	4:58:00 PM	4:58:07 PM	7
2	71	4:58:43 PM	4:59:04 PM	21
2	72	4:58:46 PM	4:59:17 PM	31
2	73	4:59:27 PM	4:59:42 PM	15
2	74	4:59:28 PM	4:59:49 PM	21
2	75	4:59:29 PM	5:00:11 PM	42
2	76	5:00:09 PM	5:00:19 PM	10
2	77	5:00:10 PM	5:00:24 PM	14
2	78	5:00:16 PM	5:00:36 PM	20
2	79	5:01:18 PM	5:01:41 PM	23
2	80	5:01:45 PM	5:01:53 PM	8
2	81	5:02:17 PM	5:02:24 PM	7
2	82	5:03:29 PM	5:03:41 PM	12
2	83	5:03:33 PM	5:03:53 PM	20
2	84	5:04:41 PM	5:05:27 PM	46
2	85	5:05:23 PM	5:05:35 PM	12
2	86	5:05:29 PM	5:06:32 PM	63
2	87	5:06:39 PM	5:06:44 PM	5
2	88	5:06:51 PM	5:06:58 PM	7
2	89	5:07:21 PM	5:07:25 PM	4
2	90	5:07:49 PM	5:08:02 PM	13
2	91	5:08:05 PM	5:08:12 PM	7
2	92	5:08:16 PM	5:08:19 PM	3
2	93	5:10:04 PM	5:10:08 PM	4
2	94	5:12:17 PM	5:12:22 PM	5
2	95	5:12:40 PM	5:12:49 PM	9
2	96	5:12:46 PM	5:13:30 PM	44
2	97	5:13:08 PM	5:13:33 PM	25
2	98	5:14:20 PM	5:14:32 PM	12

File Name : DELAY 1615-1715 (EBL & EBR)
Site Code : 00000000
Start Date : 1/8/2019

Summary Information:

4:16:00 PM - 5:15:00 PM	EB RIGHTS	EB LEFTS
Total Vehicle Count:	35	98
Delayed Vehicle Count:	35	98
Through Vehicle Count:	0	0
Average Stopped Time:	17.14	27.398
Maximum Stopped Time:	50	136
Min. Secs. for Delay:	0	0
Average Queue:	0.17	0.764
Queue Density:	1.18	1.861
Maximum Queue:	3	7
Delay in Vehicle Hour:	0.17	0.76
Total Delay:	600	2685