

QUALITATIVE ASSESSMENT OF INTERSECTION OPERATIONS

State Road 40 at Interstate 95 Southbound Ramps

Section 79100

M.P. 26.292

Volusia County

Prepared for:

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5 TRAFFIC OPERATIONS

719 South Woodland Boulevard, MS 3-562

DeLand, Florida 32720



Continuing Service Contract for Traffic Operations

Financial Project Identification Number: 237974-1-32-17

Contract Number: CA652

TEDS Contract Number: 11265

Task Work Order: 12

Study: 2

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January 2021

This item has been digitally signed and sealed by

On the date adjacent to the seal

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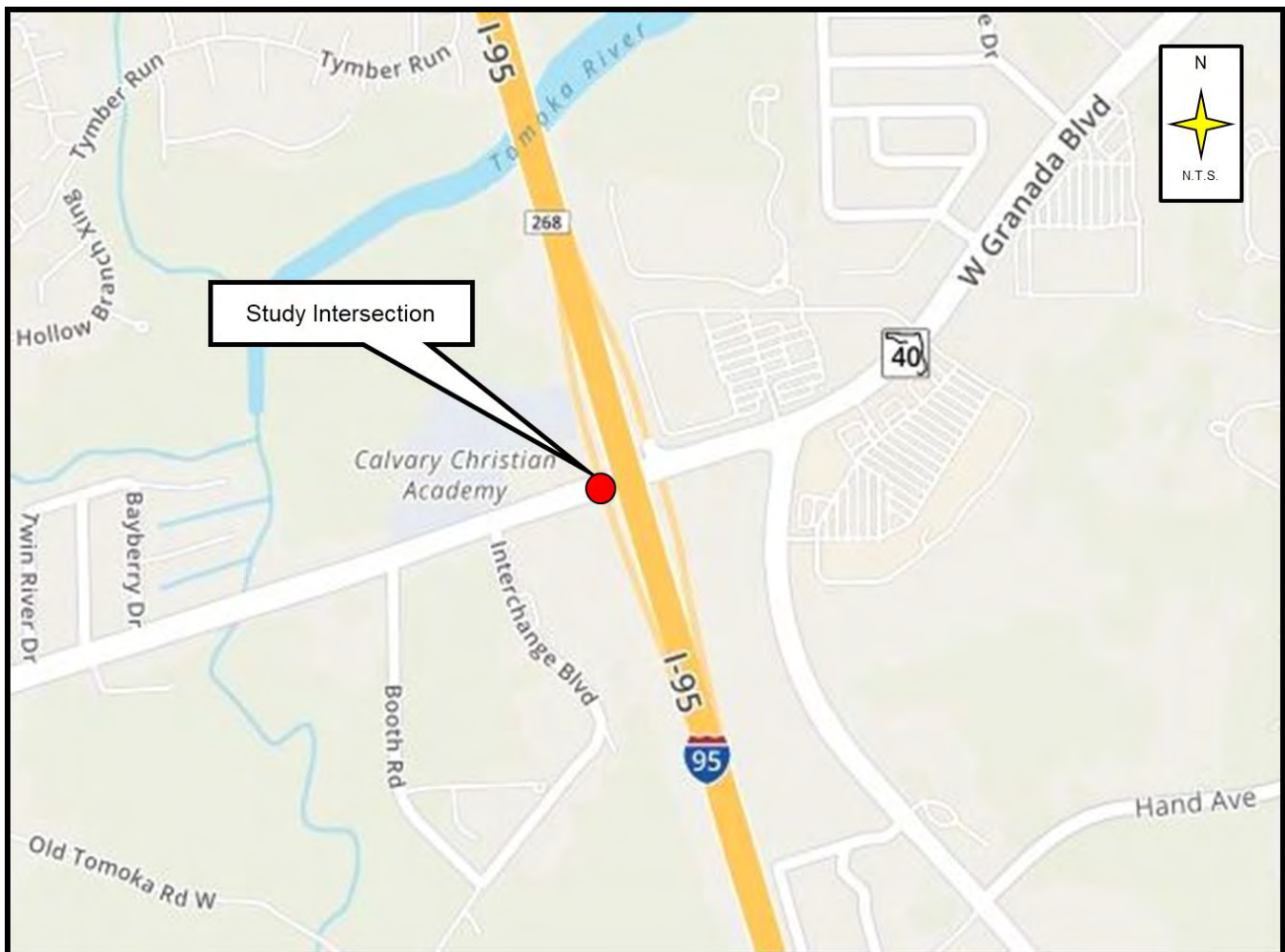
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INTRODUCTION

Traffic Engineering Data Solutions, Inc. (TEDS) was retained on behalf of the Florida Department of Transportation (FDOT) to conduct a Qualitative Assessment of Intersection Operations for the intersection of State Road (S.R.) 40 at the Interstate 95 (I-95) southbound ramps, located in Ormond Beach (Volusia County), Florida. A location map of the study intersection is shown below as **Figure 1**.

The study was initiated by FDOT to investigate if right-turn on red restriction is needed for the ramp to assist downstream weaving issues. The analysis methods used in completing this study are consistent with the Manual on Uniform Traffic Control Devices (MUTCD), FDOT's Manual on Uniform Traffic Studies (MUTS), the Traffic Engineering Manual (TEM), and engineering judgment. This report documents existing conditions, vehicle / pedestrian / bicycle counts, collision analysis, qualitative assessment, and recommendations.

Figure 1
General Location Map
S.R. 40 at I-95 Southbound Ramps

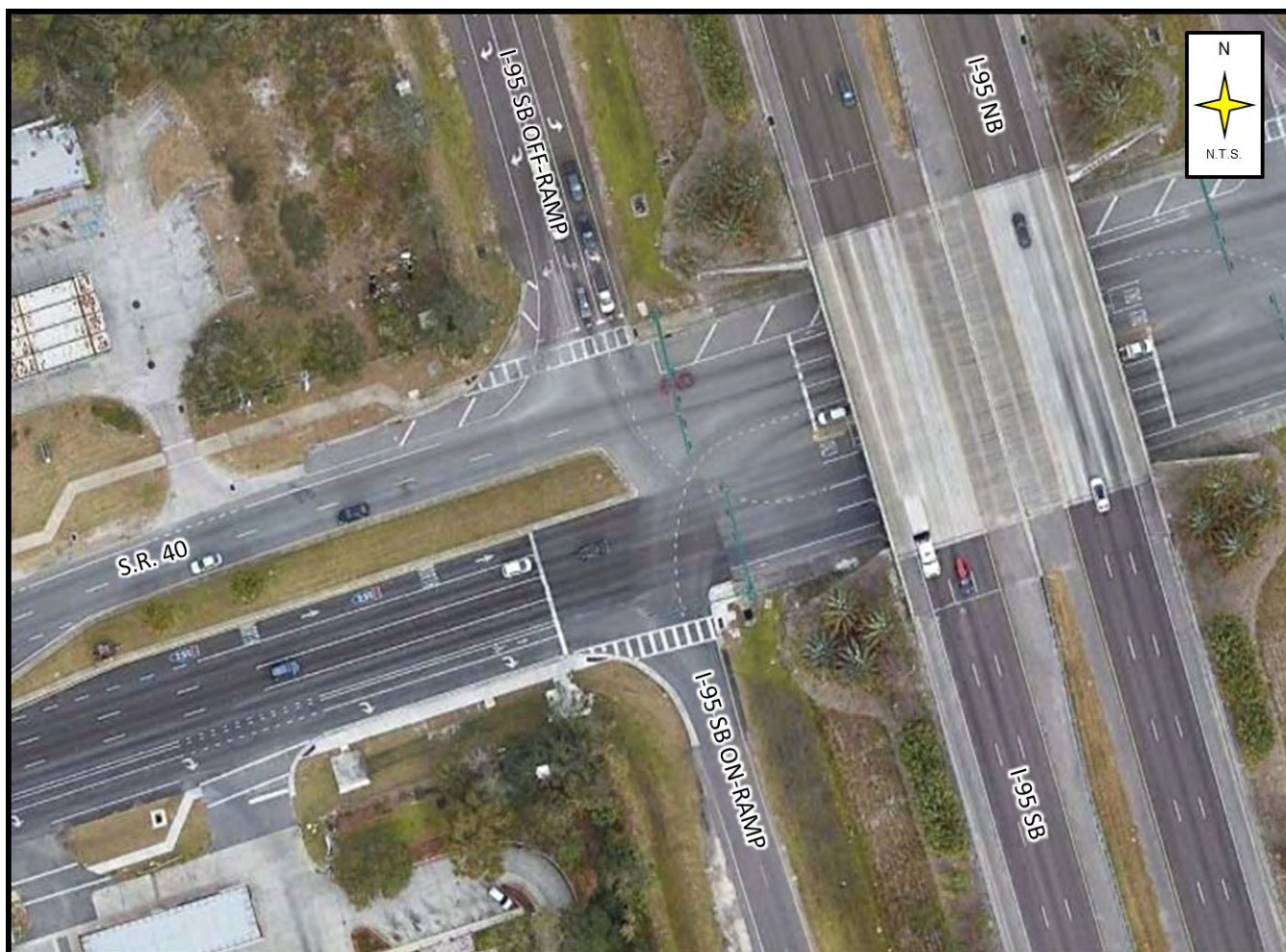


Source: MapQuest

EXISTING CONDITIONS

S.R. 40 is an east/west arterial that extends east from Marion County, through the study intersection, to S.R. A1A in Ormond Beach. At the study intersection, S.R. 40 is a five-lane divided arterial with bike lanes and curb and gutter. I-95 is a north/south interstate highway that extends from the Volusia/Flagler County line to the Flagler/St. Johns County line. At the study interchange, the southbound off-ramp (Exit 268) is the west ramp terminal at the diamond interchange, which allows southbound I-95 traffic to access S.R. 40, and S.R. 40 traffic to access southbound I-95. The intersection of S.R. 40 at the I-95 Southbound Ramps is a signalized intersection. A location aerial is shown below in **Figure 2**.

Figure 2
General Location Aerial
S.R. 40 at I-95 Southbound Ramps

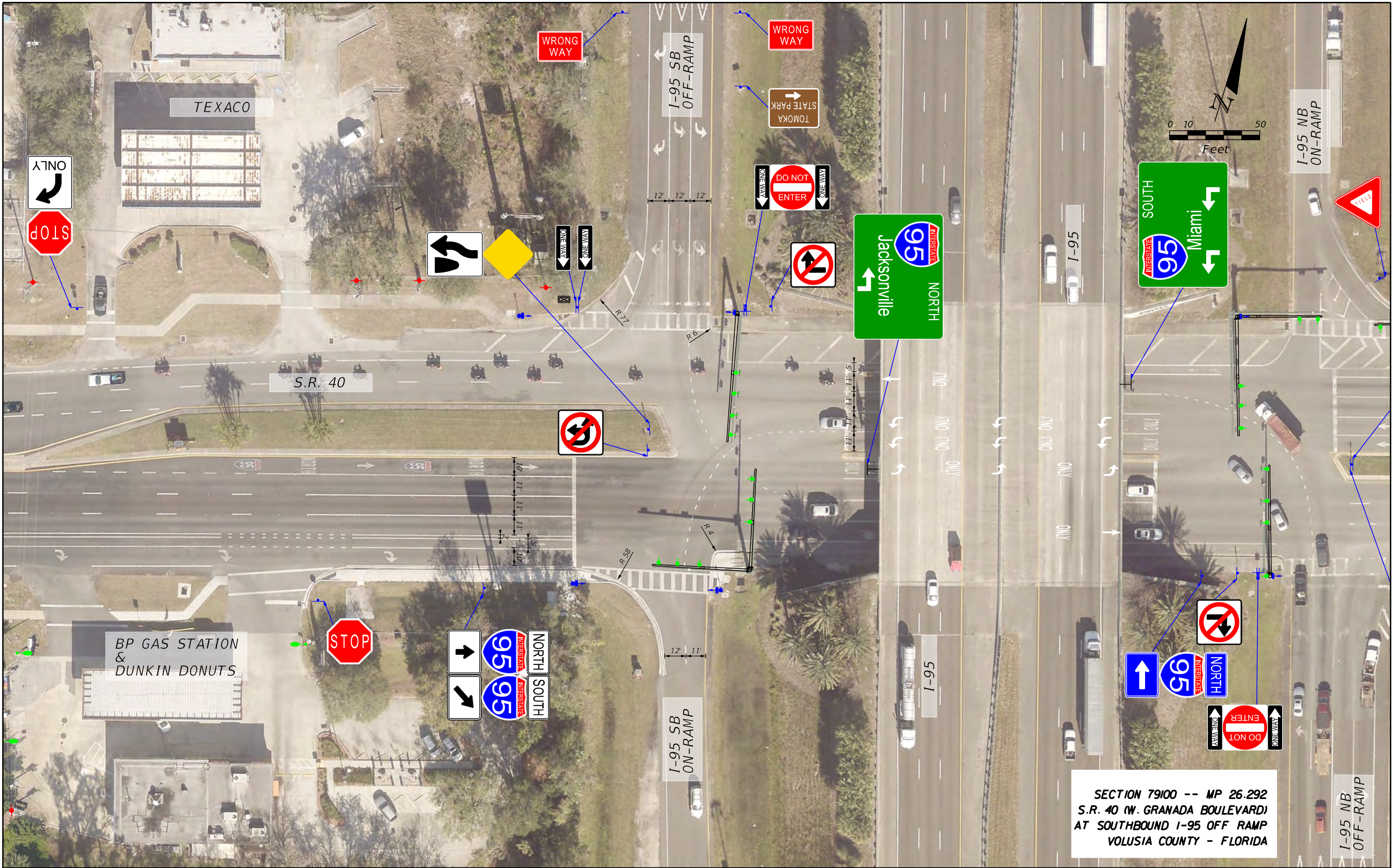


Source: Google Earth

Table 1 on the following page summarizes the existing conditions for the study location. An existing condition diagram is provided as **Figure 3** and photographs of the study intersection are included within this study. A straight-line diagram is also included in the **Appendix**.

Table 1
Existing Conditions
S.R. 40 at I-95 Southbound Ramps

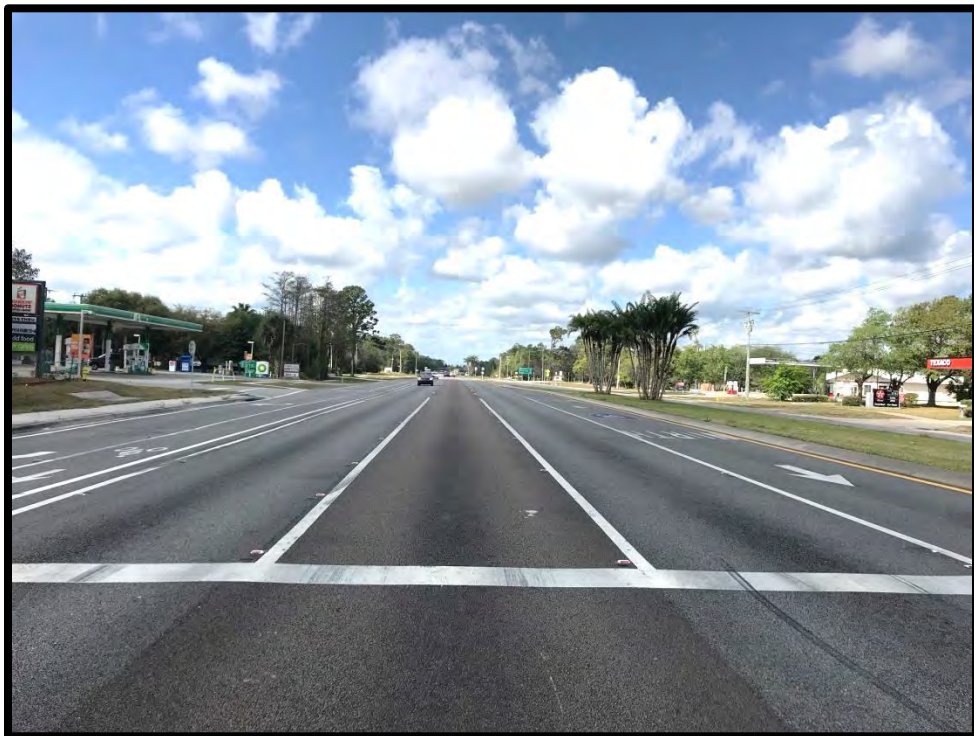
| Feature | Description |
|-----------------------------------|---|
| Main Street | <ul style="list-style-type: none"> S.R. 40 |
| Side Street | <ul style="list-style-type: none"> I-95 Southbound Ramps |
| Area Location | <ul style="list-style-type: none"> Ormond Beach, Volusia County, Florida |
| Adjacent Land Uses | <ul style="list-style-type: none"> <u>Northeast:</u> I-95 (mainline and northbound on-ramp) <u>Northwest:</u> Texaco Gas Station <u>Southeast:</u> I-95 (mainline and northbound off-ramp) <u>Southwest:</u> BP Gas Station/Dunkin Donuts |
| Traffic Control | <ul style="list-style-type: none"> Signalized Intersection |
| Adjacent Signalized Intersections | <ul style="list-style-type: none"> <u>North:</u> None <u>South:</u> None <u>East:</u> I-95 NB On/Off Ramps – 330 feet <u>West:</u> Booth Road – 0.265 miles |
| S.R. 40 | <ul style="list-style-type: none"> <u>Cross Section:</u> Five (5) lane divided arterial (three eastbound lanes and two westbound lanes) with curb and gutter and bicycle lanes <u>Posted Speed Limit:</u> 45 mph <u>AADT (2019):</u> 31,500 vehicles per day (vpd) west of the intersection and 35,500 east of the intersection <u>Eastbound Approach Lanes:</u> One (1) left-turn lane (for northbound I-95 ramp) three (3) through lanes, one (1) bicycle lane, and one (1) right-turn lane <u>Westbound Approach Lanes:</u> Two (2) left-turn lanes, two (2) through lanes, and one (1) bicycle lane <u>Pedestrian Crossings:</u> None <u>Sidewalks:</u> Along both sides of the roadway <u>Utilities:</u> Along the north side of the roadway <u>Street Lighting:</u> None |
| I-95 Southbound Ramps | <ul style="list-style-type: none"> <u>Cross Section:</u> Two (2) lane interstate off-ramp with paved shoulders and outside curb and gutter <u>Posted Speed Limit:</u> 35 mph <u>AADT (2019):</u> 4,300 vpd <u>Southbound Approach Lanes:</u> Two (2) left-turn lanes and one (1) right-turn lane <u>Pedestrian Crossings:</u> Signalized crosswalks across both north and south legs of the intersection <u>Sidewalks:</u> None <u>Utilities:</u> None <u>Street Lighting:</u> High mast light pole provided in the southwest quadrant of the intersection along the southbound I-95 on-ramp |



**Eastbound Approach Photographs
S.R. 40 at I-95 Southbound Ramps**



Looking East Towards Intersection



Looking West Away from Intersection

**Westbound Approach Photographs
S.R. 40 at I-95 Southbound Ramps**



Looking West Towards Intersection



Looking East Away from Intersection

**Southbound Approach Photographs
S.R. 40 at I-95 Southbound Ramps**



Looking South Towards Intersection

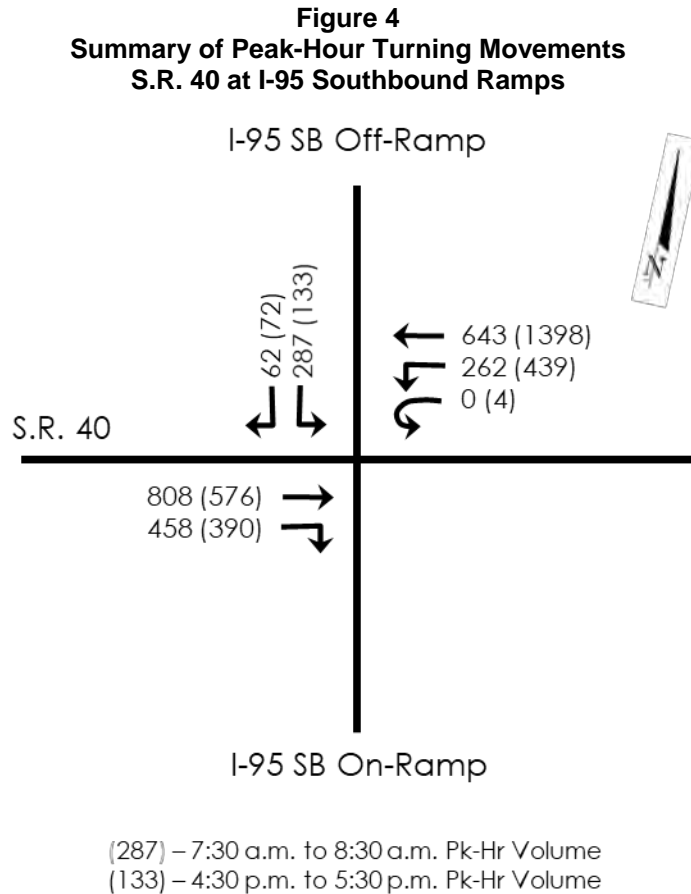


Looking North Away from Intersection

Traffic Volumes

Eight (8) hours of manual turning movement counts were collected from 7:00 to 9:00 a.m., 11:00 a.m. to 1:00 p.m., and 2:00 to 6:00 p.m. on a weekday at S.R. 40 at the I-95 southbound ramps (included in the **Appendix**).

- The morning peak hour at the intersection occurred from 7:30 to 8:30 a.m. while the afternoon peak hour occurred from 4:30 to 5:30 p.m. As summarized below in **Figure 4**, 2,520 and 3,008 vehicles were counted entering the intersection during the morning and afternoon peak hours, respectively.



- 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 2.07% of the traffic passing through the intersections.
- During the eight (8) hours of manually collected turning movement counts, 15 pedestrians and nine (9) bicyclists were observed traversing the intersection.

Collision Analysis: Crash data for the 36-month period between February 1, 2017 and January 31, 2019 was obtained from the FDOT's CAR database and the University of Florida's *Signal Four Analytics*. Fifty-seven (57) crashes were reported at the intersection, consisting of the following crash types:

- 24 rear-end;
 - 14 side-swipe;
 - 12 left-turn;
 - Three (3) angle;
 - One (1) other;
 - One (1) off-road;
 - One (1) backed-into;
 - One (1) right-turn.
- The crashes resulted in one (1) fatality, 25 injuries, and \$260,650 in estimated property damage.
- 44 crashes occurred during the day and 13 crashes occurred at night.
- 51 of the crashes occurred under dry pavement conditions and six (6) crashes occurred at during wet conditions.
- 14 sideswipe crashes occurred as follows:
 - Three (3) involved westbound through vehicles.
 - One (1) involved westbound vehicles in the left-turn lanes to I-95 southbound.
 - One (1) involved westbound left-turning vehicles.
 - Two (2) involved eastbound through vehicles.
 - One (1) involved an eastbound driver in the right-turn lane striking a vehicle in the outside through lane.
 - One (1) involved an eastbound driver in the outside through lane striking a vehicle in the right-turn lane.
 - One (1) involved a westbound vehicle in the inside through lane striking a vehicle in the left-turn lane to I-95 northbound.
 - Three (3) involved southbound left-turning vehicles.
 - One (1) involved southbound right-turning vehicles.
- 11 left-turn crashes occurred between eastbound through and westbound left-turning vehicles, which occurred as a result of disregarding the red traffic signal.
 - Nine (9) noted eastbound through drivers to be at fault. One (1) fatality occurred.
 - Two (2) noted westbound left-turning drivers to be at fault.
- One (1) left-turn crash involved an eastbound motorist performing a prohibited U-turn and striking a westbound through vehicle.
- Three (3) angle crashes occurred as a result of one (1) eastbound and two (2) westbound through drivers disregarding the red traffic signal and striking southbound left-turning vehicles.
- One (1) off-road crash occurred when a westbound driver (noted to be under the influence) struck the median curb, continued westbound and went off-road.
- One (1) right-turn crash occurred when an eastbound right-turning driver failed to yield the right of way to a westbound left-turning vehicle.

A detailed collision summary is provided on the following page in **Table 2**. A collision diagram is provided as **Figure 5**.

Table 2
Summary of Collision Data
S.R. 40 at I-95 Southbound Ramps

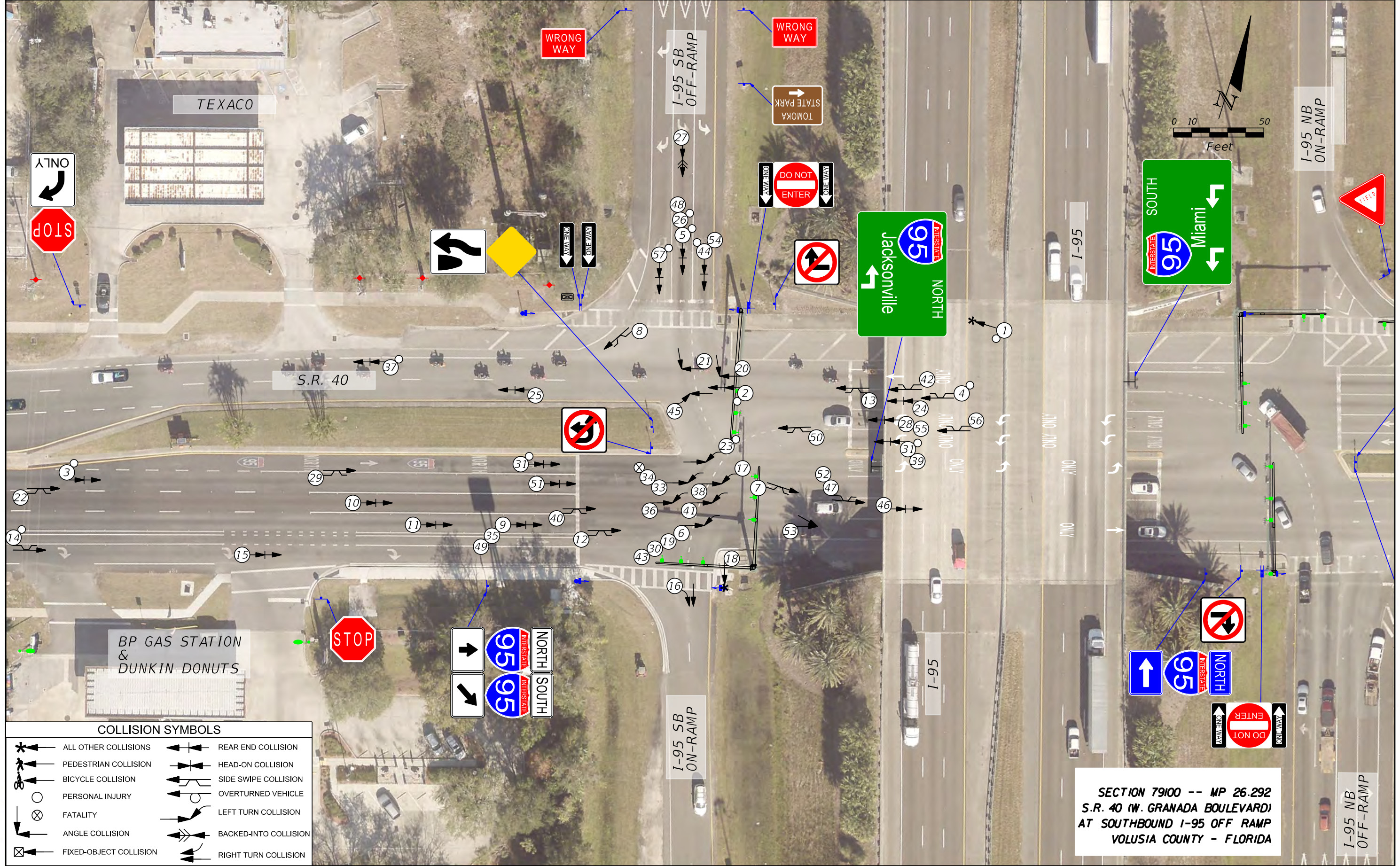
| FLORIDA DEPARTMENT OF TRANSPORTATION | | | | | | | | | | | | |
|--------------------------------------|----------|-----------|------------------|-------|--------|----------------------|-----------------|-----------------|-----|-------------|-----------|-----------------------|
| COLLISION SUMMARY | | | | | | | | | | | | |
| Section: 79100 | | | State Road: 40 | | | | | County: Volusia | | | | |
| Intersecting route: I-95 SB Ramps | | | Milepost: 26.292 | | | | | Data by: SEN | | | | |
| Study period: 2/1/2017 to 1/31/2020 | | | | | | | | Date: 3/23/2020 | | | | |
| NO. | DATE | DAY | TIME | FATAL | INJURY | INJURY SEVERITY | PROPERTY DAMAGE | HARMFUL EVENT | DUI | DAY / NIGHT | WET / DRY | CONTRIBUTING CAUSE |
| 1 | 03/18/17 | Saturday | 3:30 | 0 | 1 | 4-Incapacitating | \$16,000 | Off-Road | Yes | Night | Dry | DUI |
| 2 | 03/23/17 | Thursday | 20:19 | 0 | 2 | 2-Possible | \$6,500 | Rear-End | No | Night | Dry | Following Too Closely |
| 3 | 04/27/17 | Thursday | 15:45 | 0 | 2 | 2-Possible | \$2,000 | Rear-End | No | Day | Dry | Careless Driving |
| 4 | 05/01/17 | Monday | 9:47 | 0 | 1 | 3-Non-Incapacitating | \$8,500 | Side-Swipe | No | Day | Dry | Improper Lane Change |
| 5 | 05/10/17 | Wednesday | 12:55 | 0 | 1 | 2-Possible | \$4,600 | Rear-End | No | Day | Dry | Careless Driving |
| 6 | 05/19/17 | Friday | 20:30 | 0 | 0 | 1-None | \$2,500 | Left-Turn | No | Day | Dry | Ran Red Light |
| 7 | 07/24/17 | Monday | 9:20 | 0 | 0 | 1-None | \$800 | Side-Swipe | No | Day | Dry | Improper Lane Change |
| 8 | 10/04/17 | Wednesday | 18:20 | 0 | 0 | 1-None | \$6,500 | Side-Swipe | No | Day | Dry | Improper Turn |
| 9 | 01/12/18 | Friday | 10:34 | 0 | 0 | 1-None | \$700 | Rear-End | No | Day | Dry | Careless Driving |
| 10 | 01/22/18 | Monday | 7:45 | 0 | 0 | 1-None | \$2,000 | Rear-End | No | Day | Dry | Careless Driving |
| 11 | 01/23/18 | Tuesday | 7:37 | 0 | 0 | 1-None | \$700 | Rear-End | No | Day | Dry | Careless Driving |
| 12 | 01/29/18 | Monday | 8:40 | 0 | 0 | 1-None | \$1,000 | Side-Swipe | No | Day | Wet | Improper Lane Change |
| 13 | 02/05/18 | Monday | 11:45 | 0 | 0 | 1-None | \$150 | Side-Swipe | No | Day | Dry | Improper Lane Change |
| 14 | 02/14/18 | Wednesday | 7:40 | 0 | 1 | 3-Non-Incapacitating | \$2,000 | Side-Swipe | No | Day | Dry | Improper Lane Change |
| 15 | 02/15/18 | Thursday | 7:29 | 0 | 0 | 1-None | \$500 | Rear-End | No | Day | Dry | Careless Driving |
| 16 | 02/27/18 | Tuesday | 8:54 | 0 | 0 | 1-None | \$1,500 | Right-Turn | No | Day | Dry | FTYROW |
| 17 | 02/27/18 | Tuesday | 11:42 | 0 | 0 | 1-None | \$6,000 | Left-Turn | No | Day | Dry | Ran Red Light |
| 18 | 03/14/18 | Wednesday | 6:06 | 0 | 0 | 1-None | \$0 | Other | No | Night | Dry | Improper Backing |
| 19 | 03/16/18 | Friday | 6:54 | 0 | 0 | 1-None | \$7,000 | Left-Turn | No | Night | Dry | Ran Red Light |
| 20 | 03/30/18 | Friday | 8:32 | 0 | 0 | 1-None | \$5,000 | Angle | No | Day | Dry | Ran Red Light |
| 21 | 04/03/18 | Tuesday | 8:56 | 0 | 0 | 1-None | \$10,000 | Angle | No | Day | Dry | Ran Red Light |
| 22 | 05/01/18 | Tuesday | 14:00 | 0 | 0 | 1-None | \$2,000 | Side-Swipe | No | Day | Dry | Careless Driving |
| 23 | 05/12/18 | Saturday | 12:36 | 0 | 3 | 2-Possible | \$8,000 | Left-Turn | No | Day | Dry | Ran Red Light |
| 24 | 05/17/18 | Thursday | 17:24 | 0 | 0 | 1-None | \$1,500 | Rear-End | No | Day | Dry | Careless Driving |
| 25 | 05/20/18 | Sunday | 14:55 | 0 | 0 | 1-None | \$3,000 | Rear-End | No | Day | Wet | Careless Driving |
| 26 | 05/30/18 | Wednesday | 9:47 | 0 | 1 | 2-Possible | \$2,000 | Rear-End | No | Day | Wet | Careless Driving |
| 27 | 06/06/18 | Wednesday | 15:28 | 0 | 0 | 1-None | \$500 | Backed-Into | No | Day | Wet | Improper Backing |
| 28 | 09/12/18 | Wednesday | 7:34 | 0 | 0 | 1-None | \$2,000 | Rear-End | No | Day | Dry | Careless Driving |
| 29 | 09/21/18 | Friday | 8:06 | 0 | 0 | 1-None | \$1,000 | Side-Swipe | No | Day | Dry | Improper Lane Change |
| 30 | 10/22/18 | Monday | 16:42 | 0 | 0 | 1-None | \$5,000 | Left-Turn | No | Day | Dry | Ran Red Light |
| 31 | 12/04/18 | Tuesday | 6:17 | 0 | 1 | 2-Possible | \$16,000 | Rear-End | No | Night | Dry | Careless Driving |
| 32 | 12/17/18 | Monday | 20:38 | 0 | 2 | 2-Possible | \$7,000 | Rear-End | No | Night | Dry | Careless Driving |
| 33 | 02/20/19 | Wednesday | 19:39 | 0 | 0 | 1-None | \$5,500 | Left-Turn | No | Night | Dry | Ran Red Light |
| 34 | 03/08/19 | Friday | 12:18 | 1 | 4 | 5-Fatal | \$25,000 | Left-Turn | No | Day | Dry | Ran Red Light |
| 35 | 03/23/19 | Saturday | 16:40 | 0 | 0 | 1-None | \$3,000 | Rear-End | No | Day | Dry | Careless Driving |
| 36 | 04/04/19 | Thursday | 17:39 | 0 | 0 | 1-None | \$1,500 | Left-Turn | No | Day | Dry | Ran Red Light |
| 37 | 04/20/19 | Saturday | 8:11 | 0 | 1 | 3-Non-Incapacitating | \$1,100 | Rear-End | No | Day | Dry | Careless Driving |
| 38 | 05/08/19 | Wednesday | 22:10 | 0 | 3 | 3-Non-Incapacitating | \$10,000 | Left-Turn | No | Night | Dry | Ran Red Light |
| 39 | 05/30/19 | Thursdav | 8:15 | 0 | 0 | 1-None | \$2,500 | Rear-End | No | Day | Dry | Careless Driving |

(Continued)

Table 2 (Continued)
Summary of Collision Data
S.R. 40 at I-95 Southbound Ramps

| FLORIDA DEPARTMENT OF TRANSPORTATION | | | | | | | | | | | | | |
|--------------------------------------|----------------------|-----------|----------------|------------------|--------|----------------------|------------------|-----------------------|------------|---------------|--------------|----------------------|---------------|
| COLLISION SUMMARY | | | | | | | | | | | | | |
| Section: 79100 | | | | State Road: 40 | | | | County: Volusia | | | | | |
| Intersecting route: I-95 SB Ramps | | | | Milepost: 26.292 | | | | Data by: SEN | | | | | |
| Study period: 2/1/2017 to 1/31/2020 | | | | Date: 3/23/2020 | | | | | | | | | |
| NO. | DATE | DAY | TIME | FATAL | INJURY | INJURY SEVERITY | PROPERTY DAMAGE | HARMFUL EVENT | DUI | DAY / NIGHT | WET / DRY | CONTRIBUTING CAUSE | |
| 40 | 06/25/19 | Tuesday | 1309 | 0 | 0 | 1-None | \$5,000 | Side-Swipe | No | Day | Dry | Improper Lane Change | |
| 41 | 06/25/19 | Tuesday | 20:10 | 0 | 0 | 1-None | \$6,000 | Left-Turn | No | Day | Dry | Ran Red Light | |
| 42 | 07/24/19 | Wednesday | 22:35 | 0 | 0 | 1-None | \$8,000 | Side-Swipe | No | Night | Dry | Improper Lane Change | |
| 43 | 08/13/19 | Tuesday | 15:20 | 0 | 0 | 1-None | \$12,000 | Left-Turn | No | Day | Dry | Ran Red Light | |
| 44 | 08/14/19 | Wednesday | 17:30 | 0 | 1 | 2-Possible | \$14,000 | Rear-End | No | Day | Wet | Careless Driving | |
| 45 | 08/20/19 | Tuesday | 11:12 | 0 | 0 | 1-None | \$2,000 | Left-Turn | No | Day | Dry | Improper Turn | |
| 46 | 08/23/19 | Friday | 7:51 | 0 | 0 | 1-None | \$2,500 | Rear-End | No | Day | Dry | Careless Driving | |
| 47 | 09/06/19 | Friday | 14:30 | 0 | 0 | 1-None | \$700 | Side-Swipe | No | Day | Dry | Improper Lane Change | |
| 48 | 10/27/19 | Sunday | 17:00 | 0 | 0 | 1-None | \$2,700 | Rear-End | No | Day | Dry | Careless Driving | |
| 49 | 11/05/19 | Tuesday | 18:28 | 0 | 0 | 1-None | \$2,400 | Rear-End | No | Night | Wet | Careless Driving | |
| 50 | 11/07/19 | Thursday | 1:00 | 0 | 0 | 1-None | \$2,500 | Side-Swipe | No | Day | Dry | Improper Lane Change | |
| 51 | 11/11/19 | Monday | 18:15 | 0 | 0 | 1-None | \$11,000 | Rear-End | No | Night | Dry | Careless Driving | |
| 52 | 12/02/19 | Monday | 8:02 | 0 | 0 | 1-None | \$800 | Side-Swipe | No | Day | Dry | Improper Lane Change | |
| 53 | 12/09/19 | Monday | 8:03 | 0 | 0 | 1-None | \$3,000 | Angle | No | Day | Dry | Ran Red Light | |
| 54 | 12/10/19 | Tuesday | 22:25 | 0 | 0 | 1-None | \$2,000 | Rear-End | No | Night | Dry | Careless Driving | |
| 55 | 12/20/19 | Friday | 14:18 | 0 | 0 | 1-None | \$1,000 | Rear-End | No | Day | Dry | Careless Driving | |
| 56 | 12/29/19 | Sunday | 21:34 | 0 | 0 | 1-None | \$3,500 | Side-Swipe | No | Night | Dry | Careless Driving | |
| 57 | 01/25/20 | Saturday | 16:33 | 0 | 1 | 2-Possible | \$1,000 | Rear-End | No | Day | Dry | Careless Driving | |
| | | | | | | | | | | | | | |
| TOTAL | | | | 1 | 25 | | \$260,650 | | | | | | |
| TOTAL NO. | Injury Severity | | | | Angle | Rear-End | Side-Swipe | Left-Turn | Right-Turn | Other | Off-Road | Backed-Into | |
| | Property Damage Only | | Injury | Fatality | | | | | | | | | |
| 57 | 42 | | 14 | 1 | 3 | 24 | 14 | 12 | 1 | 1 | 1 | 1 | 0 |
| Percent | 74% | | 25% | 2% | 5% | 42% | 25% | 21% | 2% | 2% | 2% | 2% | 0% |
| CONTRIB-CAUSE | Time of Day | | Pavement Cond. | | DUI | Improper Lane Change | Careless Driving | Following Too Closely | FTYROW | Improper Turn | Lost Control | Improper Backing | Ran Red Light |
| | Day | Night | Dry | Wet | | | | | | | | | |
| Total | 44 | 13 | 51 | 6 | 1 | 11 | 25 | 1 | 1 | 2 | 0 | 2 | 14 |
| Percent | 77% | 23% | 89% | 11% | 2% | 19% | 44% | 2% | 2% | 4% | 0% | 4% | 25% |

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



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

| | | | |
|--|--------------|----------|----------------------------|
| | Utility Pole | Symbols: | |
| | Traffic Sign | | Signal Pole |
| | Luminaire | | Pedestrian Signal Pole |
| | | | Inlet |
| | | | Traffic Controller Cabinet |
| | | | Overhead Mounted Sign |

Traffic Engineering Data Solutions, Inc.
80 Spring Vista Drive Phone: 386.753.0558
DeBary, FL 32713 Fax: 386.753.0778

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

FIGURE 5
COLLISION DIAGRAM
(2/1/2017 - 1/31/2020)

QUALITATIVE ASSESSMENT

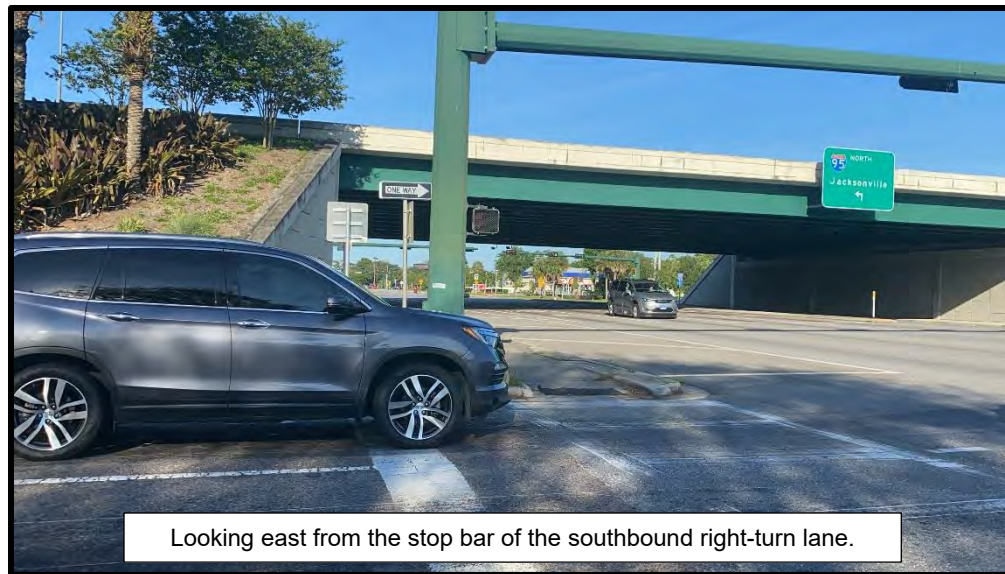
The intersection of S.R. 40 at I-95 southbound ramps was observed by a registered professional engineer during the morning and afternoon peak periods. The goal of the observations was to determine the need for any improvements to enhance the safety and efficiency of the study intersection.

Operations:

Operations include the efficiency of operation and interaction of motor vehicles, pedestrians, and bicycles at the intersection.

General Observations:

- S.R. 40 serves as an east/west arterial roadway while Interstate 95 serves as a north/south interstate roadway throughout Florida and the eastern seaboard of the United States. S.R. 40 provides access to commercial businesses, local streets and beaches. This condition leads to intersection usage by local residents as well as travelers unfamiliar with the area searching for fuel and other travel related needs.
- Pedestrian activity through the intersection is low with 15 pedestrians (eastbound and westbound) crossing the intersection during the 8-hour count period. Bicycle usage through the intersection was an infrequent occurrence, however was observed along SR 40 during all of the observation and data collection periods.
- Vehicles traveling on S.R. 40 were generally observed to be traveling at or below the 45-mph posted speed limit during the peak period.
- The study intersection is part of a coordinated system that includes the I-95 northbound ramp intersection (330 feet to the east). Circulation between both intersections appeared efficient with few phase failures during the peak periods. Minor eastbound through queue spillbacks extended from the northbound ramp intersection through the southbound ramp. Drivers did not block the intersection during the periods of longer queues.
- Dual left-turn lanes and a single right-turn lane are provided on the I-95 southbound off-ramp. The southbound left-turn movement is high, averaging 187 vph during the 8-hour count period. Right-turn volumes were moderate and averaged 68 vph throughout the 8-hour count period. The southbound left-turn signal phase is concurrent with the eastbound through signal phase at the I-95 northbound ramp intersection. A few phase failures were observed with the left-turn movement during the morning peak hour.
- Right-turn-on-red (RTOR) movements accounted for 75% of the total right-turn volume over the 8-hour count period. While RTOR movement is permitted, some challenges were observed:
 - From the southbound stop bar, visibility to the east can be restricted by the signal mast arm on the northeast corner (see photo on following page). The majority of southbound right-turning drivers were observed stopping on the crosswalk or beyond to get a better view of oncoming westbound through vehicles.
 - On a few occasions, right-turning drivers were observed turning within smaller gaps of approaching westbound through vehicles, resulting in westbound drivers braking slightly or changing lanes to avoid a collision.
- In general, RTOR drivers continuing west of S.R. 40 appeared to take smaller gaps while those who intended to turn left at Interchange Boulevard or Booth Road waited for larger gap or all lanes to be clear.



Looking east from the stop bar of the southbound right-turn lane.

Safety:

In addition to the collision analysis, the following observations were made with respect to the safety of the study intersection:

- A collision summary was performed for the 36-month period from February 1, 2017 to January 31, 2020. A total of 57 collisions were reported, resulting in one (1) fatality, 25 injuries and \$260,650 in estimated property damage.
- One (1) eastbound left-turn crash occurred when an eastbound driver performed a prohibited U-turn and struck a westbound through vehicle. A combination No U-Turn/No Left Turn is ground mounted in the median of the westbound approach and no U-turn movements were observed during the 8-hour count period.
- No sideswipe crashes occurred as a result of southbound right-turning drivers weaving across the westbound lanes of S.R. 40. One (1) sideswipe crash involved two (2) southbound right-turning vehicles and occurred because the leading driver stopped after initiating their turn and the following driver attempted to go around to avoid a rear end crash, ultimately sideswiping the leading vehicle.
- No crashes were reported that involved a southbound right-turning driver failing to yield to a westbound through vehicle. Due to the lower volume of right-turns and the observed efficiency with the RTOR movements, **it is recommended southbound RTOR continue to be permitted at the intersection.**
- All signal heads are mounted horizontally and backplates are provided on the east/west facing signal heads. 11 of the 12 left-turn crashes and the three (3) angle crashes were the result of eastbound through and westbound left-turning drivers disregarding the red traffic signal. **It is recommended retroreflective strips be added to the existing backplates of the east/west facing signal heads.**

Maintenance:

During the various field reviews, the condition of the study intersection's pavement, striping and signing were observed. The following are observations based on the various field reviews of the intersection:

- The signs, pavement markings and pavement conditions appeared to be in good condition with the exception of the following:
 - The crosswalk on the southbound approach and the stop bar on the westbound approach are faded. **It is recommended the crosswalk and stop bar be restriped.**
 - The tactile mats on all four corners are damaged. **It is recommended the tactile mats be replaced.**

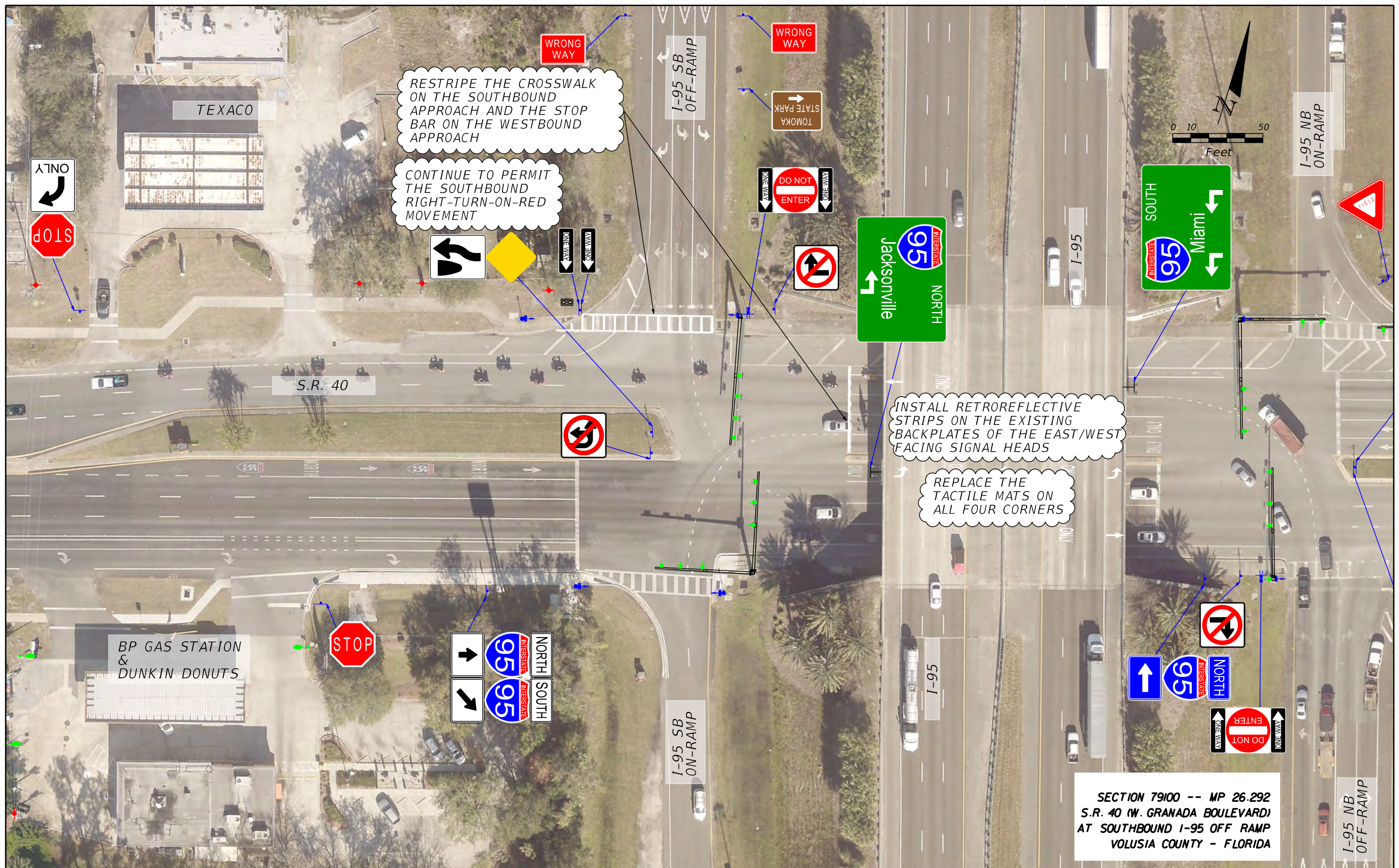


IMPROVEMENT RECOMMENDATIONS

Based on the data collected, field observations, and engineering judgment, the following improvements are recommended for the intersection of S.R. 40 at I-95 southbound ramps, located in Ormond Beach (Volusia County), Florida:

- Continue to permit the southbound right-turn-on-red movement.
- Install retroreflective strips on the existing backplates of the east/west facing signal heads.
- Restripe the crosswalk on the southbound approach and the stop bar on the westbound approach.
- Replace the tactile mats on all four corners.

These improvements are depicted on the following page as an Improvements Diagram in **Figure 6**.



APPENDIX

| 5 YR INV | | SLD REV | | BMP | EMP | INV | | SLD REV | | 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: | | | | | | |
|--------------------------|---|------------|--------------|---------|---------|------------|----|------------|--|---|---|---|----------------|--------|----------|------------|-----------|--------|--|--|--|--|--|
| DATE | 01/19/2017 | 02/13/2017 | | 019.954 | 025.050 | 02/06/2018 | DP | 05/09/2018 | | | GD | 02 | | SR 40 | VOLUSIA | 05 | 79100000 | 4 OF 5 | | | | | |
| BY | Debbie Prince | | Glen Dvorovy | | | | | | | | | | | | | | | | | | | | |
| ROADWAY FEATURES | 22.000 INSIDE CITY, AND URBAN * ORMOND BEACH * PALM COAST-DAYTONA BCH-PT ORAN * <SR-40 * <SR 40 22.000 120.0' - 48.0' 4 - 12.0' RDWY 40.0 VEG MED 2 - 4.0' PVD INSHLD1 2 - 4.0' PVD SHLD1 2 - 12.0' LWN SHLD2 | | | | | | | | | | 23.0 SHADOW CROSSINGS BL 23.275 RIVER LITTLE TOMOKA 23.275 OLD TOMOKA RD 23.408 | 24.0 120.0' - 48.0' 4 - 12.0' RDWY 40.0 VEG MED 4.0' PVD INSHLD1 - LT 2.0' PVD INSHLD1 - RT 2 - 4.0' PVD SHLD1 2 - 12.0' LWN SHLD2 | | | | | | | | | | | |
| | 22.009 120.0' - 48.0' 4 - 12.0' RDWY 40.0 VEG MED 2.0' PVD INSHLD1 - LT 2.0' PVD INSHLD1 - RT 2 - 4.0' PVD SHLD1 2 - 12.0' LWN SHLD2 | | | | | | | | | | | 24.357 24.357 0523 24.464 OLD TOMOKA RD 24.464 BREAKAWAY TRL 24.499 MONTE SAYINO BLVD 24.905 | | | | | | | | | | | |
| | 22.000 120.0' - 48.0' 4 - 12.0' RDWY 40.0 VEG MED 2.0' PVD INSHLD1 - LT 2.0' PVD INSHLD1 - RT 2 - 4.0' PVD SHLD1 2 - 12.0' LWN SHLD2 | | | | | | | | | | | 24.991 120.0' - 48.0' 4 - 12.0' RDWY 40.0 VEG MED 2 - 4.0' PVD INSHLD1 2 - 4.0' PVD SHLD1 2 - 12.0' LWN SHLD2 | | | | | | | | | | | |
| | 22.000 28/FC-5 | | | | | | | | | | | 24.991 28/FC-5 | | | | | | | | | | | |
| | 22.000 CURVE DATA NOT FIELD VERIFIED PC=22.455 PI=22.681 PT=22.857 Δ=64°42'54.00" D=3°03'00.00" B=N66°57'06"E | | | | | | | | | | | 24.991 Δ=89°05'37.00" PI=23.295 Δ=33°30'00.00" D=2°57' PC=23.298 PI=23.409 PT=23.513 B=S48°20'00"E | | | | | | | | | | | |
| STRUCTURE DESCRIPTION | 22.057 1-18" X 69' CC 22.246 1-30" X 75' CC 22.334 1-18" X 70' CC 22.587 2-30" X 176' CC 22.619 1-24" X 56' CC 22.777 1-24" X 59' CC 23.083 1-18" X 69' CC 23.247 1-18" X 97' CC 23.273 1-10" X 5' X 155' CBC 23.320 #0026 52.8' O B 23.330 1-10" X 5' X 175' CBC 23.303 23.561 3-30" X 160' CC 23.701 1-30" X 19" X 72' CC 23.984 1-23" X 14" X 63' CC 23.971 1-24" X 160' CC 24.217 2-30" X 165' CC 24.339 2-23" X 14" X 63' CC 24.442 1-18" X 65' CC 24.668 1-23" X 14" X 65' CC 24.949 2-6' X 6' X 174' CBC | | | | | | | | | | | | | | | | | | | | | | |
| SIS | 22.000 EMERGING SIS CORRIDOR | | | | | | | | | | | | | | | | | | | | | | |
| FUN CLASS | 22.000 URBAN PRIN ART OTHER | | | | | | | | | | | | | | | | | | | | | | |
| SPEED LIMIT | 22.000 60MPH | | | | | | | | | | | | | | | | | | | | | | |
| AC MAN CLS | 22.000 ACCESS CLASS03 | | | | | | | | | | | | | | | | | | | | | | |
| NHS | 22.000 NHS/OTHER | | | | | | | | | | | | | | | | | | | | | | |

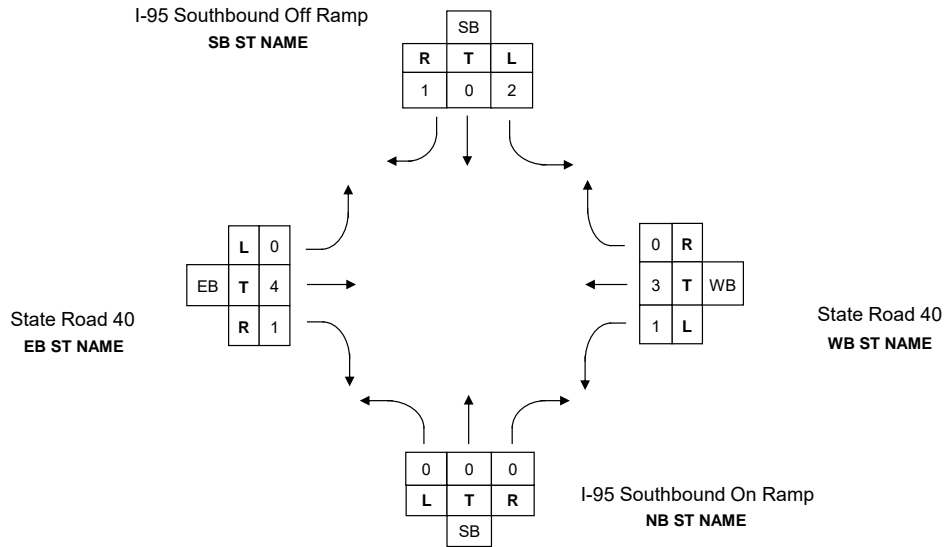
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| ROADWAY FEATURES | INDIAN SPRINGS DR 25.062 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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FLORIDA DEPARTMENT OF TRANSPORTATION

SUMMARY OF VEHICLE MOVEMENTS

| | | | |
|--------------------|---------------|---|------------------------|
| SECTION | 79100 | CITY Ormond Beach | COUNTY Volusia |
| STATE ROUTE | State Road 40 | INTERSECTING ROUTE I-95 Southbound Ramps | |
| OBSERVER | TEDS | DATE 3/18/2020 | MILEPOST 26.292 |
| WEATHER | Sunny | ROAD CONDITION | Good |
| REMARKS | <hr/> <hr/> | | |

FORM COMPLETED BY CML **DATE** 04/07/20



| TIME | NORTHBOUND | | | | | SOUTHBOUND | | | | | TOTAL | EASTBOUND | | | | | WESTBOUND | | | | | TOTAL |
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| BEGIN/END | L | T | R | U | TOT | L | T | R | RTOR | TOT | N/S | L | T | R | U | TOT | L | T | R | U | TOT | E/W |
| 7:00 - 8:00 | 0 | 0 | 0 | 0 | 0 | 222 | 0 | 46 | 83% | 269 | 269 | 0 | 718 | 425 | 0 | 1,143 | 250 | 553 | 0 | 0 | 803 | 1,946 |
| 8:00 - 9:00 | 0 | 0 | 0 | 0 | 0 | 238 | 0 | 64 | 81% | 303 | 303 | 0 | 800 | 415 | 0 | 1,215 | 239 | 713 | 0 | 0 | 952 | 2,167 |
| 11:00 - 12:00 | 0 | 0 | 0 | 0 | 0 | 183 | 0 | 59 | 78% | 243 | 243 | 0 | 735 | 331 | 0 | 1,066 | 298 | 932 | 0 | 2 | 1,232 | 2,298 |
| 12:00 - 1:00 | 0 | 0 | 0 | 0 | 0 | 210 | 0 | 87 | 69% | 298 | 298 | 0 | 825 | 312 | 0 | 1,137 | 303 | 1,018 | 0 | 3 | 1,324 | 2,461 |
| 2:00 - 3:00 | 0 | 0 | 0 | 0 | 0 | 198 | 0 | 63 | 87% | 262 | 262 | 0 | 707 | 332 | 0 | 1,039 | 290 | 964 | 0 | 3 | 1,257 | 2,296 |
| 3:00 - 4:00 | 0 | 0 | 0 | 0 | 0 | 152 | 0 | 73 | 78% | 226 | 226 | 0 | 676 | 324 | 0 | 1,000 | 365 | 1,117 | 0 | 2 | 1,484 | 2,484 |
| 4:00 - 5:00 | 0 | 0 | 0 | 0 | 0 | 128 | 0 | 69 | 74% | 198 | 198 | 0 | 607 | 368 | 0 | 975 | 393 | 1,336 | 0 | 2 | 1,731 | 2,706 |
| 5:00 - 6:00 | 0 | 0 | 0 | 0 | 0 | 165 | 0 | 79 | 72% | 245 | 245 | 0 | 542 | 353 | 0 | 895 | 425 | 1,379 | 0 | 4 | 1,808 | 2,703 |
| TOTAL | 0 | 0 | 0 | 0 | 0 | 1,496 | 0 | 540 | | 2,042 | 2,042 | 0 | 5,610 | 2,860 | 0 | 8,470 | 2,563 | 8,012 | 0 | 16 | 10,591 | 19,061 |

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| Percentage | 0% | 0% | 0% | 0% | | 73% | 0% | 26% | 77% | | | 0% | 66% | 34% | 0% | | 24% | 76% | 0% | 0% | | |
| Average | 0 | 0 | 0 | 0 | 0 | 187 | 0 | 68 | 1 | 255 | | 0 | 701 | 358 | 0 | 1,059 | 320 | 1,002 | 0 | 2 | 1,324 | |
| Maximum | 0 | 0 | 0 | 0 | | 238 | 0 | 87 | 1 | | | 0 | 825 | 425 | 0 | | 425 | 1379 | 0 | 4 | | |
| Minimum | 0 | 0 | 0 | 0 | | 128 | 0 | 46 | 0.69 | | | 0 | 542 | 312 | 0 | | 239 | 553 | 0 | 0 | | |

FLORIDA DEPARTMENT OF TRANSPORTATION

PEDESTRIAN MOVEMENT SUMMARY

SECTION 79100 CITY Ormond Beach COUNTY Volusia
 STATE ROUTE State Road 40 INTERSECTING ROUTE I-95 Southbound Ramps
 OBSERVER TEDS DATE 3/18/2020

REMARKS _____

FORM COMPLETED BY CML DATE 04/07/20

| H O U R S | West side of | | | East side of | | | North side of | | | South side of | | | GRAND TOTAL |
|-----------------------|-----------------------|----|-------|-----------------------|----|-------|---------------|----|-------|---------------|----|-------|----------------|
| | I-95 Southbound Ramps | | | I-95 Southbound Ramps | | | State Road 40 | | | State Road 40 | | | |
| | NB | SB | TOTAL | NB | SB | TOTAL | EB | WB | TOTAL | EB | WB | TOTAL | |
| 7:00 - 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 2 |
| 8:00 - 9:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 - 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 3 |
| 12:00 - 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2:00 - 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 - 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 4 | 7 | 8 |
| 4:00 - 5:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 5:00 - 6:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 5 | 4 | 6 | 10 | 15 |

FLORIDA DEPARTMENT OF TRANSPORTATION

BICYCLE MOVEMENT SUMMARY

SECTION 79100 CITY Ormond Beach COUNTY Volusia
 STATE ROUTE State Road 40 INTERSECTING ROUTE I-95 Southbound Ramps
 OBSERVER TEDS DATE 3/18/2020

REMARKS

FORM COMPLETED BY CML DATE 04/07/20

| H O U R S | West side of | | | East side of | | | North side of | | | South side of | | | GRAND TOTAL |
|-----------------------|-----------------------|----|-------|-----------------------|----|-------|---------------|----|-------|---------------|----|-------|----------------|
| | I-95 Southbound Ramps | | | I-95 Southbound Ramps | | | State Road 40 | | | State Road 40 | | | |
| | NB | SB | TOTAL | NB | SB | TOTAL | EB | WB | TOTAL | EB | WB | TOTAL | |
| 7:00 - 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 - 9:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 - 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 2 |
| 12:00 - 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 3 |
| 2:00 - 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 3:00 - 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 4:00 - 5:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 - 6:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 2 |
| TOTAL | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 4 | 3 | 2 | 5 | 9 |

Traffic Engineering Data Solutions Inc.

File Name : SR 40 at I-95 SB Ramps TMC (8-hr)

Site Code : 00000000

Start Date : 3/18/2020

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Groups Printed- Passenger Vehicles - Heavy Trucks

| | I-95 SOUTHBOUND ON RAMP Northbound | | | | | I-95 SOUTHBOUND OFF RAMP Southbound | | | | | STATE ROAD 40 Eastbound | | | | | STATE ROAD 40 Westbound | | | | | |
|----------------------|---------------------------------------|------|-------|---------|------------|--|------|-------|---------|------------|----------------------------|------|-------|---------|------------|----------------------------|------|-------|---------|------------|------------|
| Start Time | Left | Thru | Right | U-Turns | App. Total | Left | Thru | Right | U-Turns | App. Total | Left | Thru | Right | U-Turns | App. Total | Left | Thru | Right | U-Turns | App. Total | Int. Total |
| 07:00 AM | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 10 | 0 | 40 | 0 | 127 | 85 | 0 | 212 | 49 | 98 | 0 | 0 | 147 | 399 |
| 07:15 AM | 0 | 0 | 0 | 0 | 0 | 40 | 0 | 11 | 0 | 51 | 0 | 173 | 107 | 0 | 280 | 64 | 142 | 0 | 0 | 206 | 537 |
| 07:30 AM | 0 | 0 | 0 | 0 | 0 | 68 | 0 | 11 | 0 | 79 | 0 | 216 | 131 | 0 | 347 | 71 | 148 | 0 | 0 | 219 | 645 |
| 07:45 AM | 0 | 0 | 0 | 0 | 0 | 84 | 0 | 14 | 0 | 98 | 0 | 202 | 102 | 0 | 304 | 66 | 165 | 0 | 0 | 231 | 633 |
| Total | 0 | 0 | 0 | 0 | 0 | 222 | 0 | 46 | 0 | 268 | 0 | 718 | 425 | 0 | 1143 | 250 | 553 | 0 | 0 | 803 | 2214 |
| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 20 | 0 | 78 | 0 | 203 | 109 | 0 | 312 | 60 | 147 | 0 | 0 | 207 | 597 |
| 08:15 AM | 0 | 0 | 0 | 0 | 0 | 77 | 0 | 17 | 0 | 94 | 0 | 187 | 116 | 0 | 303 | 65 | 183 | 0 | 0 | 248 | 645 |
| 08:30 AM | 0 | 0 | 0 | 0 | 0 | 62 | 0 | 16 | 0 | 78 | 0 | 203 | 99 | 0 | 302 | 46 | 166 | 0 | 0 | 212 | 592 |
| 08:45 AM | 0 | 0 | 0 | 0 | 0 | 41 | 0 | 11 | 0 | 52 | 0 | 207 | 91 | 0 | 298 | 68 | 217 | 0 | 0 | 285 | 635 |
| Total | 0 | 0 | 0 | 0 | 0 | 238 | 0 | 64 | 0 | 302 | 0 | 800 | 415 | 0 | 1215 | 239 | 713 | 0 | 0 | 952 | 2469 |
| *** BREAK *** | | | | | | | | | | | | | | | | | | | | | |
| 11:00 AM | 0 | 0 | 0 | 0 | 0 | 43 | 0 | 14 | 0 | 57 | 0 | 172 | 91 | 0 | 263 | 84 | 225 | 0 | 1 | 310 | 630 |
| 11:15 AM | 0 | 0 | 0 | 0 | 0 | 43 | 0 | 17 | 0 | 60 | 0 | 196 | 76 | 0 | 272 | 69 | 215 | 0 | 0 | 284 | 616 |
| 11:30 AM | 0 | 0 | 0 | 0 | 0 | 47 | 0 | 14 | 0 | 61 | 0 | 178 | 80 | 0 | 258 | 80 | 258 | 0 | 1 | 339 | 658 |
| 11:45 AM | 0 | 0 | 0 | 0 | 0 | 50 | 0 | 14 | 0 | 64 | 0 | 189 | 84 | 0 | 273 | 65 | 234 | 0 | 0 | 299 | 636 |
| Total | 0 | 0 | 0 | 0 | 0 | 183 | 0 | 59 | 0 | 242 | 0 | 735 | 331 | 0 | 1066 | 298 | 932 | 0 | 2 | 1232 | 2540 |
| 12:00 PM | 0 | 0 | 0 | 0 | 0 | 45 | 0 | 26 | 0 | 71 | 0 | 218 | 83 | 0 | 301 | 74 | 258 | 0 | 1 | 333 | 705 |
| 12:15 PM | 0 | 0 | 0 | 0 | 0 | 55 | 0 | 20 | 0 | 75 | 0 | 214 | 80 | 0 | 294 | 65 | 272 | 0 | 1 | 338 | 707 |
| 12:30 PM | 0 | 0 | 0 | 0 | 0 | 54 | 0 | 20 | 0 | 74 | 0 | 200 | 90 | 0 | 290 | 71 | 245 | 0 | 1 | 317 | 681 |
| 12:45 PM | 0 | 0 | 0 | 0 | 0 | 56 | 0 | 21 | 0 | 77 | 0 | 193 | 59 | 0 | 252 | 93 | 243 | 0 | 0 | 336 | 665 |
| Total | 0 | 0 | 0 | 0 | 0 | 210 | 0 | 87 | 0 | 297 | 0 | 825 | 312 | 0 | 1137 | 303 | 1018 | 0 | 3 | 1324 | 2758 |
| *** BREAK *** | | | | | | | | | | | | | | | | | | | | | |
| 02:00 PM | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 10 | 0 | 48 | 0 | 177 | 86 | 0 | 263 | 71 | 260 | 0 | 0 | 331 | 642 |
| 02:15 PM | 0 | 0 | 0 | 0 | 0 | 48 | 0 | 22 | 0 | 70 | 0 | 174 | 67 | 0 | 241 | 61 | 251 | 0 | 2 | 314 | 625 |
| 02:30 PM | 0 | 0 | 0 | 0 | 0 | 51 | 0 | 11 | 0 | 62 | 0 | 191 | 92 | 0 | 283 | 83 | 211 | 0 | 0 | 294 | 639 |
| 02:45 PM | 0 | 0 | 0 | 0 | 0 | 61 | 0 | 20 | 0 | 81 | 0 | 165 | 87 | 0 | 252 | 75 | 242 | 0 | 1 | 318 | 651 |
| Total | 0 | 0 | 0 | 0 | 0 | 198 | 0 | 63 | 0 | 261 | 0 | 707 | 332 | 0 | 1039 | 290 | 964 | 0 | 3 | 1257 | 2557 |
| 03:00 PM | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 17 | 0 | 44 | 0 | 172 | 80 | 0 | 252 | 88 | 276 | 0 | 0 | 364 | 660 |
| 03:15 PM | 0 | 0 | 0 | 0 | 0 | 45 | 0 | 23 | 0 | 68 | 0 | 178 | 80 | 0 | 258 | 94 | 253 | 0 | 1 | 348 | 674 |
| 03:30 PM | 0 | 0 | 0 | 0 | 0 | 31 | 0 | 11 | 0 | 42 | 0 | 162 | 80 | 0 | 242 | 95 | 300 | 0 | 1 | 396 | 680 |
| 03:45 PM | 0 | 0 | 0 | 0 | 0 | 49 | 0 | 22 | 0 | 71 | 0 | 164 | 84 | 0 | 248 | 88 | 288 | 0 | 0 | 376 | 695 |
| Total | 0 | 0 | 0 | 0 | 0 | 152 | 0 | 73 | 0 | 225 | 0 | 676 | 324 | 0 | 1000 | 365 | 1117 | 0 | 2 | 1484 | 2709 |
| 04:00 PM | 0 | 0 | 0 | 0 | 0 | 32 | 0 | 16 | 0 | 48 | 0 | 149 | 79 | 0 | 228 | 94 | 339 | 0 | 0 | 433 | 709 |
| 04:15 PM | 0 | 0 | 0 | 0 | 0 | 36 | 0 | 25 | 0 | 61 | 0 | 157 | 92 | 0 | 249 | 90 | 325 | 0 | 1 | 416 | 726 |
| 04:30 PM | 0 | 0 | 0 | 0 | 0 | 33 | 0 | 12 | 0 | 45 | 0 | 157 | 103 | 0 | 260 | 107 | 322 | 0 | 1 | 430 | 735 |
| 04:45 PM | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 16 | 0 | 43 | 0 | 144 | 94 | 0 | 238 | 102 | 350 | 0 | 0 | 452 | 733 |
| Total | 0 | 0 | 0 | 0 | 0 | 128 | 0 | 69 | 0 | 197 | 0 | 607 | 368 | 0 | 975 | 393 | 1336 | 0 | 2 | 1731 | 2903 |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 33 | 0 | 17 | 0 | 50 | 0 | 137 | 92 | 0 | 229 | 117 | 330 | 0 | 1 | 448 | 727 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 40 | 0 | 27 | 0 | 67 | 0 | 138 | 101 | 0 | 239 | 113 | 396 | 0 | 2 | 511 | 817 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 43 | 0 | 17 | 0 | 60 | 0 | 139 | 94 | 0 | 233 | 105 | 318 | 0 | 0 | 423 | 716 |
| 05:45 PM | 0 | 0 | 0 | 0 | 0 | 49 | 0 | 18 | 0 | 67 | 0 | 128 | 66 | 0 | 194 | 90 | 335 | 0 | 1 | 426 | 687 |
| Total | 0 | 0 | 0 | 0 | 0 | 165 | 0 | 79 | 0 | 244 | 0 | 542 | 353 | 0 | 895 | 425 | 1379 | 0 | 4 | 1808 | 2947 |
| Grand Total | 0 | 0 | 0 | 0 | 0 | 1496 | 0 | 540 | 0 | 2036 | 0 | 5610 | 2860 | 0 | 8470 | 2563 | 8012 | 0 | 16 | 10591 | 21097 |
| Apprch % | 0 | 0 | 0 | 0 | 0 | 73.5 | 0 | 26.5 | 0 | | 0 | 66.2 | 33.8 | 0 | | 24.2 | 75.6 | 0 | 0.2 | | |
| Total % | 0 | 0 | 0 | 0 | 0 | 7.1 | 0 | 2.6 | 0 | 9.7 | 0 | 26.6 | 13.6 | 0 | 40.1 | 12.1 | 38 | 0 | 0.1 | 50.2 | |
| Passenger Vehicles | 0 | 0 | 0 | 0 | 0 | 1457 | 0 | 511 | 0 | 1968 | 0 | 5544 | 2748 | 0 | 8292 | 2491 | 7894 | 0 | 16 | 10401 | 20661 |
| % Passenger Vehicles | 0 | 0 | 0 | 0 | 0 | 97.4 | 0 | 94.6 | 0 | 96.7 | 0 | 98.8 | 96.1 | 0 | 97.9 | 97.2 | 98.5 | 0 | 100 | 98.2 | 97.9 |
| Heavy Trucks | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 29 | 0 | 68 | 0 | 66 | 112 | 0 | 178 | 72 | 118 | 0 | 0 | 190 | 436 |
| % Heavy Trucks | 0 | 0 | 0 | 0 | 0 | 2.6 | 0 | 5.4 | 0 | 3.3 | 0 | 1.2 | 3.9 | 0 | 2.1 | 2.8 | 1.5 | 0 | 0 | 1.8 | 2.1 |

Traffic Engineering Data Solutions Inc.

File Name : SR 40 at I-95 SB Ramps TMC (8-hr)

Site Code : 00000000

Start Date : 3/18/2020

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| | I-95 SOUTHBOUND ON RAMP Northbound | | | | | I-95 SOUTHBOUND OFF RAMP Southbound | | | | | STATE ROAD 40 Eastbound | | | | | STATE ROAD 40 Westbound | | | | | |
|--|---------------------------------------|----------|----------|----------|------------|--|----------|-----------|----------|------------|----------------------------|------------|------------|----------|------------|----------------------------|------------|----------|----------|------------|------------|
| Start Time | Left | Thru | Right | U-Turns | App. Total | Left | Thru | Right | U-Turns | App. Total | Left | Thru | Right | U-Turns | App. Total | Left | Thru | Right | U-Turns | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:30 AM | | | | | | | | | | | | | | | | | | | | | |
| 07:30 AM | 0 | 0 | 0 | 0 | 0 | 68 | 0 | 11 | 0 | 79 | 0 | 216 | 131 | 0 | 347 | 71 | 148 | 0 | 0 | 219 | 645 |
| 07:45 AM | 0 | 0 | 0 | 0 | 0 | 84 | 0 | 14 | 0 | 98 | 0 | 202 | 102 | 0 | 304 | 66 | 165 | 0 | 0 | 231 | 633 |
| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 20 | 0 | 78 | 0 | 203 | 109 | 0 | 312 | 60 | 147 | 0 | 0 | 207 | 597 |
| 08:15 AM | 0 | 0 | 0 | 0 | 0 | 77 | 0 | 17 | 0 | 94 | 0 | 187 | 116 | 0 | 303 | 65 | 183 | 0 | 0 | 248 | 645 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 287 | 0 | 62 | 0 | 349 | 0 | 808 | 458 | 0 | 1266 | 262 | 643 | 0 | 0 | 905 | 2520 |
| % App. Total | 0 | 0 | 0 | 0 | 0 | 82.2 | 0 | 17.8 | 0 | | 0 | 63.8 | 36.2 | 0 | | 29 | 71 | 0 | 0 | | |
| PHF | .000 | .000 | .000 | .000 | .000 | .854 | .000 | .775 | .000 | .890 | .000 | .935 | .874 | .000 | .912 | .923 | .878 | .000 | .000 | .912 | .977 |
| Passenger Vehicles | 0 | 0 | 0 | 0 | 0 | 283 | 0 | 56 | 0 | 339 | 0 | 799 | 446 | 0 | 1245 | 255 | 628 | 0 | 0 | 883 | 2467 |
| % Passenger Vehicles | 0 | 0 | 0 | 0 | 0 | 98.6 | 0 | 90.3 | 0 | 97.1 | 0 | 98.9 | 97.4 | 0 | 98.3 | 97.3 | 97.7 | 0 | 0 | 97.6 | 97.9 |
| Heavy Trucks | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 6 | 0 | 10 | 0 | 9 | 12 | 0 | 21 | 7 | 15 | 0 | 0 | 22 | 53 |
| % Heavy Trucks | 0 | 0 | 0 | 0 | 0 | 1.4 | 0 | 9.7 | 0 | 2.9 | 0 | 1.1 | 2.6 | 0 | 1.7 | 2.7 | 2.3 | 0 | 0 | 2.4 | 2.1 |

Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

| | 07:00 AM | | | | | 07:30 AM | | | | | 07:30 AM | | | | | 08:00 AM | | | | |
|----------------------|----------|----------|----------|----------|----------|-----------|----------|-----------|----------|-----------|----------|------------|------------|----------|------------|-----------|------------|----------|----------|------------|
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 68 | 0 | 11 | 0 | 79 | 0 | 216 | 131 | 0 | 347 | 60 | 147 | 0 | 0 | 207 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 84 | 0 | 14 | 0 | 98 | 0 | 202 | 102 | 0 | 304 | 65 | 183 | 0 | 0 | 248 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 20 | 0 | 78 | 0 | 203 | 109 | 0 | 312 | 46 | 166 | 0 | 0 | 212 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 77 | 0 | 17 | 0 | 94 | 0 | 187 | 116 | 0 | 303 | 68 | 217 | 0 | 0 | 285 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 287 | 0 | 62 | 0 | 349 | 0 | 808 | 458 | 0 | 1266 | 239 | 713 | 0 | 0 | 952 |
| % App. Total | 0 | 0 | 0 | 0 | 0 | 82.2 | 0 | 17.8 | 0 | | 0 | 63.8 | 36.2 | 0 | | 25.1 | 74.9 | 0 | 0 | |
| PHF | .000 | .000 | .000 | .000 | .000 | .854 | .000 | .775 | .000 | .890 | .000 | .935 | .874 | .000 | .912 | .879 | .821 | .000 | .000 | .835 |
| Passenger Vehicles | 0 | 0 | 0 | 0 | 0 | 283 | 0 | 56 | 0 | 339 | 0 | 799 | 446 | 0 | 1245 | 228 | 694 | 0 | 0 | 922 |
| % Passenger Vehicles | 0 | 0 | 0 | 0 | 0 | 98.6 | 0 | 90.3 | 0 | 97.1 | 0 | 98.9 | 97.4 | 0 | 98.3 | 95.4 | 97.3 | 0 | 0 | 96.8 |
| Heavy Trucks | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 6 | 0 | 10 | 0 | 9 | 12 | 0 | 21 | 11 | 19 | 0 | 0 | 30 |
| % Heavy Trucks | 0 | 0 | 0 | 0 | 0 | 1.4 | 0 | 9.7 | 0 | 2.9 | 0 | 1.1 | 2.6 | 0 | 1.7 | 4.6 | 2.7 | 0 | 0 | 3.2 |

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 12:00 PM

| | | | | | | | | | | | | | | | | | | | | | |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 12:00 PM | 0 | 0 | 0 | 0 | 0 | 45 | 0 | 26 | 0 | 71 | 0 | 218 | 83 | 0 | 301 | 74 | 258 | 0 | 1 | 333 | 705 |
| 12:15 PM | 0 | 0 | 0 | 0 | 0 | 55 | 0 | 20 | 0 | 75 | 0 | 214 | 80 | 0 | 294 | 65 | 272 | 0 | 1 | 338 | 707 |
| 12:30 PM | 0 | 0 | 0 | 0 | 0 | 54 | 0 | 20 | 0 | 74 | 0 | 200 | 90 | 0 | 290 | 71 | 245 | 0 | 1 | 317 | 681 |
| 12:45 PM | 0 | 0 | 0 | 0 | 0 | 56 | 0 | 21 | 0 | 77 | 0 | 193 | 59 | 0 | 252 | 93 | 243 | 0 | 0 | 336 | 665 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 210 | 0 | 87 | 0 | 297 | 0 | 825 | 312 | 0 | 1137 | 303 | 1018 | 0 | 3 | 1324 | 2758 |
| % App. Total | 0 | 0 | 0 | 0 | 0 | 70.7 | 0 | 29.3 | 0 | | 0 | 72.6 | 27.4 | 0 | | 22.9 | 76.9 | 0 | 0.2 | | |
| PHF | .000 | .000 | .000 | .000 | .000 | .938 | .000 | .837 | .000 | .964 | .000 | .946 | .867 | .000 | .944 | .815 | .936 | .000 | .750 | .979 | .975 |
| Passenger Vehicles | 0 | 0 | 0 | 0 | 0 | 201 | 0 | 79 | 0 | 280 | 0 | 815 | 303 | 0 | 1118 | 292 | 1000 | 0 | 3 | 1295 | 2693 |
| % Passenger Vehicles | 0 | 0 | 0 | 0 | 0 | 95.7 | 0 | 90.8 | 0 | 94.3 | 0 | 98.8 | 97.1 | 0 | 98.3 | 96.4 | 98.2 | 0 | 100 | 97.8 | 97.6 |
| Heavy Trucks | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 8 | 0 | 17 | 0 | 10 | 9 | 0 | 19 | 11 | 18 | 0 | 0 | 29 | 65 |
| % Heavy Trucks | 0 | 0 | 0 | 0 | 0 | 4.3 | 0 | 9.2 | 0 | 5.7 | 0 | 1.2 | 2.9 | 0 | 1.7 | 3.6 | 1.8 | 0 | 0 | 2.2 | 2.4 |

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 | | | | | 12:00 PM | | | | | 11:45 AM | | | | | 12:00 PM | | | | |
|----------------------|----------|----------|----------|----------|----------|-----------|----------|-----------|----------|-----------|----------|------------|-----------|----------|------------|-----------|------------|----------|----------|------------|
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 45 | 0 | 26 | 0 | 71 | 0 | 189 | 84 | 0 | 273 | 74 | 258 | 0 | 1 | 333 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 55 | 0 | 20 | 0 | 75 | 0 | 218 | 83 | 0 | 301 | 65 | 272 | 0 | 1 | 338 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 54 | 0 | 20 | 0 | 74 | 0 | 214 | 80 | 0 | 294 | 71 | 245 | 0 | 1 | 317 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 56 | 0 | 21 | 0 | 77 | 0 | 200 | 90 | 0 | 290 | 93 | 243 | 0 | 0 | 336 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 210 | 0 | 87 | 0 | 297 | 0 | 821 | 337 | 0 | 1158 | 303 | 1018 | 0 | 3 | 1324 |
| % App. Total | 0 | 0 | 0 | 0 | 0 | 70.7 | 0 | 29.3 | 0 | | 0 | 70.9 | 29.1 | 0 | | 22.9 | 76.9 | 0 | 0.2 | |
| PHF | .000 | .000 | .000 | .000 | .000 | .938 | .000 | .837 | .000 | .964 | .000 | .942 | .936 | .000 | .962 | .815 | .936 | .000 | .750 | .979 |
| Passenger Vehicles | 0 | 0 | 0 | 0 | 0 | 201 | 0 | 79 | 0 | 280 | 0 | 811 | 326 | 0 | 1137 | 292 | 1000 | 0 | 3 | 1295 |
| % Passenger Vehicles | 0 | 0 | 0 | 0 | 0 | 95.7 | 0 | 90.8 | 0 | 94.3 | 0 | 98.8 | 96.7 | 0 | 98.2 | 96.4 | 98.2 | 0 | 100 | 97.8 |
| Heavy Trucks | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 8 | 0 | 17 | 0 | 10 | 11 | 0 | 21 | 11 | 18 | 0 | 0 | 29 |
| % Heavy Trucks | 0 | 0 | 0 | 0 | 0 | 4.3 | 0 | 9.2 | 0 | 5.7 | 0 | 1.2 | 3.3 | 0 | 1.8 | 3.6 | 1.8 | 0 | 0 | 2.2 |

Traffic Engineering Data Solutions Inc.

File Name : SR 40 at I-95 SB Ramps TMC (8-hr)

Site Code : 00000000

Start Date : 3/18/2020

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| | I-95 SOUTHBOUND ON RAMP Northbound | | | | | I-95 SOUTHBOUND OFF RAMP Southbound | | | | | STATE ROAD 40 Eastbound | | | | | STATE ROAD 40 Westbound | | | | | |
|--|---------------------------------------|----------|----------|----------|------------|--|----------|-----------|----------|------------|----------------------------|------------|------------|----------|------------|----------------------------|------------|----------|----------|------------|------------|
| Start Time | Left | Thru | Right | U-Turns | App. Total | Left | Thru | Right | U-Turns | App. Total | Left | Thru | Right | U-Turns | App. Total | Left | Thru | Right | U-Turns | App. Total | Int. Total |
| 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 | 0 | 0 | 0 | 0 | 0 | 33 | 0 | 12 | 0 | 45 | 0 | 157 | 103 | 0 | 260 | 107 | 322 | 0 | 1 | 430 | 735 |
| 04:45 PM | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 16 | 0 | 43 | 0 | 144 | 94 | 0 | 238 | 102 | 350 | 0 | 0 | 452 | 733 |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 33 | 0 | 17 | 0 | 50 | 0 | 137 | 92 | 0 | 229 | 117 | 330 | 0 | 1 | 448 | 727 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 40 | 0 | 27 | 0 | 67 | 0 | 138 | 101 | 0 | 239 | 113 | 396 | 0 | 2 | 511 | 817 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 133 | 0 | 72 | 0 | 205 | 0 | 576 | 390 | 0 | 966 | 439 | 1398 | 0 | 4 | 1841 | 3012 |
| % App. Total | 0 | 0 | 0 | 0 | 0 | 64.9 | 0 | 35.1 | 0 | | 0 | 59.6 | 40.4 | 0 | | 23.8 | 75.9 | 0 | 0.2 | | |
| PHF | .000 | .000 | .000 | .000 | .000 | .831 | .000 | .667 | .000 | .765 | .000 | .917 | .947 | .000 | .929 | .938 | .883 | .000 | .500 | .901 | .922 |
| Passenger Vehicles | 0 | 0 | 0 | 0 | 0 | 130 | 0 | 69 | 0 | 199 | 0 | 567 | 381 | 0 | 948 | 427 | 1394 | 0 | 4 | 1825 | 2972 |
| % Passenger Vehicles | 0 | 0 | 0 | 0 | 0 | 97.7 | 0 | 95.8 | 0 | 97.1 | 0 | 98.4 | 97.7 | 0 | 98.1 | 97.3 | 99.7 | 0 | 100 | 99.1 | 98.7 |
| Heavy Trucks | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 6 | 0 | 9 | 9 | 0 | 18 | 12 | 4 | 0 | 0 | 16 | 40 |
| % Heavy Trucks | 0 | 0 | 0 | 0 | 0 | 2.3 | 0 | 4.2 | 0 | 2.9 | 0 | 1.6 | 2.3 | 0 | 1.9 | 2.7 | 0.3 | 0 | 0 | 0.9 | 1.3 |

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 | | | | | 02:30 PM | | | | | 04:30 PM | | | | |
|----------------------|----------|----------|----------|----------|----------|-----------|----------|-----------|----------|-----------|----------|------------|-----------|----------|------------|------------|------------|----------|----------|------------|
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 10 | 0 | 48 | 0 | 191 | 92 | 0 | 283 | 107 | 322 | 0 | 1 | 430 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 48 | 0 | 22 | 0 | 70 | 0 | 165 | 87 | 0 | 252 | 102 | 350 | 0 | 0 | 452 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 51 | 0 | 11 | 0 | 62 | 0 | 172 | 80 | 0 | 252 | 117 | 330 | 0 | 1 | 448 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 61 | 0 | 20 | 0 | 81 | 0 | 178 | 80 | 0 | 258 | 113 | 396 | 0 | 2 | 511 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 198 | 0 | 63 | 0 | 261 | 0 | 706 | 339 | 0 | 1045 | 439 | 1398 | 0 | 4 | 1841 |
| % App. Total | 0 | 0 | 0 | 0 | 0 | 75.9 | 0 | 24.1 | 0 | | 0 | 67.6 | 32.4 | 0 | | 23.8 | 75.9 | 0 | 0.2 | |
| PHF | .000 | .000 | .000 | .000 | .000 | .811 | .000 | .716 | .000 | .806 | .000 | .924 | .921 | .000 | .923 | .938 | .883 | .000 | .500 | .901 |
| Passenger Vehicles | 0 | 0 | 0 | 0 | 0 | 192 | 0 | 61 | 0 | 253 | 0 | 692 | 318 | 0 | 1010 | 427 | 1394 | 0 | 4 | 1825 |
| % Passenger Vehicles | 0 | 0 | 0 | 0 | 0 | 97 | 0 | 96.8 | 0 | 96.9 | 0 | 98 | 93.8 | 0 | 96.7 | 97.3 | 99.7 | 0 | 100 | 99.1 |
| Heavy Trucks | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 2 | 0 | 8 | 0 | 14 | 21 | 0 | 35 | 12 | 4 | 0 | 0 | 16 |
| % Heavy Trucks | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3.2 | 0 | 3.1 | 0 | 2 | 6.2 | 0 | 3.3 | 2.7 | 0.3 | 0 | 0 | 0.9 |

Traffic Engineering Data Solutions Inc.

File Name : SR 40 at I-95 SB Ramps TMC (8-hr)

Site Code : 00000000

Start Date : 3/18/2020

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Groups Printed- Heavy Trucks

| | I-95 SOUTHBOUND ON RAMP Northbound | | | | | I-95 SOUTHBOUND OFF RAMP Southbound | | | | | STATE ROAD 40 Eastbound | | | | | STATE ROAD 40 Westbound | | | | | |
|---------------|---------------------------------------|------|-------|---------|------------|--|------|-------|---------|------------|----------------------------|------|-------|---------|------------|----------------------------|------|-------|---------|------------|------------|
| Start Time | Left | Thru | Right | U-Turns | App. Total | Left | Thru | Right | U-Turns | App. Total | Left | Thru | Right | U-Turns | App. Total | Left | Thru | Right | U-Turns | App. Total | Int. Total |
| 07:00 AM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 1 | 8 | 0 | 9 | 1 | 2 | 0 | 0 | 3 | 14 |
| 07:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 7 | 0 | 0 | 7 | 9 |
| 07:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 3 | 0 | 4 | 0 | 0 | 4 | 7 |
| 07:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 6 | 0 | 6 | 1 | 5 | 0 | 0 | 6 | 13 |
| Total | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 3 | 0 | 2 | 18 | 0 | 20 | 2 | 18 | 0 | 0 | 20 | 43 |
| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 5 | 0 | 3 | 0 | 0 | 3 | 1 | 3 | 0 | 0 | 4 | 12 |
| 08:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 5 | 4 | 0 | 9 | 5 | 3 | 0 | 0 | 8 | 21 |
| 08:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 4 | 0 | 6 | 0 | 5 | 0 | 0 | 5 | 12 |
| 08:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 6 | 5 | 8 | 0 | 0 | 13 | 19 |
| Total | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 6 | 0 | 10 | 0 | 14 | 10 | 0 | 24 | 11 | 19 | 0 | 0 | 30 | 64 |
| *** BREAK *** | | | | | | | | | | | | | | | | | | | | | |
| 11:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 7 | 0 | 0 | 8 | 10 |
| 11:15 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 3 | 7 | 0 | 10 | 1 | 6 | 0 | 0 | 7 | 19 |
| 11:30 AM | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 1 | 0 | 7 | 0 | 2 | 3 | 0 | 5 | 5 | 6 | 0 | 0 | 11 | 23 |
| 11:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 4 | 0 | 7 | 3 | 2 | 0 | 0 | 5 | 13 |
| Total | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 3 | 0 | 10 | 0 | 8 | 16 | 0 | 24 | 10 | 21 | 0 | 0 | 31 | 65 |
| 12:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 3 | 0 | 6 | 5 | 3 | 0 | 0 | 8 | 15 |
| 12:15 PM | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 6 | 0 | 1 | 2 | 0 | 3 | 3 | 8 | 0 | 0 | 11 | 20 |
| 12:30 PM | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 2 | 0 | 6 | 0 | 3 | 2 | 0 | 5 | 1 | 4 | 0 | 0 | 5 | 16 |
| 12:45 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 4 | 0 | 3 | 2 | 0 | 5 | 2 | 3 | 0 | 0 | 5 | 14 |
| Total | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 8 | 0 | 17 | 0 | 10 | 9 | 0 | 19 | 11 | 18 | 0 | 0 | 29 | 65 |
| *** BREAK *** | | | | | | | | | | | | | | | | | | | | | |
| 02:00 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 3 | 0 | 4 | 4 | 0 | 8 | 3 | 3 | 0 | 0 | 6 | 17 |
| 02:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 4 | 3 | 4 | 0 | 0 | 7 | 11 |
| 02:30 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 2 | 8 | 0 | 10 | 3 | 5 | 0 | 0 | 8 | 20 |
| 02:45 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 3 | 0 | 4 | 4 | 0 | 8 | 0 | 2 | 0 | 0 | 2 | 13 |
| Total | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 2 | 0 | 8 | 0 | 11 | 19 | 0 | 30 | 9 | 14 | 0 | 0 | 23 | 61 |
| 03:00 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 6 | 2 | 0 | 8 | 4 | 4 | 0 | 0 | 8 | 18 |
| 03:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 2 | 7 | 0 | 9 | 3 | 2 | 0 | 0 | 5 | 18 |
| 03:30 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 7 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 9 |
| 03:45 PM | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 5 | 0 | 3 | 3 | 0 | 6 | 2 | 4 | 0 | 0 | 6 | 17 |
| Total | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 6 | 0 | 12 | 0 | 12 | 19 | 0 | 31 | 9 | 10 | 0 | 0 | 19 | 62 |
| 04:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 4 | 0 | 0 | 4 | 7 |
| 04:15 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 5 | 7 |
| 04:30 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 3 | 0 | 1 | 4 | 0 | 5 | 6 | 1 | 0 | 0 | 7 | 15 |
| 04:45 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 3 | 0 | 2 | 4 | 0 | 6 | 3 | 1 | 0 | 0 | 4 | 13 |
| Total | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 3 | 0 | 8 | 0 | 3 | 11 | 0 | 14 | 10 | 10 | 0 | 0 | 20 | 42 |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 0 | 6 | 1 | 1 | 0 | 0 | 2 | 8 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 3 | 4 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 8 | 4 | 4 | 0 | 0 | 8 | 16 |
| 05:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 2 | 0 | 0 | 5 | 6 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 10 | 0 | 16 | 10 | 8 | 0 | 0 | 18 | 34 |
| Grand Total | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 29 | 0 | 68 | 0 | 66 | 112 | 0 | 178 | 72 | 118 | 0 | 0 | 190 | 436 |
| Apprch % | 0 | 0 | 0 | 0 | | 57.4 | 0 | 42.6 | 0 | | 0 | 37.1 | 62.9 | 0 | | 37.9 | 62.1 | 0 | 0 | | |
| Total % | 0 | 0 | 0 | 0 | 0 | 8.9 | 0 | 6.7 | 0 | 15.6 | 0 | 15.1 | 25.7 | 0 | 40.8 | 16.5 | 27.1 | 0 | 0 | 43.6 | |

Traffic Engineering Data Solutions Inc.

File Name : SR 40 at I-95 SB Ramps TMC (8-hr)

Site Code : 00000000

Start Date : 3/18/2020

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| | I-95 SOUTHBOUND ON RAMP Northbound | | | | | I-95 SOUTHBOUND OFF RAMP Southbound | | | | | STATE ROAD 40 Eastbound | | | | | STATE ROAD 40 Westbound | | | | | |
|--|---------------------------------------|------|-------|---------|------------|--|------|-------|---------|------------|----------------------------|------|-------|---------|------------|----------------------------|------|-------|---------|------------|------------|
| Start Time | Left | Thru | Right | U-Turns | App. Total | Left | Thru | Right | U-Turns | App. Total | Left | Thru | Right | U-Turns | App. Total | Left | Thru | Right | U-Turns | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 08:00 AM | | | | | | | | | | | | | | | | | | | | | |
| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 5 | 0 | 3 | 0 | 0 | 3 | 1 | 3 | 0 | 0 | 4 | 12 |
| 08:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 5 | 4 | 0 | 9 | 5 | 3 | 0 | 0 | 8 | 21 |
| 08:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 4 | 0 | 6 | 0 | 5 | 0 | 0 | 5 | 12 |
| 08:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 6 | 5 | 8 | 0 | 0 | 13 | 19 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 6 | 0 | 10 | 0 | 14 | 10 | 0 | 24 | 11 | 19 | 0 | 0 | 30 | 64 |
| % App. Total | 0 | 0 | 0 | 0 | 0 | 40 | 0 | 60 | 0 | 0 | 0 | 58.3 | 41.7 | 0 | 0 | 36.7 | 63.3 | 0 | 0 | 0 | 0 |
| PHF | .000 | .000 | .000 | .000 | .000 | .250 | .000 | .375 | .000 | .500 | .000 | .700 | .625 | .000 | .667 | .550 | .594 | .000 | .000 | .577 | .762 |

Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

| | 07:00 AM | | | | | 07:45 AM | | | | | 07:45 AM | | | | | 08:00 AM | | | | |
|--------------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 6 | 0 | 6 | 1 | 3 | 0 | 0 | 4 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 5 | 0 | 3 | 0 | 0 | 3 | 5 | 3 | 0 | 0 | 8 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 5 | 4 | 0 | 9 | 0 | 5 | 0 | 0 | 5 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 4 | 0 | 6 | 5 | 8 | 0 | 0 | 13 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 7 | 0 | 11 | 0 | 10 | 14 | 0 | 24 | 11 | 19 | 0 | 0 | 30 |
| % App. Total | 0 | 0 | 0 | 0 | 0 | 36.4 | 0 | 63.6 | 0 | 0 | 0 | 41.7 | 58.3 | 0 | 0 | 36.7 | 63.3 | 0 | 0 | 0 |
| PHF | .000 | .000 | .000 | .000 | .000 | .250 | .000 | .438 | .000 | .550 | .000 | .500 | .583 | .000 | .667 | .550 | .594 | .000 | .000 | .577 |

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:30 AM

| | | | | | | | | | | | | | | | | | | | | | |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 11:30 AM | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 1 | 0 | 7 | 0 | 2 | 3 | 0 | 5 | 5 | 6 | 0 | 0 | 11 | 23 |
| 11:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 4 | 0 | 7 | 3 | 2 | 0 | 0 | 5 | 13 |
| 12:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 3 | 0 | 6 | 5 | 3 | 0 | 0 | 8 | 15 |
| 12:15 PM | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 6 | 0 | 1 | 2 | 0 | 3 | 3 | 8 | 0 | 0 | 11 | 20 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 6 | 0 | 15 | 0 | 9 | 12 | 0 | 21 | 16 | 19 | 0 | 0 | 35 | 71 |
| % App. Total | 0 | 0 | 0 | 0 | 0 | 60 | 0 | 40 | 0 | 0 | 0 | 42.9 | 57.1 | 0 | 0 | 45.7 | 54.3 | 0 | 0 | 0 | 0 |
| PHF | .000 | .000 | .000 | .000 | .000 | .375 | .000 | .500 | .000 | .536 | .000 | .750 | .750 | .000 | .750 | .800 | .594 | .000 | .000 | .795 | .772 |

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 | | | | | 12:00 PM | | | | | 11:15 AM | | | | | 11:30 AM | | | | |
|--------------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 7 | 0 | 10 | 5 | 6 | 0 | 0 | 11 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 6 | 0 | 2 | 3 | 0 | 5 | 3 | 2 | 0 | 0 | 5 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 2 | 0 | 6 | 0 | 3 | 4 | 0 | 7 | 5 | 3 | 0 | 0 | 8 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 4 | 0 | 3 | 3 | 0 | 6 | 3 | 8 | 0 | 0 | 11 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 8 | 0 | 17 | 0 | 11 | 17 | 0 | 28 | 16 | 19 | 0 | 0 | 35 |
| % App. Total | 0 | 0 | 0 | 0 | 0 | 52.9 | 0 | 47.1 | 0 | 0 | 0 | 39.3 | 60.7 | 0 | 0 | 45.7 | 54.3 | 0 | 0 | 0 |
| PHF | .000 | .000 | .000 | .000 | .000 | .563 | .000 | .667 | .000 | .708 | .000 | .917 | .607 | .000 | .700 | .800 | .594 | .000 | .000 | .795 |

Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 02:30 PM

| | | | | | | | | | | | | | | | | | | | | | |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 02:30 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 2 | 8 | 0 | 10 | 3 | 5 | 0 | 0 | 8 | 20 |
| 02:45 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 3 | 0 | 4 | 4 | 0 | 8 | 0 | 2 | 0 | 0 | 2 | 13 |
| 03:00 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 6 | 2 | 0 | 8 | 4 | 4 | 0 | 0 | 8 | 18 |
| 03:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 2 | 7 | 0 | 9 | 3 | 2 | 0 | 0 | 5 | 18 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 5 | 0 | 11 | 0 | 14 | 21 | 0 | 35 | 10 | 13 | 0 | 0 | 23 | 69 |
| % App. Total | 0 | 0 | 0 | 0 | 0 | 54.5 | 0 | 45.5 | 0 | 0 | 0 | 40 | 60 | 0 | 0 | 43.5 | 56.5 | 0 | 0 | 0 | 0 |
| PHF | .000 | .000 | .000 | .000 | .000 | .750 | .000 | .313 | .000 | .688 | .000 | .583 | .656 | .000 | .875 | .625 | .650 | .000 | .000 | .719 | .863 |

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 | | | | | 03:00 PM | | | | | 02:30 PM | | | | | 02:15 PM | | | | |
|--------------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 2 | 8 | 0 | 10 | 3 | 4 | 0 | 0 | 7 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 4 | 4 | 0 | 8 | 3 | 5 | 0 | 0 | 8 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 6 | 2 | 0 | 8 | 0 | 2 | 0 | 0 | 2 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 5 | 0 | 2 | 7 | 0 | 9 | 4 | 4 | 0 | 0 | 8 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 6 | 0 | 12 | 0 | 14 | 21 | 0 | 35 | 10 | 15 | 0 | 0 | 25 |
| % App. Total | 0 | 0 | 0 | 0 | 0 | 50 | 0 | 50 | 0 | 0 | 0 | 40 | 60 | 0 | 0 | 40 | 60 | 0 | 0 | 0 |
| PHF | .000 | .000 | .000 | .000 | .000 | .500 | .000 | .375 | .000 | .600 | .000 | .583 | .656 | .000 | .875 | .625 | .750 | .000 | .000 | .781 |